



EAST AFRICA.

Report

OF THE

East Africa Commission.

*Presented by the Secretary of State for the Colonies
to Parliament by Command of His Majesty,
April, 1925.*

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TABLE OF CONTENTS.

	PAGE
1. Introduction	3
2. Transport and Communications	10
3. Native Policy—	
(a) General	21
(b) Land	23
(c) Native Production	32
(d) Labour	36
(e) Native Organisation	47
(f) Education	50
(g) Medical Services	53
4. Trade and Commerce	62
5. Tsetse Fly	70
6. Scientific Research and Amani Institute	80
7. Northern Rhodesia	94
8. Nyasaland	102
9. Tanganyika Territory	113
10. Zanzibar	130
11. Uganda	136
12. Kenya	148
13. Conclusion.	182
Supplementary memorandum by Mr. F. C. Linfield	183
Appendix (Itinerary)	193
Map	

EAST AFRICA.

REPORT OF THE EAST AFRICA COMMISSION.

To the Right Honourable L. S. AMERY, M.P.,
Secretary of State for the Colonies.

CHAPTER I.

INTRODUCTION.

We were appointed by your predecessor in July, 1924 :—

“ to visit Northern Rhodesia, Nyasaland, Tanganyika Territory, Uganda, and Kenya with a view to obtaining as much information as possible in the time available on all subjects covered by the terms of reference to the East Africa Committee, and to report to the Secretary of State on any facts which they may consider have a bearing upon the above matters.”

The terms of reference to the East Africa Committee were :—

“ To consider and report :—

- (a) on the measures to be taken to accelerate the general economic development of the British East African Dependencies and the means of securing closer co-ordination of policy on such important matters as transportation, cotton-growing, and the control of human, animal, and plant diseases.
- (b) on the steps necessary to ameliorate the social condition of the natives of East Africa, including improvement of health and economical development.
- (c) on the economic relation between natives and non-natives with special reference to labour contracts, care of labourers, certificates of identification, employment of women and children.
- (d) on the taxation of natives and the provision for services directed to their moral and material improvement.”

We left England on the 15th August, 1924, and travelling *via* Cape Town we visited the territories in the above-named order. We returned to England on the 23rd December, 1924. Owing to the difficulty of arranging transport from Nyasaland to Tanganyika Territory, our visits to both Northern Rhodesia and Nyasaland were unduly short, and even in the remaining territories we are conscious that we were prevented owing to lack of time from visiting a great many places which deserved our attention. We were unable, in particular, to visit any part of North-Eastern Rhodesia, the northern parts of Nyasaland, the southern half of Tanganyika Territory, or Lake Tanganyika. The details of our itinerary are given in the diary (which forms the appendix) and can be followed in the accompanying map.

We were greatly assisted in our hurried visit by the large amount of preparatory work which had been undertaken by the various local Governments as well as by unofficial bodies. In every case full memoranda had been prepared by the heads of departments on all the subjects within our terms of reference, and everywhere we found that deputations of the various unofficial associations had prepared evidence which they desired to present. Thanks to these preparations, we were able to collect a vast quantity of information concerning the various territories, and it would be impossible, in the scope of this report, to deal at all completely with the immense mass of material rendered available.

On reaching Dar-es-Salaam, we received an invitation from His Highness the Sultan of Zanzibar and from the Zanzibar Chamber of Commerce to visit the Protectorate of Zanzibar; unfortunately, we had only a week in Dar-es-Salaam, and the whole Commission was unable to comply with this request. Mr. Linfield and Mr. Calder, however, succeeded in visiting Zanzibar for two days, and the chapter of this report dealing with Zanzibar represents the result of their inquiries.

Our work throughout the tour was immensely facilitated by the zeal and welcome which met us everywhere. The mere fact that a Commission of three Members of the Imperial Parliament and an official of the Colonial Office had been, for the first time, sent to visit East Africa officially was universally appreciated by the Governors and by officials and unofficials. We found the utmost willingness on the part of every section of the community, and of all races, to put their views and problems frankly before us and to do their best to answer the many questions which we put to them. The hospitality which we received deserves our special gratitude. Everything was made as easy and pleasant as possible for us throughout. We should like to take this early opportunity of recording our opinion that similar Commissions should be sent from time to time to maintain the personal touch between the Imperial Parliament and the Colonial Office on the one hand, and the Governments and peoples of East Africa on the other, and we wish to record our opinion that only by such visits can some true appreciation of the many factors and problems of East Africa be obtained. Our thanks are especially due to the South African and Rhodesian Railways, which most generously placed free travelling facilities at our disposal, although our mission did not extend to the Union of South Africa or Southern Rhodesia.

GENERAL DESCRIPTION OF THE TERRITORIES.

The five mainland territories visited by the Commission contain an area of rather over 1,000,000 square miles, and a total population of approximately 12,000,000. One is a Colony (Kenya), three are Protectorates (Uganda, Nyasaland, and Northern Rhodesia), and the fifth (Tanganyika Territory) is a Mandated Territory. They lie wholly within the tropics, from the Zambesi River on the south to the Sudan-Abyssinia frontier on the north. On the east they are

bounded by Italian Somaliland, the Indian Ocean and Portuguese East Africa, and on the west by Angola and the Belgian Congo. They are all dependent for their exports upon ports on the East Coast of Africa, and their river systems all drain into the Indian Ocean, with the exception of the Lake Victoria area which forms the head of the basin of the Nile. With the exception of the Nilotic tribes of Northern Uganda and parts of Kenya, whose total may be estimated at approximately a million, practically the whole of the native population belongs to the Bantu tribes of Africa. In the main these tribes are traditionally pastoral, cattle, goats and sheep being the basis of their social customs as well as of their economics. Agriculture, *i.e.*, the cultivation of the soil with the hoe and plough, has been introduced as a result of contact with other races, and, with certain notable exceptions, such as the Kingdom of Buganda, within comparatively recent times. In contrast with West Africa none of the agricultural products of the East African territories are indigenous in origin, and there are no wild natural products of economic value other than timber, gums, and resin. All have been introduced from other countries, chiefly from America.

A great part of East Africa lies at considerable elevation above sea level; in fact, it may be said that by far the greater part of the area lies at elevations of between 3,000 and 5,000 feet, while in some districts, such as the Highlands of Kenya, the south-western portions of Tanganyika Territory, and parts of the Highlands of Nyasaland, the normal elevation of the country exceeds 5,000 feet.

Until the coming of Europeans, following on the discoveries of Speke, Livingstone, and Stanley, within the last two generations the main external influence has been that of the Arab. The principal objective of the Arabs on the mainland of the continent was the traffic in slaves and ivory. It was largely in response to the movement for the suppression of this slave trade that European missionaries and Governments have entered the East African territories. Asiatics, chiefly Arabs, Indians from Gujerat, and Goans have traded with the coast of Africa for some long time past, but it was not until the opening up of the country by European effort that they penetrated in any numbers into the interior. There are now something over 60,000 Asiatics in East Africa and about 18,000 Europeans, of whom more than half are resident in Kenya. In contradistinction to West Africa, the bulk of the trade with the natives of East Africa is in the hands of Asiatics, Europeans in the main comprising only Government officials, missionaries, planters, and the higher professional classes. There are European plantation settlements in all the East African territories, by far the largest being in Kenya, where there are approximately 2,000 white families now occupying farms. Northern Rhodesia comes second with rather over 500 farms, Nyasaland third with 350, Tanganyika fourth with 300, and Uganda next with 100. Mineral developments are practically confined to Northern Rhodesia and, to a more limited extent, to Tanganyika Territory. The only mineral development in Kenya is soda from Lake Magadi. In Nyasaland the existence of coal has been proved, and in Uganda there are indications of mineral oil on the shore of Lake Albert.

The potential riches of East Africa lie in cultivation of the soil. There is a vast area of the most wonderful land, adequately watered and capable of yielding economic crops of almost all tropical, sub-tropical, and temperate varieties. Throughout the greater part of the area the year is divided into the rainy season and the dry season, the rainy season commencing in November and ending in April, and the dry season running from April to November. In Uganda, however, there is a fairly evenly distributed rainfall, different in character and duration from that of the rest of East Africa; in fact, in the Kingdom of Buganda and the southern parts of the rich Eastern Province January and February are practically the only dry months and the highest rainfall is usually in June. In the Kenya Highlands there are two distinct rainfall periods, namely, the short rains in November and the long rains in April and May, while parts of the Colony have an additional short rain in February. The greater part of East Africa is now covered with long grass and bush, varying in density. This is largely a secondary development following the destruction of the forests by the native inhabitants. True forests, containing exportable timber of any size, are much limited in number and area, the most notable being on the slopes of individual mountain peaks, and in special districts of Uganda, and in the Usambara Highlands near Tanga. There are, in addition, the now celebrated cedar forests of Kenya along either side of the Great Rift Valley and on Mount Kenya itself. Practically the whole of East Africa abounds in wild game; elephant, rhinoceros, the greater and lesser antelope, lion, leopard, giraffe, and zebra still exist in very large numbers. As elsewhere in the tropics, but nowhere more seriously than in East Africa, men and domestic animals are engaged in perpetual struggle with insect-borne diseases. The conquest of the tsetse fly and mosquito is among the major outstanding problems of East Africa.

European government in East Africa may be said to have commenced seriously with the opening of the present century, and the chief agency whereby development has been accomplished, and will in the future be further accomplished, is the construction of railways. The heavy tropical rains and the difficulty of obtaining material make the work of constructing and maintaining metalled roads both difficult and expensive. Unmetalled earth tracks are useful during the dry seasons. Road transport is in any case difficult and expensive on account of the high cost of motor spirit, and ox and horse transport is impossible throughout a great portion of the area owing to the presence of tsetse fly. Railways, and railways alone, provide an adequate means of perennial transport and communication.

The East Coast of Africa has been provided by Nature with a number of good harbours, but the harbour works and facilities provided therein are already inadequate for the development which has taken place. The extension and improvement of these facilities is everywhere an urgent problem.

The main problem of East Africa, apart from the further development of transport and communication, which is everywhere inadequate, is the task of furthering the civilisation and productive capa-

city of the native African inhabitants. The impact of western civilisation upon a people who, by themselves, have never evolved a written language, and whose methods of production, whose skill in the arts, and whose social customs are for the most part still primitive, has already been tremendous. A notable advance has been made during the last 25 years, since this contact has been firmly established, but there would be no greater mistake than to treat the varied native races of East Africa as either equal in capacity or capable of being subjected to any uniform treatment. There is probably greater difference between native races inhabiting East Africa than there is between different races of Europe, and there is certainly quite as great a difference between individuals as there is in European countries. On account of climatic reasons the greater part of East Africa is, and will continue to be, a native country, or, to put it in the truer sense, only limited areas of East Africa, above certain altitudes, are in any sense "white man's country." Except in these few highland areas the European can only maintain health by periodic holidays in some temperate climate.

The social and economic relations between the European, the Asiatic, and the African, the last in his immense variety, claimed the greater part of our attention. The problems are anything but easy, and require not so much the expression of sentiment, however benevolent, between one race and the other, but a detached objective and scientific appreciation of facts. There are no easy specifics for dealing with the problems of East Africa. On almost every subject of discussion which we examined there is room for controversy. Further, we learnt that to nearly all the major questions such as land policy, native production, labour, education, the direction of medical and veterinary science, methods of administration and taxation, there are not merely two sides but many sides. We cannot hope that this report will be able to deal in any final or comprehensive manner with many of these subjects, or to do more than make some further contribution to their study.

We should like to state at the outset that we are impressed with the need for greater co-operation and understanding, not only between the five Administrations but between unofficial residents in the territories as well. Few things struck us more than the lack of knowledge in each territory of East Africa regarding its neighbours; in fact, we found not merely a lack of knowledge but in many cases complete misunderstanding. But, while there is greater need for mutual understanding, we are of opinion that the day is still far off when such co-operation could be brought about by the imposition of federal government over the whole of the territories.

We found little, if any, support in East Africa for the idea of immediate federation, and in some quarters we found definite hostility. We received a memorial against federation from the King and native Government of Buganda, and discussions which had taken place in parts of Kenya immediately prior to our arrival revealed that the suggestion was viewed with more than a little suspicion by all sections of European opinion in Kenya. All shades of opinion in Zanzibar are hostile to federation, and we also received representations against federation from various Indian Associations throughout

the three northern territories. But, apart altogether from these expressions of opinion, we came definitely to the conclusion that any attempt at federation would be premature. Geographical conditions and the lack of communications would be a serious obstacle. Federal government would be expensive and cumbersome: it would curtail in many directions the freedom of action which now belongs to the local Governments, and would lead to delay in all local government matters which require reference to the Secretary of State. Moreover, it is very doubtful whether a Governor-General and super-staff in East Africa would materially reduce the amount of correspondence between the East African Governments and the Colonial Office.

Further, we formed the opinion that without a Federal Government the federation of the existing services would prove impracticable on administrative grounds. We take for example the Medical Service as the one for which *prima facie* there would seem to be the best case in favour of federation under a Director-General of Medical Services. An East African Medical Service has already been constituted which ensures similar pay, grading, and conditions of service for medical officers throughout the territories and provides a common roster for promotion. But this arrangement does not involve the appointment of a Director-General and, if such an officer were appointed, the Principal Medical Officer in each of the territories would have to try to serve two masters, the Director-General responsible directly to the Colonial Office on the one hand, and the Governor of the territory in which he was serving on the other. But this is not all. The Principal Medical Officer of any one territory is a member of the Executive and Legislative Councils of the territory in which he serves, where such constitutional bodies exist; the finance and administration of his department come under the review of the local legislature, and a Director-General of Medical Services for the whole of East Africa would find that in effect he had no power.

Yet again there is the question of the personnel of the services; they have a good deal of local *esprit de corps*. They are in personal touch with the local Principal Medical Officer in a way that they could not be with a Director-General, and while the problems which they have are similar they are by no means identical.

For all these reasons we feel bound to reject the idea of federation at present. It has, however, been suggested that a step in the direction of federation might be taken by the appointment of Advisers, particularly in such services as medical, veterinary, or agricultural, to two or more of the East African Governments. An experiment in this direction has been tried in the appointment of an able officer as Veterinary Adviser to the Governments of Tanganyika, Kenya, and Uganda. It cannot be said that this attempt has proved successful; the Adviser necessarily has no executive authority over the Veterinary Department in either of the three territories, and it is extremely difficult to define his functions and his constitutional position. We are of opinion that, so far from making for harmony or co-ordination, the attempt has failed; we cannot recommend the continuation of this post nor its imitation in connection with other de-

partments. We are therefore driven back to explore other alternatives, and the only one which seems to us practicable at this stage is co-ordination by conference.

We suggest that there should be regular periodic conferences of Governors and also of the responsible officials of the various departments. The territories might be selected in turn for the holding of such conferences and a start should be made forthwith in the holding of a Governors' Conference to be attended by the Governors of Kenya, Uganda, Tanganyika, Nyasaland, and Northern Rhodesia, and by the Resident of Zanzibar. The Governor in whose territory the conference is to be held should make the necessary secretarial arrangements, and be responsible for the collection of subjects for discussion. Such conferences should necessarily deal with matters of common interest to all the territories, such as native administration, communications, taxation, land policy, labour, etc., etc. They would necessarily be almost entirely official, and doubtless Governors would bring with them the Chief Native Commissioner, Secretary for Native Affairs, or whoever holds some such office. Questions relating to the recruitment of labour and the care of labour engaged for work outside its own territory can only be satisfactorily dealt with by such conferences.

The Education Conference, on the other hand, should not only be attended by Directors of Education but should include unofficial members, such as missionaries. At such conferences questions of text books, interchange of teachers, varieties of education and curriculum, etc., could be discussed with immense benefit to the educational progress of East Africa as a whole.

Quite as important would be the Agricultural Conference, especially when held at places such as the Amani Institute. Cotton is being grown in all the five territories, but it would appear that there is wide divergence in the cotton policy among all five, and it is probably true to say that each has something to learn from the other. This is only quoted as an example of what must indeed be obvious, namely, that periodic meetings between the heads of corresponding departments and of those engaged in different researches throughout East Africa will be of tremendous benefit.

At technical conferences it should be arranged beforehand for individuals to make themselves responsible for opening the discussion on any given subject by means of a prepared memorandum circulated previously. This would then form the subject of discussion, and the conclusions would be embodied in a published report and then referred to the respective Governments and legislatures.

In this way co-ordination and co-operation should be achieved without impairing in the least the individual rights and interests of each of the territories. We are satisfied that any further development in the direction of federation, whether it be unification of particular services or ultimately political federation, will come, if it comes at all, as a result of local discussion of local needs and common problems. Federation cannot be imposed from without.

CHAPTER II.

TRANSPORT AND COMMUNICATIONS.

The first term of our reference makes it incumbent on us to advise the Secretary of State on the best means of accelerating the economic development of East Africa. The answer to this question is clear, namely, by the further provision of transport facilities, coupled with a sound policy of native and European production. The material wealth of Africa lies first in its agricultural produce, and secondly in its minerals. The acceleration of their development is primarily limited by the available facilities of transport to the coast. The opening up and development of the interior of Africa will proceed inevitably as a consequence of the construction and extension of railway connections. Where there are railways to-day there is development. There is really no effective substitute for railways. Except in Uganda, where road material is readily available, the roads of East Africa are almost entirely a dry-weather form of transport; they are little more than earth tracks and in the rainy seasons are impassable for wheeled vehicles. Further, the present excessive cost of motor spirit definitely limits the commercial possibilities of motor transport. In Uganda, where the roads are good and plentiful, the cost of moving produce by means of motor transport works out at 2s. 6d. per ton mile for a 30-cwt. lorry and 2s. per ton mile for a 5-ton lorry. This enables cotton at the present high price to be moved profitably for a distance not exceeding 60 miles to a lake port or railway. For less highly-priced crops the commercial radius over the roads is even less. Single instances of the profitable export of crops by haulage over longer distances are tobacco from the Fort Jameson district of Northern Rhodesia, approximately 280 miles from the railway at Limbe, and the higher-priced coffees from the Toro and Bunyoro districts of Western Uganda.

Large areas of East Africa which could be developed are to-day quite undeveloped, in the sense that they are unable to produce profitably any crop for export, owing to the distances from a railway. Nevertheless a certain amount of produce is exported from some of these areas by means of human portage. The astounding use of this means of transportation came to our notice in the Tabora district of the Tanganyika Territory. The greater part of the population of the Tabora district lives in the northern portion of the district at an average distance of approximately 100 miles from Tabora station. In this area there are over a quarter of a million natives of a progressive and industrious type, but between them and Tabora station lies a great belt of tsetse fly, rendering animal transport impossible. In spite of these tremendous disadvantages the quantity of native-grown groundnuts taken on rail at Tabora station was 1,000 tons in 1922, 2,000 tons in 1923, and 4,000 tons in 1924. Every pound of these groundnuts was carried on native shoulders over an average distance of 100 miles. This same district of Tanganyika Territory, and the even richer and more densely populated district of Mwanza, have recently commenced the growing of cotton. There are few areas of Africa more favourable to the wide extension of cotton growing than

these two districts, but in the absence of rail communications the problem of getting the seed cotton to the ginneries and from the ginneries to the port of Mwanza on Lake Victoria, or to Tabora station on the Central line, by human or road transport is the principal limiting factor to production. From November to April inclusive the roads of these districts are quite impassable, even apart from the absence of bridges over the drifts. A railway, and a railway alone, can develop this valuable territory to the full capacity of its population. We are glad to note that the first 80 miles of a railway extension to Kahama will be opened in November.

The exports from the vast area of North-Eastern Rhodesia (population half a million), the northern half of Nyasaland (population half a million), and the southern third of Tanganyika Territory (population approximately one million) are to-day practicably negligible owing to the distance from railway transport, and taking East Africa as a whole the most urgent capital requirement is a railway that will open up these three areas for development. The obvious route for this railway is from the northern shores of Lake Nyasa to some point on the Central Railway, for example, Ngerengere. Detailed proposals as to this railway will be found in the chapter on the Tanganyika Territory. Another example of a country waiting for a railway is the well-watered and well-populated fly-free country in the neighbourhood of Kondoa Irangi. This area, together with the Ufioni Hills which lie to the north of Kondoa, must be connected with the Central Railway at Dodoma before their great potential resources can be realised.

In the north the further extension of cotton growing in the Uganda Protectorate is limited by distance from railhead. Hitherto the greater part of the cotton development in Uganda has taken place within 50 miles of the lake steamers on Lake Kioga and Lake Victoria, but northward and westward of these belts there lie vast areas of land ideal for the cultivation of cotton were transport facilities provided. If the hinterland of the eastern Nile basin is to be developed it can only be by the extension of the railway from Mombasa. Thanks entirely to the 3½ millions advanced in March, 1924, by the Imperial Government, the Uganda Railway will be extended through Mbale to the southern edge of the Teso district of Uganda. Further development of the area of cotton production in Uganda is bound up with the continuance of this line through Soroti, Lira, and Gulu to the Sudan frontier.

In this connection sight should not be lost of the important developments now commencing to the west of the Nile in the North-Eastern Congo. Some 50 miles to the west of Lake Albert lie the rich alluvial gold deposits of Kilo, while 150 miles further north are the even more valuable reef gold deposits of Moto. With the development of these gold workings in the North-Eastern Congo agricultural development is taking place, and it must be many years before this important area can be linked up with the Congo river service at Stanleyville by means of a Belgian railway. In the meantime the stream of trade, both import and export, could readily be

developed *via* Mombasa, were the railway system of Uganda extended to some point on the Nile between Lake Albert and Nimule. In the meantime every effort should be made forthwith by the Uganda Government to improve the motor road from Masindi port to Lake Albert and to construct a good motor road from the Nile somewhere immediately to the north of Lake Albert to connect with the growing road system of the North-Eastern Congo. Generally speaking, therefore, the main course of railway development in Uganda should be from the Kenya frontier on the south-east diagonally to the north-western limits of the Protectorate, leaving the Kingdom of Buganda dependent as heretofore on steamer transport through ports on Lake Victoria to Kisumu.

In this preliminary survey we have left until last the much-debated question of the Zambesi bridge to connect Nyasaland with the Trans-Zambesia Railway now open from the port of Beira to Muraça. The case for improved communications in Nyasaland could not be put in its general aspect better than it is being put by the Phelps-Stokes Commission under the chairmanship of Dr. Jesse Jones, which has recently visited East Africa. We are enabled to quote the following passages from the report which will shortly be published:—

“ Land-locked Nyasaland with its unusually effective type of mission education, its virile native people, its extensive resources of soil and natural beauty, awaits the provision of adequate transportation within the Colony and still more the establishment of a reasonable outlet to the sea for its great potential wealth. The types of native people are equal to the best in any part of Africa. The high average fertility of the soil and the favourable elements of climate are an assurance of productivity. Mission influences, from Livingstone’s discovery of Lake Nyasa in 1859 to the present day, have achieved remarkable results, both in revealing the resources and beauty of the country and in the education of the native people. These natives, trained in handicraft or in sanitation and hygiene, and dependable in character, have been welcomed by Governments and commercial concerns in Tanganyika, Belgian Congo, the Rhodesias and Portuguese East Africa. Of them it may be said: ‘ Other Colonies they are serving, but their own people they cannot serve.’ The unfortunate condition of Nyasaland is strikingly confirmed by a comparison of its exports and expenditures with those of such small Colonies as Gambia and Zanzibar. Nyasaland, with a native population six times either that of Gambia or Zanzibar and an area of fertile land ten times that of Gambia and forty times that of Zanzibar, is below them in both exports and expenditures. In fact, it is in these respects the lowest of all the British Colonies in Africa. It is obvious that the development of the Colony requires the best British statesmanship, so effective in other parts of Africa, both to solve the difficult problem of transportation and to make adequate use of the educational achievements for which Nyasaland is indebted to a long line of missionaries, both Protestant and Roman Catholic.”

"The inevitable conclusion of the facts presented concerning Nyasaland is, first, that the Colony has great resources which have not been adequately developed, and, second, that the million and a quarter native people, with capacities above the average, have not been able to take full advantage of the unusually effective type of mission education provided for them; almost entirely independent of government aid. Nyasaland, with greater possibilities than any African Colony of equal size, is therefore the lowest in output and the poorest Colony in Africa. It is generally agreed that the most immediate cause of this unfortunate condition is the absence of adequate internal transportation and the failure to provide satisfactory exit to the sea. This problem demands the vigorous consideration of the best British statesmanship. Until it is solved all activities in Nyasaland will be seriously handicapped and the natural results of efforts, whether governmental, economic or missionary, will be largely nullified."

The resources of Southern Nyasaland will not be, and cannot be, developed until the Zambesi bridge is constructed. We arrived at Muraça the second week in September and we found that the river was so low that the extremely shallow draught ferry steamer could not get across and we had to make part of the passage in a small motor boat. From September to January this is almost invariably the condition of the river; in January it rapidly rises and from February to April entirely opposite phenomena obtain; the river rises so high that not only are Muraça and Chindio (the two railway termini) submerged, but in normal years some miles of land on either side are completely under water to a depth of over the axle of a locomotive.

It is obvious from the formation of the ground that a bridge between Muraça and Chindio is out of the question, and if the bridge is to be built it will have to be built at some point either further up the river or lower down, where there is a rock foundation on which the bridge could be built, and a permanent water-way maintained for navigation. The latter point is one of peculiar difficulty in the lower Zambesi valley, as the main stream of the river shifts from year to year with the successive floods. There is considerable local difference of opinion as to whether the site which has been investigated at Sena, above Chindio, is the most suitable, and it may be found on further investigation that the most suitable site is lower down the river.

In any case the construction of the bridge and new railway approaches will be an extremely expensive and difficult operation, the cost of which has been roughly estimated at a minimum of £1,000,000. Only engineers who have faced similar problems in the Punjab should undertake it. Further, before the bridge is constructed, whether the money is found by Government or private enterprise, it will have to be shown that the traffic over the bridge will justify the cost. In our opinion it is doubtful whether the agricultural products of Southern Nyasaland alone, great though the potentialities are for maize, cotton, and tobacco, would be sufficient of themselves to justify so great an expenditure. There are,

however, known to exist two coalfields north of the Zambesi River, one in the neighbourhood of Tete in Portuguese territory, and the other to the west of Chiromo in British territory. Should either or both of these coalfields prove to contain coal of adequate quality and in sufficient quantity, and should a railway branch line be built to them, there is no reason why the bridge should not pay, or why Beira should not become an important bunkering port as well as a port of export for this Zambesi coal. We, therefore, recommend that further investigation and negotiations should take place with the persons interested regarding the development of these coalfields before further steps are taken to consider ways and means of finding money for the Zambesi bridge.

The question of the use of Beira as a bunkering and coal export port brings us naturally to the question of the East African ports and harbours. The main ports serving the territories under British administration in East Africa are Beira (in Portuguese territory), Dar-es-Salaam and Mombasa, with Zanzibar as a distributing centre. While not wishing to minimise the importance of the smaller ports such as Tanga, Kilwa, and Lindi, we feel that effort should be made to concentrate traffic as far as possible at the three principal mainland ports, and it is clear that as East Africa develops considerable further expenditure will have to be undertaken at each of them. Even with the comparatively small amount of development that has already taken place, small in comparison with what the future undoubtedly holds in store, existing port facilities are much congested. Beira, which is a Portuguese port, is the worst congested. It lies on the estuary of the Pungwe river and the harbour is capable of accommodating a very large number of big ships. The entrance channel shows some signs of silting up and dredging requires to be undertaken immediately. The really serious difficulty, however, at Beira at present is that the only facilities for loading and unloading cargo are by means of lighters which ply between the vessels out in the stream and two small wharves on opposite sides of a narrow tidal creek. That on the south side is under the control of the Mozambique Company and is used largely for imports, while on the opposite side is the wharf under the control of the British South Africa Company. This is 800 feet long and is equipped to its maximum capacity with 10 cranes. The main trouble is not so much the inadequate wharf frontage, though this is bad enough, but the fact that great portions of every working day are lost owing to the lighters being stranded in the mud in the creek at every low tide. We learnt when in Beira that a project was under consideration by the Port of Beira Development Company for the construction on the river frontage to the north of the British South Africa Company's area of deep-water wharves which would enable three ships to go alongside. Sir George Buchanan, of the well-known firm of Meik and Buchanan, Consulting Harbour Engineers, has recently completed the work of preliminary survey, and it is understood that the engineers do not consider that there are any unsurmountable difficulties or that the construction of the proposed deep-water wharves will be unduly expensive. The present traffic, *i.e.*, for 1923/24, in and out of the port of Beira already exceeds half a million tons of cargo per annum, and the delays consequent on the inadequate facilities now provided are the

subject of increasing and reiterated complaints on the part of all shippers using the port. Ships are detained at Beira anything from a fortnight to three weeks, resulting in great loss of time and money, which is reflected in the rates charged for freight on the East Coast. When we were in Beira minerals of all kinds were dumped in long banks in the open air behind the British South Africa Company's wharf, the existing warehouses were full to overflowing, and there were great delays in getting produce shipped. The proposed deep-water wharves alone will not solve the problem. There are on occasions over 20 ships in the harbour at the same time, and so, in addition to the proposed deep-water wharves, there should be an extension of lighterage wharves, and a general improvement in the port facilities and the approaches to the port. The port movement at Beira in 1924 amounted to 612,000 tons, which is 105,000 tons more than in the previous best year. The value of this trade was £12,712,000. British ships carried two-thirds of the total.

Dar-es-Salaam is a small land-locked harbour with a narrow entrance, capable of berthing a maximum of four steamers of 8,000 tons and three of 2,000 tons at the same time. The limit of size for a steamer entering Dar-es-Salaam harbour at present is 500 feet in length and 10,000 tons displacement. The main difficulty is that without a steam tug or tugs it is impracticable for large steamers to enter or leave the harbour, except for 1½ hours either side of high water, owing to tide currents. When we were in Dar-es-Salaam the maximum capacity of the port was limited to the handling of 700 tons of cargo in 18 hours, but we understand that sanction has already been given to works involving the construction of a new wharf 360 feet long, which will increase the daily capacity from 700 to 2,000 tons maximum. This work is likely to be completed within two years from the date of commencement. Until it is completed there is risk of considerable congestion. Should action be taken to develop the railway system of Tanganyika as is proposed in this report, and should the Belgian Congo make increased use of Dar-es-Salaam for the mineral export from the Katanga and Lualaba districts, we are satisfied that when the proposed works are completed the port facilities will still prove inadequate. The small size of the actual harbour and the consequent small number of ships which can be accommodated at any one time, as well as the difficulty of the entrance, demands the early consideration of any practicable additions that can be made in the neighbourhood of Dar-es-Salaam. Fortunately some six miles north of Dar-es-Salaam there is a protected bay known as Msasani Bay, capable of accommodating eight ships of 500 feet length at single anchor, and we recommend that a fully-qualified harbour expert be selected forthwith to report on the whole question of the improvement and equipment of the harbours at Dar-es-Salaam and Msasani Bay. With regard to the possibilities of developing Lindi and Kilwa, which lie to the south of Dar-es-Salaam, as important ports, we were informed that the harbour at Lindi is a poor one with a maximum capacity of one big ship, while at Kilwa-Kisiwari there is a maximum capacity of four ships in a very deep land-locked harbour, where the supply of fresh water presents considerable difficulty.

At Mombasa we went over the very costly and elaborate deep-water wharves at Kilindini, which are now nearing completion. The new facilities to be provided are imposing in quality, but unfortunately berths are only being provided for two ships, and consequently a very large portion of the handling of cargo will still remain to be dealt with by lighters. Apart from the Magadi Soda Wharf, which lies immediately to the north of the new works at Kilindini, the lighterage is handled at the old Government wharf at Kilindini, and at Major Grogan's concession at Mbaraki, which fronts the narrowest part of the harbour immediately north-west of the entrance. It is as yet too soon to say whether the new deep-water berths will entirely relieve the existing congestion or whether they will, together with the old lighterage facilities, be capable of dealing with the rapidly extending traffic, but we are of opinion that, before any decision is taken to increase the number of berths alongside the new deep-water wharf, which we understand would cost approximately £400,000 a berth (with equipment); further investigation should be undertaken with a view to ascertaining how far the old lighterage wharf could be improved and extended. There should also be an inquiry into the possibilities of supplementing the harbour facilities on Mombasa Island by works on the mainland in the inner harbour opposite the Magadi Soda Company's pier.

While on the subject of harbour facilities it must be borne in mind that East Africa has an important asset in the existence of the great navigable lakes Nyasa, Tanganyika, Victoria, Kioga, and Albert. In the event of our proposed railway connecting Lake Nyasa with Dar-es-Salaam being constructed, the question of the navigation facilities of Lake Nyasa will have to be taken up. The proposed point at which the new railway should reach Nyasa is Manda, formerly known as Wiedhafen. Not only at Manda but also at the other collecting stations, namely, Mwaya and Karonga in the north-west and Domira Bay in the south, new facilities would be required. Owing to the very shallow and difficult character of the two southernmost bays of Lake Nyasa it is doubtful if anything can be done to render either of them serviceable for cargo, and Domira Bay will be the southernmost port of call for the lake steamers.

Lake Victoria, the largest, and, from a commercial point of view, the most important of the great lakes of Africa, requires further port development, more especially on the shores of the lake lying within Tanganyika Territory. We understand that Speke Gulf, to the east of Mwanza, is to be surveyed and consideration given to ascertaining the best means for utilising it as a collecting area for the produce of the rich and populous territories of East Mwanza. In the event of the railway to which we attach much importance being constructed from Mwanza south-eastwards to connect with the line from Tabora, the extension of the wharves and warehouses at Mwanza will become an urgent matter. On the west of Lake Victoria the port of Bukoba presents the most difficult problem. It is an unprotected bay open to the prevailing winds, and cargo handling is dangerous to life and property in stormy weather. It has been suggested that the port of Bukoba district should be moved from the present township of Bukoba to a satisfactory bay some 12 miles further south, but

before anything so revolutionary is investigated we are of opinion that the possibilities and cost of building an adequate breakwater on the present site should be considered. Bukoba is important as the port not only of its own district but of the rich and populous Kingdom of Ruanda under Belgian mandate. Export traffic from Lake Victoria all converges on Kisumu at the head of the Kavirondo Gulf. The approaches to Kisumu are extremely shallow, and it is clear that dredging operations would probably be both expensive and abortive and that the only thing to do is to recognise the fact that the conditions there prohibit the use of any larger steamers than those now operating on the lake.

After railway and steamer transport the next important subject for consideration in the development of East Africa is road construction. A certain amount of road construction in some of the territories has been done from loan funds, but in many areas it has been found very difficult to find the necessary money for roads, especially for the construction of permanent bridges, the most vital element in the making of an adequate road system throughout the greater part of East Africa. It is most desirable that in young developing countries, in which the bulk of taxation necessarily falls upon the natives, such taxation should be as light as is consistent with the maintenance of ordinary current expenditure, and, even if the construction of feeder roads and the less important main roads is in the future, as in the past, to be met from current revenue, we recommend that certain main trunk roads through country where railways are not at present commercially practicable should be sanctioned out of loan funds. We will give a few notable examples of the kind of main trunk road which we have in mind. These roads are required not merely for commercial development, but are, in our opinion, absolutely necessary for administrative reasons. While it should be the object in laying down railway policy to secure the cheapest and best routes from the interior through the three main ports, looking at East Africa as a whole it is desirable that further lateral connections should, as far as possible, be developed by roads. The most important of these trunk roads which we have in mind is one from Nairobi in Kenya through Tanganyika Territory and North-Eastern Rhodesia to the Victoria Falls at Livingstone. Such a road would pass through Arusha, Kondoa, Dodoma, Iringa, Tukuyu, Mwaya, Karonga, Kasama, Serenje, Broken Hill, Kafue to Livingstone. The greater part of this road already exists, having been roughly constructed for military purposes during the war, but it should be rendered serviceable throughout for motor traffic. This will require the construction of permanent bridges over the perennial rivers and the proper alignment of the approaches to drifts and the concreting of some of the drift bottoms in the case of streams and rivers which only flow during the wet season. Another main north and south road the construction of which we propose is one linking Mombasa with Dar-es-Salaam along the coast. Here again considerable sections of the road exist and the chief need is the bridging of the rivers.

When in Uganda we gave special attention to the experimental road rail which runs from Kampala to Bombo, and the conclusion to which we came is that it is still too early to judge as to the success

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or failure of this form of transport under African conditions. The experience of working during 1925 should be the first real opportunity of judging how far this new system of transport is of local value. Nevertheless we are satisfied that the road rail can never be an adequate permanent substitute for a railway in the opening up and developing of new country, and therefore that its main utility will be in districts where there is considerable volume of traffic for short stretches as a feeder to the existing railways.

Further details regarding our views on the new transport services required to accelerate the development of East Africa will be found in the chapters dealing with each particular country, but it is desirable that we should deal in this section of the report with the general question of finance which the construction of these new transport facilities raises in an acute form.

At present Kenya is the only one of the five territories which we visited which can raise a public loan in London under the Colonial Stock Acts for purposes of capital development. Kenya can do this because it has the status of a "Colony." Protectorates and Mandated Territories do not come within the purview of the Colonial Stock Acts and consequently they can only raise a public loan on any reasonable terms by the passage of a special Act of Parliament for each loan, or by a guarantee by the Imperial Government, which also necessitates an Act of Parliament. The four territories which have not the status of a Colony have hitherto been dependent for public capital for their development on the grants-in-aid or loans-in-aid advanced in cash out of the current annual revenues of Great Britain. We think everyone will agree that this is far from a satisfactory method of financing large public works such as railway construction in Africa. It has involved Treasury control and is dependent entirely on the amount of money which the British Chancellor of the Exchequer is willing or able to divert from the Sinking Fund from time to time for colonial development.

But, even if this initial difficulty could be got over by passing an Act of Parliament extending the provisions of the Colonial Stock Acts to Protectorates and Mandated Territories and to inter-colonial authorities such as the Kenya-Uganda Transport Administration, there is the further difficulty of burdening new countries at the beginning of their development with the service of the loan during the initial constructional period, during which no revenue can be expected from the new works.

The extension of the Uasin-Gishu railway into Uganda which was authorised last year was, as has already been stated, only possible owing to the advance in cash of £3,500,000 free of interest for the first five years, and, in the present state of development of Tanganyika Territory, Northern Rhodesia, and Nyasaland, no Secretary of State could approve of burdening the territories with immediate interest liabilities for the service of the loans required to finance the constructions which we recommend. Even in the case of Uganda a Secretary of State must hesitate before allowing any use of their balance for the early service of a further loan, in view of the special circumstances obtaining in that Protectorate. Any fall in the price

of cotton is immediately reflected in all the revenues of Uganda, and records show that on an average of once in ten years Uganda is subject to a serious failure of rain; such a failure brings with it not only a sudden reduction in the economic crops of the country but an actual famine, necessitating the provision of relief at a time of declining revenue. We were informed that on the occasion of the last famine no less than 30,000 persons died of starvation in the Eastern Province alone. It is therefore absolutely essential that the Government of Uganda should retain a balance of at least £500,000 as a reserve available against emergencies.

It may be argued that East Africa with its great potential resources and rapidly growing volume of exports is a field for private enterprise in the construction of railways for development. This question was exhaustively examined by a special Committee under Lord Ronaldsday appointed by the Conservative Government in 1923, and the report* of this Committee is conclusive in the view that even if such a policy was desirable it is not likely to meet with any response on the part of private enterprise.

After investigating this matter on the spot and giving considerable thought and attention to it, we are convinced that the railways in East Africa should be owned by the State and their management should be under the effective control of Government. Private ownership and administration of railways really postulates some element of competition and, in the circumstances of tropical Africa, railways must for some time to come be free from competition and monopolistic in character. They should be managed and run primarily in the interests of the economic development of the country, and, even if it were desirable to hand over a concession of such monopolies to a company of private shareholders, it is more than doubtful whether any private company would undertake the task without a Government guarantee, together with grants of land and mineral concessions such as were given to the Canadian Pacific Railway. Such grants we consider out of the question in the present circumstances of tropical Africa. We are therefore driven to the conclusion that, if transportation facilities are to be provided for East Africa, they must be provided in the future, as in the main they have been provided in the past, by Government enterprise and Government finance.

This leads us to the next question, namely, the method of construction, and we have formed the view that where the necessary nucleus of a staff exists it is preferable that the construction of new railways in tropical Africa should be undertaken departmentally by persons familiar with African conditions. This view is rendered more emphatic in our minds by the consideration of the problems of the recruitment and treatment of the native labour required for the construction. On the other hand we are of opinion that major harbour works are best constructed by open tender contract and not departmentally. With regard to what we have said concerning railway management, we are of opinion that, while the ultimate

* Cmd. 2016.

control must rest with the local Government and the Secretary of State, it is desirable that the General Manager of a Government railway should be given the widest possible freedom and latitude. Having said this we should like to lay down the principle with regard to railway rates now obtaining in connection with the Uganda railway system, namely, that every effort should be made, in a newly developing country whose main source of wealth is agricultural produce, to reduce railway rates for exports to the absolute minimum consistent with the avoidance of actual loss, and that the railway should look for its profits to the rates on imported articles, more especially those on all articles of luxury, exception only being made in the case of goods like agricultural machinery and motor spirit, which are essential to the further development of the land. State railways in tropical Africa should not aim at making large profits with a view to earning revenue for distribution to the ordinary revenues of the territory, and any profits earned by the railways should go to the work of betterment or further construction. We wish to make it clear, however, that in our opinion it is also true that it would be unwise to embark on a policy of subsidising railway rates out of the general revenues of the territory; in other words, railways should be run, and rates fixed, so as to enable any given railway system taken as a whole to just pay.

In addition to the supervision of the Railway Manager by the local Government or an Inter-Colonial Railway Board, whichever it may be, we are of opinion that the system of State railways requires periodic expert inspection by a competent railway expert appointed from time to time by the Secretary of State. In this connection we are impressed by the value not only to the railways but to the territories concerned of the recent inspections and reports of Colonel Hammond.

The next question of general interest regarding which it is necessary to say something is the controversy that rages round the question of the control and management of harbours and port facilities. One view is that the control and management of ports should, as in South Africa, be placed under the general management of the railway serving the port in question. Shippers and merchants, on the other hand, take the opposite view, and we are inclined to the view that as a general principle the control and management of all facilities at the ports should be vested in an *ad hoc* board, on which the Administration, the Railway Department, local merchants, and shipping companies should all be represented.

We cannot conclude this chapter of the report without emphasising our opinion that the development of Africa depends primarily on the extension of railway facilities. The territories in East Africa form together an Empire in themselves. Their development is in its infancy. They are quite unable to finance the necessary capital works themselves and, if any step forward is to be taken, the Imperial Parliament either by guarantee or direct advance must undertake the burden. Britain possesses a rich potential heritage in tropical Africa. From it, with wise capital expenditure, she can expect to receive in ever-increasing quantities supplies of those raw materials

and foodstuffs for which she is at present so dependent on foreign countries. East Africa offers unique opportunities for the further development of cotton, coffee, tobacco, groundnuts, sisal, and maize. As the production of these, whether by European or native enterprise, increases with the creation of the transport facilities, there will be an increased purchasing power for British manufactured goods in East Africa. To our mind the financing of transport facilities in East Africa not only is one of the finest possible investments for British trade, but is a moral responsibility resting upon the Mother Country. The development of Africa's resources is needed by the trade of the world, and it will be nothing short of a dereliction of duty if British initiative, both public and private, fails to rise to the height of its opportunity.

CHAPTER III.

NATIVE POLICY.

General, Land, Native Production, Labour, Native Organisation, Education and Medical Services.

(a) GENERAL.

The Kenya White Paper of 1923,* prepared by the Conservative Government of that year, laid down as the basis of our position in East Africa the duty of trusteeship for the native population under our control. It emphasised this by the use of the following phrase:—

“As in the Uganda Protectorate so in the Kenya Colony the principle of Trusteeship for the Natives no less than in the Mandated Territory of Tanganyika is unassailable.”

It therefore becomes necessary to define more precisely what is involved by this “Trusteeship.”

During our tour of East Africa we were frequently told by Europeans, officials and unofficials alike, that the African native is a “child.” Without questioning the truth of such a generalisation, it at any rate suggests that the position of the European race ruling in Africa is that of a guardian to a ward, and that our duty is to protect the interests of someone less capable of safeguarding his or her own interests, and to educate a less developed and less efficiently equipped people to become better equipped and more efficient. It is difficult to realise without seeing Africa what a tremendous impact is involved in the juxtaposition of white civilisation, with its command over material force, and its comparatively high and diversified social system, on the primitive people of Eastern Africa. The African native is confronted with a whole range of facts entirely beyond his present comprehension and he finds himself caught in a maelstrom of economic and cultural progress which in the majority of cases baffles him completely.

* Cmd. 1922.

The status of trusteeship involves an ethical conception, that is to say, it imposes upon the trustee a moral duty and a moral attitude. This derives in part from the influence of Christianity upon Western civilisation, and in part from what is often claimed to be a specifically British conception, namely, that of "fair play for the weaker." Sentiment therefore enters, and rightly enters, into the consideration of the problem.

But trusteeship of this kind is not the only trusteeship which is exercised by the European in tropical Africa. As Sir Frederick Lugard has pointed out in his well-known book entitled "The Dual Mandate in British Tropical Africa," we are not only trustees for the development and advance in civilisation of the African, but we are also trustees for the world of very rich territories. This means that we have a duty to humanity to develop the vast economic resources of a great continent. There is no reason to suppose that these two trusteeships either should or do conflict. Having said this it should also be added that Government cannot restrict its conception of its duties to these two main considerations, it also has a duty to perform to those individuals and communities not of African race who by their courage and enterprise, and often at the instance and with the encouragement of Governments in the past, have made their homes, or at least the sphere of their life's work, in Africa. To be more precise, Government has equally a duty to perform to the Europeans and Asiatics engaged in work in Africa, be they settlers, merchants, civil servants, or missionaries. The ideal before Government is not merely that of holding the balance between a series of interests, native or non-native, but of serving the highest welfare of communities as a whole. In fact the development of the community sense is one of its paramount tasks.

We have already dealt with some of the contrasts between the conditions which obtain in East and West Africa. Without wishing to emphasise these contrasts we wish to stress the facts that economic and geographical conditions are different, that the natives are different, and that the presence of European settlements in the highland areas of East Africa is an existing reality which cannot be gone back upon even if it were desirable to do so.

To return to the question of native trusteeship, this duty has been regarded in the past as the special function of the agents of the Imperial Government and of the missionaries. But such a limitation is neither possible nor desirable. Britain will not be judged at the bar of history by the work of these two alone; the trusteeship lies really upon the shoulders of every man and woman of European race in Africa. It is in very truth a white man's burden, and all Europeans in Africa must share in the work.

In order to face these responsibilities certain misconceptions too long current in the public mind have got to be removed. The first of these is that the interests of non-native and native must necessarily conflict. In order to be pro-native it is not necessary to be anti-white. To be in favour of white settlement in such portions of Africa as are climatically suitable for European homes, it is not necessary to be anti-native. East Africa can only progress economic-

ally and socially on the basis of full and complete co-operation between all races. The white man's leadership in this co-operation is not due to any inherent right on account of the colour of his skin, but because, and only because, by his education and his moral and intellectual development and his command over natural forces, he is equipped for such leadership. The Europeans in East Africa have the position, and therefore the dangers and responsibilities, of any aristocracy.

In bringing Western civilisation and Western ideas into tropical Africa the missionaries were first in the field. Traders followed them; then Governments; and finally settlers. Without the work of the missions East Africa could not have advanced in the way that it has advanced in the last thirty or forty years. Their continuing efforts, both as pioneers in economic development and in the task of civilising the African, deserve unstinted recognition.

The main contribution of Government until recent years has been the introduction of inter-tribal peace, security for life and property, and the provision of Western standards of justice and criminal jurisdiction. These provisions, the first and paramount duties of all Governments, are often minimised and insufficient recognition is given to what they mean in tropical Africa, where, before the coming of European Government, inter-tribal warfare, raids, the supremacy of witchcraft, and the frequent arbitrary tyranny of the powerful were almost universally the rule. It is for the provision of these essential functions of Government that the native has been, and has rightly been, taxed. Of recent years the public conscience has increasingly demanded that these provisions alone do not finally satisfy the obligations of the State. It has become the duty of Government to make increasing provision for the further needs of the native population; such needs as medical services, schools, veterinary services, means of communication, and social and political organisation. The provision of all these further services can only be defrayed as and when the economic advance in the productivity and earning capacity of the native increases. The further development, therefore, of the conception of trusteeship is bound up with the economic advance of the individuals who compose the State. Only in proportion as the means of paying taxes increase and the native becomes capable of bearing, without hardship, further taxation, can all these things, the need of which is now universally recognised, be provided by Government.

(b) LAND.

As we have already stated, the economic resources of East Africa are almost entirely agricultural, and it is therefore to the better use of the soil of Africa that we must look for the means whereby any form of progress can be obtained. This consideration brings us at once to the question of the land, its ownership and its use. To attempt to consider the further economic development of Africa or the further progress of the natives without a careful examination of the land question is impossible.

The system of land tenure at present in vogue in East Africa is extremely varied; it may be said to fall into three main categories:—

- (1) Crown or public land.
- (2) Land recognised as native land.
- (3) Land alienated to non-natives either in freehold or leasehold title.

With certain notable exceptions the East African native has not in the past possessed the European idea of individual ownership of land. This was, in part, due to tribal custom, partly to nomadic habits, partly to the existence up to recent times of a superfluity of land (there being more land than there are people to use it). It is true, however, to say that in the main we found that the different tribes have historic claims, some of them comparatively recent, to the use by a tribe of certain specified areas. The boundaries of such tribal areas are sometimes quite clearly defined, in other cases they are vague, and in the old days before the coming of the white men they were the most frequent causes of inter-tribal wars. Above all it must be remembered that from time immemorial the more warlike pastoral tribes have continually raided and frequently dispossessed the agricultural tribes. This distinction between the purely pastoral tribes and the agricultural tribes must always be borne in mind in considering African systems of land tenure. Among the agricultural tribes there is an undoubted tribal custom that the cultivator possesses an occupation title to the land he actually cultivates, of which he cannot easily be deprived. In some cases this occupation right is transmitted by different forms of hereditary claim, notably in the Bagishu district of Uganda and the neighbouring area of Kavirondo. In Kenya in a few cases this right is also transmitted by purchase, a system which obtains more particularly in the Kikuyu reserve in Kenya, and is locally known as the Gethaka system. Among the powerful pastoral tribes such as the Masai, individual rights are far more shadowy. Another factor to be borne in mind when considering East African land tenure is the character of the native agriculture. Over a great part of the area it is the custom of natives to cultivate a portion of ground for a few years only and then to move to vacant land, leaving land that was cultivated to go back to bush. Such a custom is bound up with the cultivation of purely annual crops. In the Kingdom of Buganda, however, the introduction at some remote period of the banana as the principal foodstuff of the whole population destroyed this custom. The banana is a permanent crop capable of cultivation on the same patch for many years in succession. Coffee is another example of a permanent crop which has affected native ideas of land tenure, and coffee is being increasingly cultivated by natives in different parts of the Uganda Protectorate, and still more in the Bukoba district of Tanganyika Territory. But, even apart from these economic causes which make for the disappearance of the old Bantu conceptions of land tenure, two other forces are operating in the direction of the creation of individual rights in land. First of these is the decay of tribal authority, due not so much to any deliberate policy on the part of the British administration as to the disappearance of the main buttress of the tribal system, namely, the

necessity for organised military defence against neighbouring tribes. The second cause is contact with European civilisation and European ideas of land tenure. Both contact and imitation are tending to produce in Africa the "individual," where formerly the real unit was the family or tribe. There is now a career open to the individual who has hitherto had little chance of advancement unless he happened to belong to the tribal hierarchy by hereditary right. But the African native naturally imitates; and where the European is seen to acquire freehold or leasehold rights to land the more intelligent African is seeking to imitate his example. Such a movement is particularly noticeable among the natives of Kikuyu and Kavirondo. It is at this moment the subject of enquiry by an important Commission in Southern Rhodesia.

Looking to the future from the purely economic point of view, there can be little doubt that nomadic habits of the past, whether of pastoral or agricultural tribes, will be, and should be, stopped. Further, although tribal or communal conceptions of land tenure do not debar agricultural progress, taking the long view it is inevitable that the conception of fixity of tenure by families and by individuals is bound to grow, and is really necessary to the better use of the land. Progress in the direction of individual title to land by African natives has gone farthest, as would be expected, in the Kingdom of Buganda. Under the Uganda Agreement of 1900 between Sir Harry Johnston and the King and people of Buganda, all the land of the Kingdom was divided, half as Crown land to the British Government and half to the native government. The disposition of the half allotted to the native government was left largely to the Lukiko (native Council), but from the first included the recognition of freehold titles to land by the then existing native chiefs. The agreement originally contemplated the division of the native share into official lands set aside for the support of different members of the royal family and of the chiefs, known as the official mailos (to which we shall revert later), and the division of the rest of the land among approximately 1,000 native freeholders. In the actual distribution, however, it was found that not 1,000 but 3,000 native freeholders had to be provided for, and during the last 25 years, partly by sale and partly by bequest, this number has increased to over 7,000. To-day approximately one in every hundred of the population of the Kingdom of Buganda is a landlord possessing freehold title to his land. These freehold estates vary in size from the largest, which is approximately 50 square miles, down to small holdings of two or three acres. Under the Native Law of 1908 sale or bequest to non-natives is forbidden without the consent of the Lukiko and the Governor, and by a more recent resolution of the Lukiko this consent is now withheld in all cases. In the main, land passes by bequest to the family in the male line, the eldest son receiving by far the largest share. It is somewhat surprising to find this hereditary freehold right in a country where, with the exception of the royal house, the chieftainships, great and small, are non-hereditary. The ancient feudal system of Uganda is really an elaborate native civil service, the individual starting as a Matongoli chief or headman, over a few hundred families, then rising to the position of a Gom-

bolola chief who has jurisdiction over between two and three thousand taxpayers, and finally to the position of a Saza or county chief. Of these last there are approximately 20 in the whole kingdom. All these administrators, for that is the correct way to describe them, are appointed by the native government, in agreement with the British Administration. All the Saza and Gombolola chiefs have official lands allotted for the support of whoever holds the office, in addition to any freehold land which the individual may own either within his jurisdiction or elsewhere. In the above sketch of the position in Uganda we have made no reference to the Butaka question, which will be dealt with in the chapter on Uganda.

In considering the question of land tenure and land rights in East Africa, the comparative sparseness of the population when compared with other territories inhabited by African natives must be borne in mind. The native population per square mile for different territories is seen from the following table:—

(1) Transkei (Cape Colony Native Reserve)	59	per square mile
(2) Nigeria	53	,, ,, ,,
(3) Gold Coast (Colony)	50	,, ,, ,,
(4) Basutoland	42.5	,, ,, ,,
(5) Uganda	33	,, ,, ,,
(6) Nyasaland	31	,, ,, ,,
(7) Tanganyika Territory	11	,, ,, ,,
(8) Kenya	11	,, ,, ,,
(9) Northern Rhodesia	3	,, ,, ,,

In many parts of East Africa there are vast areas of good cultivable land either absolutely unoccupied or else so sparsely occupied that there is little or no chance of the land being put to any use at present. Even in Uganda, the most densely populated of the East African territories, one sees behind the comparatively narrow stretch of cultivation along the roads vast areas of elephant grass (a sure sign of good land) stretching for miles. With the exception of the north-eastern half of Kenya, which is deficient in rainfall, the area of absolutely useless land in East Africa is comparatively small. In examining the above table it must not be forgotten that nearly half the total area of Tanganyika Territory, a very considerable portion of North-Eastern Rhodesia, and parts of Nyasaland are depopulated on account of the presence of the tsetse fly. It may be said that nowhere in East Africa is the native population really congested. The areas which approach most nearly to congestion are in the southern portion of Nyasaland, in the Mwanza and North Tabora districts of Tanganyika Territory, in the Wachagga district on Mount Kilimanjaro, the Bagishu district of Uganda, and the Kavirondo and Kikuyu areas of Kenya. In all these areas the natives are primarily agricultural, though some are partly pastoral as well.

Purely pastoral tribes have in the main the most enormous areas, particularly the Masai. This celebrated tribe, which occupies most valuable land both in Kenya and in Tanganyika Territory, numbers not more than 50,000, of whom about 30,000 are in Kenya and

20,000 in Tanganyika Territory. The area reserved for them amounts to 14,639 square miles in Kenya and approximately 16,200 square miles in the Tanganyika Territory. None of the land is cultivated and they live entirely on and for their enormous herds of cattle, their sole diet being milk, raw blood, and meat. They rarely sell their cattle, though it is estimated that they own 585,000 cattle in Kenya and over 350,000 in the Tanganyika Territory. The quality of the cattle is inferior, and as they never castrate the bulls the stock is probably deteriorating. The customs of the tribes are primitive and barbaric in the extreme. Their women are loaded with great weights of iron and copper neckbands, arm bands and anklets. Few Masai women carry less than 30 pounds weight of irremovable metal ornaments throughout their lives. The tribe are rigidly conservative and look down upon their more progressive neighbours with contempt. They excelled as warriors and their social organisation is based on the maintenance of the able-bodied youth as a military caste. As this they are no longer required.

It is obvious that any attempt to lay down a single land policy for the Masai and for the cotton-growing, banana-eating Baganda is out of the question. Land policy must be varied in accordance with historical, social, and economic facts, and no one land policy or system of land tenure can be imposed. Further, land policy and land legislation are not static. They must be evolutionary. Africa is changing rapidly and each area, which is by no means co-terminous with the existing administrative boundaries, must be dealt with empirically. Into these varied conditions has come, in each of the East African territories, the European farmer or settler. In Nyasaland and Rhodesia, European land rights have been acquired in time past direct from native authorities, being subsequently confirmed by the British Government. Outside these two territories European rights in land in East Africa have been in the main acquired from the British Crown. Some Europeans have been granted freehold, some 999 years leasehold, some 99 years leasehold, and others leases for shorter periods. Freehold has generally been granted in Northern Rhodesia and Nyasaland. In Tanganyika Territory freehold was granted by the German Government and the title to the greater part of these freehold estates has passed to Europeans and Indians by purchase from the Custodian of Enemy Property. In Uganda European settlers obtain leases convertible into freehold title on British crown land. Since the war the British Government has only granted public land in Tanganyika Territory on the 99 years leasehold basis, and in Kenya on the 99 or 999 years basis.

The existence of white settlements in a country largely populated by natives has led to the classification of the land as:—

- (1) Native areas, in which only natives and such bodies as missionary societies and traders under licence are allowed to acquire rights in land.
- (2) European areas, divided into European farms where the land is cultivated by European farmers with the assistance of native labour.
- (3) Doubtful areas where policy has been less defined.

In some quarters it is thought that the system of native and European reserves, for that is in effect what obtains, is bound up with the policy of industrial segregation, which has to-day so many advocates in the Union of South Africa on social and political grounds. The policy of industrial segregation does not obtain in East Africa. In fact, the trend of local European opinion seems wholly opposed to it. In South Africa it arises mainly from the existence of a European wage-earning class which is almost, if not entirely, absent in East Africa. In East Africa the native is actively encouraged to leave his reserve and become a skilled craftsman, and there is neither in practice nor in law anything in the nature of a colour bar in industry. In South Africa one never sees a native engine-driver or skilled mechanic, rarely even a native chauffeur. In East Africa an increasing number of engine-drivers, skilled mechanics, and chauffeurs are local African natives. In South Africa the native is limited in the building and carpentering trades to the less skilled work by a series of trade union rules. In East Africa, notably in Nyasaland and Kenya, work in these trades, that is ordinarily done by a European in South Africa, is done by the African native with ever-increasing efficiency.

The segregation of natives in large native reserves, into which few Europeans, other than Government officials, missionaries, and labour recruiters, ever penetrate, is held by some Europeans to be opposed to the agricultural progress of the natives themselves. One thing, however, seems to be clear, namely, that, accepting the reserve system as inevitable, in areas where there is a considerable European settlement it is essential in the interests of both native and non-native that there should be some clear definition of rights. There is probably no subject which agitates the native mind to-day more continuously than the question of their rights in land, both collectively as tribes and individually as owners or occupiers. In this disquiet they are actively supported in their claims by the missionary bodies of all denominations. Uncertainty in regard to future land policy is certainly the principal cause of disquiet among the natives, more particularly of Kenya and Nyasaland.

Although more appropriate to the chapter dealing with Kenya, the native land question in that Colony has become one of such general interest that we propose to deal with it in this general section of the report. At every meeting we had with the natives of Kenya Colony there was evidence of a feeling of insecurity as regards the tenure of their lands. The legal position appears to be that no individual native and no native tribe as a whole has any right to land in the Colony which can be recognised by the Courts. This position is summarised in an often quoted extract from a decision of the Kenya High Court in a Kikuyu land case in 1921 :—

“ In my view the effect of the Crown Lands Ordinance, 1915, and the Kenya (Annexation) Order in Council, 1920, by which no native rights were reserved, and the Kenya Colony Order in Council, 1921, as I have already stated, is clearly, *inter alia*, to vest land reserved for the use of the native tribe in the Crown.

If that be so, then all native rights in such reserved land, whatever they were under the Gethaka system, disappeared, and the natives in occupation of such Crown land became tenants at will of the Crown of the land actually occupied."

This judgment is now widely known to Africans in Kenya, and it has become clear to them that, without their being previously informed or consulted, their rights in their tribal land, whether communal or individual, have "disappeared" in law and have been superseded by the rights of the Crown.

It is true that the Kenya Government cannot alienate land from a native reserve without the previous sanction of the Secretary of State for the Colonies, but for various reasons we are doubtful whether in the past this has provided adequate security.

In the first place, much remains to be done as regards gazetting reserves under the Crown Lands Ordinance, 1915. Two reserves, Kikuyu and Nyika, have been finally so gazetted, and 39 reserves, including all the Kavirondo, the Kenya, and the Wakamba reserves, can immediately be gazetted. Eleven others will then remain to be dealt with, containing an estimated population of 250,000. There seems no reason why all the boundaries of reserved areas should not be completely settled at an early date.

In the second place, cases have occurred in the past where a Governor has alienated land from a native area, and has either not reported his action to the Secretary of State, or has reported it so long afterwards that it was not really practicable to reverse the action he had taken. An example of the latter class was the excision of a large area of the Nandi Reserve as a result of the ex-soldiers settlement scheme in 1919. When the reserves are finally gazetted there should be no danger of further excisions of this kind.

What we consider essential, both to satisfy the apprehensions of the natives and to ensure justice in the solution of this complex problem, is that representatives of native interests should without delay be given a legal status in regard to the tenure of native lands. In order to implement the White Paper of 1923,* which so definitely affirms British trusteeship for natives, it seems necessary that a further instrument should be issued laying down the terms upon which the Crown holds native lands in Kenya, and the principles upon which the natives' estates should be managed on their behalf. As is pointed out in the judgment already quoted, the present position arises from the effect of Orders in Council, and it is a matter for legal consideration whether the new instrument which is required should not also have that form; but the exact form, whether an Order in Council or local Ordinance, can be considered later.

We discussed the whole question at a meeting in Nairobi with the late Governor, the Colonial Secretary, the Chief Native Commissioner, and other officials. As a result, a despatch has recently been received from Sir Robert Coryndon making definite proposals for meeting the

* Cmd. 1922.

difficulty. Generally, he proposed that, while the trust for the natives should remain vested in the Governor, there should be set up an Advisory Native Land Board in each native area, consisting of the Chief Native Commissioner as Chairman (with power to delegate his authority), the Senior Commissioner and District Commissioner, a representative of the Land and Survey Department, and such native representatives as the Government may appoint, these representatives to be, if possible, members of the local native Council. These Boards would arbitrate in native land disputes and advise the Government with regard to all questions affecting land in their area, and especially all projected leases or alienations of tribal land. Such proposals would be decided upon either by the Governor-in-Council or by the Secretary of State according to the area involved. Special arrangements would be made for considering any cases which were opposed by native representatives on the Advisory Board, and all such cases would require the prior approval of the Secretary of State.

Under the late Governor's proposals an Ordinance would give power to the Governor-in-Council to set apart land for the benefit of native tribes, and would prohibit the disposal of such land except as provided in the Ordinance. The land would be declared to be under the control and subject to the disposition of the Governor, and be held and administered for the use and common benefit of the natives, and no title to the occupation and use of any such land would be valid without the Governor's consent. Provision would be made for the temporary letting of portions of a native area for purposes beneficial to the inhabitants, but without the land ceasing to be part of the area.

Any such lease would bind the lessee to pay to the Governor compensation (which would be devoted by the Governor at his discretion to the benefit of the natives affected) for any damage caused to native individuals or communities in the exercise of the lessee's rights under the lease.

Such leases would not exceed 30 years, renewable at the lessee's option for a further period not exceeding 30 years, the Governor-in-Council reserving the right of re-assessment of rent at the expiration of each such period.

We have considered the Governor's proposals, but we fear that, as they stand, they would not completely allay the feeling of insecurity which now exists, and that it is necessary to set up a definite Trust Board, in which all native lands should be vested. It would, no doubt, be more satisfactory to the natives concerned if there were a separate Trust Board for each reserve, but, in view of the large number of reserves, and the small area of many of them, such an arrangement would be unwieldy. Subject to the safeguard afforded by the Governor's proposal of Advisory Boards in each reserve, we consider that one Trust Board would be sufficient for the whole country, and we suggest that it might consist of the Governor or Chairman, the Chief Native Commissioner, the three Senior Commissioners of the first class, two representatives of the natives (who, in the first instance, might be missionaries), and two representatives of the non-native unofficial population. These last four members

would be nominated by the Governor. We suggest the presence of unofficial non-natives on the Trust Board in order to secure the maximum possible co-operation and confidence among all sections of the community.

We consider it necessary to add to the provisions proposed by the late Governor that the Government should have the right to acquire any native land required for a necessary public purpose, such as roads, railways, and Government stations, but that some compensation should be paid both to the tribe collectively and to any individual whose occupation of land is prejudiced. In addition, any monies paid as compensation or rent for dealings in native land would be received by the Trust Board and by them be handed over to the Native Trust Fund. It would have to be made clear that arbitration of disputes relating to the individual enjoyment of land in any reserve would be included in the functions of the local Advisory Boards.

It remains to consider whether any permanent alienation of native land should be allowed for non-Government purposes. Such alienations were apparently contemplated by the late Governor, but we cannot foresee any cases in which it would not be sufficient to grant a lease of the land; which would remain part of the reserve and revert to native use when it ceased to be employed for the purpose for which the lease was given.

We believe that, if this recognition of rights and these proposed safeguards were adopted in Kenya, a great deal of the present misunderstanding and unrest would be allayed and the solution of many other problems would be assisted. For instance, we are by no means certain that the present feeling among the natives of Kenya on the land question has not some effect on the labour problem.

We have dealt at some length with the land question in Kenya because it is in that territory that it assumes the greatest importance for the moment. It will, however, be necessary to deal with the land question in Nyasaland, and more particularly with native rights on land alienated in freehold title to European companies and individuals under the certificates of claim recognised by Sir Harry Johnston. This problem will be referred to in the chapter dealing with Nyasaland.

We understand that a general land law for the Uganda Protectorate outside the Buganda Kingdom has been prepared by the Uganda Government, and of this proposed Ordinance we saw a draft when in Entebbe. We consider that this draft Ordinance will require the careful attention of the new Governor. Some changes in the Tanganvika Land Ordinance and in its administration seem called for, which will be dealt with in the Tanganyika chapter. In regard to Northern Rhodesia we recommend that you should await the report of the Native Reserves Commission which has lately investigated the situation in the East Luangwa district under Sir Philip Macdonell before deciding what general land legislation should be introduced.

There is one further general question in connection with native land policy to which we desire to refer, namely, the demand that is sometimes put forward for the extension of a native reserve on account of the increase in native stock. Generally we endorse the principles laid down in the report of the Southern Rhodesia Native Reserves Commission of 1916 on this point. Because, owing to the cessation of tribal raids, native cattle, sheep and goats are no longer subject to the old wastage we do not consider that this fact alone entitles tribes to extensions of boundary. It is not in the interests of development or of the natives themselves that stock should be indefinitely increased. Further, as a tribe increases in numbers it should acquire the capacity for winning greater yields from the soil both for its own support and for its stock. Indefinite grazing—especially by goats which are in many parts of East Africa increasing quite unduly—is the most wasteful use of land, and leads in some cases to deterioration and desiccation of the soil. Above all it must be borne in mind that the grazing of stock is undertaken by natives not with a view to sale or real economic use of the stock, but largely for purchase of a plurality of wives and for the promotion in social standing in native eyes which larger stock owning brings. One of the regrettable features of East Africa is the present unwillingness of natives to dispose of their stock, but it is only fair to add that up to the present the market for native animal products has not been developed or assisted.

(c) NATIVE PRODUCTION.

Next in importance to the general question of land comes that of its use. It is clear to us that the true progress of the African native is bound up with the encouragement of the use of the hoe and the plough. Only by the cultivation of the soil as against its use for grazing can permanent economic advance be obtained. There is a real danger in East Africa lest pastoral tribes should stagnate, and lest the actual fertility of the soil should deteriorate by over-stocking. Cases were brought to our notice, particularly in the case of the Wakamba in Kenya, of a definitely retrogressive tendency due to the rapid increase of native stock accompanied by land previously cultivated going out of cultivation. It is difficult to see how to arrest such a tendency other than by the imposition of a specific tax on stock over a given quantity. The question of a cattle tax has recently been discussed at a meeting of Senior Commissioners in the Tanganyika Territory, but, whatever may be decided there, it would obviously be unjust in Kenya to impose an additional tax on the natives' chief form of wealth unless a tax is imposed on European stockowners.

One of the root problems we have to face is the gradual change of the Bantu custom whereby the bulk of the agricultural work was done by women and not by the men. It should be clearly part of universal native policy to encourage male labour on the land and to discourage female labour. It must, of course, be borne in mind that the ancient custom of female cultivation was due in part to the neces-

sity of the manhood of the tribe from 18 to 30 being kept primarily as a military force. It is due also in part to the fact that in most parts of East Africa the position of a woman is that of a chattel if not a slave, and the custom of polygamy is popular because, the more wives a man has to do the work, the easier time he has. It is essential for any social progress of the native that the main obligation to manual work should fall on the man and not on the woman. To this end the introduction of the plough is most beneficial in its results. To plough involves the use of oxen (traditionally man's work) and considerable physical strength. It enables larger areas of land to be cultivated than with the hoe and makes for economic as well as social progress. We observed several examples of the successful introduction of the plough, notably in the Teso district of Uganda, where no less than 650 ploughs are in use by the natives, and the demand for them is steadily increasing. In many parts of Uganda the Government has instituted ploughing schools where natives and cattle are trained to the use of the plough. Native production by means of the hoe has definite limitations. By using the hoe a native family cannot be expected to cultivate more than between two or three acres, whereas by the use of the plough they could cultivate many more acres and the yields per acre would be better.

It is clearly the duty of Government to develop agricultural efficiency in the native areas throughout East Africa. The quality of native cultivation varies to a remarkable degree. In Uganda and parts of Tanganyika Territory, thanks to the energy displayed by administrative and agricultural officers, it has already made great strides, and a welcome commencement has been made during the last two or three years in Kenya also. Nevertheless much of the native cultivation remains extremely poor. The cultivation of the Kikuyu reserve in the neighbourhood of Nairobi seemed to us deplorable. In the Kikuyu reserve one sees muhogo (cassava), sweet potatoes, sugar cane, and maize of inferior quality being grown higgledy-piggledy in the same patch. Every effort should be made to insist on orderly cultivation. Much can be done by teaching the natives the selection of better seed and the institution of regular rotations of crop. The notable increase in both the quantity and quality of the maize grown in the Kavirondo area of Kenya during the past two years is encouraging. Except in the case of the banana in Uganda, the staple food of the natives throughout East Africa is maize, and everything should be done to encourage the further native production of maize, both as food supply and for export as well. Turning to economic crops grown solely for export, the encouragement of native production must be determined by the climatic and soil conditions. Cotton is fast becoming the most important native economic crop throughout East Africa. The best possible conditions for its production obtain in Uganda and parts of the Tanganyika Territory. It must not be thought, however, that it is a crop universally suitable for native production. In some areas, particularly where irrigation is required or the rainfall is of short duration and in consequence continuous effort is required during a short period of the year, it is best grown as a European crop, *e.g.*, in

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Southern Rhodesia. In Kenya there is very little land inherently suitable for cotton cultivation, and it is only in the Kavirondo reserve, and only in parts of that, in the low-lying land near Lake Victoria, where conditions though drier approach more closely to those which exist in Uganda, that success can be hoped for. No doubt cotton could be grown in Kenya down the whole length of the Tana valley and some of its tributaries, but this would entail large capital expenditure on irrigation, and could only then be carried out by the use of labour brought from a distance.

A good deal is said in East Africa about the social effects on the natives of the rapid development of cotton as an economic crop. It certainly gives the native the maximum return of cash for the minimum of effort, and the increase of its cultivation in Uganda has brought with it the sudden enrichment of large numbers of natives and in some cases the great enrichment of the landowners and chiefs. In fact, cotton is producing a great social and economic change in Uganda, which will confront the Government with new problems. The native with his newly-obtained wealth will acquire an increasing variety of new wants, and will be vocal in his demands. The idea that the policy of cotton growing has been imposed upon the native in the interests of Manchester is idle talk. Cotton growing has been encouraged, and rightly encouraged, by the Uganda Government because it is the economic crop most suited to the climatic and soil conditions, and it is only incidental that it happens to produce the raw material most needed by the Empire as a whole.

The first difficulty which arises in a country like Uganda from the successful native production of cotton is the scarcity of labour for all other purposes. If the native can obtain £6 or £7 sterling from the cultivation of one acre of cotton he is at first disinclined for further effort. There is no doubt that the present difficulty in obtaining labour in Uganda for the transport of the cotton crop, for the ginneries, for railways, for handling at ports, for all public works, and for the coffee planters, is due to the high prices which the Uganda native is at present obtaining for his cotton crop. It is necessitating the use of communal or compulsory labour for the construction of much-needed new roads, and it is not inconceivable that similar forms of compulsion will be required for other public services. There can be no doubt that at the start the cultivation of cotton in Uganda was due not to any legal compulsion but to moral pressure on the part of the Government and chiefs. However, the day when such pressure was needed is now past, and pressure has to be maintained to secure the growing of adequate food supplies, and propaganda is needed for the provision of the other labour services essential to the life of the community. Too much has been made of the extremely few cases where improper pressure has been brought by native chiefs on the peasantry in the encouragement of cotton cultivation. It is clearly the duty of the British Administration to prohibit the use of compulsory labour by chiefs for their own profit on their own cotton fields, and to define strictly the use of compulsory labour for any other purpose.

The cultivation of cotton, as of many other economic crops, by natives requires not only the services of trained European agricultural officers, but also the provision of a staff of native assistants. These trained native agriculturists are required both as subordinates to assist the Agricultural Department and in the native areas as examples to their fellows. Interesting and valuable work is being done in this respect in Kenya by the training of youths from different native tribes at the Scott Institute at Kabete near Nairobi. These natives are given a thoroughly practical course in native agriculture; and, in addition to work on the Institute farm and a certain amount of elementary scientific instruction, each student has his own plot on which various crops are grown according to the custom of the tribe to which he belongs. Here the results of better seed selection and better cultivation can be demonstrated. But apart altogether from such provision it is essential to link up the educational curriculum of all native schools with the arts and sciences of agriculture.

Debate frequently arises as to what are the most suitable crops, apart from cotton, for native agriculture, and in selecting these the active assistance of the Agricultural Departments is needed. Numerous experiments have to be made with regard to the introduction of new economic crops. There can be little doubt that there is room for much greater effort in regard to the increased cultivation of groundnuts, of sesame (simsim), and, in particular areas, of rice. The best varieties of beans and grains for particular areas require constant investigation. It is essential to the success of native production that there should be the utmost harmony and co-operation between the Agricultural Department and the Administrative Department, for it is primarily to the administrative officer that the native looks as the embodiment of the Government, and it is upon the activities of the administrative officer that progress, in the long run, depends.

There is one particular crop which is the subject of a good deal of controversy, namely, the growing of coffee by natives in East Africa. Two different kinds of coffee are being produced in increasing quantities. The more valuable is *arabica* coffee, similar to that produced in the Yemen of Arabia, Costa Rica, Jamaica, and parts of Brazil. It is a delicate and difficult plant, an easy prey to diseases of all kinds, requiring continual watchfulness, careful pruning, and skilled cultivation. Its yield varies considerably from year to year, and it must be primarily regarded as essentially a crop for the European producer. Further, East African *arabica* coffee has already achieved a specially high price in European markets on account of its quality and because on the larger European farms special factory plant has been installed for its pulping, drying, and grading, with the result that a much higher price is obtained. The other variety of coffee, grown mainly by natives but also in part by Europeans in Uganda, is *robusta*, a much hardier and more easily cultivated plant with a fairly constant yield. This is a coffee much lower priced in the European market and of a quality inferior to *arabica*. The chief centre of this industry is the Bukoba district of Tanganyika Territory, where it is by far the most important native crop. Heretofore this

robusta coffee has largely found its market in Northern Africa, but during the past season practically the whole of the crop has been shipped to Holland, for consumption in the Central European markets. It requires a high rainfall, and its cultivation, though much simpler than that of *arabica*, is at present limited to particular districts. It would appear that there is considerable scope for the further development of the growing of *robusta* coffee by natives in suitable districts. The growing of *arabica* coffee by natives is more difficult, and at present is virtually confined to the Kilimanjaro area of Tanganyika Territory and the Bugishu area of Uganda. It must be remembered that the coffee industry (of *arabica* variety) in Ceylon was practically wiped out by disease in a single year and that in Java, as in East Africa, the growing of *arabica* coffee is a continual fight against insect-borne, air-borne, and water-borne diseases which have to be checked in their initial stages or whole plantations may be wiped out. In all the circumstances we are of opinion that it would be unwise for the present to interfere with the policy of prohibiting the growing of *arabica* coffee by natives in Kenya until far more data regarding the results of the experiments now being undertaken in the Kilimanjaro and Bugishu areas are forthcoming, but we are of opinion that, where the spread of disease can be controlled by the Agricultural Departments, native production of *robusta* coffee should be encouraged. The Chairman and Major Church saw two former German *arabica* coffee plantations near Arusha which had been handed over to native cultivation by the local Government, and were not impressed by the results.

Native production should be encouraged, trained, and supervised. Without it vast areas of land in native occupation cannot be developed as they should be, and by training the native to become a better and more progressive agriculturist on his own land we shall be adopting one of the best means to his economic, moral, and social advancement.

(d) LABOUR.

The encouragement of native production in the native areas is the subject of current controversy throughout all the East African territories in its bearing upon the labour supply for both public works and private non-native enterprises, whether agricultural or industrial. There is no use disguising the fact that there is bound to be competition between the two. In comparatively sparsely populated countries the difficulty of getting an adequate labour supply will always be a real one. In the long run the native will do what pays him best; if the wages on public works or European farms and the conditions of life thereon give him better opportunities for progress, he will be attracted to labour as the means of improving himself. If, on the other hand, by increasing the cultivation of economic crops on his own land he can earn more than by going out to labour, he will quite reasonably prefer the former. The danger is, of course, lest he do neither. It is inconsistent with the economic progress of the whole country and with the advance in civilisation of the native of Africa that he should be allowed to stagnate in a native reserve leaving all the work to the women, the men doing nothing. He

must be taught by every legitimate means open to the Government that as he is no longer required for fighting it is his duty to the community and to himself to work, and that unless he is prepared to do a reasonable amount of work on his own account it is his duty to go out to work either for Government or private employers in industrial employment. Having said this we should like to make it clear, at once, that under no circumstances could the British Administration tolerate in any form the principle of compulsory native labour for private profit, be the employer native or non-native.

Compulsory labour in various forms has always existed and still exists in many parts of Africa, particularly in the discharge of tribal obligations. There is nothing ethically wrong in compulsory labour for works of public utility such as road and railway construction, provided that such compulsory labour is adequately paid and the conditions of such labour are consistent with the dictates of humanity. Nevertheless, though resort to compulsory labour is sometimes necessary in the interests of the community, we are of opinion that it should be avoided where possible, if only for the reason that the custom of compelled labour tends to undermine the personal sense of responsibility and initiative of the individual. There is great danger in Africa lest a man once compelled should take up the attitude that he will not work unless he is compelled. It should always be remembered that one of the principal curses of slavery, apart from its immoral character and its economic failure, was the production of the slave mind. A human being accustomed to slavery, when freed, seems to have lost all incentive to work. We were informed that on Mafia Island, near Dar-es-Salaam, the ex-slaves of the Arab coconut plantation owners on that island are to-day literally dying of starvation while the old plantations are ruined for lack of labour. On the other hand we were the actual witnesses in the Eastern Province of Uganda of a form of compulsory labour which certainly appears to us to be less open to objection than any other form of which we have heard. Under a recent Ordinance labour can be called upon (subject to the prior approval of the Secretary of State) for road construction for a definite limited period. This power is used for the construction of new roads, or the re-making of existing roads, by calling out, without exception, the entire fit male population within a distance of five miles on either side. The duration of such compulsory labour, which is called out at a time of the year when labour is least required for agricultural purposes, is comparatively short, and in all cases in which compulsory labour is used we think that the periods should be as brief as possible. The results in connection with the new road were remarkable. We travelled over eight miles of entirely new first-class metalled motor road, which had been completed from the first sod to the opening of the road by this communal labour in twenty-seven working days. The labour was only employed five days a week and was under the direct and continuous supervision of the local administrative officer and the chiefs who turned out with the population. It was perfectly obvious that the work had been willingly and cheerfully performed under excellent conditions, and that no valid objection whatever could be taken to it.

We now turn to the question of voluntary labour. In Northern Rhodesia and Nyasaland there is more labour seeking work for wages than there is employment available in these two Protectorates. Large numbers of natives leave Northern Rhodesia every year for work in the copper mines in the Belgian Congo and on farms and elsewhere in Southern Rhodesia. Most of them, but not all, return. The normal period of contract in the Congo mines is for eight months. In Nyasaland we were informed that no less than 30,000 Nyasa boys engage in work outside Nyasaland every year, and they may be found as far south as Cape Town and as far north as Kenya. Labour will travel immense distances in Africa to secure employment. We found a considerable number of Northern Rhodesian natives working on European sisal and cotton estates in the neighbourhood of Morogoro in Tanganyika Territory. In fact, it seems to be one of the characteristics of African labour that when they leave their homes to seek work they prefer to go far from home rather than engage in employment near their homes. The motives which impel the African natives to leave their settlements to engage in work for Government or private individuals may be said to be, firstly, the necessity of obtaining money with which to pay their taxes, secondly, desire for money with which to purchase clothes and other articles of import, thirdly, desire for money with which to buy cattle or wives, and, fourthly, desire to see the world; but as yet only a few seek labour with the idea of learning skilled trades. The bulk of them go out to labour as a temporary interest of varying duration, having in mind an ultimate return to ordinary native pastoral or agricultural life. A few, however, and these are on the whole the most enterprising, go out for good and become permanent employees on the railways, builders or carpenters, teachers or clerks, or permanent squatters on European farms.

Broadly speaking, European opinion in East Africa holds what is called the "contact theory," namely, that the native advances in civilisation, in physique, in skill, and in independence by contact with European enterprise. On the other hand, there is an opposing theory, held by many missionaries and officials who come into close contact with the natives, namely, that such contact tends to destroy tribal authority and native family and village life. As in the case of many theories, there is a great deal of truth and value in both of them. But holders of either opinion are apt to overlook the concomitants necessary to the beneficial operation of their theory.

Let us take the first; the mere contact of a raw native straight out of the reserve as a labourer on a European undertaking for a few months of the year does not carry him very far. Much depends on how he is fed, how he is housed, and how he is handled. It is very often the case that he arrives, sometimes after a long journey, physically unfit and underfed, and that after a short time of regular work and good feeding on a European farm he picks up quickly and returns to his reserve at the conclusion of his contract far fitter physically than when he came. It is the general experience of East Africa that it pays the employer to feed his labourers and to feed them well. Consequently it is the almost universal custom to provide

food free in addition to wages, and we are satisfied that in the present stage of evolution this system is right. Where it is not done, notably on some estates in Tanganyika Territory, although wages are higher the native stints himself in food in order to have more money. In addition to food on European farms and in other enterprises, the native is almost invariably given simple medical care. In all the Masters' and Servants' Ordinances medical service by the employer is compulsory in all cases of contract labour; but even where it is not compulsory, *i.e.*, in the case of temporary casual labour, it is in most cases generously given, and certainly the native thus obtains ordinary medicines, treatment for cuts and wounds, which he would not obtain otherwise, unless he had the good fortune to be in the close vicinity of a missionary station or, as less frequently happens, to have a Government dispensary near his home. Further benefits which he receives vary largely according to the individual employer. If the employer takes personal interest in his labourers, and takes trouble to increase their skill, and personally supervises the cleanliness and orderliness of the huts in which the labourers live, the native derives, both from example and practice, considerable benefits. If, on the other hand, things are left entirely to a native headman or by an absentee proprietor to a somewhat indifferent manager, these benefits do not accrue. Even so, while these temporary benefits may be undoubted to the native labourer while he is in the employ of Europeans, the real question is whether he is permanently benefited, that is, whether on his return to his natural conditions he is in a position to continue to practise what he has learnt by contact. Undoubtedly the type of labourer who benefits most from contact with the Europeans is the type that engages permanently in European employ. Of this we saw several striking examples, notably where the native had been in the continuous employ either of an individual European or of an organisation like the railway department. On large estates, particularly in Kenya, the employers in their own interests have encouraged permanent settlement, and for these resident natives and their families a great deal more can be done, and is being done, than for temporary labour. In the best of them provision is made for small schools, for recreation (cinemas even), and the like. The type of native dwelling is improved, hygiene is definitely taught, and real progress is made. It is almost invariably the case that with permanent labourers progressively higher wages are given and given willingly. In cases where the employer is progressive and has a real scientific interest in his labour it may be said that the contact theory proves successful. But in the case of casual labour, while the theory is not to be rejected altogether, it must be stated that the benefits of "contact" are often exaggerated.

The tribal control theory depends for its success on the existence of an effective tribal authority. It is no use advocating the buttressing of tribal authority and the evolution of the native as far as possible in native areas controlled by such authority, unless there is a progressive improvement in the character of the native chiefs, native councils, and other influences in native society. In the past tribal authority was not dissimilar to tyranny. Sometimes, as in the case of a few of the celebrated chiefs of African history, it was an

enlightened tyranny, but more often it was not. Since the coming of the white man, and even before that under Arab influence, there has been throughout East Africa a considerable decline of tribal authority. It is only in Uganda, the Masai reserve, and in the north-western part of Tanganyika Territory that real tribal authority still obtains. A further exception, however, to this generalisation must be made in the case of Barotseland, in the extreme western part of Northern Rhodesia, where the district is administered indirectly under the paramount chief, Yeta. The German administration of Tanganyika Territory went far to hasten the decline of tribal authority, and the coast belt of Tanganyika Territory is to-day practically de-tribalised. In the interior, however, British administration has to a large extent re-created tribal organisation, and in the populous north-western area the natives are now again organised under hereditary chiefs called Sultans. Where the tribal system obtains the progress of the natives generally depends very largely, if not entirely, on the education and progressive character of the chiefs. The African is intensely conservative, and few persons other than an enlightened and strong chief can introduce innovations or bring about development. The greatest curse to African society is usually the influence of the old women. They are often worse than the witch doctors against whom so many hard things are usually said, as their influence is almost invariably most reactionary. It should be remembered that the idea of the witch doctor in the old Africa was to smell out the witches, in fact to kill off the old women, and incidentally not a few of the old men. African tribal society is rarely progressive. We should not on that account despair of making it so, and there is no doubt that, given an enlightened chief, you have an instrument through whom you can work as through few Europeans for the elimination of superstition and barbarous customs. Where the authority of a chief is still recognised and revered, the African native will accept his innovations with less suspicion than he would a European's. On the other hand, it is a sign of progress that in many parts of East Africa the ordinary native now becomes vocal if he is oppressed by his chief in a way that he would never have dared to do before European administration came. Not only that, he recognises more to-day than ever before the difference between a good and a bad chief, and he is often prepared to acquiesce in the substitution of a younger and more enlightened chief for one less satisfactory. It is essential that African tribal organisation should evolve under European guidance and European contact of some kind.

We have said above that there is a surplus of labour in Northern Rhodesia and Nyasaland. In Tanganyika Territory, Uganda, and Kenya there is a shortage of labour. This shortage is felt not merely by the European planter but in all forms of industrial activity, and not least by Government departments. It would be idle to pretend that this shortage is not in part due to the rapid extension of native agriculture and that the rich rewards that the native can reap by the production of economic crops for export does not affect the labour supply. The truth is that in the above-mentioned territories developments of all kinds are taking place so rapidly that the demand for labour for roads, railways, ginneries, factories, and

farms is increasing rapidly, more rapidly for the moment than the willingness of the native population to supply that demand. The native's wants are still few, and it is only as his wants increase, and still more as he sees his fellows advance beyond himself in the standards of living, that he will be willing to make further effort. In the long run there must be an equilibrium between the amount of wages he can earn as a labourer for an employer and the amount he can earn by corresponding effort in native production. Generally speaking, wages are rising in East Africa and will continue to rise, and looking at the situation from the point of view of the employer, whether Government or individual, there must be far greater concentration on the economy of labour and the efficiency of labour. There is a great deal of waste labour in East Africa to-day. Where labour is wasted there is not only actual loss but also deterioration in the quality of the labour. The use of labour-saving devices wherever possible is an urgent necessity. Above all it must be remembered that "low wages" is not synonymous with "cheap labour." At the present stage of African development, incentives to efficiency should be encouraged wherever possible by giving higher remuneration to the more efficient worker. The employer who wishes to ensure his labour supply must make the conditions progressively more attractive by the introduction of better diet, and above all by providing better living conditions. The conditions vary very greatly in this respect in East Africa. A few estates in Kenya particularly are models in this respect, while others lag behind.

But when all this has been said the problem of African labour still remains very largely personal. We were very much struck by the conflicting evidence in regard to the available supply of labour given us by employers even in the same district. A well-known employer who has a good name among the natives finds little or no difficulty in obtaining labour. There are some settlers who can always get labour and keep it. There are others who seem to be always in difficulties, sometimes deserved and sometimes undeserved. A newcomer stands at a great disadvantage when compared with the settler who is known. Further, the small man is at a definite disadvantage when compared with the large estate, for natives like going to a big show where there are a large number of employees and they incline to shy off the small estate. The African native who seeks employment from the European has been described as a mixture of suspicion and fidelity. He is suspicious of a new employer but singularly faithful to one he knows.

There are several points about the native which we observed which may be worth recording. The native always finds it quite impossible to serve two masters at the same time, especially two masters who give contradictory orders, and under these circumstances he will not stay. The European who lives on his own farm and is himself a hard worker will find the labour problem easier than the settler who is an absentee landlord. Much depends on the maintenance of discipline on a farm, especially where natives from different tribes are employed together. Above all an employer must deal patiently with individual grievances and complaints and must not leave them to his head native foreman. To be successful he must

know a native language, as otherwise his interpreter is apt to become a petty tyrant. To sum up, the good employer is not necessarily the man who pays most; he is the man who takes the most personal interest in his labour and regards it as his most valuable capital asset. The proper handling of African labour is a study in itself, which cannot be learnt in a day, and by some can never be learnt. Like all primitive peoples the African native is very quick to recognise instinctively the difference between what is known as being a gentleman and not being a gentleman.

The methods of recruiting labour in East Africa, whether for public or private enterprise, have hitherto been haphazard, to say the least of it. The two principal methods of getting labour are the professional recruiter, or sub-contractor, and the native employee himself. A large number of the settlers rely almost entirely for their labour supply on the ability of their existing labourers to get others. The professional recruiters of labour vary, of course, in quality, and we heard a good deal said against the methods some adopt in collecting labour in the reserves. However, in all the East African territories there is either the Masters' and Servants' Ordinance or the Employment of Natives Ordinance, which regulates the conditions for contract labour. It is the invariable practice that contracts for labour which exceed a month have to be signed before the Government administrative officer in the district where the labour is recruited, and this is the most effective safeguard against abuses. Such labour has to be medically inspected before the contract is signed, and the contract once signed becomes enforceable against both employer and employee. It will, however, be readily understood that the raw African native has in the first instance little idea of the nature of contractual obligations. There is, for instance, a very considerable leakage of contract labour between the place where labour is recruited and the place for which that labour is destined. Further, the enforcement of the contract is not an easy matter. The employer, and especially the farmer, cannot be spending a large portion of his time in running to the District Commissioner or Magistrate, often a long way off, to obtain redress for breach of contract by a native labourer. And, even if he had the time, the employer who often did this would soon find himself unable to keep labour or to get it. In territories where there is no effective system of registration, which admittedly requires a somewhat cumbersome and expensive organisation, it is hard to trace labourers who have broken their contract by deserting. On the other side the effective enforcement of contracts against an employer where the employer fails to carry out his part of the bargain, cases fortunately rare, depends on the existence of a sufficient staff of official Labour Inspectors.

We do not believe that anybody regards any of the existing Masters' and Servants' Ordinances or the Employment of Natives Ordinances as entirely satisfactory from the point of view either of the employer or of the native. It is easy enough to put words into an Ordinance which look well on paper; it is quite a different matter to enforce every line of such an Ordinance in the conditions which exist in East Africa to-day. However, most people agree that,

however faulty the Ordinances are from either point of view, their existence in the background is essential. At least they set a standard to be aimed at. They do, in fact, prevent the graver abuses and, though it is often possible to drive a coach and four through them, the best employers will tell you that they are essential. We take the view that in Kenya, Tanganyika, and Uganda the Governments must maintain effective Labour Departments. The Government of Uganda has just established a new Labour Commission for the recruitment of labour for all Government purposes, including railway construction, for the erection and control of rest camps for labour on its way from the area of recruitment to the place of work, for the continuous oversight of labour conditions on all Government works, and, last but not least, for the investigation of all questions connected with labour economy, such as waste of labour, the methods of reward, feeding, medical treatment, housing, etc. In Kenya there are a few Labour Inspectors whose principal task at present is the care of labour on railway work and the inspection of labour in non-native employ. This department needs strengthening and increasing. In Tanganyika Territory there is need for a similar department, at present non-existent.

We have considered the question whether this Labour Department should take over from the private recruiter the task of recruiting labour for private enterprise. We are very definitely of opinion that the District Commissioner should be kept out of such business altogether. The duties of a labour recruiter in a particular area are wholly inconsistent with the duties of an administrative officer, and if the Government is to undertake the task it would have to be by the establishment of separate Labour Exchanges under a special staff. If such an organisation were set up it is quite obvious that the Government could give no undertaking that it would find all the labour asked for, and we are presented with the great difficulty that the Government recruiters might have to differentiate between good and bad employers; or, to put it more crudely, they could not recommend natives seeking work, still less natives urged by the recruiters to seek work, to go to an employer whose standards of treatment fall below those generally prevailing. Nevertheless, in Uganda, where there is a great difficulty in obtaining labour not only for the Public Works Department but also for the cotton ginneries and for the transport of the cotton from the ginneries to the lake or railway, we see no reason why the Government Labour Commission should not consider the advisability of establishing voluntary Labour Exchanges. It must be borne in mind, however, that, if voluntary exchanges are established to which the ginneries and the traders engaged in supplying transport have access, the few European and Indian planters should also be allowed to use them.

There can be little doubt that one of the most important questions concerning labour in East Africa requiring the attention of the Governments is the care of labour in transit from the place of recruitment to the place of work. Most of the labour comes not by train but on foot, and the distances covered are often very great. A certain number of rest camps for such labour exist, but these leave a

great deal to be desired from the point of view of sanitation and health. Constant watch should be maintained by the medical authorities in regard to the danger of the spread of spirillum fever and plague by migratory labour. The former disease is conveyed by ticks, which are apt to infest these labour camps, and the latter is carried by fleas from rats to human beings. Wherever financially possible labour rest camps should be provided on all the main labour routes and continually inspected and properly staffed and supervised.

In the long run the efficiency of labour depends on the physical and mental quality of the labour at the source. Anything which makes for the greater physical and mental efficiency of labour in the native areas makes for the efficiency of those natives who leave the areas for work outside. Consequently any effort spent in improving the health and skill of the native in the native areas will in the long run make for the efficiency of labour.

Wages vary very much in East Africa; they are lowest in Nyasaland, where the supply of labour exceeds the demand and where the cost of living is low. Ordinary unskilled farm labour in Nyasaland can be obtained from 4s. 6d. to 6s. per month, plus food. The opening up of adequate communications to and from Nyasaland would, of course, revolutionise such a scale of wages. There seems to be an idea generally current in the native mind that the direct tax which is imposed upon him should be equivalent to one month's cash wages, and generally speaking these are the sort of rates which are actually in force.

For unskilled plantation labour the highest rates are being paid on the clove plantations in Zanzibar, wages there being about 30s. a month. In Tanganyika Territory on the sisal and cotton plantations they range from 15s. to 20s., without food, and in Kenya from 8s. to 12s., plus food, for farm labourers, with 14s. a month plus a special scale of rations for ordinary earthwork in connection with railway construction. In Uganda wages range from 12s. to 15s., plus food, and in Northern Rhodesia they are about 10s. a month.

Skilled labour commands very much higher figures, as do certain special kinds of unskilled labour. We found, for example, that Kavirondo labour employed by the African Wharfage Company in loading lighters at M'baraki Pier, Mombasa, was earning a minimum of 60s. per month. This minimum is paid for an eight-hour day, but many of the Kavirondo work overtime and earn up to £5 per month. As a rather remarkable example of skilled wages, we may quote the instance of a native stone-mason in the employ of a white settler in the neighbourhood of Nairobi earning £9 a month, and there is certainly a very large margin of difference between the wages of the skilled native and those of the ordinary unskilled agricultural labourer. There can be little doubt that with the present competition for all kinds of labour, and not least the competition of native employers in Uganda, wages are bound to rise. From the point of view of the economic welfare of the community such rises will not be harmful. The essential thing is that labour should be trained to become more efficient. This can only be accomplished by example and education.

One thing is abundantly clear to our minds, namely, that it is extremely difficult to bring forward a primitive people on the basis of equality. One of the best incentives to the native to increase his skill and so to be in a position to earn more is the example of his more successful fellows. It is chiefly in this way that his wants increase. If a native sees another native in possession of a bicycle while he has not got one, he will endeavour to earn sufficient money to buy one. This kind of incentive to further effort is clearly demonstrated in the cotton areas of Uganda and is seen in the manner in which the Uganda natives are erecting better houses and demanding better furniture, clothes, etc.

There are no short cuts to the solution of the labour problem, and in particular districts the labour problem is likely to be more acute in the near future. We would specially refer to the European coffee estates in the immediate neighbourhood of Nairobi. The area planted with coffee is rapidly increasing and casual labour is required during the picking season for a maximum period of about two months. The work is not arduous; it merely consists of picking the berries off the bush and taking them to the factory in old kerosene tins. It is work which can quite legitimately be performed by women and children as well as by men, the closest parallel being hop picking in Kent. There is undoubtedly already a very serious shortage of this kind of labour both in Kenya and Uganda, and a material portion of this most valuable crop has been allowed to become over-ripe and fall to the ground for want of labour to pick it.

One thing, however, must be stated quite clearly, namely, that no individual has an inherent right to command labour and the hazard whether he can or cannot obtain labour the moment he requires it is one of the chances which must be taken into consideration by the non-native when embarking on any particular form of capital investment.

The question has been raised whether the actual population is sufficient not only to maintain increasing efficiency in production in native areas but also to provide a labour supply for Government and private enterprise. With the example of Southern Rhodesia before us, where native production has made great strides in recent years, we do not think there is any ground for discouragement. In Southern Rhodesia, where in addition to agricultural enterprise there is the competition of the mines and where the European population is over 30,000 while the native population is under one million, there are now no serious labour difficulties. Such difficulties did exist during certain periods of the past, but seem to have been largely overcome by education and habit. In Kenya there is a population of less than 10,000 Europeans and a native population of some two and a half millions. In making this comparison we recognise that Southern Rhodesia obtains a good deal of labour from neighbouring territories. The conclusion, therefore, would seem to be that in regard to labour, as in regard to everything else, one cannot rush the African native, and the rate of European settlement should not exceed the rate at which the African native is able to enter into various forms of economic activity. The East African

territories are only in a position to absorb new settlers gradually, and a sudden increase in the number of settlers would seriously disturb the labour market.

Government's wisest course is to concentrate its efforts on the basic problems, namely, education, using the word in its broadest and widest sense, and medical services. The native population of East Africa is not increasing rapidly, far less rapidly than the native population in the Union of South Africa. The main causes in our opinion are infantile mortality, tropical diseases, and venereal disease; the last-named is the outstanding problem in Uganda. The problem of infantile mortality, which, taking the long view, is one of the most serious that has to be faced, is due very largely to the continuance of barbaric native customs founded upon superstition, coupled with the most abysmal ignorance of pre-natal and natal processes, and as great an ignorance regarding the feeding of children. A large proportion of the children who die in the first year need not die. A tremendous task lies before missionaries, medical officers and administrative officers in dealing with this problem, bearing in mind more especially that in dealing with the African women you are dealing with the most conservative portion of the race.

We cannot conclude the general chapter on labour without reference to an allegation sometimes made that the employment of male adult labour outside the reserves is having a serious effect on the birth-rate. We are definitely of opinion that this contention cannot be substantiated in fact. Reliable vital statistics regarding the increase or decrease of the native population are lacking except in the Kingdom of Buganda, where they are kept by the native government. There is no conclusive evidence that the population is increasing or declining in any part of East Africa. But it is clear that among the causes which are arresting the natural increase are tsetse fly and syphilis. The latter has undoubtedly played havoc with the Bunyoro in Uganda, and also, but to a less extent, with the Baganda.

Permanent squatters on European farms have almost universally their wives and children with them, and though accurate statistics are not available, it is alleged that infantile mortality is less in the case of squatters than in the reserves.

In regard to casual or contract labour the periods for which such labour serves away from its home is usually six or eight months. Longer periods of contract are unusual. Contracts are sometimes renewed, but in most cases not before a "leave" period has elapsed. We are satisfied that, except in the case of Nyasaland and Northern Rhodesia, the number of labourers engaged for long periods of time away from their women folk is comparatively few, and certainly not sufficient in number to have any far-reaching effect on the birth-rate. Although no reliable statistics are available, we gathered that the principal problem arises not from a low birth-rate but from the tremendously high infant mortality. There is one native custom particularly prevalent in Kenya to which we are compelled to refer, namely, the barbarous practice of circumcising

the girls at a mature age. This custom, which is fiercely maintained by some of the older chiefs and old women, and is accompanied by obscene orgies, has a serious detrimental effect on the birth-rate.

(e) NATIVE ORGANISATION.

There is no doubt that the economic and social progress of the natives of East Africa is intimately bound up with their future social organisation in the native areas. Since the European occupation there has everywhere been a decline in the power and authority of the chiefs. It was inevitable that this should be so. Once the power of criminal jurisdiction, and especially the power of life and death, is taken from a chief, the principal symbols of his authority disappear. But throughout the greater part of East Africa the process has been carried a great deal further than the mere limitation of the chief's traditional authority. Throughout Northern Rhodesia, Nyasaland, the greater part of Tanganyika Territory and Kenya, the collection of direct tax from the natives is undertaken by the British administrative officers. The right to tax the tribesmen either in cash or in kind has been taken from the chiefs and all taxes paid by the natives are paid into the central revenues of the territory. Only in Uganda, in a few parts of Tanganyika Territory, and in Barotseland does any fixed proportion of the taxes so collected go to the chiefs or native government. Consequently there has been a great decline in the personal wealth of chiefs in addition to decline in political and judicial power. Nevertheless, except on the coast, in the larger towns, and in the case of natives permanently in the employ of Government or non-native employers, where detribalisation is fairly complete, the vast majority of the natives are still organised on a tribal basis. Except in the case of the Kingdom of Buganda and the three principalities of Bunyoro, Toro, and Ankole in the Uganda Protectorate and in Barotseland in North-Western Rhodesia, there are no paramount chiefs left, such as existed in the old days. Throughout the greater part of East Africa the natives are organised under numerous small chiefs. It seems to have been the policy of the German Government in Tanganyika either to supersede tribal authority altogether by the appointment of native government agents called *akidas*, or to reduce the power of the bigger chiefs by the creation of a larger number of petty chiefs. Once this process has been inaugurated it is very hard to put the clock back.

Although reduced in power and wealth the chiefs still play a large part in the life of the African native. Hereditary right to authority is an idea still generally recognised in the African mind, and, though the younger and better educated elements in the community are inclined to adopt a somewhat radical attitude to the traditional native authorities, respect for chiefs is still an important factor in the mental outlook of the people.

Looking to the future, therefore, everything depends on the quality of the native chiefs. An uneducated, unprogressive, impoverished, idle, or discontented chief can still be an embarrassment

to progress, and conversely an educated, progressive chief is a great asset to the British Administration. It is perfectly clear that, if we are to work through and with tribal authority for the higher development of the natives, we must educate the chiefs up to their responsibilities and give them directly, or indirectly, such emoluments as can reasonably be held necessary to the support of their dignity and authority. In our opinion it is far better that this should be done either by means of a direct salary or by a definite share in the produce of native taxation, than to allow them to obtain money by indirect and sometimes rather doubtful means. We are of opinion that where tribal authority is still strong it is essential to develop among the chiefs a sense of financial responsibility by giving to them, and any council set up to advise them, the control and disposition of funds for defined administrative services. Such a policy necessarily implies a vigilant supervision by the District Officer, and, if chiefs fail to live up to the responsibilities thrown on them, Government should not hesitate to take such disciplinary action as is necessary. While the right of succession to chieftainships is in the main hereditary (in this connection the customs of particular tribes vary considerably), the hereditary right of an individual is not absolute, and the deposition of an unsatisfactory chief and his replacement by the best member of the family available seldom cause any serious disturbance in the native mind. One of the most serious problems is the question of the older chiefs. Many of them are past work, and it is among the older men that the vice of excessive beer drinking is most general in East Africa. The pensioning off of the elder men who are past their work would seem to be called for, and the appointment wherever possible of younger men. In the appointment of chiefs the British Administration must have a say, and should, so far as possible, in making its selection, work with the popular will. This is not as difficult as it sounds. In the Kahama district of Tanganyika Territory there had been an unsatisfactory chief who had unduly oppressed his people. The Government superseded him and appointed as an akida in his place a young man of the tribe, of ability and promise. Within a year the natives of the tribe petitioned the British Administrator that the akida should become their chief or Sultan. This was duly carried out, and he was ceremonially invested with all the rights and authority of a legitimate chief. In that capacity he has already done wonders for the advance and progress of the people under his care.

In districts where hereditary chieftainship still exists it is all important to secure the education of the chief's sons and to train up from boyhood those who will be called upon to exercise responsibility and authority according to native custom. We should like to pay a special tribute of praise to the work of this kind which is being done in the Tabora district of Tanganyika Territory. We should also like to make special reference to the beneficial effect of the institution of the King's Medal for African chiefs. These Medals are highly prized by those chiefs who receive them and they certainly form not only an admirable reward for good service but also an incentive to improvement.

In some parts of East Africa the position of the chief is autocratic, in other parts it is limited by the existence of tribal councils. The value of these councils varies in accordance with their composition. Where they are solely composed of the elders, that is to say, the old men of the tribe, they are not always helpful. The elders are frequently the least progressive members of the tribe, and are often more concerned in the maintenance of their own personal privileges than in anything else. Here again, where such councils do exist, it is important to secure the introduction of a better educated and more progressive younger element. In districts where conditions permit, such as the Wanyamwezi area in the Tanganyika Territory, it is very desirable that councils of chiefs should be established, where important matters of common interest could be discussed and lines of policy settled.

There have recently grown up in some parts of East Africa new extra-tribal forms of native association. These native associations are largely the outcome of missionary effort and their main support comes from the younger men who have received missionary education. So far these associations are, with one or two exceptions, in no way hostile to tribal authority or tribal organisation; in fact, in many cases the chiefs are members of the association and give the association their active support. Two notable associations of this kind are growing up in Nyasaland, where incidentally the power and authority of the chiefs seem to have declined to a greater degree than elsewhere in East Africa. The missionaries, who have great influence with these associations, are anxious that they should not become merely political in their activities, and undoubtedly they can be used for the general benefit of the native population if they are sympathetically encouraged to take up practical work in the advancement of native agriculture, sanitation, child welfare, and economic activities. These associations are, of course, a product of contact with European methods and European ideas.

Kenya has recently passed an Ordinance, designed to establish one or more native councils in each of the native reserves. Some such policy is, in our opinion, long overdue. The success of such councils will depend on their ability to finance useful undertakings, such as construction of new roads, schools, and the like.

In this connection we should perhaps say something of a general character regarding the incidence of native taxation. We are of opinion that where transport facilities enable the natives to produce economic crops for export, or where there is a local demand for native labour, the existing direct taxation of the native is not excessive. Where neither of these two conditions obtains, as in North-Eastern Rhodesia, the northern parts of Nyasaland, and the southern part of Tanganyika Territory, there is no doubt considerable difficulty in collecting the present small tax. The amount of tax which the native can afford to pay varies, of course, with his earning capacity. In this connection the question of transport facilities is all-important. The Governors have power to reduce the tax in backward districts, and there is no reason why the tax should be uniform throughout any given territory. In Northern Rhodesia the normal

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rate varies from 7s. 6d. to 10s. ; in Nyasaland the tax is 6s. ; in Tanganyika Territory it varies from 2s. to 9s. (in Bukoba); in Kenya the normal rate is 12s., except in the case of the Masai (the richest tribe in East Africa), where it is 20s. ; in Uganda the tax is from 12s. to 15s. But in this connection it is important to remember that in the Kingdom of Buganda the annual direct cash payment required from the peasantry is considerably greater. The ordinary Buganda peasant pays 15s. to the British Government, another 10s. to the native landlord for the use of his plot, a further 10s. to the native government in lieu of compulsory labour—in all 35s. per annum. We are satisfied that these scales of native taxation are on the whole reasonable, judged by the standards of capacity to pay. There can be little doubt that too large a proportion of the time of administrative officers is taken up in tax-collecting, and that, where the native organisation is sufficiently developed, efforts should be made to collect the tax through the native authority, as is done in the greater part of Uganda.

(f) EDUCATION.

The economic and social progress of the African native is bound up very largely with the evolution of a more widely extended and better system of education. Hitherto the task of providing education for the African has been almost entirely left to the missionaries. Without wishing in any way to underestimate the magnificent work done by Christian missionaries of all denominations, two facts concerning missionary education in the past must be borne in mind. First, that the primary object of missionary education has been evangelisation. By this is meant education up to the standard required for baptism, and for membership, and to a lesser degree the higher training of those preparing for the native pastorate. The second fact is that, with certain notable exceptions, missionary education has been too literary in character, and not sufficiently devoted to the wider education of the African for life in Africa.

There is a great danger in Africa, as elsewhere, lest over-emphasis on literary education will produce an unemployable clerical class divorced from the interests and activities of their fellows, and dissatisfied with the rewards which can be earned after the completion of their studies. Native education in Africa requires to be linked up with hygiene, agriculture, craft, and the growing needs of the community as a whole.

The time is overdue when the Government should take a hand in the task. The problem resolves itself into making the best use of whatever funds the local Governments can afford for this service. We are definitely of opinion that such funds should be expended in three ways.

First: In the maintenance in each territory of a Director of Education with the necessary subordinate staff of inspectors.

Secondly: Grants-in-aid to mission schools for the purpose of securing the provision in those schools of the teaching of the subjects we have alluded to above, as being most needed by the African native in the present stage of his evolution.

Thirdly: The provision of Government educational institutions, particularly for the training of native teachers.

In regard to the first, it is all-important that the Director of Education should be given a salary and status in each territory not lower than that of the heads of other principal departments. Wherever possible he should be a member of both the Executive and Legislative Councils. We recommend that in each territory there should be an Advisory Board, composed of officials, including teachers, settlers, and missionaries, to advise the Governor on matters of educational policy. It is essential to secure goodwill and co-operation between Government and missionary educational activities. Such a Board has already been established in Kenya under the Colonial Secretary (formerly Director of Education in Ceylon), with the Director of Education as Vice-Chairman.

With regard to the third category referred to above, we are of opinion that Government cannot afford to neglect the provision of education at all stages, *i.e.*, its activities cannot be confined to the provision of schools of technical or higher type, but it must provide increasing educational facilities of an elementary kind in areas not served by the Christian missions, and particularly for Mohammedan tribes, who would be reluctant to send their children to missionary schools.

All schools, whether provided by Government or voluntary effort, should be open to inspection by Government Inspectors. Every effort must be made both indirectly through the missionary bodies and by direct provision of Government trained teachers to improve the standard of teachers, especially in the elementary schools.

We hesitate to go in any great detail into the question of curriculum as the Phelps-Stokes Commission, under the Chairmanship of Dr. Jesse Jones, is issuing an exhaustive report on educational activities throughout East Africa, which contains very valuable suggestions both general and detailed. These in the main receive our support. We should, however, like to emphasise one or two points.

During the elementary and primary stages we regard it as essential that the medium of education should be a native language, and that English should be introduced only at a later stage. In the secondary and further stages English and English alone should be the medium of instruction. It is very undesirable that Africans should be given a mere smattering of English. When English is taught at all, it must be taught thoroughly and completely and only to such pupils as are undergoing a period of school life long enough to enable English to be learnt properly.

We attach great importance to making natural science, as far as possible, the basis of higher education in African native schools. Such literary education as is required should be as far as possible on a scientific basis. For example, the pupils should be taught in a simple manner the normal conditions of life in Africa, the needs of the tribe, village, and family, the uses of domestic animals, how to combat wild animals and insect pests. Agriculture, sanitation, and personal hygiene should play an important part in the curriculum, and as soon as possible elementary chemistry, physics, and

mechanics should be introduced. It is by the training of hand and eye that the peoples of Africa will be enabled to improve not only their economic capacity but also their conditions of living and their advance in civilisation.

We do not suggest for one moment that what is termed literary education can be entirely dispensed with; a knowledge of the three R's is essential. But the danger is lest we import into Africa nineteenth-century English Board School education with its obsolete emphasis on the earning of marks and the passing of written examinations, and still more with the excessive importance attached to the knowledge and parrot-like repetition of text books on foreign history and geography. The African should be taught geography and history, but they should be the geography and history of his own country.

But to our mind far more important than the question of curriculum is the influence of a school on the character and outlook of African pupils. In addition to religious and moral instruction, discipline is essential, and by discipline we mean the combination of the encouragement to individual effort, with the training in individual self-control. Education is the means whereby the individual native can develop his capacity to the utmost; but with the African, as with all other people, the sense of social responsibility and the superior claims of the community over the claims of the individual must be borne in mind. For many years to come we have to recognise that education in Africa, especially education beyond the most elementary stages, will be a privilege of the few, and that such a privilege demands from the individual so privileged duties not only to himself but to his fellows. Games and athletics teach the team spirit, and should, therefore, be regarded as no less important in the African village school than they are in the English public schools.

In spite of the efforts made by the missionaries, particularly in Nyasaland and Uganda, we met with examples of the inadequacy of the existing educational facilities. For example, native assistants of all grades are required in connection with the provision of medical services, and the difficulty experienced by those in charge of the hospitals where such native dressers and native assistants are trained lies in the low standard of general education with which applicants for training are equipped. The same deficiency is observable in the case of apprentices for the skilled trades.

The question of female education is in its infancy in East Africa. It presents even more difficult problems than the education of boys, and should in our opinion be one of the first subjects to be discussed at one of the periodic Education Conferences which we suggest. Ultimately the social progress of the natives of Africa depends on bringing forward the women as well as the men. As long as the average African's present attitude to his women folk continues there is bound to be a very heavy drag on the wheels of progress.

We have already alluded to the importance of securing better education for the natural leaders of the people, namely, the native chiefs, and we cannot emphasise too strongly the importance and

urgency of the vast problem of African education as a whole. Whether it be the problem of the new rich in Uganda, of increased native production, of public health, of labour, of trade, or of administration, it is clear that only by wisely thought-out education can any of these problems be solved.

In preparing this section of our report, we have not lost sight of the fact that the subject is one for the Advisory Committee on native education in Tropical Africa. We feel, however, that it is so closely bound up with the other parts of our enquiry that we should not be justified in omitting it, that our views will not be found to be opposed to those of the Committee, and that the Committee's work will be assisted by the impressions which we have formed as a result of personal investigation on the spot.

(g) MEDICAL SERVICES.

For years the medical staffs appointed to the East African territories were regarded by the authorities—and regarded themselves—as responsible mainly for the health of the European officials, the health of the natives being left in the main to the care of the missionaries. In recent years, however, increasing efforts have been made, within the financial resources of the various territories, to look after the health of the native population. But much still remains to be done. The Principal Medical Officer of the Tanganyika Territory estimates that less than a twenty-fifth of the population is within the sphere of medical influence.

The change in attitude is largely due to an increasing sense of responsibility and to the revolt in the minds of medical and administrative officials, and also of unofficials, against conditions which they feel can be, and ought to be, remedied. But it also has an economic origin. The exploitation of the natural resources of a territory inevitably focuses attention on the necessity for providing the means to be taken to conserve the labour supply and to ensure its efficiency. The recent economic development of East Africa has brought home to the authorities the immense importance of the provision of health centres. The soil of East Africa is amazingly fertile; the population is small. This is due, largely, to tribal warfare, to the slave trade, to epidemic and endemic diseases, to tribal customs, to the late war between the Allies and Germany on East African soil, and to the depredations of wild animals and the ravages of insect pests. A boom in an economic crop, cotton for example, presents in its wake a demand for native labour for crop production, for ginneries, for railway and harbour construction, for roads, and for conveyance and handling. The shortage of labour becomes immediately an anxiety to the Government, the care of the natives becomes at once the responsibility of both private employers and the Government. We are convinced that the Governments now fully realise that the future of the country is dependent upon the care of the native population, the increase in its effective birth-rate, and, above all, the prevention and cure of disease. We found that every section of the community in East Africa is unanimous in demanding an increase in the provision made for medical services. Irrespective of motive the demand is sound and it must be satisfied.

With the small staffs at their disposal it is obvious that no East African Government could supply satisfactory statistics regarding the health of the native population. In only one province, that of Buganda in Uganda, is there a native organisation capable of assisting the European Administration in this respect. Even there an examination of the Lukiko records of deaths shows a disproportionate number of unclassified cases. But, from the information supplied to us, it is clear that the idea that the natives enjoy comparative immunity from tropical diseases is a myth. It is also wrong to imagine that any immunisation that they possess by virtue of mild attacks of disease in childhood is good for them. The price paid for such immunity is exorbitant, when calculated in terms of infant mortality. There is only one territory which we visited, namely, Uganda, where the native population is certainly increasing, and it is only for the year 1923 that this increase has been noted. In all other parts of East Africa there seems some ground for believing that deaths still exceed births. Everywhere the infant mortality rate is grievously high, being due mainly to venereal disease, malnutrition, ignorance of child welfare, and tribal customs. In the district of Bunyoro, in Uganda, for example, practically the whole population is syphilitic, and in 1923 the death-rate per thousand was stated as 25.67 as against a birth-rate of 16.81 per thousand; the percentage of still-births was 36. In Bunyoro a large proportion of still-births can be attributed to venereal disease, but in many other parts of the territories visited there is little doubt that a considerable number of abortions and still-births are the result of deliberate attempts at birth control. In the Meru district of Kenya, tribal customs and practices are responsible for the progressive sterility of the female population. There is little doubt also that the habits of the natives, coupled with an entire ignorance of child welfare, must cause many deaths. It cannot be good for babies to be either strapped to their mothers' backs or placed on the ground, while their mothers are at work in the fields, particularly during the heat of the day. Natives will travel far to attend a beer-feed or initiation ceremony, and the women with their babies on their backs will often dance until the small hours of the morning. Superstitious beliefs are also responsible for a large number of deaths. The murder of twins is still largely practised in certain districts and is difficult to prevent. The medical authorities in Nyasaland came to the conclusion that this superstition was based upon tribal economics, that, whereas a woman with one child could continue to work in its infancy, it would be impossible for her to do so with two. Therefore, to put a stop to the practice, the Government decided to remit the "hut tax" of the fathers of twins, and the result is stated to be encouraging. Among many tribes the custom of killing babies who cut the upper teeth first is still practised. Another determining factor in the high infant mortality rate is the malnutrition of infants. The Principal Medical Officer of Kenya attaches considerable importance to this factor in determining the causes of the high infant mortality rate, over 400 per 1,000. He states that it is an error to suppose that the native baby is entirely breast fed; at the age of a few weeks supplementary artificial feeding is resorted to in the shape of weak gruel

made from flour or of yams and bananas, which are chewed up by the mother and given to the child. This view was confirmed by medical officers in other territories. Among the coast population in Tanganyika the shortage of cattle and consequent shortage of milk is an important contributory factor in malnutrition.

To superstition and to ignorant native customs must be attributed a large number of helminthic (worm) diseases. *Ancylostomiasis* (hookworm) accounts for much debility among children and adolescents, and subsequent adult disability; *schistosomiasis* affects mainly the adult male population. Treatment as a prophylactic means against helminthiasis is out of the question. The only basis of prophylaxis in this disease is the improvement of sanitation, and this can only be effected by propaganda and the vigilance of a trained native sanitary staff, working under the local political or medical officer. In the opinion of the Senior Medical Officer at Mulago in Uganda, hookworm is probably second only to syphilis in its bad effects on the community. During the past two years careful investigations have been carried out in specimen districts in Kenya with regard to the degree of helminthic infection in the lake area, in the highlands, and on the coast, and it was found that between 60 and 80 per cent. of the populations in the selected districts were infected with one or more kinds of worm. Other territories record a similar high percentage of this form of infection.

The prevalence of yaws is one of the most serious problems in East Africa, and its spread is due largely to the habits of the natives. Fortunately it can be cured, and its cure by intramuscular injections of bismutho-potassium sodium tartrate is so inexpensive—one-tenth of a penny a dose—as to make its general use practicable. For the use of this preparation in East Africa, and the consequent great saving effected in the treatment of yaws, Dr. J. O. Shircore, Principal Medical Officer of Tanganyika, must be given the credit. His attention having been called to the use by Dr. Roux, of the Pasteur Institute, of this bismuth compound as a spirochaetocide in the treatment of syphilis, he had a similar preparation made by Mr. G. McGowan, the local chemist, and made use of it for treating yaws patients, with excellent results. The want of co-operation between Kenya and Tanganyika cost the former territory over £5,000, which could have been saved had the bismuth preparation for the treatment of yaws been introduced there a year earlier.

Malaria, which still takes too great a toll of the population, can be prevented, but its prevention depends upon a well-trained and vigilant and enthusiastic sanitary staff. It is stated by the medical authorities in Tanganyika to be the most important factor influencing the health of Europeans and Asiatics in the Territory. It must be remembered that malaria has serious after-effects, as it undermines resistance to other diseases.

Plague still ravages certain districts of Uganda and Kenya. An important factor in dealing with plague is the control of rats, which act as hosts of the plague-carrying parasites. It is fairly evident, however, that rat extermination will depend

largely upon an entire change in the housing conditions of the natives. The roof of every old native hut harbours a colony of rats. Periodic de-roofing is a costly business; fumigation by formaldehyde is expensive. (According to the Principal Medical Officer in Kenya this latter is ineffective.) Fumigation by the burning of sulphur, while effective in killing the rats, is resented by the native population because of the effect it has upon the huts themselves. In the last year Dr. van Someren at Jinja, in Uganda, a plague centre, has had delivered to him millions of rat tails, but he calculates that, in the Jinja district, the extermination of two million rats has only reduced the average rat population per native hut from 15 to 14.

During the past few years there has been only one serious outbreak of human trypanosomiasis (sleeping sickness), but there is always present the fear of another outbreak such as that of the years 1901 to 1905, when it is said that more than 300,000 people died in the islands of Lake Victoria and the low-lying countries surrounding the lake. In the past year cases of sleeping sickness have been recorded in all the five territories that we visited, and, as the tsetse fly is advancing in most parts of East Africa, there is abundant cause for anxiety on the part of the authorities concerned.

Other diseases which are common and responsible for much disability are leprosy, dysentery, spirillum fever, tuberculosis, and influenza. Leprosy is far more wide-spread than is commonly believed. In Tanganyika Territory, for example, there are forty-two leper isolation camps spread over some twenty districts, with a leprosy incidence rate of 28 per 10,000 for known and estimated lepers combined. This rate should be compared with that of British India, which has an incidence of lepers of 5 in 10,000. Leprosy is usually concealed because most native tribes object to the isolation of lepers. Tuberculosis is increasing, partly because of the changing habits of the natives regarding dress while their housing conditions remain unchanged, and partly because of the employment of natives in occupations for which their former environments have rendered them unsuitable. The mortality due to tuberculosis among natives employed in mines, to which they migrate from Northern Rhodesia and Nyasaland, is a matter of concern, although it is obvious that there are other factors besides the nature of the occupation itself which must be taken into account. Considering the conditions under which the natives live in their huts it is no matter of wonderment that the various recent epidemics of influenza have taken great toll of the population. In Northern Rhodesia there have been several epidemics of influenza since 1918, and the more recent outbreaks have been accompanied by a large increase in the number of cases of splenic abscess.

Elephantiasis is most insidious in its effects and most troublesome to the medical staffs. The extent to which natives will allow this disease to afflict them without seeking medical attention is astounding. During the past year a fairly large number of cases of spirillum fever have been reported in four of the five territories visited. This particular form of disease is most deadly to Europeans.

An interesting point has arisen with regard to cancer. It has been asserted recently by some prominent research workers that cancer is unknown among native races living under primitive tribal conditions. It is difficult to ascertain upon what evidence this statement was made, but it is certain that cancer does exist among native races in East Africa.

Enough has been said of the diseases which afflict the native population in East Africa to show that there is a great field of endeavour for the medical services. It is obvious, however, merely from the point of view of expense, that an all-white medical service in East Africa is impossible of realisation. The European medical officers will become increasingly responsible for major operations only and the general supervision of subordinate native staff. The personnel for the public health services in the native areas will have to be progressively recruited from among the natives themselves. Far too few native assistants are under training, and, as a general rule, far too much dependence is placed upon the local European medical officers in connection with minor operations and complaints. Already a fair number of Goan or Indian sub-assistant surgeons are employed by the Government, but few natives are yet competent to undertake work involving independent judgment. A certain number of natives are now being trained, particularly in Nyasaland and Uganda. Their duties include compounding, vaccination, injections for the commoner diseases, administering anæsthetics, and minor surgical operations. Those that we saw seemed fully aware of their responsibilities and quite capable under proper supervision of dealing with diseases which are most important from the community point of view. Every effort should be made to increase the number of such native assistants, and the utmost use should be made of the existing training schools at the Scottish Mission at Blantyre in Nyasaland and those at Mulago, Mengo, and Makerere in Uganda. But it is clear that such training must be regarded as only a beginning, and at the earliest possible moment provision must be made for the higher training of natives in medical work. In Kenya and Northern Rhodesia not enough work in training native medical subordinates has been done. Tanganyika obtains some of its native assistants from the Blantyre training school in Nyasaland, and the medical authorities there are somewhat dubious regarding the potentialities of the Tanganyika natives for medical work. While we were impressed with the differences between various tribes in all areas, however, we formed the opinion that there is enough aptitude among sufficient members of natives in all territories to make their training for the medical and sanitary services in increasing numbers an immediate possibility. Another of the difficulties met with in obtaining entrants to the medical service is the fact that natives with the necessary preliminary education are able to obtain fairly well-paid positions in Government service and in industry without undergoing any further course of training. It will be necessary therefore to pay them wages during their training course, and at the end of it to provide them with a career. They must be given a defined professional and legal status and must, on attaining the necessary qualifications, be given the power to practise on their own account. The very best and

most successful of these native medical assistants would doubtless wish to become fully qualified medical practitioners. This is an aspect of the matter which must be taken into consideration, and every opportunity should be given to those members of the native medical staffs to achieve an honourable ambition. For the present, however, there is no such demand. Though the matter is not ripe for immediate action, it is to be hoped that in the near future a central institution may be established in East Africa for the higher training of native medical assistants. It is a prior necessity that there should be sufficient native pupils with an adequate knowledge of English.

There is a great need also for a large increase in the number of sanitary officers. Here again the best way of meeting the demand is by training native sanitary orderlies to work under the supervision of district medical or administrative officers. The Medical Officer for Health at Dar-es-Salaam, Dr. Scott, has already trained a fair number of natives for this work, and finds them keen, enthusiastic, and adaptable. He has secured the active co-operation of the Director of Education, and in all Government schools in Tanganyika hygiene and sanitation are included in the curriculum. It is most desirable that this work should be undertaken in all the territories. The textbook in use in the Tanganyika schools would provide an excellent basis for a preliminary course in sanitation, and be invaluable to natives and Europeans alike.

In considering the problem of the health of the native population it must be borne in mind that there are three distinct groups of disease. In the first group there are those afflictions which are peculiar to the individual and which are of comparatively slight importance to the race or tribe. In the second group must be numbered cases of acute epidemic and endemic diseases. In the third group there are the transmissible diseases. This last type of disease is of more social importance. The qualified medical staff required to deal with the diseases in the first group is proportionately far greater than the staff required for dealing with the second and third groups. Group one, for example, will include practically all cases involving major surgical operations. It will include unfamiliar cases, the diagnosis and treatment of which demand a high degree of individual ability on the part of the practitioner. It will demand also the provision of beds for patients in stationary hospitals and their constant attention while there. For groups two and three, however, standard methods and treatments can be laid down; their diagnosis is a comparatively simple matter, and it is to these cases that the energies of the native medical staffs can be applied. Group three, for example, will include venereal disease, yaws, leprosy, ankylostomiasis (hookworm), the diagnosis and treatment of which are comparatively simple and are adaptable to routine methods, and it is unquestionable that the treatment of these diseases is far more important to East Africa than the treatment of cases in group one.

There is scope for native women assistants in pre-natal and post-natal work at maternity centres. We were very much struck by the effort now being made in Uganda to train native women for this

purpose. This work has been carried on for some time by Mrs. Cook, of the Church Missionary Society, at the Lady Coryndon Maternity Training School at Namirembe, by the Rev. Mother Kevin and Dr. Connolly at the Training School at the Mill Hill Mission at Nsambya, and by Dr. Webb at Mulago. We were able to note with satisfaction the work of some of these young native women in maternity centres in the Province of Buganda. They seem particularly self-reliant and capable, and they are undoubtedly contributing much to the welfare of the women and children in the districts to which they have been assigned. A certain number of native women have also been trained as general medical assistants.

We must confess to a feeling of disappointment that so little determined effort has been made on the part of the various Governments of East Africa to provide hospital accommodation for the natives. With the single exception of Uganda there seems to have been no attempt to provide native hospitals in accordance with a preconceived plan. It must be borne in mind that the natives, once their antipathy to European methods of treatment of disease has been overcome, are loud in their demand for medical services. There seems little reason to doubt, therefore, that the native chiefs themselves will be prepared to co-operate with the Public Works Department and to provide the labour and, if necessary, pay for the materials for the erection of hospital centres. The essentials could be met by the provision of well-lighted, well-ventilated wards, provided with proper beds and adequate sanitary arrangements, and a well-equipped operating theatre. We regard it as essential that the floors of these huts should be made of some concrete composition. Except for the operating theatre there is no reason why the whole of the wards should not be constructed from local materials.

There can be no doubt that the economy in medical personnel which the Government of the Tanganyika Territory has been compelled to observe for financial reasons has had the result that important native areas have been neglected or inadequately supervised. When we arrived at Bukoba, the centre of a rich and populous district, we found that no European medical officer had been stationed there for years, and that conditions at the hospital were most unsatisfactory. In the Mwanza district there is only one European medical officer for three-quarters of a million natives, and the duties which are involved, including the performing of all operations at the hospital and a mass of clerical work, are more than one man, however zealous, can be expected to undertake. Subject to the financial limitations which have been imposed, much has undoubtedly been done since the British occupation of the territory to organise the medical service and to extend the range of its usefulness. But much more remains to be done. We are very glad to learn that in the draft estimates of the Territory for the current financial year provision is made for a substantial increase in the establishment of European medical officers and for the further expansion of the medical service generally. This is most essential.

No native hospitals are maintained by the Government of Northern Rhodesia. The Nyasaland mission hospitals are well

supplied with native assistants from the Scottish Mission at Blantyre. In Northern Rhodesia, however, there are very few mission hospitals. In Kenya there are a number of well-built and fairly well-equipped native hospitals, but they are none too well staffed. In addition to the permanent native hospitals of Kenya, there are a number of temporary hospital stations for the medical care of railway workers, and there are also a fair number of native dispensaries scattered over the populous parts of the native reserves. The Government of Kenya seems, in fact, very much alive to the importance of improving the health and numbers of the native population.

Uganda, however, stands pre-eminent among the East African territories in the matter of the provision of medical services and hospitals for the native population. We visited native hospitals at Entebbe, Kampala, Jinja, and Hoima which were well-built, well-staffed, and well-equipped. There are two non-European hospitals at Kampala, one set aside for the Indian population, and one at Mulago for natives. The Mulago hospital is an institution of which any European city could be proud, being conceived on most modern lines. Other native hospitals are being constructed or re-constructed with the least possible delay. It is evident that the lead in Uganda was taken by the mission hospitals. The religious communities have vied with each other in this work. There is a well-conceived plan initiated by Major Keane, to whose work we should like to pay special tribute, for extending hospital facilities throughout the territory. There is a tendency, however, even in Uganda for remote districts to be neglected and for the Government to wait for the missions.

It is true that the Teso and Lango natives are much freer from disease than the tribes nearer Lake Victoria, but, now that large numbers of these Nilotics are being employed by the Public Works Department on roads and railways in the Buganda and Eastern Provinces, there is little doubt that they will soon become infected with the diseases common in these Provinces, and that they will, unless energetic steps are taken to prevent it, spread disease in their own villages on their return. The migration of natives in search of work is one of the most serious problems to be faced in connection with medical services. Their lack of education, with their consequent want of self-restraint and moral sense, leaves them an easy prey to the manifest temptations which are the inevitable outcome of the existence of large communities. This aspect of the matter not only calls for the attention of the medical authorities, but is one which must be considered by the Governments in connection with the recruitment of labour. The other aspect, moreover, must not be overlooked. If married men are recruited for work far from their homes, they usually leave their wives behind, frequently with deplorable results to themselves and to their wives.

In the matter of European medical staffs, we received complaints from Principal Medical Officers, who stated that the salaries offered are not sufficient to attract men to leave England. As to this, we note that the salaries compare favourably with those of officers in

other departments and that medical officers receive certain exceptional advantages, such as the option of retiring on "bonus" before they are qualified for pension. The difficulty in filling medical vacancies has been felt in all parts of the Empire, and is due to the demand exceeding the supply and to the improved prospects of young medical men in this country. We understand that candidates are now coming forward in greater numbers, but there still seems to be (in the words of Dr. Andrew Balfour) "a lamentable ignorance among medical students as to the prospects which the Colonial Medical Services hold out" to young men and women of an adventurous turn of mind, and especially in the tropics. The recent amalgamation of the medical services of the East African Dependencies under the title of the East African Medical Service has no doubt greatly improved the prospects of the staff in respect of promotion, and all steps should be taken to cause the possibilities of this branch of the profession to become widely known.

Northern Rhodesia, Nyasaland, and the Tanganyika Territory, where the Imperial Treasury is still called upon to meet annual deficits and consequently has a determining voice in expenditure, do in fact lag behind Uganda and Kenya in respect of health services, and the steady improvement in the health of the natives in these latter territories must lead to a sharp contrast unless liberal provision is allowed for this work in the estimates of the others.

In conclusion, we may mention the suggestion which was made to us by settlers in some districts that the Government should maintain stocks of the more common medicines for sale to the settlers who need them in providing medical treatment for their native employees as required by the Masters' and Servants' Ordinances. At present considerable difficulty is experienced in many areas in obtaining such medicines, bandages, etc., and the prices are very high. We are of opinion that stores of this nature should be provided by the Government, at any rate in the more outlying districts, for re-sale to settlers and planters, at as nearly as possible cost price. It was also suggested to us that the Government should publish a small handbook dealing with the treatment of the more usual diseases and injuries. We consider that such a handbook would be most useful.

CHAPTER IV.
TRADE AND COMMERCE.

(a) GENERAL.

Full trade and financial statistics for the various East African dependencies are published annually in local departmental and blue-book reports, while comprehensive figures dealing with all the territories are compiled by His Majesty's Trade Commissioner at Nairobi and published from time to time by the Department of Overseas Trade. It is therefore unnecessary for us to deal with such statistics in detail, but the following table summarises the position for the year 1923, the last for which complete statistics are available :—

	Uganda	Kenya	Tangan- yika	Zanzibar	Nyasa- land	Northern Rhodesia
	£	£	£	£	£	£
Domestic Exports	2,431,477	1,564,995	1,651,664	1,407,472	425,181	427,875
Imports ..	1,249,548	1,881,126	1,475,096	1,162,645	462,284	528,068
Total domestic trade ..	3,681,025	3,446,121	3,126,760	2,570,117	887,465	955,943
Revenue ..	999,750	1,839,447	1,973,779	589,224	281,044	278,928
Expenditure ..	938,999	2,137,632	1,282,595	480,136	282,800	323,509
	<i>Remarks</i>		<i>Remarks</i>		<i>Remarks</i>	
" Domestic " is used in the sense of excluding re-exports.	Expenditure includes £100,000 paid to the Imperial Government as a lump sum contribution to war expenditure.		Railway receipts and expenditure are excluded as they do not appear in the other dependencies' revenue and expenditure.		Excluding from revenue the Imperial grant-in-aid and from expenditure the payments on account of the railways guarantees	

When it is possible to compile a similar table for the year 1924 considerable increases will be found in practically every dependency in revenue and in domestic exports. That there is great scope for development will be realised from the fact that in 1923 the trade of Northern Rhodesia (area 290,000 square miles) was more than £700,000 less than the trade of the Gambia (area 4,000 square miles).

The principal exports are dealt with in the separate chapter on each dependency, and the possibility of greater uniformity in commercial legislation is considered in the next section of this chapter.

We received a number of representations on the subject of ocean freights and the alleged inadequacy and uncertainty of shipping facilities, but the shipping companies on their side assert that they cannot rely on full cargoes being regularly available. No doubt the

shipping facilities will improve as the total trade increases, but it is not yet certain that the total trade from the six dependencies, which, as will be observed from the preceding table, in 1923 just exceeded £14,500,000, is sufficient to support extended and more regular steamship services than exist at present. The superior shipping facilities enjoyed by the four British West African dependencies must in part be attributed to the volume of their trade, which in 1923 exceeded £43,500,000. In any case an enquiry into East African shipping facilities has recently been made by the Imperial Shipping Committee, who have issued an interim report, in which they urge that, as a first step, associations of shippers should be formed in London and, say, at Mombasa to negotiate with the shipping companies concerned. We consider it most important that such associations should be formed without delay.

A matter of considerable importance for the general trade development of the East African dependencies is the provision of adequate banking facilities. We received a certain number of complaints regarding undue restriction of credit facilities, the high rates of interest charged on advances, and the low rates allowed on deposits. It is difficult to determine what importance to attach to such complaints, but in any case it appears to us to be a matter for regret that no British bank or an independent Bank of British East Africa has established itself in these territories. The present banking facilities are provided by branches of South African and Indian banks. These have undoubtedly rendered great services in the development of East Africa, but we consider that the provision of additional facilities by one of the large British banks would stimulate trade between East Africa and Britain.

We were informed in East Africa that the minimum rate charged by banks on good security was 8 per cent. on monthly balances, with compound interest, and that this rate rose to 10 per cent. and even higher in some cases. These rates are in our opinion excessively high, and one result is that there is a large amount of private money-lending.

It is clear that the Germans and Japanese are making great efforts to secure a large share of the growing trade of East Africa. If British traders are to compete successfully for this market, steps will have to be taken to improve in all directions the representation of British firms doing business with East Africa. It was urged upon us that British manufacturers and merchants had not sufficiently studied the special requirements of East Africa, particularly with reference to native trade. Further, we are satisfied that much could be done to improve the organisation and efficiency of the Chambers of Commerce which exist in the principal commercial centres in East Africa.

(b) UNIFORMITY REGARDING COMPANY LAW, BANKRUPTCY LAW,
TRADE MARKS, PATENTS, ETC.

In considering this problem we may in the first place exclude Northern Rhodesia and Nyasaland. Northern Rhodesia bases its legislation on commercial matters on that in force in Southern Rhodesia and in the Union of South Africa; Nyasaland, with its

outlet at Beira, is at present detached from the main East African group, but, if a reasonable measure of uniformity can be obtained within the main group, Nyasaland may come into line at a later date, particularly if its communications are improved.

It follows that the countries we have to consider are Kenya, Uganda, Tanganyika, and Zanzibar. Many business houses have branches in two or more of these neighbouring territories and would find it a great convenience if the legislation on commercial matters in the different territories were identical. His Majesty's Trade Commissioner for East Africa, whose area covers all four territories, has strongly urged on us the commercial advantages of regarding the four territories as one economic unit. But there are very definite limits to such an ideal, owing to the widely different characteristics of the four territories concerned. Legislation must be influenced by the dominant section in each community and must be adapted to suit local conditions. Kenya with its European settlement is very different from Uganda with its prosperous native communities and Indian traders. Zanzibar, which is a protected Moslem state under an Arab Sultan, differs greatly from either Kenya or Uganda. Tanganyika, on the other hand, comprises within its vast territory areas where conditions resemble those in the Kenya highlands, other areas which approximate to Uganda, and others not unlike Zanzibar, and in addition differs from all three in view of its special position as a mandated territory. It is necessary to stress the wide differences between the four territories to appreciate the difficulties that are met with in aiming at uniformity, even in matters like company law, trade marks, patents, etc., which, *prima facie*, are capable of treatment on uniform lines.

Company Law.

Up to the end of 1921 the legislation regarding companies in Kenya and Uganda was the Indian Companies Act, 1882, and various subsequent Indian amending acts. At the end of 1920 the Indian Companies Act, 1913, which was a consolidated act superseding the Indian Act of 1882 and its subsequent amending acts, was applied to Tanganyika Territory. It was found necessary when the new civil administration was being started in Tanganyika after the war to apply various Indian acts, as there was no time to draft special legislation on each subject. The application of the Indian Companies Act, 1913, made Tanganyika's company law practically the same as that in Kenya and Uganda.

But the application of Indian acts to the East African territories has not been wholly satisfactory. Sooner or later legislation specially adapted to East African conditions is required. In 1918 the Kenya Government prepared a Companies Ordinance based on the Indian Companies Act, 1913, and the Imperial Companies (Consolidation) Act, 1908, together with a few special variations to suit local conditions. The ordinance was carefully examined by official and unofficial bodies in Kenya and in England, and was finally enacted as the Companies Ordinance, 1921. In 1923 Uganda passed a Companies Ordinance which embodied the Kenya Ordinance, 1921,

subject to one or two very minor alterations to suit local conditions. We understand that these Companies Ordinances have been found satisfactory in both Kenya and Uganda, and we recommend that Tanganyika should pass a similar ordinance to replace the Indian Companies Act, 1913. Whether such an ordinance could with minor alterations be adapted to suit the commercial conditions and general legislation in force in Zanzibar is doubtful, but the question might be considered by the Zanzibar Government.

Bankruptcy Law.

In Uganda the English bankruptcy law has been followed since 1906, "so far as circumstances admit." The Government of Tanganyika followed Uganda in 1920 and applied the English bankruptcy law to the territory. The Kenya law is based on the Indian Provincial Insolvency Acts, while the Zanzibar Insolvency Decree of 1917 is based on the Indian Presidency-Towns Insolvency Act, 1909. The English Bankruptcy Act of 1914, with its voluminous and elaborate rules, has been found difficult to work in Tanganyika, and a new draft ordinance has recently been prepared which, like the Zanzibar decree of 1917, is based on the Indian Presidency-Towns Insolvency Act, 1909. A new draft bankruptcy ordinance has also been prepared in Kenya, and in view of the obvious desirability of securing uniformity the Colonial Office suggested to the Governor of Kenya in July, 1924, that he should communicate with the Governors of the other East African dependencies with a view to arranging a conference. We recommend that such a conference, at least between the law officers of Kenya, Uganda, Tanganyika, and Zanzibar, should be held as soon as possible.

When the conference is held, it should consider not only the adoption of a uniform bankruptcy law for all the dependencies, but also whether an arrangement is possible under which the assets of a bankrupt, no matter where they may be situated in the dependencies, may be made available wherever the insolvency takes place. If there is only one bankruptcy, the court officers in the various dependencies should act as agents for the official receiver of the dependency in which the petition is filed. If bankruptcy has occurred in two or more dependencies, the official receiver might be either the trustee in the first of the bankruptcies, or alternatively the trustee appointed in the bankruptcy where the bulk of the assets are situated or where the bulk of the creditors reside.

Patents, Designs and Trade Marks Legislation.

The Indian Inventions and Designs Act, 1888, was applied to Kenya in 1900 and to Zanzibar in 1901. In 1912 Kenya passed a Trade Marks Ordinance based on the Southern Nigerian Ordinance, No. 18 of 1910, and in 1913 passed a separate Patents and Designs Ordinance. Uganda dealt with both patents and trade marks in the Patents, Designs, and Trade Marks Ordinance, 1912. In 1917 Zanzibar replaced the Indian Inventions and Designs Act by the

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Patents, Designs, and Trade Marks Decree, No. 16 of 1917. In 1921 Tanganyika passed a Trade Marks Ordinance following closely the Imperial Trade Marks Act of 1905 and incorporating substantially the amendments made by the Imperial Trade Marks Act of 1919. The question of patent legislation for Tanganyika is now under consideration.

This brief survey shows how divergent the present legislation is, and it is clear that by a concerted effort greater uniformity could be attained. In the first place, trade marks should be dealt with in all the dependencies in separate legislation from patents. The most up-to-date trade marks ordinance now in force is undoubtedly that in Tanganyika, and we suggest that it should be taken as a basis, and that, when the law officers meet for the conference on bankruptcy legislation, they should endeavour to agree on a uniform trade marks ordinance. If any important differences of opinion should emerge at the conference, they should be referred to the Secretary of State, who has received in the past valuable assistance from the Board of Trade on questions of colonial trade marks legislation.

Separate legislation regarding patents will be required in each territory. The Kenya Patents Ordinance, 1913, is the only separate legislation on this subject now in force, and is not altogether suitable for adoption in the other dependencies. More recent patents legislation in the Federated Malay States and Ceylon might afford a suitable model for East Africa as a whole. The special position of Tanganyika as a mandated territory in which equal rights and facilities must be granted to nationals of all states must be kept clearly in view in this connection. In any case, we recommend that any necessary patents legislation should embody the proposals of the British Empire Patent Conference, 1922, regarding the registration in the Colonies and Protectorates of patents granted in the United Kingdom, which were endorsed by the Imperial Economic Conference, 1923.

There are other aspects of commercial legislation in which greater uniformity may be attainable. Thus the Indian Stamp Act of 1889 was applied to Kenya in 1899, to Uganda in 1903, and to Tanganyika in 1920, but in 1915 Uganda passed a Stamp Ordinance and repealed the 1903 Ordinance which applied the Indian act, and in 1923 Kenya passed an ordinance of its own. No doubt a stamp ordinance specially adapted to East African requirements would be more suitable in each territory than the Indian Stamp Act, but, as revenue considerations enter into the rates of stamp duties, it may not be easy to fix uniform rates. Still, the matter is also one which could with advantage be considered by the law officers when they meet in conference.

Finally, it is necessary to point out that there is small advantage in achieving uniformity unless once achieved it is adhered to. This implies that no one of the dependencies must proceed to pass amending legislation, whenever any local inconveniences have come to light, without prior consultation with the neighbouring dependencies where similar legislation is in force.

(c) EAST AFRICAN TRADE AND INFORMATION BUREAU IN LONDON.

When in Nairobi we received joint representations from the Association of East African Chambers of Commerce and the Convention of Associations of Kenya Colony in favour of the establishment of a Publicity Office in London. This matter has been raised by unofficial opinion in Kenya for some time past, and the proposal has the support of the Kenya Government. At the half-yearly session of the Association of East African Chambers of Commerce in Nairobi held on the 15th December, 1923, the following resolutions were passed unanimously :—

- (1) That this Association of East African Chambers of Commerce is unanimously in favour of the inauguration of an Office in London providing its functions embrace the development of all interests in Eastern Africa—Planting, Agriculture, and Commerce.
- (2) That this Association considers that any Office in London should be organised on the lines of a Trade Commissioner Service and that such an Office be established immediately the British Empire Exhibition closes.
- (3) That this Association considers that any Office opened in London should be one representing, and for the benefit of, all classes of the community in the group of Eastern African Dependencies, viz., Uganda, Kenya, Tanganyika, Zanzibar, and Nyasaland.
- (4) That, as this Association considers this a matter of such importance and is so desirous of seeing the whole country unanimous on the question, it respectfully requests His Excellency the Governor to receive such deputations as he may suggest representing the Planting and Commercial interests of this Colony and Protectorate, to confer with him as to what may be considered the best form such an Office should take.

Subsequently a joint meeting of the Association of East African Chambers of Commerce and the Convention of Associations of Kenya was held in April, 1924, when the following resolutions in favour of the scheme were unanimously passed :—

- (1) That this meeting is in favour of the immediate establishment of an Office in London whose functions shall embrace those of a Trade Commissioner and those of an Information Bureau; such an Office to be situated in a suitable locality.
- (2) That this meeting is of opinion that such Office should be under control of the Department of Overseas Trade, and should represent the interests of all the Eastern African Territories.
- (3) That this meeting is further of opinion that such an office should be opened immediately in order to take the fullest advantage of the British Empire Exhibition, notwithstanding the fact that any one or more of the Territories, referred to in the previous resolution, may not be prepared to contribute thereto.

- (4) That this meeting asks the Government of Kenya to make every effort to obtain the co-operation of the adjoining Territories and of the Department of Overseas Trade in this matter.
- (5) That this meeting requests His Excellency the Governor, in view of the urgency of the matter, to communicate these resolutions to the Right Honourable the Secretary of State for the Colonies by telegraph.

The farming and commercial interests are in complete accord on this matter, and the General Manager of the Uganda Railway is active in its support and suggests that the Uganda Railway should make a definite separate contribution towards the existence of the office with a view to attracting tourists. The proposers of the project suggest that the functions of the office should aim at the attraction of capital for the development of East Africa and of the right type of settler, and should include such duties as :—

- (1) Advertise and keep the Press supplied with news regarding the country's trade—future—new enterprises—opportunities for capital investment—facilities for tourists and sportsmen, etc.
- (2) Keep in touch with markets which are interested in products from Eastern Africa and furnish periodical reports on such.
- (3) Investigate complaints regarding produce and connected with trade, and examine any causes of dissatisfaction generally which may be considered detrimental to the best interests of the country.
- (4) Report upon new avenues for trade in East African produce.
- (5) Maintain a permanent exhibition of samples of East African produce and furnish all necessary information regarding costs and methods of production. Display such exhibits at selected agricultural or other suitable shows.
- (6) Afford trade information to all parties interested in commerce with Eastern Africa.
- (7) Afford adequate information for the encouragement of private enterprise.
- (8) Endeavour to obtain low and stable freights, and regularity of shipping service.

They suggested that the new office should be under the general control of the Department of Overseas Trade and should work in a complementary manner to that carried on by Colonel Franklin, His Majesty's Trade Commissioner in East Africa, and his staff. We may add that Colonel Franklin informed us that he considered such a bureau to be essential to the effective carrying on of his work, and that when on leave in England he had to undertake an enormous number of inquiries and interviews which had been unduly delayed owing to the absence of any permanent organisation in England to deal with them. Our memorialists urged that among the advantages to be derived by embracing all the East African territories under one

office would be the reduction in expense to individual territories and the elimination of any defects connected with its organisation and control, and that, whilst the actual conditions obtaining in the separate countries concerned may appear to differ in some respects, the needs in the way of trade development, on which all their growth is bound to follow closely, are fundamentally the same. They concluded by expressing the belief that the Bureau would yield a substantial indirect return on the costs of establishment and maintenance, and that no form of investment of public money held out better prospects of aiding the development of Eastern Africa.

There can be no doubt that at present there is no one place in England where merchants or would-be settlers can go to for information regarding East Africa. It must be borne in mind that there are already in existence in London two offices which are in some ways comparable with what is proposed for East Africa, namely, the Malay States Information Agency, established at 88, Cannon Street, London, E.C., and the new Trade Commissioner's Office for British Guiana, established at Tothill Street, Westminster. The Malay States Information Agency was established by the Government of the Federated Malay States with the approval of the Secretary of State, and its primary object is to advertise the productions and attractions of the Malay Peninsula under British direction, and to furnish to inquirers who are desirous of becoming acquainted with these States information as to the opportunities which they give for investment and the facilities for travel, etc., and to supply on payment publications and maps.

The offices maintained in London by the Australian States and the Canadian Provinces have been of great value not only to the Governments and territories providing them, but also to British settlers and traders, and we definitely recommend that a Publicity Office for East Africa should be sanctioned by you. We are of opinion that, if the undertaking is worth doing at all, it must be done properly, and that a suitable site on the ground floor in one of the main business thoroughfares should be selected. The expenses of such an office, including rent, rates, taxes, staff, and equipment, are not likely to cost less than £10,000 a year, an outlay which in our opinion would prove a good investment for all concerned. The Chamber of Commerce at Kampala in Uganda submitted to us that, if such an office were established, they hoped that Uganda would come in, suggesting a contribution by the Uganda Government of £1,000 per annum. Tanganyika, Nyasaland, and Northern Rhodesia, being at present in receipt of annual loans-in-aid from the Imperial Government, necessarily feel that before they could express any opinion on the subject the consent of the Imperial Treasury would have to be obtained. In the interests of these three territories we strongly urge that they should be allowed to participate from the outset, also we advocate that a small contribution should be made by the Protectorate of Zanzibar.

Since we left East Africa there appears to have been some change of view in Kenya as to the lines on which the Office should be established, and the Kenya Government has proposed that it should be entirely independent of any Government Department here and,

further, that the staff should be appointed, and an office secured, at once in order that the Kenya exhibit at Wembley may be under the control of the Publicity Officer and this office be available as a means by which enquiries made at the Exhibition may be followed up.

We have considered the new position, and we are inclined to agree that the Office should not be under the control of the Department of Overseas Trade. On the other hand, we think that, in the first instance at all events, East Africa would do well to take advantage, if it can be arranged, of the close knowledge which Colonel Franklin has obtained of East African necessities and possibilities, and to secure the advantage of the efforts which he has already made to extend the markets for East African produce in this country.

We suggest, therefore, that if he is willing to accept the dual duty, and if the concurrence of the Department of Overseas Trade can be obtained, Colonel Franklin should combine the posts of His Majesty's Trade Commissioner in East Africa and East African Trade Commissioner in this country, spending half the year on each side. He would be responsible, in the latter capacity, solely to the East African Governments.

It would, of course, be essential to the success of the arrangement that a capable deputy should be appointed in each capacity who would be able to control the work during Colonel Franklin's absence.

CHAPTER V.

TSETSE FLY.

The ravages of the tsetse fly are the greatest menace to the development of Tropical Africa, and constitute one of its most serious problems.

The various species of this insect pest are responsible for sleeping-sickness among human beings, "nagana" among domestic stock, and other less deadly forms of human and animal trypanosomiasis. They make it impossible for cattle to be used for transport wagons over the greater part of the territories, and they are held responsible indirectly for the moral degeneration of certain cattle-owning tribes.

To appreciate the direct effects of this pest it is only necessary to realise that the great outbreak of sleeping-sickness in Uganda, about twenty years ago, caused the deaths of more than 300,000 natives, or roughly one-tenth of the total population of that Protectorate, while within the past four years, owing to the outbreak of trypanosomiasis among the cattle in the Shinyanga district of Tanganyika, nine-tenths of the population in one sultanate have migrated to the area of Usiha, to which the fly has not yet spread.

The fly belts are continuous from the Sudan in the north to Barotseland in the south, and fly areas are intermittent from coast to coast between these limits. There are fly districts also in Southern Rhodesia and Zululand.

Only one species, *glossina tachinoides*, is found outside Africa, and that in the Arabian hinterland; so for all practical purposes Africa can be taken as the geographical limit of the fly.

Tanganyika suffers most with at least half of its area under fly domination, but Northern Rhodesia, particularly the north-eastern districts, and Nyasaland are nearly as unfortunate. It must be borne in mind, moreover, that it is not the least fertile, but generally the most potentially fertile, districts where fly abounds and upon which fly encroaches.

In the complacent satisfaction which accompanies the contemplation of the vastly increased productivity of our East African territories in the past few years, there is a danger of minimising the effects of the fly. Nevertheless, the danger is very real, and can best be understood by stating that the fly area is spreading in all territories. The fly has encroached in no less than seven places in a single sub-district of Tanganyika in the year 1923. It is encroaching in North-Eastern Rhodesia to such an extent that the Abercorn cattle district is now surrounded by infested areas; Mombera, the principal cattle area of Nyasaland, has recently been similarly cut off from its markets; and over a considerable part of Uganda it is impossible to keep cattle, so that hand-tilling in cultivation remains an imperative necessity.

We can speak from experience, not only of the incisiveness of the tsetse, but also of its effects on the country through which we travelled. Travelling by the Central Tanganyika Railway, we passed through well-populated and productive areas from the coast to Dodoma. A few miles beyond Dodoma an extraordinary change is noticeable. Although the physical features and the climatic conditions appear to be similar in all respects, there are no signs either of cultivation, or of cattle, or of population, except for a few railway workers. The fly is responsible. This belt of desolation stretches approximately 120 miles east and west from Kazi-Kazi to Tabora, and northwards to Lake Victoria, while west of Tabora there is fly practically all the way to Lake Tanganyika.

A similar spectacle is witnessed in travelling along the 100 miles of road leading from Tabora to Kahama, and, except for occasional cultivated strips, from Kahama to Shinyanga and again from Shinyanga to Seke in travelling northwards towards Mwanza.

In Uganda there are relatively few cattle, and large areas are dominated by various species of fly. But it has to be borne in mind, in considering the comparative scarcity of cattle in this Protectorate, that many of the tribes in occupation are by custom not pastoral tribes. The Baganda, for example, are peasant cultivators, and for centuries apparently have been more or less independent of cattle. Any migrations which have taken place, and which have contributed to the spread of the fly, have in all probability taken place under stress of circumstances not connected with fly, but due rather to the crude and wasteful methods of cultivation which have led to the progressive deterioration and desiccation of the soil. This aspect of the problem has to be taken seriously into account.

Fortunately, about twelve months before we arrived in Uganda, a tour of inspection was made by Mr. W. F. Fiske, the Government Adviser on Tsetse Control, Uganda, partly in company with Mr. C. F. M. Swynnerton, Director of the Game Preservation Department, Tanganyika Territory, the main object of the inquiry being to ascertain whether the spread of bush, game, and tsetse fly was the cause of the recession of population and abandonment of affected areas, or whether the recession of population was due to other causes and began prior to the spread of fly, and was, in fact, the main contributory cause of fly encroachment.

Mr. Fiske attributes the beginning of the recessionary movements of population to the "drying up of the country." Fly and game are merely accelerative factors. In the Ankole district of Uganda, a cattle district, there were a variety of contributory factors precedent to fly. A rinderpest outbreak caused many persons to move away and was probably the initial cause for the recessionary movement which began in 1916-17 and is still in progress. But the progressive desiccation of the country is, according to our informant, the main cause for the withdrawal of population and consequent spread of fly. This desiccation is due to deforestation produced by bush burning and timber felling, to unconservative agriculture, and to indiscriminate grass fires.

From whichever aspect the problem is examined, whether the encroachment of fly is responsible for the migration of population or whether the migration of population is responsible for the spread of fly, there is no doubt that all over Uganda, Tanganyika, Northern Rhodesia, and Nyasaland the fly areas are increasing and are having a serious retarding effect upon the economic development of these territories.

We must express our regret that so little has been done to cope with this grave problem by the responsible authorities in the various territories. While appreciating the importance of the problem, the local Governments have, however, been hampered by lack of funds from doing all that they would have wished to cope with it. After the war, when it was possible for the matter to be taken up again, the Secretary of State for the Colonies endeavoured to set on foot a comprehensive tsetse campaign throughout the Tropical African dependencies, on lines suggested by the Imperial Bureau of Entomology. Unfortunately, it would appear that the proposals broke down, as the necessary funds were not forthcoming. It was therefore decided that for the time being individual Governments should carry out within their own territory such investigations on a more limited scale as local circumstances permitted. Investigations have, in fact, been carried out since then in several of the Tropical African dependencies, more particularly Nigeria, Uganda, and the Tanganyika Territory.

We came across an astonishing statement in a "Handbook of Northern Rhodesia," edited by Mr. J. C. C. Coxhead, late Secretary for Native Affairs, Northern Rhodesia, and published in 1922. In the paragraph dealing with the "Natives of Northern Rhodesia" (pages 23, 24) the following passage occurs:—

“ Some people would be surprised if they were told that the tsetse fly is one of the assets of the country. It sounds paradoxical, and yet tsetse fly may be considered an asset, if not of Northern Rhodesia, at any rate of Southern Rhodesia. It is well known that in Southern Rhodesia, where natives are so rich in cattle, it is difficult to induce any of the local natives to work. They are too well off. Consequently the labour supply for the Southern Rhodesia mines is largely dependent on Northern Rhodesia. A very large portion of Northern Rhodesia is infested with fly. Consequently the natives living in these areas do not own cattle, and they go to work in order to earn money. Did they own cattle it would be as difficult to induce them to work as it is in Southern Rhodesia. Of course the benefit to the country would be enormous if the fly could be eradicated, but there is no getting over the fact that the labour supply would suffer largely.”

We would also call attention to the views of the Principal Medical Officer to the territory as expressed in a letter to the Secretary to the Administration dated 22nd April, 1919. In advocating the immediate resumption of the research which had been interrupted by the war, he said :—

“ It is generally supposed, although no definite information on this subject is available, that the fly areas in this territory are increasing in extent, and that such increase constitutes a menace to the whole territory. . . . It should be appreciated that the problem presented is an immense one. . . . It is one which affects the whole continent of Africa, and will have perhaps the biggest individual influence as a factor in its future development.”

We feel that the record of the five territories in dealing with the problem is not entirely satisfactory. It is true that, as the result of the calamitous outbreak of sleeping-sickness in Uganda about twenty years ago, the Royal Society, at the request of the Colonial Office, sent out a Commission, the cost of which was met from the funds of the Protectorate, and as an outcome of their investigations, although nothing was done to exterminate fly, the natives living on the islands in Lake Victoria and along the lake shore were removed to healthy inland sites. Furthermore, a few years later the Uganda Government engaged the services of a staff to devote attention to a study of the disease and to advise on the possibility of the reclamation of the depopulated areas. Not only was the removal of such a large population an extremely costly undertaking in itself, but it had the effect of handing over to fly some of the most fertile districts of the country, and thereby postponed their development for twenty years or more. Desperate remedies which have to be applied in periods of crisis are invariably disastrously expensive in the long run.

In 1908, 10 cases of human trypanosomiasis were detected in Rhodesia and Nyasaland, where the incriminated tsetse fly of Uganda (*glossina palpalis*) could not be the carrier of the trypanosome, and attention was therefore directed to another tsetse fly (*glossina morsitans*), which was abundant in many parts of those countries. The discovery led to great apprehension, and in 1911, at the request

of the Colonial Office, the Royal Society sent out a Commission (under Sir David Bruce) to Nyasaland, the cost of which was met by the Government of Nyasaland. After the war the Nyasaland Government engaged the services of Dr. W. A. Lamborn as Medical Entomologist. He is not dealing primarily with tsetse fly research, but is carrying out an interesting series of experiments in connection with an attempt to effect a control of *glossina morsitans* by breeding in the laboratory on an alternative host, the common blowfly, large numbers of a parasite that is destructive to the puparia of the tsetse fly, and then turning them adrift in a selected tsetse area.

In 1911 the British South Africa Company financed investigations under Dr. Kinghorn and Dr. Yorke in Northern Rhodesia. These were continued until the outbreak of war interrupted the work, but nothing has been done in Rhodesia since to cope with the present problem, of both cattle disease and human sleeping-sickness, and the only suggestions that were made to us at Livingstone were those which came from the Principal Medical Officer, who has for years past advocated a great campaign in which the extermination of the tsetse fly and research into its habits should be undertaken.

In Tanganyika the authorities have given considerable attention to the ravages of the fly, and most of the energies of Mr. C. F. M. Swynnerton, the Director of the Game Preservation Department, are now devoted to a study of the best means of its extermination. Tanganyika is fortunate also in having as its Principal Medical Officer Dr. J. O. Shircore, who has been associated with research work on tsetse fly with Sir David Bruce, and has contributed much to our knowledge of the bionomics of the insect.

Practically no effort has been made in Kenya Colony or Protectorate to deal with the tsetse fly, no work is being undertaken in the veterinary research laboratory on animal trypanosomiasis, and the medical staff under its present distribution is unable to undertake any work connected with human trypanosomiasis. Recently, when there was an outbreak of sleeping-sickness in the Kavirondo area near Lake Victoria, the medical research staff of Uganda were called into consultation.

There is, however, still some want of co-ordination between Kenya, Tanganyika Territory, and Uganda in connection with a control policy in the fly areas surrounding Lake Victoria. The lake area, having been the seat of the most disastrous outbreak of sleeping-sickness in modern times, requires the utmost precautionary measures against the possibility of a further catastrophe.

As recently as March, 1922, there was an outbreak of human trypanosomiasis in the Ntussu sultanate, situated about fifty miles east of Mwanza. The most energetic measures were at once taken by the Senior Commissioner at Mwanza to prevent the spread of the epidemic, and the number of deaths to the end of the year 1922 was only 683. In his report on this outbreak the Principal Medical Officer of Tanganyika states: "The occurrence of the Rhodesian form of sleeping-sickness so far removed from any previously reported outbreak is

a warning which cannot be disregarded. Had the outbreak occurred on the south-western side of Mwanza instead of to the eastward, it is impossible to say what the result would have been. The western fly belt as marked on the German maps is approximately 270 miles from north to south and 200 miles from east to west. Any serious outbreak in this enormous area might prove disastrous and the whole medical staff of the territory would be hardly adequate to deal with sleeping-sickness alone. Add to this the *glossina palpalis* areas of Lake Victoria and Lake Tanganyika, and the Ruvuma *glossina morsitans* area, in all of which sleeping-sickness was found by German observers, and the potential danger to the Territory is apparent." Fortunately, the outbreak occurred in an isolated fly area, the local chiefs and natives were amenable to discipline, and the services of such authorities as Dr. H. Lyndhurst Duke, Bacteriologist, Uganda, and Mr. C. F. Swynnerton were immediately available. It is of the greatest significance to note that the carriers of the trypanosomes, the microscopic organisms which are the parasites causing disease, were in this case identified as belonging to the *morsitans* group, and not that of *palpalis*. This particular species of fly was subsequently named *glossina swynnertoni*. The habitat of *glossina palpalis* is well-defined and its distribution circumscribed by its dependence on rivers and lake-shores, but *glossina morsitans* and *glossina swynnertoni* are far more widely distributed over East Africa. The establishment of their function in the spread of human sleeping-sickness accentuates the danger to the territories where they are found.

Knowledge regarding the conditions favourable to the breeding and spread of the various species of tsetse fly, regarding their habitats, their floral and faunal relationships, their sources of food, their natural enemies, the trypanosomes, which are identified with them, and the time during which they remain infective and therefore a menace to man and domestic stock, is being rapidly accumulated. There are two ways in which tsetse transmits infection from an infective host to man or domestic stock. Tsetse fly disease is caused by the transference of the protozoal parasite from the fly to man or cattle in the act of sucking blood. It may transmit it mechanically by its proboscis if interrupted while feeding on the infected blood of its host and then resuming its feed on a second host in the immediate vicinity, but, more generally, it assimilates the trypanosomes from its host, the parasites go through part of their life-cycle in the gut and salivary glands, the gut and proboscis, or the proboscis only of the tsetse, which remains infective for the rest of its life, possibly covering many months. Those authorities on the subject whom we have consulted appear to be unanimously of the opinion that sufficient scientific data regarding tsetse are available upon which to base a number of experiments aiming at the destruction of this insect pest. Various methods of extermination have been suggested. It is an established fact that large mammals other than man are the favoured hosts of all species of tsetse. This led Dr. Yorke and others to suggest that the game should be destroyed in the fly areas, a suggestion which aroused considerable controversy and met with much opposition from those who view with dismay the destruction of the beautiful fauna of Tropical Africa.

The late Viscount Harcourt, then Secretary of State for the Colonies, accordingly set up a strong Committee under the chairmanship of the Earl of Desart in 1913, with terms of reference which included reporting on the advisability of attempting the extermination of wild animals, either generally or locally, with a view to checking the trypanosome diseases of man and stock, and on the necessity and feasibility of an experiment in game destruction. The valuable report of this Committee was presented to Parliament in May, 1914 (Cd. 7349). The outbreak of war a few months later prevented immediate action being taken on it; but it was in connection with this report that after the war Viscount Milner took up the question of a comprehensive tsetse fly campaign referred to above. As regards experiments in game destruction, the Government of Nyasaland did, in fact, throw open a certain area to free-shooting, but the results were not satisfactory and the experiment was stopped; while in Southern Rhodesia an experiment has recently been organised to test further the effect on tsetse fly of the destruction of game.

The question of game destruction is a very thorny one and has aroused much feeling. In this connection the opinion of Mr. Walter, now Lord, Rothschild is worth recording: "To prove to the utilitarians the absolute uselessness of this proceeding, I should like to point out that the extermination of the game animals in any large area would be a task of several years duration, and the following would take place. As year by year the large animals grew scarcer, the tsetse flies *glossina palpalis* and *morsitans*, which are the means of spreading sleeping-sickness in man and nagana in animals, would be driven to bite monkeys, carnivora, rats, mice, and the numerous small animals of those regions; these would be infected and the trypanosomes of the disease would gaily survive. This would not only mean the continuance of the disease in its present degree, but would also cause a sharp increase of both diseases." The objection to the slaughter of game was reinforced by Sir Henry Seton-Kerr, who pointed out that there are sleeping-sickness areas where big game are not plentiful, and big game areas where there is no sleeping-sickness. Mr. Swynnerton is inclined to regard any campaign of slaughter directed against game as likely to increase the spread of fly and to take the view that the fly would still have hosts to live on which cannot be exterminated. In any case, if the elimination of game were projected, it would be best to adopt the suggestion of a veterinary officer with whom we discussed the problem, and carry out an experiment on a small scale by a game "drive," such as has already been tried in Zululand, and observe the effects of a game-free area upon the tsetse.

It may be mentioned that tsetse fly has been exterminated on the small Portuguese island of Principe, off the West Coast of Africa, and in effecting this the wild pigs on the island were destroyed. But in this case the destruction of the pigs was only one of several measures adopted concurrently. In any event it is one thing to deal with an island and altogether another proposition to deal with a continent.

An interesting example of the interaction between fly and game is afforded in the Sese Islands, on Lake Victoria, from which the population was evacuated as a result of the sleeping-sickness outbreak

some years ago. The Sitatunga antelope increased in such numbers that the bush was kept under and the breeding thickets of the fly destroyed. Now that the country is being reclaimed and the game is retreating in front of man, these breeding thickets are again springing up.

A second method is that to which reference has been made above, namely, the elimination of the fly by breeding in a laboratory large numbers of a parasite destructive to the puparia of tsetse, and turning the parasite adrift into a selected area. Unfortunately, through a failure in the supply of the laboratory-bred parasites, experiments on a field scale have not yet been undertaken and we are therefore not in a position to express any opinion as to the efficacy of the method. The experiment is interesting in its conception, however, and Dr. Lamborn should be provided with all facilities for testing its practicability.

It has been suggested, following upon some observations of a Kenya settler in South America, that wasps should be introduced into tsetse areas with the object of eliminating the fly. From Mr. Hawtrey's observations in South America he came to the conclusion that the wasps favour a particular species of fly there which closely resembles the tsetse. This is obviously a matter requiring careful consideration.

Another method, which is advocated by Mr. Swynnerton and Dr. Shircore, is one which has the advantage of having been already tested by means of fairly large scale experiments. It aims not only at the destruction of the fly, but also of its breeding and dry season centres. The ideal breeding conditions for most species of fly are thickets with humus, and for *glossina morsitans* rather particularly lying logs and other slight shelters. During the rainy season rough stony country also becomes a habitat of the fly. Fly does not breed in cultivated ground and high forest unless such high forest is very limited in extent and much broken up. Over the greater part of Tanganyika, where the experiments have been carried out, there is only one rainy season. All over East Africa the habit of the natives is to burn grass some time before the commencement of the rainy season, but, as a rule, these grass fires are confined to small patches and there is no attempt at co-ordinated grass burning. Consequently the patches of burnt-out scrub or pasture are surrounded by potential breeding places for the fly. The most important experiment now being undertaken in the Tanganyika Territory consists of attacking a large fly area by the cutting and, if necessary, burning out of a wide belt of scrub, and then making a concerted attack upon the fly. Two experiments have been carried out of this kind, one of which was tried by the Roman Catholic Father Cirvegna, of Madibira, near Iringa, using his school boys as staff. He appears quite definitely to have cleared off fly from a whole patch of country a dozen miles in width. The natives are now using this fly-free area for their cattle, and they are so impressed that they have freely offered their co-operation for any extension of the work. The other area dealt with was that in the district around Shinyanga and Nzega. Fourteen or sixteen hundred square miles of country were preserved by order from early and spasmodic burning. The country was then burnt on a systematic plan and a broad front, care being taken to secure

that no portion escaped the fire. This produced on the fly the effect of a drive, and burnt out the thickets and breeding places. Large stretches were practically cleared of the tsetse, and these were congregated in immense numbers in small patches that had been burnt before, beyond the limit of the fire. In other words, the fly congregated in what were, in effect, "traps," and could have been completely exterminated in these traps had the necessary materials for catching them been available. Following upon the extermination, every effort is being made to induce natives to return quickly to the burnt-out and cleared area and to start cultivation immediately with cattle-drawn ploughs. This has the dual effect of keeping down the bush which harbours tsetse, and keeping off game which act as carriers. In going over the burnt-out areas we were much impressed with the results achieved. Already a flourishing ploughing school with a number of cattle has been started successfully, and the chiefs of the local tribes whom we met, particularly Sultan Makweia, an outstanding personality in this area, seemed keenly alive to the possibilities of the experiment. Every effort is being made to prevent the fly from encroaching upon the cultivated areas once they are re-established. With this end in view certain precautions have been taken to prevent the mechanical transference of fly from infected to uninfected areas. It is a well-established fact, and one which we were able to note for ourselves, that tsetse is attracted by any fast moving object, such as a motor car, train, persons on bicycles, or migratory game. Tsetse guards, mainly boys of about fourteen years of age, in uniforms with the letter "T" marked upon them, are used to guard the main approaches to the cleared areas. It is their duty to remove all fly from passing carriers at tsetse control posts, and game guards do their best to prevent game from entering the area. The success of these experiments is, in our opinion, an indication of what might be done all over Tanganyika and in other territories without large extermination of game, if the various Governments are prepared to adopt them, modified, if necessary, in accordance with the climatic and physical conditions of their respective districts. We are convinced that there is no time to be lost. Livestock represents more to the native than mere money. His flocks and herds are not only his banking account; they also feed his wives and children, while the sale of his surplus could provide the wherewithal to meet his liabilities and taxes. In certain instances cattle have a tribal, and almost a religious significance to their owners. The destruction of cattle by fly produces not only a marked depreciation in the physique of the tribes due to a shortage of meat, blood, and milk, but also a marked effect upon the infant mortality rate. For similar reasons, and because of the tribal and social significance of cattle, it has a marked effect upon native morals. Major G. St. J. Orde-Browne, Senior Commissioner, Tanganyika Territory, expressed the opinion that the decline of the Tanganyika section of the great Yao tribe inhabiting the Ruvuma district can be traced to the destruction of their cattle in the fly areas and the consequent breaking down of the dowry system upon which most of their marriage customs were based.

In view of the urgent necessity of grappling with the problem, which is probably the most serious threat to the population in our

East African territories, we hope that every encouragement will be given to the work of extermination which is being carried on in the Tanganyika Territory, by the provision of the necessary funds, so that the work can be extended.

At the same time no effort should be spared to adopt similar measures in the other territories, directed to the same end. We realise that side by side with the work of extermination there must be carried on a large amount of research work. We suggest that the Veterinary Research Laboratory at Mpapwa in the Tanganyika Territory should be extended and equipped to deal with the problems arising in connection with tsetse fly. We were informed by Mr. H. E. Hornby, Veterinary Pathologist, Tanganyika Territory, that he was not without hope that a cure of animal trypanosomiasis may be effected by suitable treatment. The excellent modern bacteriological laboratory which has recently been established at Entebbe, Uganda, should, we consider, become the centre of further investigation in connection with human trypanosomiasis. We regard the tsetse domination as constituting a menace not merely to East Africa, but to all those countries which look to East Africa as the source of supply of food and raw materials. We suggest, therefore, that very careful consideration be given to the question of raising the necessary funds for coping with all problems arising in connection with the tsetse fly, and that the possibility of international co-operation in dealing with this pest should be examined. In any case, we are of the opinion that a further Commission of experts is required to carry the work of investigation further than it has been so far carried. Such a Commission should include in its objects:—

1. A complete survey of the fly areas of Tropical Africa.
2. Further research into the bionomics of the tsetse fly, and especially the physical conditions which make for its increase or decrease.
3. Experiments on a field scale with regard to the extermination of the fly, and
4. Treatment of both human and animal trypanosomiasis.

The Commission would, no doubt, study methods of attack and control in co-operation with the various Government services (*e.g.*, administrative and political services, and the agricultural, education, forestry, game, and medical departments).

We appreciate that such a Commission would not be able to complete its work rapidly, and we regard it as a matter of urgency that, without waiting for the results of the Commission, the several local Governments should press forward the attack on the tsetse fly. Local tsetse fly surveys should be made in each of the dependencies concerned, and such further scientific investigations should be taken in hand by the local authorities as may be considered necessary. In each dependency in which an attack upon tsetse fly is conducted, there should be the closest co-operation between all the various Government services concerned, and the assistance of local missionaries should be secured. Further, we have no hesitation in saying that the menace from tsetse fly is sufficiently real to justify the introduction of some measure of compulsory labour, should voluntary labour not be forthcoming, for the extermination or reduction of the fly, just as

in Egypt there is provision for compulsory labour in times of calamitous visitations of locusts.

No doubt the funds for the Commission which we propose will have to be obtained primarily from a special annual grant by the Imperial Government, but it is to be hoped that it may be found possible to supplement any such grant from other sources. We must again emphasise the fact that the inauguration of any Commission, either by the Imperial Government or by international effort, should not afford any local Government an excuse for postponing action involving expenditure from its own funds in regard to tsetse fly.

CHAPTER VI.

SCIENTIFIC RESEARCH AND AMANI INSTITUTE.

In our opinion there are few subjects of greater importance to the development of the East African territories than scientific research. It is clear to us that far greater efforts must be made, both by the Imperial Government and by the local Governments, to organise more effective services in this respect.

We do not propose to deal at length with those aspects of scientific inquiry which are academic in aim, not because we do not consider the purely cultural pursuit of knowledge of the greatest importance and significance, but because we realise that the Governments in Africa will quite legitimately desire to devote their attention to those applications of science from which they can reasonably expect an early return for their expenditure. The discoveries of important dinosaur remains in East Africa, or a Taungs skull, while of the greatest interest to the world and particularly to our knowledge of Africa, can only appear of secondary importance to Governments facing the difficult financial problems inherent in their economic development.

We wish to state at the outset that anthropology should be considered as a subject having the most important applications in the sphere of administration in our tropical possessions, and should not be regarded as a study of purely academic interest. The peoples for whom we have made ourselves responsible are not homogeneous, but are divided into numerous sections, highly diversified in type, with wide differences of language, social customs, and religion. We are emerging from the idea that the scientific study of these peoples is of no value to ourselves, and we are gradually awakening to a greater appreciation of the various causes to which can be attributed their physical and mental characteristics, and of the relation of their civilisation to our own. Their successful government is dependent upon the degree of understanding which our administrators bring to their tasks. The study of native races in the tropics has been left too much in the past to voluntary effort. We consider that increased efforts should be made to encourage administrative officers, either by special grants or otherwise, to undergo a course of training in modern methods of anthropology and to carry out scientific investigations..

While every encouragement should be given to the research workers, who do, in fact, bring to their task an enthusiasm which is beyond praise, we suggest that their labour should be supplemented by properly organised and systematic observation in which every administrative officer and scientific officer could play a part. The researches of the Hon. Charles Dundas on the Wachagga, of Mr. Hollis on the Masai and Nandi, of Major Orde Browne on the Yaos, and of Mr. Driberg on the Teso and Lango, are all invaluable records, indicating what could be accomplished by officers in the various Government services if they are given encouragement, and are properly guided by experienced investigators at home and in East Africa.

There are other directions in which Government officers could greatly assist the work of research in the territories. We were struck by the paucity of systematic records regarding rainfall, crop production, and the relation of crops to soil and climate. We suggest that meteorological records could be supplied to an officer stationed at each centre of Government, and that, where no European officer or settler is available, records might be taken by trained native assistants. Samples of soils and specimens of interesting plants could be collected under the direction of the administrative officer in each district and forwarded to some central laboratory. Much could be done also to assist the work of the geological departments, where they exist. In fact, without very much labour on their part, Government officers could be of the greatest assistance in enabling more or less complete records of the flora and fauna to be compiled, and could also supply specimens for the assistance of entomologists, protozoologists, and bacteriologists.

A complete economic survey of the territories, a survey which would not merely deal with existing and potential economic development, but would relate these two factors with that of population, native customs, and tribal organisation, could thus be carried out. We realise, however, that the task is at present beyond the capacity of the present small scientific staff, and that the cost of sufficient special staff, except in rare cases, would put too great a strain upon the financial resources of the territories. If, however, the scientific staffs, where they exist, were able to rely upon the cordial co-operation of the other departments in compiling preliminary records, there is little doubt that such records would be of the greatest assistance to those territories where it may become feasible to undertake more thorough and systematic surveys.

We were encouraged to find that there is a growing demand on the part of the unofficial Europeans in East Africa for the services of scientific and technical experts in connection with crop production, animal husbandry, the exploitation of minerals and forests, the conservation of water supply, the improvement of existing industries, and the development of new ones. We found that the official classes are beginning to realise that the scientific services are not a luxury to be dispensed with in time of financial stringency, but rather a necessary preliminary to production and development in the territories. The attention which the Tanganyika Government is giving to the tsetse fly problem, the provision by the Uganda

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Government of modern bacteriological and veterinary research laboratories at Entebbe, the recent appeal of the late Sir Robert Coryndon for financial support of the Amani Institute, and his despatch to the Secretary of State in which he stressed the importance of a unified research service for the Lake Victoria territories, are outstanding examples of a progressive attitude towards scientific research.

In these three territories particularly we found that the staffs of the Agricultural and Medical Departments are being augmented by the addition of scientific experts. The local Governments are fully appreciative of the assistance which is being given by such bodies as the Empire Cotton Growing Corporation.

The situation both in Northern Rhodesia and in Nyasaland is different. Practically nothing in the direction of research is being done, and no provision is yet made for such services by the Government of the former territory.

The comparative neglect of the research services in Northern Rhodesia and Nyasaland can be attributed in the main to their financial dependence on the Imperial Treasury and the consequent reluctance with which the Governments put forward any proposal for new expenditure of such a kind.

We fear, however, that in Nyasaland there is not sufficient appreciation of the value of such work, and we found that even the valuable services of the geologist stationed in the territory were not sufficiently appreciated.

Nyasaland has a medical entomologist, Dr. Lamborn, who is carrying out work in connection with the tsetse fly, tick-borne diseases, and malaria. Dr. Lamborn has suggested, as the outcome of certain experiments into animal trypanosomiasis, that there is a strong probability that ticks are an alternative vector to tsetse fly in the transmission of this disease. This opens up a field of inquiry which should be pursued with all possible energy without delay, as it may have an important bearing upon the problem of sleeping-sickness.

In 1923 the Principal Medical Officer stated that the appointment of a bacteriologist and the provision of a fully-equipped laboratory were long overdue. No research work in bacteriology and protozoology—both of the greatest importance—was possible under existing conditions, and diagnosis had too often to be made solely on clinical grounds or on mere morphological characters of micro-organisms.

In Tanganyika Territory there is a well equipped medical laboratory at Dar-es-Salaam under the able direction of Dr. G. Butler. He and one assistant, Mr. Howarth, are endeavouring to carry out entomological, bacteriological, and protozoological investigations, and a certain amount of chemical analysis, in addition to the routine work of preparing medical sera. There is urgent need for additional staff if continuity of work is to be ensured. We share Dr. Butler's opinion that a chemical laboratory should be added to the existing building. It was in Tanganyika Territory that the importance of bismutho-potassium sodium tartrate for the treatment of yaws was first realised, and its preparation has to be undertaken

locally. In particular, the services of an analytical chemist are required in this department. Dr. Butler's research investigations in connection with yaws and syphilis are of the greatest importance. He holds strongly to the opinion, based on the identity of the spirochæte of yaws with that of syphilis, that these diseases are different manifestations of the same infection. It should be pointed out, however, that there is a divergence of opinion on this point among research workers.

In Uganda important medical research is being undertaken by the staff at the Research Laboratory in Entebbe. New buildings have lately been provided and are well equipped. Dr. H. Lyndhurst Duke, who is in charge of the laboratory, is carrying out investigations in connection with sleeping-sickness, and has recently discovered an endemic form of non-fatal human trypanosomiasis. In addition, there is a laboratory at the Mulago hospital for investigations in connection with the treatment of venereal disease. Successful experiments have also been carried out by Dr. Marshall in regard to the treatment of plague by the intravenous injection of salvarsan substitutes. In comparison with other territories Uganda is well staffed with medical research officers, but even here more staff are required.

Additional scientific staff are urgently required if the work of research is to be successfully undertaken in Kenya. The retrenchments carried out in 1922 added greatly to the duties of the small research staff, who had thereafter to devote the greater part of their time to ordinary medical practice. Research officers cannot hope to fulfil their function if the burden of routine work is placed on their shoulders. The medical research laboratory at Nairobi is not suitably sited, being in one of the busiest parts of the business quarters of the town. The sale of the present site would probably supply the necessary funds for the erection of proper laboratories elsewhere. We agree with the Principal Medical Officer that the placing of the laboratories in a more suitable position is an urgent necessity from the point of view of congestion alone. Taking everything into consideration, it is not surprising that the volume of research is disappointingly small. There is a real need in Kenya for a medical entomologist.

We were impressed by the number, complexity, and interest of the problems in connection with the investigation of disease in East Africa, and by the high standard of the workers and the exceptional quality of the research which is being carried out. We suggest for the consideration of the Colonial Office the possibilities of formulating a scheme whereby research workers from Great Britain would be encouraged to spend some time in original investigations in the laboratories in East Africa. We also suggest that the Medical Research Council should be approached with a view to its devoting to this purpose some of the funds put at their disposal. We need hardly emphasise the great advantage it would be to young research workers to spend a year or two attached to laboratories under the direction of men with great experience and knowledge of local conditions, in districts where cases for investigation are numerous and varied. We feel convinced, moreover, that the various faculties of

medicine in the universities and the tropical research institutions would be only too glad to co-operate further in working any such scheme put forward.

The veterinary departments in all five territories are better staffed than any other technical departments, but the time of the veterinary officers is almost entirely occupied in dealing with the common animal diseases and in the setting of quarantine areas. Practically no breeding experiments are being carried out under the auspices of the veterinary departments in any of the territories in spite of the fact that there is a vast field of research in connection with the breeding of immune types of cattle and the improvement of native stock generally. Some valuable experiments of this kind have been undertaken privately by leading European settlers in Kenya. We understand that the French Government are carrying out important experiments in the breeding of cattle immune from trypanosomiasis.

There is an excellent veterinary laboratory at Mpapwa in Tanganyika Territory, which was established by the Germans, where Mr. Hornby is carrying on admirable work in connection with immunisation and animal pathology generally. At this laboratory large quantities of rinderpest serum are manufactured, and new discoveries are being made in its preparation.

At Kabete, near Nairobi in Kenya, there is a veterinary research laboratory under the direction of Dr. Walker, who is carrying on similar work with conspicuous success.

There are no veterinary research laboratories in Nyasaland or Northern Rhodesia, and the Chief Veterinary Officer in Northern Rhodesia is particularly anxious that a laboratory should be fitted up somewhere in the territory for pathological work in connection with animal diseases.

There is little co-operation between the five territories in the matter of veterinary research, and in this connection we would like to record that we were seriously informed at Livingstone that the Mpapwa Research Laboratory was lying derelict, and in Nairobi they were unaware of the important experiments which are being carried out by Mr. Hornby at that place.

A very useful new departure has been made at Entebbe by associating the work of medical and veterinary research in a single building. The proximity under the same roof is of great advantage to the prosecution of research into allied subjects. The underlying principle of such co-operation might be further extended by associating together all research workers, whether under the medical, veterinary, agricultural, or forestry departments, so that common use could be made of the central equipment. In Uganda, for example, it would appear that a central research laboratory, with expert staffs for work in connection with all these departments, would result not only in economy in working, but also in a general improvement in the quality of the research. In Kenya, Nyasaland, and Northern Rhodesia, we feel that there should be no difficulty in applying the same principle. Tanganyika presents a difficulty, inasmuch as the Veterinary Research Laboratory is ideally situated at Mpapwa, while the Medical Research Laboratory must be maintained at Dar-es-Salaam.

In Kenya we have already seen the results of both centralised and departmental research. In the light of this experience, we are definitely of opinion that, in the present stage of development of East Africa, there is every advantage to be gained by maintaining central laboratories. In 1920 a Chemical Research Department was established at Nairobi under the direction of Mr. V. H. Kirkham. This department carried out work in connection with public health and agriculture, and did toxicological work for the police. Other possibilities of work in connection with assaying the examination of stores for the Public Works and Railway Departments were suggested. But before these other activities were well in hand Mr. Kirkham was transferred to Zanzibar. Thereafter the staff and work were distributed among the various departments, and the result is most unsatisfactory. The research workers are dissatisfied with the new arrangement and assert that too great a proportion of their time is occupied in routine work, which could be done by one routine worker for all three departments concerned if the three chemists were not working as independent units. There are other more potent objections. Small departments, such as exist in East Africa, cannot hope to offer the prospects necessary to attract the best type of research workers. There can be no adequate means of checking the quality and quantity of the work performed. There can be no opportunity of transferring men whose idiosyncrasies may make them unsuitable as colleagues in a particular department. Above all, those qualities which make for enthusiasm in research are rare and should be given an outlet other than that provided by promotion to executive or administrative departmental posts. It is, indeed, rare that, where a research department is placed under the control of a many-functioned department, the best results are obtained.

The outstanding example of neglected opportunities in research work in East Africa is to be found in the Amani Institute near Tanga in Tanganyika Territory. In spite of the efforts of successive Secretaries of State for the Colonies, this world-famous research institution is, for all practical purposes, lying derelict, its laboratories unoccupied, its costly apparatus dismantled, the living quarters deteriorating, the magnificent and priceless collection of books and scientific records and specimens unused. Instead of supplying the five territories in particular, and the scientific world in general, with contributions to their knowledge of tropical plants, soils, and insects, of the greatest scientific and economic importance, its only output at present consists of penny packets of seeds. In place of a former scientific staff of considerable eminence, there is one European officer, Mr. Rogers, an ex-Kew gardener—to whose work under exceptional difficulties and in face of every kind of discouragement we should like to pay tribute—an isolated monarch of a once splendid domain.

The Amani Institute was founded by the Germans in 1902. It is situated on the edge of the Usumbara plateau, about 28 miles from the port of Tanga in Tanganyika Territory. The grounds of Amani extend from Sigi, at 1,300 feet above sea level, up a steep slope to an altitude of 3,600 feet, thus providing a wide range for

testing the adaptability of plants to altitude under tropical conditions. For the purpose of extending such investigations to conditions found in the lowland plains, a small station at Tengen, 15 miles distant, practically at sea level, is attached to the Institute. The main buildings, including the laboratories and most of the residences, are situated in a group at a height of 2,977 feet. There are eight residences in addition to the three laboratories and workshops. In all, the German Government are stated to have spent £120,000 for its establishment and development.

The Institute grounds comprise approximately 750 acres, of which 250 acres are under cultivation and the remainder is virgin forest of remarkable beauty and variety. The mean annual temperature at Amani is 67.8° F., with an average daily maximum of 75.8° F. and an average daily minimum of 61.1° F. The average humidity is 86 per cent. The average annual rainfall is 76.5 inches.

It was a tropical scientific institute superior to anything in the British Colonies and Protectorates, and comparable with Pusa in India or the Dutch establishment at Buitenzorg in Java. The work of the Germans included the introduction and cultivation of foreign tropical plants or trees of economic value. The cultivated grounds are planted with a considerable variety of herbs, shrubs, and trees, both exotic and indigenous. They include small plantings of a large number of the better-known tropical shrubs and trees such as coffee, tea, cocoa, plants of medicinal value, rubber, fibres, spices, plants producing oil, tannin, dyes, gums and resins, as well as a variety of fruits, timber trees, ornamental shrubs, economic and ornamental palms. About 25 acres are planted with cinchona, stated by the officer in charge to have given a greater yield of quinine than Java plants. On the scientific side the work included investigations into plant breeding, the study of plant-pests and diseases, methods of cultivation and fertilisation, the analysis of soils, and the technical study of indigenous plants. In addition to the research work, lectures were given by the staff to local planters. The European staff was under the direction of a man of high administrative ability and world-wide reputation, and included two chemists, two botanists, a protozoologist, an agriculturist, and several gardeners. A periodic journal or bulletin was issued.

In addition to the area under economic plants, a great deal was done at Amani to commence the investigation of forestry problems. Different varieties of timber have been planted experimentally, and the natural forest within the area of the Institute is of exceptional variety and interest.

Some idea of the resources of the Institute will be gathered from its activities on behalf of the German troops during the first eighteen months of the war. There were prepared for use from its own products 16 varieties of foodstuffs and liquors, 11 varieties of spices, 12 varieties of medicines and medicaments, 5 varieties of rubber products, 2 of earthenware vessels, 6 of soap, oils, and candles, 3 of materials used in making boots, and 10 of miscellaneous substances. Many of these were prepared in comparatively large quantities, *e.g.*, 15,200 bottles of "whiskey" [*sic*] and other alcoholic liquors, 10,252 lb. of chocolate and cocoa, 2,652 parcels of tooth powder, 10,000 pieces of soap, 300 bottles of castor oil, etc.

When a Civil British Administration was set up during the war in the occupied area of German East Africa the Institute was placed under the Agricultural Department. In 1920 a staff of a Director, an Assistant Director, and a Head Gardener was sanctioned, and Mr. A. Leechman was appointed Director. In the same year Sir David Prain, late Director of the Royal Botanic Gardens, Kew, presented a report on the re-organisation of the Institute to Lord Milner, in which he stated that the Institute should be re-established on its original basis as a Central Research Institution, serving the needs of Tanganyika, Uganda, Nyasaland, Kenya, and Zanzibar, the Governments of which should be asked to make annual contributions for its maintenance and an additional contribution towards the capital cost of reconditioning and re-equipment. Sir David Prain strongly criticised any proposal to place the Institute under the Department of Agriculture, on the grounds that it would stereotype its functions, retard its development, hamper its activities, and reduce the value of its services to the other territories. He therefore recommended that the Director should be independent of any department, but that for general administrative purposes he should be under the Governor of Tanganyika Territory.

The Secretary of State adopted the views of Sir David Prain, and on the 11th August, 1920, addressed a despatch to the Governors of Kenya, Uganda, Zanzibar, Nyasaland, and Tanganyika strongly supporting these views. It was estimated that the total annual contributions towards the cost of the Institute from the Administrations concerned should be £10,000, divided up as follows:—

	£
Tanganyika	3,000
Kenya	2,500
Uganda	2,000
Zanzibar	1,500
Nyasaland	1,000

Expenditure required for the initial expenses of equipment and repair was to be divided between the Administrations in proportion to their annual contributions. It was added that, if the Governors agreed to these proposals, the Secretary of State would ask the Colonial Research Committee to consider favourably the question of supplementing the contributions by "a substantial grant" from the funds at their disposal. The replies of Tanganyika and Uganda were wholly favourable, Zanzibar was prepared to make the contribution asked for in spite of the doubts as to the value of Amani to that territory, Kenya, after some delay, made provision for only one-fifth of the yearly contribution asked for, while Nyasaland made no provision for a contribution, pleading poverty and remoteness from the Institute.

As the outcome of these replies the Governors of the territories involved were asked to send delegates to a Conference at Amani with the object of submitting to the Secretary of State alternative schemes, including estimates of cost:—

1. For immediate action as to necessary repair and re-equipment of the Institute.

2. For its extension as originally proposed in August, 1920, and to state reasons for any objection or criticism in regard to the proposed extension.

This Conference was held on the 6th December, 1921, and proposals were forwarded to the Secretary of State and to the Governors concerned. As before, Tanganyika, Uganda, and Zanzibar were willing to make the contributions required, Nyasaland was not prepared to make any, while Kenya rejected the proposals on the ground that their financial position absolutely precluded any contribution at that time. This was in March, 1922.

The defection of two of the contributing territories led for the time being to Tanganyika carrying the burden alone, and the Institute remained an annex to the Agricultural Department, with the results anticipated by Sir David Prain. In 1924 the Governor of Tanganyika proposed to the Secretary of State that the Institute be closed down. The Director, Mr. Leechman, resigned. In pursuance of the policy of abandonment, the Prince Albrecht Estates, Kwamkora, covering several thousand acres and adjoining the Institute grounds, from which the Institute derives its water supply, and which it had been proposed by the delegates at the 1921 Conference should be added to the Institute, were added to the list of ex-enemy estates for sale. This estate is essential to any effective expansion of the Institute, and would be particularly valuable in carrying on experiments in the cultivation of cinchona. At present the British Empire is almost entirely dependent on the Dutch East Indies for its supplies of quinine. As a result of the visit of the Commission to the Institute the Acting Governor of Tanganyika was asked to withdraw this property from the list of estates for disposal.

In a letter to the Treasury, dated the 15th April, 1924, with reference to the Tanganyika estimates for 1924/25, Mr. Thomas stated that the abandonment of the Institute would, in his opinion, be a most serious mistake, both from the scientific and from the political standpoint. He detailed proposals for its continuance, and stated that the Colonial Research Committee were prepared to make two yearly grants of £1,000 to this end. He suggested that Tanganyika should provide £5,000 in their estimates for 1924/25, and, if the Treasury agreed to this proposal, he would be prepared to invite the Governor of Uganda and the High Commissioner for Zanzibar to contribute £1,000 each from the funds of their respective Administrations. We are glad to learn that in the Tanganyika estimates for 1925/26 provision has been made, with Treasury sanction, for £4,000 towards capital expenditure, and £2,000 towards annual expenditure, on the Institute.

We discussed the future of the Institute with the Acting Governor of Tanganyika, and with the Governors of Uganda and Kenya. All three were convinced of the necessity for the re-establishment of this research station on a sound basis, and the Governors of Uganda and Kenya were prepared to submit to their respective Legislative Councils proposals for its financial support. In addition, we found that planters in all three territories were much interested in the Institute. The Mombasa Chamber of Commerce, in particular, advocated a contribution from Kenya towards its upkeep.

We are of the opinion that the Institute should be of supreme value, not only to all the East African territories, but to scientific research in the British Tropical Empire throughout the world, and its abandonment would be nothing short of a disaster. It possesses great natural advantages of position for tropical research, and the plantations, if properly developed, could furnish valuable supplies of quinine. In other directions, in connection with forest and other vegetable products, the Institute could become of the greatest importance in the economic development of the tropics.

We recommend that the Imperial Parliament should make provision for a definite and substantial annual contribution to the upkeep of the Institute on a far more liberal scale than has hitherto been contemplated. A precedent has recently been established by the contribution to the Imperial College of Tropical Agriculture in Trinidad. We are satisfied that, if the Imperial Government give a lead in this matter, the local Governments in East Africa will loyally support their initiative.

We do not consider that the salaries proposed by the delegates to the 1921 Conference are adequate to attract the right type of personnel. It is a matter of supreme importance that an immediate endeavour should be made to secure the services of a Director of outstanding ability and scientific attainments, and that he should be given all the encouragement, financial and otherwise, which will enable Amani to rank foremost among the research institutions of the world. Such an institution will attract research students from all parts of the Empire, whose needs it should serve.

We do not suggest that the re-establishment of Amani on a proper basis would obviate the necessity for research staffs in the agricultural and forest departments of the East African territories. More staffs are urgently required, in Northern Rhodesia and Nyasaland particularly, for the many local problems in connection with economic crops and forest development.

The phenomenal increase in cotton production in Uganda has resulted in the appointment of several new scientific workers, but we suggest that their appointment must be supplemented with all dispatch by the provision of more research laboratory accommodation. We should, however, like to express our appreciation of what has already been done in this direction. Both at Kampala and at Serrere in Uganda admirable research work in connection with cotton breeding, diseases, and pests is being carried out, and on the basis of this work excellent pamphlets have been circulated for the information of planters, administrative officers, and missionaries, as well as to native producers.

There are large experimental plantations attached to each of these laboratories. Mr. Hargreaves, the entomologist at Kampala, informed us that the silk industry is being established in Uganda. The mulberry tree flourishes, and the silk obtained from the cocoons is of very fine quality. In addition to the silk obtained from the common silkworm, there is another type of silk being produced, known as Anaphe silk. This is obtained from multiple cocoons which are found in a large fibrous growth with an outer covering

of paper-like consistency, the habitation of which is the katasamite tree. The silk is buff-coloured, but can be dyed red and other deep colours. Before the war the German traders fostered this industry in the Mubendi district and it appears to have distinct possibilities of development.

At the Scott Agricultural Laboratory at Kabete in Kenya a small staff is carrying out most important work, which has, however, to cease whenever the particular officer is on leave. Mr. Burton is engaged on hybridisation and has already tried out experiments with 500 different varieties of wheats. With additional help he would be able to carry out work which is needed on a soil-crop survey. He is of the opinion that in many districts crops are being raised on unsuitable soils, and Mr. McDonald, the mycologist, confirms this and attributes many fungoid diseases of plants to this cause. Mr. Anderson, the entomologist, who has been with the Agricultural Department for 17 years, has been engaged in preparing a complete entomological record for the Colony. He has already classified 10,000 insects. At the present time he is attempting to obtain complete biological control of the mealy-bug which causes such havoc among *arabica* coffee bushes. Californian lady-birds have been imported to control the adult mealy-bug, and a new mealy-bug parasite from Sicily is being obtained to attack the same pest in an earlier stage of its development. Mr. Anderson is also attempting to introduce the silkworm industry into the Colony. It is obvious that with more staff this department would add greatly to the productivity of the country, and we are glad to note that an assistant entomologist is now being appointed. We are of the opinion that, if an experimental farm could be attached to the laboratory, much more could be accomplished.

The scientific staffs in Tanganyika are inadequate in number in every department, but particularly so in the Agricultural Department. Botanists, mycologists, and entomologists are urgently required in a territory with coffee and cotton among its principal exports.

We are convinced that in all the territories a travelling laboratory would be a great boon. There is a vast field of investigation in tropical Africa. The exploitation of the plant resources is as yet merely in its early stage. Bearing in mind the great efforts that are being made by the United States of America, France, and Belgium, we cannot but feel that more imagination is needed if our tropical possessions are to rank with those of other nations as regards scientific development.

In the departments of forestry there is practically no systematic research or scientific survey being undertaken. Forestry officers are agreed that the re-opening of the Amani Institute will be of special value in this work. Valuable reports by Professor Troup on the forest resources of Kenya and Uganda were issued in 1921, but very little has been done to follow up the valuable suggestions which they contain. In Uganda we visited the Government forestry station at Entebbe. At present it serves the function of a not altogether edifying museum collection rather than that of a forest experimental station.

Only two of the five territories visited retain the services of geologists, viz., Nyasaland and Uganda. Two years ago Dr. Dixey, the head of the Geological Department in Nyasaland, was informed that his continuance in his post, and the continuation of the department, were contingent upon the early discovery of some profitable mineral in the territory. About the same time in Kenya, at a time of general retrenchment, the appointment of geologist was abolished. Tanganyika is without a geologist, in spite of the existence of a healthy department under the late Administration.

Leaving out of consideration the possibilities of developing the metallic minerals and rare earths of the territories, and apart from the further consideration of the need of the territories for fuel other than wood, there are many other functions which fall to the Geological Department. Among these are water conservation and supply, the supply of lime and other fertilisers, and surveys of local building materials, including material for the manufacture of cement. The value of the Geological Department to the Railway and Public Works Departments cannot be sufficiently emphasised. The functions of the geologist must not be confused with those of the mining prospector.

We visited the Geological Departments of Dr. Dixey in Nyasaland and of Mr. Wayland in Uganda. Some idea of the work which Dr. Dixey has accomplished single-handed in the past year or two will be gathered from the following account of his work, which is taken from the annual report of his department for the year 1923 :

“ Dr. Dixey carried out investigations in connection with the survey of the Sumbu coal field, the coal-boring operations of the Chiromo coal field, the water supply of the Blantyre and Limbe areas, and the water supply of numerous estates and stations. In consequence of the urgency of these inquiries the opportunities for general survey have been few, but a fair amount of field-work in this direction was nevertheless effected: rapid traverses between Zomba and Sumbu, via Blantyre and Chikwawa, and between Zomba and Liwonde, survey of part of the Zomba plateau, and examination of certain sedimentary deposits in the neighbourhood of Dwangwa River.”

In the course of that year he published three bulletins dealing with the geological history, the mineral resources, and the water supply of Nyasaland. In 1924 he published a bulletin on weirs, dams, and reservoirs for estate purposes, presented a report to the Secretary of State on the Chiromo and Sumbu coal fields, carried out exceptionally interesting investigations in connection with the variations of the level of Lake Nyasa, and identified and prepared for the British Museum a collection of dinosaur remains which were brought to his notice.

Recently, in conjunction with the Agricultural Department, he has issued a pamphlet upon “ The Destruction of Natural Vegetation and its Relation to Climate, Water Supply, and Soil Fertility,” in one section of which it is shown how both surface and underground supplies of water may be more or less completely destroyed by the loss of soil and subsoil resulting from the destruction of

vegetation. This report is of the greatest importance to a country where spasmodic grass and forest fires are the rule rather than the exception, and the natural water sources on some of the plantations in the hilly country are drying up in consequence.

Until recently some of the local planters seem to have preferred to engage the services of water diviners and to employ water-finding machines, but Dr. Dixey has recently demonstrated quite clearly that they are completely valueless for the purpose for which they profess to be useful.

He has also been engaged in the investigation of the possibility of cement manufacture. At present all the cement used for building purposes in the Protectorate has to be imported from abroad at great expense. Samples of local limestones have been submitted to the Imperial Institute for investigation, and as a result of analyses it is shown that Portland and natural cement and hydraulic lime of good quality can all be made from certain Karroo limestones of North Nyasa. The most promising of the localities investigated, namely, Mpata, where coal of good quality also occurs, is only a few miles from Lake Nyasa; accordingly, cheap water transport would be available for assisting in the distribution of any cement manufactured there.

The investigation into the variations of Lake Nyasa is not only of economic importance in connection with the proposed canalisation of the Upper Shire River, which was navigable for large lake steamers drawing up to six feet of water for 90 miles from the Lake to Matope up to the year 1900, leading into Lake Nyasa, but is also of considerable scientific interest. Within the last 70 years the level of the lake has risen and fallen again through considerable distances, and it is obviously of great practical value to know what further movements can reasonably be expected to take place within the next few decades. The annual variations in the level of the lake appear to have decreased within recent times; they exceeded six feet in amount between 1885 and 1899, but they have only attained about three feet since 1915. It appears, however, that these variations are cyclic, and there is every reason to suppose that within the next few years the variations will be considerably greater than at any time since 1915.

Mr. Wayland, the head of the Department of Geology in Uganda, who is more fortunate with regard to staff, has been carrying out an interesting survey of the oil-bearing areas. Petroleum has been traced by tests over a horizontal distance of about 125 miles along the Lake Albert depression, and it is not improbable that the distance may be extended.

Mr. Wayland is also engaged in work in connection with the water supplies of the centres of population. He is investigating also the possibilities of the development of a coalfield at Luzinga, for which an expert driller is being appointed.

In East Africa it is abundantly clear that there is an immense field for investigating the mineral resources, which demands the services of geologists. In Tanganyika, for example, gold fields are

being exploited, there is an abundance of copper indications, tin is known to exist, and there are mica and asbestos in working quantity. The possibility of coal deposits, particularly in the Lake Tanganyika area, must not be overlooked, and, in view of the confident prediction of Mr. Wayland with regard to the petroleum areas in the Rift Valley, there is every need for the speedy establishment of a geological department.

Very little attention has ever been given to the possibilities of the development of the inland fisheries of East Africa. The three great lakes, Nyasa, Tanganyika, and Victoria, the last-named covering an area of 27,000 square miles, little less than the area of Ireland, contain a variety of species in great abundance. In addition to the great lakes, most of the smaller lakes and the rivers contain numerous species and quantities of fish. There is no reason why a considerable fishing industry, supplying native and non-native needs, should not be developed. In certain parts of the territories we found the natives anxious to supplement their diet by fish and willing to pay what we should consider disproportionately high prices for it. We noticed a number of natives carrying small dried fish from Lake Nyasa for sale at Blantyre, 120 miles by road south of the lake, and we were informed that there is a good deal of trade in this commodity. The methods of fishing employed by the natives are extremely primitive.

With a little encouragement from the Governments the methods of hauling and curing, transporting and marketing, could be vastly improved, with immediate returns to the country, both in revenue and in the improvement of health of the native population. If, in addition, canneries could be erected there seems every possibility, not only of an increase in internal trade, but also of the promotion of an external trade. A preliminary survey of the inland fisheries should be undertaken by experts, to include the classification of species and their quantity, their fitness for human consumption, their spawning grounds, their migration, etc., an investigation which would be not only of economic importance but also of great scientific interest. What is true of the inland fisheries applies with equal force to the marine fisheries along the extended coast line of Tanganyika and Kenya.

One of the great deficiencies throughout the East African territories is the absence of reliable vital statistics. It is extremely difficult to deal with problems of labour and native production in the face of the many conflicting estimates which are published from time to time. Statistics regarding the incidence of various diseases are inadequate, and the veterinary statistics are also capable of considerable improvement. Statistics to be of any real value must be scientifically compiled by men who have received some instruction in method. We fully appreciate the difficulties that have confronted the various Administrations in dealing with illiterate populations, among whom even records of age are unusual.

We must confess to a feeling of disappointment at the small amount of money which is voted by the Imperial Parliament to Colonial research. When the Colonial Research Committee was

established it was contemplated that a sum of £100,000 would be available in five annual instalments. In consequence, however, of the Geddes Committee the amount available was reduced to £2,000 a year, which is, in our opinion, quite inadequate for any appreciable effort for Empire development. There can be no doubt that increased provision under this head is one of the chief methods whereby Great Britain can assist her tropical possessions and her own trade. But, above all, it is essential that greater encouragement and better pay should be given to scientific officers, in order that a supply of trained men shall be forthcoming from the Universities.

We recommend for your consideration the desirability of strengthening, and extending the functions of, the Colonial Research Committee. We suggest that this Committee should not only advise regarding scientific appointments, act as a liaison body between the source of supply of scientific officers and the Colonies and Protectorates, and as a co-ordinating link between the Colonies and Protectorates and the tropical research institutions in Great Britain, but also formulate a definite policy and general programme for research, and, where necessary, make proposals and give advice to the Colonial Office regarding both.

CHAPTER VII.

NORTHERN RHODESIA.

Area—290,000 square miles.

European population, 1921 Census—3,634.
(Officials— 256).

Estimated native population—980,000.

Capital—Livingstone.

Northern Rhodesia, the administration of which was taken over by the Crown from the British South Africa Company on the 1st April, 1924, falls naturally into two main divisions:—

- (1) North-Western Rhodesia, which is traversed from south to north by the railway from the Victoria Falls to the Katanga border of the Belgian Congo.
- (2) North-Eastern Rhodesia, stretching from Lake Tanganyika on the north along the western frontiers of Nyasaland and Portuguese East Africa to the Zambesi River on the south.

By far the greater part of the European population is settled in North-Western Rhodesia along the railway line, being principally engaged in mining, ranching, and the cultivation of cotton on the plantation system. In North-Eastern Rhodesia there is a European settlement in the highlands near Fort Jameson, in the extreme south-eastern corner of the territory, and in the north there are about fifty settlers near Abercorn in the Tanganyika district, who are chiefly engaged in the cultivation of coffee. Of the native population approximately half belong to North-Western Rhodesia and half to North-Eastern Rhodesia.

From the economic point of view both North-Western and North-Eastern Rhodesia are severely handicapped by the distance from the sea coast. North-Western Rhodesia exports either northward for local consumption in the Belgian Congo or southward through Southern Rhodesia to Beira. The southern part of North-Eastern Rhodesia is at present dependent on road transport through Nyasaland, and thence by the Shire Highlands, Central Africa, and Trans-Zambesia Railways to Beira, while the northern part exports *via* Lake Tanganyika, Kigoma, and Dar-es-Salaam.

By far the most important economic resources of North-Western Rhodesia are its mineral deposits. There is every reason to believe that in the neighbourhood of Bwana M'Kubwa and for 200 miles to the west of it there are very valuable deposits of copper. The ore is of a high grade, and the development of the field is in its infancy. New plant reached Bwana M'Kubwa in 1924, and work has now begun. This new plant cost approximately a quarter of a million sterling in England, and a further £150,000 was paid in freight on the railways from Beira to Bwana M'Kubwa. As in the case of the celebrated copper fields of the Katanga, coal fuel is obtained from Wankie in Southern Rhodesia. Next in importance to Bwana M'Kubwa are the lead and zinc deposits of Broken Hill. Here again new plant has recently arrived, and the first shipments of Broken Hill zinc from Beira may be expected this year. A new mineralised area between Lusaka and the Zambesi is being explored, where there are evidences of gold, copper, and hæmatite, and prospecting is also being carried out in the Kasempa district in the north-west of the Protectorate.

As regards agricultural produce, North-Western Rhodesia finds its market very largely in the Katanga. Practically all the meat required for this mining area in the south-eastern Congo is obtained from North-Western Rhodesia, about 1,200 head per month being taken. Maize is also exported to the Katanga. Owing to the cost of transport to Beira the production of maize for export overseas has not been found profitable. A new impetus has, however, been given to agricultural development in the vicinity of the railway by the cultivation of cotton. In the season 1923-1924 experimental patches, comprising a total of some 700 acres, were planted, with encouraging results. This season it is anticipated that cotton will be picked from approximately 18,000 acres, the largest single estate being 1,700 acres, and that some 1,200 tons of cotton will be available for export. The planting takes place in November and the crop is harvested in April. The average rainfall in the cotton-growing areas is 30 inches per annum, which falls entirely between November and March, but we understand that this year this figure is being largely exceeded. The variety selected is chiefly "Watt's Long Staple." The Government of Northern Rhodesia have engaged the services of a cotton expert, Mr. T. C. Moore, who has had experience of cotton-growing in the Rustenburg district of the Transvaal, and the British Cotton Growing Association have given assistance to the planters in the purchase of ginning machinery, etc. Such samples of cotton from North-Western Rhodesia as have reached Liverpool have been reported on most favourably.

The principal export from North-Eastern Rhodesia is tobacco from Fort Jameson in the East Luangwa district. Thanks to the existence of the Customs Union between the Union of South Africa and the two Rhodesias, practically the whole of the export (1,000,000 lb. per annum) finds a market in the Union of South Africa. The tobacco produced is a bright tobacco, used solely for the manufacture of cigarettes, and the marketing is a monopoly in the hands of the United Tobacco Company. There is room for considerable extension of tobacco cultivation in North-Eastern Rhodesia if entry could be obtained in the European markets. The principal obstacle to this is the absence of cheap transport facilities, the present cost of carriage to the railway in Nyasaland being 3½d. per lb..

Native production for export is practically non-existent in Northern Rhodesia. In the absence of further transport facilities, only high-priced crops of guaranteed quality can stand the cost of freight. In the Tanganyika district, however, the London Missionary Society have encouraged the natives to grow cotton on a small scale, and we understand that a local planter is obtaining ginning machinery in England this year. The natives of this district, who number upwards of 100,000, have been under missionary influence since before the establishment of European administration. They are intelligent, and contain a higher proportion able to read and write than any other district of Northern Rhodesia. Owing to the scarcity of local employment and the present difficulty of producing economic crops for export, the more enterprising of these natives seek work on the plantations in the Tanganyika Territory, travelling very long distances on foot by way of Iringa towards Kilosa on the Central Railway. On their return they bring with them a knowledge of cultivation which they are anxious to turn to account in their own country. There can be no doubt that native production of cotton, groundnuts, and coffee could be undertaken successfully in the Tanganyika district, particularly in the valley of the Lufu River in the north-west, which is ideally suited for the cultivation of cotton. We are of the opinion that steps should be taken by the Government to encourage native production in this district and to provide the necessary technical assistance. We shall refer later to the routes by which the produce can be exported.

In North-Western Rhodesia the natives who live near the railway can obtain employment either on the mines or with the European farmers. Further west is the Barotse district, which is administered through Yeta, the paramount chief. The Barotse possess an elaborate tribal organisation, and they have their own courts with limited jurisdiction in civil cases. They are a pastoral tribe and depend almost entirely on their cattle. Unfortunately, their cattle are infected with pleuro-pneumonia, which is causing serious ravages in the herds, and it has been necessary to place a cordon round the district and to forbid the export of cattle until the disease is eradicated. Compulsory labour for the paramount chief and his indunas has been customary in Barotseland, but this is now being abolished by an agreement with Yeta, under which the right to exact such labour has been commuted for an annual payment of £2,500.

As we have stated in the section of this report dealing with native labour, the position in Northern Rhodesia is specially difficult in view of the lack of demand in the Protectorate itself and of the difficulty at present of exporting native produce. Many thousands of the natives leave the territory every year in order to obtain money by working elsewhere. The estimate given to us in September, 1924, was that 28,000 Northern Rhodesia natives were so employed outside the territory. At least 10,000 find work in the copper mines of the Belgian Congo, where the British Vice-Consul at Elizabethville acts as Inspector of Rhodesian natives and furnishes the Governor with reports on the conditions of employment in the Katanga. These appear to be good, although the natives experience considerable hardships in travelling to and from their homes. Large numbers of natives go to Southern Rhodesia to work in the mines and on European farms, while several thousands are employed on plantations, principally sisal and cotton plantations, in the Tanganyika Territory. As regards the latter, arrangements have been made between the Northern Rhodesia authorities and the principal employers in the Tanganyika Territory, whereby the natives receive half their pay in the Tanganyika Territory and half is paid to them on their return to Northern Rhodesia through the local Native Commissioners. These arrangements are understood to be working well.

As will be expected from the facts detailed above, the natives in certain districts have considerable difficulty in earning enough money to pay their tax. The present rate of tax in North-Western Rhodesia is 10s. per annum, while in North-Eastern Rhodesia it has recently been reduced from that figure to 7s. 6d. If a native has more than one wife he has also to pay an additional tax at the same rate in respect of each additional wife, but it seems proved that this tax on plural wives affects less than 10 per cent. of the taxable males. Further, we understand that, in view of the outbreak of pleuro-pneumonia in Barotseland and the remoteness of the tribes living on the Angola frontier, it is proposed that the tax shall be partly remitted in certain sub-districts of the Barotse district.

The native population would seem to be increasing, in spite of the widespread incidence of disease and the very high rate of infant mortality, which we were informed amounts in many districts to 75 per cent., due largely to ignorance and superstition. Malaria is general among the natives, and the Principal Medical Officer informed us that practically all the sleeping-sickness patients were chronic malarials. Syphilis is rampant, especially in the Kafue district in North-Western Rhodesia. Hookworm is a recent introduction, which seems to have first appeared in North-Eastern Rhodesia during the war. Since the influenza epidemic of 1919 a new disease has appeared among the natives, of which the principal symptom is splenic ulcer. The medical authorities appear to have had no previous knowledge of this disease, of which no less than 1,150 cases were reported in the first eight months of 1924, mostly in the Broken Hill area. We have dealt in a separate chapter with the question of tsetse fly, and we need only remark here that its eradication is a matter of the utmost importance for Northern Rhodesia. It is estimated that at least 30 per cent. of the total area of the Protectorate is under

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fly, accounting not merely for the mortality from sleeping-sickness, but also for the depopulation of many districts owing to the destruction of cattle.

The question of cattle diseases is also one of great importance in Northern Rhodesia. The number of European-owned cattle is approximately 75,000 and of native-owned cattle 280,000. The quality of the latter is bad, owing to ignorance of cattle-mastership and to intensive in-breeding. Apart from pleuro-pneumonia, which is rampant in Barotseland, the chief local disease is that which is known as "veldt-poisoning." This disease, which also exists in Nyasaland, has been known for about seven years, and takes the form of acute gastro-enteritis. It proves fatal in 80 to 90 per cent. of the cases affected, and principally attacks European and high-grade cattle. One European planter informed us that seven Friesland pedigree bulls, which he had imported to improve his cattle and for which he had paid £100 each, had all died of this disease. Rinderpest, foot and mouth disease, and East Coast fever are fortunately unknown in Northern Rhodesia at present. There is, however, a considerable amount of anthrax. A small Government field experimental station is maintained at Chilanga on the railway, but the technical apparatus available is inadequate, and we consider that efforts should be made to provide a fully-equipped veterinary laboratory, especially in connection with the investigation of veldt-poisoning.

Owing to the limited financial resources of the territory it has so far been impossible to provide adequate staffs for the Medical, Agricultural, and Veterinary Departments. The present establishment of medical officers, for instance, is only 13, a number which is obviously too small in view of the vast area to be covered. Northern Rhodesia at present receives loans-in-aid from the Imperial Government to meet the annual deficits on ordinary expenditure, which at present amount to approximately £100,000 per annum. In the improvement of all services, and especially that of public health, the Government is therefore confronted with a difficult task. But it is essential that the problem should be taken in hand without delay, and that a definite scheme should be prepared for developing these services.

What we have said above applies equally to the question of native education, which the Governor brought prominently to our notice. The Protectorate has recently been visited by the Phelps Stokes Commission, and their report is eagerly awaited in Northern Rhodesia. Apart from the Barotse National School at Mongu, which is maintained by the Government out of the Barotse Trust Fund, native education has in the past been left entirely to the various missionary societies operating in Northern Rhodesia. A scheme has now been prepared, entailing an expenditure of approximately £7,500 in a full year, for giving Government assistance towards native education through these societies, and a Director of Native Education has just been appointed. The subsidised mission schools will be open to Government inspection, and the education to be given in them will include the teaching of personal hygiene, agriculture, crafts, etc.

The Governor also brought to our attention the question of European education, and we should like to take this opportunity of

emphasising the importance of this in Africa. It is essential, in the interests of the native population as of the European, that there should not grow up amongst them an uneducated, mean white class. In our opinion European education should be compulsory, the schools, where sufficient European children, say 30, justify it, being built and equipped by the Government. In the more outlying districts, where the European population is too sparse to justify the erection of a school, arrangements might be made with local missionaries to provide the necessary education. Free education cannot be afforded by the Government, and fees should therefore be charged in respect of all European pupils, except in cases where the parents can prove that severe hardship would thereby be entailed.

But the development of Northern Rhodesia, as of Nyasaland, depends ultimately on the improvement of its communications. The absence of roads severely limits the capacity of the administrative staff, and roads are even more urgently needed for economic development.

The railway which traverses the territory from south to north is privately owned. The section from the Victoria Falls to Kalomo is owned by the Rhodesia Railways, Limited, that from Kalomo to Broken Hill by the Mashonaland Railway Company, Limited, and that from Broken Hill to the Congo border by the Rhodesia-Katanga Junction Railway and Mineral Company, Limited. All three sections are, however, controlled by one General Manager, who has his headquarters at Bulawayo in Southern Rhodesia.

One of the principal questions engaging public attention in Northern Rhodesia at the present time is the possibility of an outlet to the West Coast. Livingstone is over 900 miles by the existing railway from the nearest port—Beira. It is 1,646 miles from Cape Town. Of the two possible ports on the West Coast which are attracting attention one is Walfish Bay, in South-West Africa, and the other Lobito Bay, in Angola. From Walfish Bay a railway exists as far as Gobabis, not far from the border of the Bechuanaland Protectorate, and the public of both Northern and Southern Rhodesia are engaged in considering the possibility of connecting the Rhodesian railway system with Gobabis. The only line which would suit Northern Rhodesia would be a line direct from Wankie to Gobabis, which would bring Walfish Bay within a distance of 980 miles from Livingstone (about 50 miles further than Beira). The commercial possibility of such a line depends entirely on the possibility of the Wankie coal being produced and delivered at Walfish Bay at a price which could compete in the markets of the world. Existing costs of production at Wankie are not encouraging in this respect. Public opinion in Southern Rhodesia inclines to favour a connection between Gobabis and some point or other on the line between Mafeking and Bulawayo. Such a railway would be of no value to Northern Rhodesia, and could not possibly compete with the existing railway to Beira for the carriage of Northern Rhodesian produce. It could, in fact, only be justified on the traffic available from the south-western part of Southern Rhodesia, from the Transvaal, and from the Bechuanaland Protectorate. Apart from these commercial considerations, the question is largely one for the Govern-

ment of the Union of South Africa, who would have to decide, in the light of their existing railway system, whether such a direct east and west railway connection from Walfish Bay is desirable.

As regards the Benguella railway to Lobito Bay, it should be remembered that the objective of this line is the Katanga copper field in the Congo. The Belgian Government have given an undertaking that they will complete the section from the Katanga to the frontier of Angola as soon as the line from Lobito Bay reaches that point. In view of existing commitments there would, therefore, appear to be no possibility of diverting the Benguella railway in a south-easterly direction into Northern Rhodesia. It is proposed that the Benguella railway should join the existing line at a point a little over 100 miles north of Elizabethville. The distance from Livingstone to Lobito Bay would then be some 2,000 miles, or more than double the distance to Beira; Bwana M'Kubwa, however, would be approximately equidistant from Lobito Bay and Beira.

Provided adequate "feeder" roads are constructed, the needs of North-Western Rhodesia should be satisfied by the railway facilities that already exist. The position in North-Eastern Rhodesia, however, is entirely different. Owing to the absence of railways or roads the greater part of this area is on the one hand cut off from administrative headquarters and on the other is debarred from producing economic crops for export. We are satisfied that the potential resources of this territory can only be successfully tapped by means of a railway from the north end of Lake Nyasa to Dar-es-Salaam, the construction of which we recommend in this report, and that the benefits of closer administration can best be secured by the development of an adequate road system.

In the chapter on transport and communications we have already recommended the construction of a trunk road which should run from Livingstone through Broken Hill, Serenje, and Kasama to Karonga on Lake Nyasa. We are glad to learn that the road connecting Broken Hill and Fort Jameson *via* Petauke will be completed during the year 1925-1926, but we recommend that roads should also be constructed to connect Abercorn with Kasama and Serenje with Fort Jameson. These roads were partially constructed during the war, and the cost of their completion should not be unduly high. They should be made available for motor traffic throughout the dry season, and their construction should be pushed forward with all possible speed. It will, of course, also be necessary to construct "feeder" roads down to the collecting stations on Lake Nyasa.

We have already referred to the stimulation of native production in the country round Abercorn. If a road is built to connect Lake Tanganyika and Lake Nyasa it may be possible to export this produce by the new railway from Lake Nyasa to Dar-es-Salaam. Its present outlet, however, is *via* Lake Tanganyika and Kigoma, and, provided an adequate steamer service is maintained on the Lake, there is no reason why the production of economic crops for export in this district should not be greatly developed.

The present steamer service on Lake Tanganyika is provided mainly by the Belgian Great Lakes Company. There is a British service

provided by the s.s. *Mwanza*, but the cargo capacity of this steamer is only 30 tons. It would appear that there is need for extension of the British steamer service between Kigoma and Kasanga. Arrangements are being made this year by the Government of the Tanganyika Territory to refit the former German steamer, the s.s. *Von Götzen* (cargo capacity, 470 tons) for this purpose, and if this proves satisfactory we recommend that through rates should be arranged by the Tanganyika Government for such produce as cotton, coffee, and groundnuts, from Kasanga to Dar-es-Salaam.

One of the questions which is being discussed in Northern Rhodesia is the possible division of the Protectorate and the amalgamation of North-Eastern Rhodesia with Nyasaland, and, so far as we could ascertain, local opinion is opposed to any division. We shall refer to this matter again in the chapter on Nyasaland, but we would wish to take this opportunity of stating that, in our opinion, the time has not yet come to consider such a proposal, and that no division should be made at present.

As regards the question of land in Northern Rhodesia, a Native Reserves Commission, under the chairmanship of Sir Philip Macdonell, the Judge of the High Court, has recently been at work near Fort Jameson in that part of the East Luangwa district which is known as the North Charterland Exploration Company's concession. The principal function of this Commission is to set aside sufficient areas of land in this district, which is already to some extent settled by European planters, for the permanent occupation of the natives. As soon as the work of this Commission is completed, two similar Commissions will be required, one for the railway strip and another in the Tanganyika district, where the British South Africa Company are anxious that the rights of the natives living on the Company's large freehold areas should be defined and that sufficient land should be set apart for their occupation before further sales of land to settlers are effected. It has been the practice of the Company throughout the Protectorate to alienate land in freehold title. We recommend that, before this practice is continued by the Crown, consideration should be given by the Government of Northern Rhodesia to the introduction, in lieu of freehold, of a system of long leases, revisable at stated intervals, on somewhat similar lines to that contained in the recent Tanganyika Land Ordinance. It should be understood, however, that improvements effected by the lessees should not be made a ground for increasing the rent.

The forest resources of Northern Rhodesia are considerable, but as yet there is no Forestry Department or forestry policy. We suggest, therefore, that an early opportunity should be taken to obtain the services of an expert to report on the existing forests of the Protectorate, and to draw up a programme for the best economic use of local timbers and a policy of afforestation.

We may also refer to the possibilities that exist in Northern Rhodesia for the development of hydro-electric power. The Rhodesia Broken Hill Development Company are installing a plant on the Mulungushi River, which will develop 10,000 to 12,000 horse-power

throughout the year for use at the Broken Hill mine. To secure this amount of power considerable conservation has been required, and we understand that the scheme has involved a capital outlay of approximately £250,000. Hydro-electric power might also be developed from the Kafue River, and, to a far greater extent, from the Victoria Falls, if any local use could be found for the power.

In conclusion, the outstanding problems which confront the Government of Northern Rhodesia are the improvement of communications, the development of education and public health services, and the fight against the tsetse fly. On the successful solution of these problems the prosperity of the Protectorate ultimately depends.

CHAPTER VIII.

NYASALAND.

Area 40,000 square miles.

European Population—1921 census— 1,486. (Officials—132.)

Asiatic „ — 563.

Native „ — 1,200,000.

Administrative Capital—Zomba.

Principal Commercial Centres—Blantyre, Limbe.

The Protectorate of Nyasaland consists of a long narrow strip of territory along the west side of Lake Nyasa, extending southwards from the southern end of the lake down the valley of the Shire River, a tributary of the Zambesi, to Port Herald on the borders of Portuguese East Africa.

The European unofficial population is practically limited to the Shire Highlands, which rise between the Shire River and its tributary the Ruo. There is also a small settlement of tea planters on Mount Mlanje (9,000 feet high) in the extreme south-eastern corner of the Protectorate.

The sole means of export from the Protectorate is the Shire Highlands and Central Africa Railway to Chindio on the northern bank of the Zambesi River. From Chindio the produce is either ferried across the Zambesi during those months of the year when navigation is feasible, or more rarely shipped from Port Herald or Chindio down the Zambesi River to Chinde at its mouth. Chinde lies in the hurricane belt and has recently been practically destroyed; consequently the main means of export is by the Zambesi steamer ferry and thence to Beira *via* the Trans-Zambesia Railway. The cost of maintenance of the existing railways and ferries is extremely high, and consequently rates to Beira are prohibitive except for exceptionally high-priced crops. Even so, existing communications for all practical purposes only serve the southern quarter of the Protectorate.

In 1923 the values of the three principal exports were :—

Tobacco	...	...	...	...	£258,000
Cotton	...	...	...	...	£86,000
Tea...	...	...	...	...	£40,000

These figures are likely to show considerable increases in 1924. Taking value as the basis, approximately four-fifths of the exported tobacco crop is produced by European planters, all the tea, and rather more than half the cotton. The natural crop of Nyasaland, most suited to its soil and climate, is maize, but the present inadequacy and cost of transport have hitherto prohibited its cultivation for export overseas. Since we visited Nyasaland, the railway companies have fixed a flat rate for Nyasaland maize of 25s. 3d. per ton delivered in Beira. This represents a considerable reduction on the previous rate, but it should be compared with the rate of 10s. per ton which is in force on the Uganda Railway.

Perhaps the most serious feature in regard to agricultural development in Nyasaland is the declining yield per acre of both cotton and tobacco, especially the former, due to the continued cultivation of these crops on the same land without rotation. The absence of rotation crops is due to the inability to export them at a profit and the absence of an adequate local market.

Although both direct native taxation and customs duties are low, there is serious hardship in raising such taxation as is now imposed from a large portion of the native population. In view of the deficient communications the natives, though by tradition agriculturists and not pastoralists, can produce little or nothing for sale. The supply of labour greatly exceeds the local demand, and consequently wages are low, and for many natives employment is unobtainable. We were informed by the Provincial Commissioner for the Northern Province (the northern third of the Protectorate) that the Government would be fortunate if they were able to collect half the tax due from this area during 1924. In order to obtain money to pay the tax and to buy necessaries it is alleged that approximately 30,000 Nyasaland natives leave the Protectorate every year to seek work in other territories. Exact statistics are not available.

In 1924, for the first time for four years, the majority of the European planters were able to make both ends meet.

In spite of the utmost economy in the Government service, the Protectorate is unable to meet out of revenue its liabilities in connection with the Trans-Zambesia Railway guarantee, which at present have to be met by loans-in-aid advanced from the Imperial Exchequer. Unless something is done to ameliorate the hopelessly inadequate communications to and from Nyasaland the economic outlook for this potentially rich Protectorate is most serious, especially from the native point of view.

The Governor, Sir Charles Bowring, expressed the opinion that if it were not for the existence of British preference European production of tobacco would cease. In 1923 100 tons of native-grown tobacco were produced, and 300 tons were anticipated in 1924.

As must be expected, the quality of the native tobacco is not yet up to European standards, and everything depends on Nyasaland tobacco acquiring a good name for quality in the European market. The headquarters of the industry are at Limbe, where the Imperial Tobacco Company, and others, have their stripping factories. The average yield of tobacco from European holdings is only 350 pounds of leaf per acre. This low yield is due largely to the absence of rotation crops and to the enormously high cost of fertilisers. We understand that phosphate costs between £25 and £30 a ton in Nyasaland. The maximum yield recorded last year was five tons of leaf from nine acres by a planter in the Fort Johnston district. This was very exceptional, but there is no doubt that once communications are improved Nyasaland offers one of the most favourable opportunities for tobacco growing in the Empire. Both quality and yield per acre could be considerably improved by expert supervision, especially over the native cultivation, but at present there are no public funds available for this purpose. Grading, particularly of the native crop, is really essential.

The export of cotton lint in 1924 was estimated by the Acting Director of Agriculture at 3,000 bales. He estimates that Nyasaland might work up the production to 25,000 bales, the bulk of which would be native grown, if transport facilities were provided. Apart from the difficulty of rotation crops, Nyasaland is handicapped in cotton production by excessive rain during the picking period and the presence of red boll worm. The Protectorate, however, is at present free from the boll weevil and the pink boll worm. The bulk of the native cotton crop is purchased by the British Cotton Growing Association under an agreement with the Government, whereby they have arranged to stabilise prices to the native grower for a period of five years. The amount paid to the native grower is 2½d. per pound for seed cotton.

There are comparatively few cattle in Nyasaland, the main cause being native habit, the bulk of Nyasaland tribes being purely agricultural. A certain number of cattle exist, however, in the Mombera district to the west of Lake Nyasa. The outlet for the cattle trade, however, has recently been closed by the spread of tsetse fly in belts on either side of the cattle area from Northern Rhodesia eastward to the lake shore. The southern outlet was only closed by this spread of fly during the last two years.

Accurate vital statistics of the native population are not available. It seems to be declining, especially in the undeveloped areas. Infantile mortality is high. The most serious diseases are venereal disease, anklyostomiasis (hook worm), and leprosy, the last two being serious in the lake area.

Natives of Nyasaland are naturally progressive and can readily be trained to medical and sanitary work. There are some 70 rural dispensaries in the territory with native staffs, the native attendants being paid salaries ranging from 14s. to 45s. a month. Practically all these natives are educated at the mission schools and trained at the native Government hospital at Zomba.

With the exception of the Shire and the Mlanje Highlands and an area in the neighbourhood of Dedza, the climate of Nyasaland is unsuited to white settlement, and throughout the greater part of the territory economic progress must depend on the encouragement of native production for export. The native chiefs and native auxiliary staff available for Government service are impoverished and ill-paid, owing, of course, to the existing financial stringency. Potentially the Nyasaland natives, particularly the Yaos, the Amatonga, and the Angoni, are second to none in Africa in their capacity for education and improvement.

In Nyasaland everything comes back to communications, and we cannot urge too strongly upon His Majesty's Government the need for their improvement. The natural outlet for the northern half of the Protectorate, by which we mean the whole of the basin of Lake Nyasa, is *via* Dar-es-Salaam. In this connection we should like to make it clear that in our opinion the southernmost port on Lake Nyasa available for lake steamers of sufficient size to avoid risk in the storms which are apt to rise very suddenly on the lake is Domira Bay. We regard Domira Bay, therefore, as the southernmost collecting station for any cargo traffic that could be exported by our proposed new railway from Manda (Wiedhafen) to Dar-es-Salaam. Domira Bay to Manda by lake steamer is a distance of 220 miles, and thence by the proposed new railway the distance to Dar-es-Salaam would be approximately 450 miles. From Domira Bay south-west to Blantyre (the present railhead) would be 180 miles by the shortest possible road route, and from Blantyre to Beira by the existing railways and the Zambesi ferry the distance is 350 miles. We are, therefore, of opinion that the natural commercial watershed is somewhere in the neighbourhood of Domira Bay. The southern half of the Protectorate is dependent for further economic development on the construction of a bridge across the Zambesi River to connect the Central Africa Railway with the Trans-Zambesia Railway. We have already dealt generally with this in our chapter on transport and communications.

We must, however, deal in somewhat greater detail with the question of finance.

The three existing railways, namely, the Shire Highlands, the Central Africa, and the Trans-Zambesia, are all separate, privately-owned concerns. They are, however, combined for purposes of local management, and have one London office. The Shire Highlands Railway operates the Central Africa Railway on a commission basis.

The Shire Highlands line runs from Blantyre to Port Herald, a distance of 113 miles. The Government may, on giving 12 months' notice, acquire the railway, subject to the following payments :—

113 miles at £4,750 a mile	£536,750
5 years' purchase based on net receipts ...	£140,000
Capital expenditure since	£25,606
	<hr/>
	£702,356
	<hr/>

less deduction for depreciation to be assessed.

The Shire Highlands Railway Company's share capital consists of :—

	£
20,000 £5 shares fully paid	100,000
5 per cent. First Debenture Stock	536,750
5 per cent. Second Debenture Stock	175,000
	<hr/>
	£811,750
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The Company has capitalised debenture interest amounting to £175,000, and has never paid a dividend on the share capital or on the Second Debenture Stock. The right of purchase above mentioned cannot be exercised before the 1st January, 1937, except by agreement.

The Central Africa Railway, partly in British and partly in Portuguese territory, runs from Port Herald to Chindio, a distance of 61 miles. Nyasaland pays interest (3½ per cent.) and sinking fund on £180,800, paid to the British Central Africa Company at the time of construction by the Imperial Government for the surrender of certain lands. This charge, which will continue until 1957, absorbs £8,371 a year from the revenue of the Protectorate. The Government also has had to meet any deficiency between 4 per cent. per annum on capital expenditure of £500,000 and net earnings of the line for ten years. Large sums have been paid on account of this guarantee, which expired last year. As in the case of the Shire Highlands Railway, the Nyasaland Government has the right of purchase on or after the 1st January, 1937, on payment of certain sums, but subject to the concurrence of the Portuguese Government so far as that part of the line which is in Portuguese territory is concerned.

The Trans-Zambesia line runs from Muraça to Dondo Junction on the Beira-Mashonaland Railway, and was built under a concession obtained from the Mozambique Company. It is wholly in Portuguese territory, such territory being now administered under charter by the Mozambique Company. The Government of Nyasaland is responsible for 25 years for guaranteeing 6 per cent. per annum on the debentures of this railway, amounting to £1,200,000, should the net earnings of the railway prove insufficient to meet the charges. This guarantee has since been extended in respect of £200,000 additional debentures and £110,000 liability to the Beit Trust for the purchase of rolling stock.

By an arrangement with the Imperial Government half the revenue of the Protectorate in excess of £275,000 a year must be devoted to meeting charges in respect of these guarantees to the Trans-Zambesia Railway Company. If this proportion of the revenue is insufficient to meet the charges, the balance is advanced by the Imperial Government. On sums so advanced the Protectorate is charged interest and sinking fund at the rate of 7 per cent. per annum. By the end of the financial year 1924-1925 it is estimated that the Protectorate will have received advances on this account amounting to £300,000.

As will be seen from the above figures, the people of Nyasaland are already burdened with the necessity of paying very large sums in respect of a transport system which, owing to the gap at the Zambesi River, is wholly inadequate for their needs, and from which a very large proportion of the population derive no direct benefit. Under the existing arrangements with the Imperial Treasury, if it is considered necessary to impose additional taxation for special services, *e.g.*, native education, it is only possible to devote half the sum so raised for such special purpose, the other half being earmarked in connection with charges for the Trans-Zambesia Railway guarantee. We might point out in passing that as yet there has been no Director of Education and no Government provision for native or other education of any kind, such work being left entirely to the missionaries, with a small subsidy of £2,000 a year. We are glad to learn that since our return sanction has been given to the appointment of a Director of Education.

The present railway liabilities seriously embarrass the finances of the territory and, so long as the burden exists, the economic development of the country must be retarded. In any case, even apart from the political difficulties of acquiring the ownership of railways running through Portuguese territory by the British Government, it will be seen that the purchase of the railways within the Protectorate by the State is under present arrangements out of the question financially, and, if the Zambesi bridge is to be constructed, it will have to be constructed as a private undertaking, probably entailing still further guarantees.

As we have pointed out elsewhere, the agricultural resources of Nyasaland alone could not justify any such further guarantees, and the building of the Zambesi bridge is to our mind absolutely dependent on the development of Beira as a bunkering and coal exporting port and on the development of the coalfields which lie to the north of the Zambesi. The linking up of the Portuguese coalfield in the neighbourhood of Tete, 140 miles from the Central Africa Railway, is intimately bound up with the question of the bridge.

In our opinion the most satisfactory arrangement that could be reached would be to consolidate the existing and any further guarantees payable by Nyasaland or the Imperial Government and to effect a merger of all the private interests concerned in the three existing railways and in the Zambesi bridge, and the future railway to the Tete coalfield. We understand that there are, however, grave difficulties in the way of effecting this.

A Committee which recently sat at the Colonial Office has reported that no extension of the Shire Highlands Railway should be undertaken until the Zambesi bridge has been completed. This certainly represents the views of both officials and unofficials in Nyasaland. However, there is still a considerable divergence of opinion regarding the further railway development, if and when the Zambesi bridge is built. It is obviously desirable that the coalfield in Nyasaland in the neighbourhood of Chiromo should be connected with the existing railway as soon as that coalfield is opened up. This connection would be a comparatively small undertaking.

There are three possible routes for further railway extension in Southern Nyasaland. One is to follow the western bank of the Shire River in the direction of Dedza, and open up the rich low-lying potential cotton area to the west of the river.

The second is to continue the existing railway northwards from Blantyre into the valley of the Upper Shire and so to Lake Nyasa.

The third is to start a branch from Luchenza in a northerly direction to Fort Johnston or Pagonas at the extreme south-eastern end of Lake Nyasa.

We understand that the Committee which sat in London favoured the second of these courses. In any case we are opposed to the third, as neither Pagonas nor Fort Johnston can ever be made an effective port and road transport *viâ* Zomba should for some time to come be sufficient for the development of this area.

The existing facilities for cargo transport on Lake Nyasa are meagre, the only really serviceable ship for this purpose being the Government-owned steamer "Guendolen," of 350 tons burden. Should the railway be constructed between Manda and Dar-es-Salaam a further steamer of at least this size would be required.

When in Nyasaland we received a deputation from the Fort Jameson district of North-Eastern Rhodesia. This deputation had come 240 miles by road to meet us at Zomba. There can be no doubt that geographically and ethnologically the natural boundary between North-Eastern Rhodesia and Nyasaland lies along the western watershed of the East Luangwa River. But at present the planters of Fort Jameson gain by the entry of their one exportable crop, tobacco, into the Union of South Africa under conditions which they would lose if the territory were joined to Nyasaland. Further, the Chief Secretary of Nyasaland pointed out to us that the cost of administration would exceed the revenue derivable from the territory which it has been suggested should be transferred to Nyasaland, and that Nyasaland could not afford to bear this extra charge unless specially assisted by the Imperial Treasury.

Nevertheless, in the absence of a road between Broken Hill and Fort Jameson, the time and cost of getting between Fort Jameson and Livingstone would seem excessive. The minimum time occupied by the representative of North-Eastern Rhodesia on the Northern Rhodesia Legislative Council in getting from Fort Jameson to Livingstone *viâ* Blantyre and Beira is 11 days. The cost of a seat in the mail car from Fort Jameson to Blantyre is £15, and the railway ticket from Blantyre to Beira costs a further £10. There can be little doubt that the natural commercial outlet from the Fort Jameson district would be by road to Domira Bay and thence *viâ* Manda to Dar-es-Salaam.

One of the questions brought to our notice in Nyasaland was the question of grass burning. The greater part of the land being rich but as yet uncultivated open country, the grass grows to a great height every year, and during the month of September, when the grass is driest, the native custom is to burn this grass. One of the

principal reasons for burning is for protection against wild animals. We were informed that in Nyasaland between 200 and 300 natives are taken every year by lions and leopards during the long grass season.

Nevertheless, this ancient custom of grass burning, which it would be very difficult to modify, impoverishes the soil, as all the mineral salts left in the ash on the surface of the ground are washed off into streams with the first coming of the rain. The fires have done a great deal of damage to trees, the maintenance of which is essential to the conservation of water in the soil. In consequence of deforestation by burning, the Government has been compelled to undertake the planting of trees and to insist on the protection of the new afforested belts from the grass fires. The real solution of the problem is, of course, the greater cultivation of the land, but this is hindered by the inability of the natives to get any sale for crops they could cultivate.

The land question in Nyasaland is in an obscure and unsatisfactory position, and a settlement is urgently needed.

The Crown lands, which include about five-sixths of the area of the Protectorate, are chiefly lands formerly held by natives over which the Crown has assumed rights, in most cases without any cession of ownership by treaty. It must be presumed that the Crown has so acted in its capacity as guardian of the natives, and there is no reason to suppose that, because legal ownership has passed to the Crown, native interests on such land have suffered.

The Governor informed us, however, that there were already feelings of uneasiness among the natives regarding the future of their land, a feeling which has found expression at nearly every meeting of headmen since his arrival. He considers that the blocks of Crown land to be set aside for further European occupation should not be large or numerous, and that the amount of land which is suitable for that purpose, and which at the same time is not required for the present or future use of the natives, is not great. It is his considered opinion that the prosperity of the Protectorate depends on the development of its tropical agricultural resources, partly by a limited number of European planters, but principally by the natives themselves with European instructors. We share these opinions and consider that all Crown lands not yet leased, with the exception of the small areas referred to by the Governor, should be vested in a Trust Board with similar safeguards and powers to those which we have recommended in the case of Kenya, and so constituted as to command native confidence. It would, of course, be necessary to provide for the proclamation of forest reserves, for the establishment of Government stations and trading centres, for the construction of roads and means of communication, for the location of missions, and for individual holdings by natives.

In regard to the Crown leases it has been the policy in Nyasaland to demand a high rental and to give only a short tenure. This has led to the wasteful use of the land, as the lessee has no marketable security for assistance in its development. We are satisfied that the 99 years' lease system, with a fixed low rental at the outset per acre

and a periodical revision of rent according to valuation after allowance for improvements, would be the right system of land tenure for such further European settlement as is possible on Crown lands.

The private estates constitute a very special problem in Nyasaland. The largest of them is that belonging to the British South Africa Company in the North Nyasa district at the extreme north-western end of Lake Nyasa. It is understood that they own under recognised certificates of claim approximately three million acres.

Practically half the area of the Blantyre district has been alienated under certificates of claim, the largest landowner being the Livingstone-Bruce Estates Company, Limited, who own the freehold of approximately 320,000 acres in one block. The British Central Africa Company is also a landowner to the extent of approximately 170,000 acres in different parts of the Protectorate. It is believed that there are approximately 15,000 natives resident on the Livingstone-Bruce Estates. The Company take rent from the natives as tenants, but hold that they are free to cultivate the whole of the land themselves or to sell it to new settlers. In practice little of their land has been disposed of to other settlers and only a small proportion has been developed in any way.

The certificates of claim under which most of these private estates are held contain, as a rule, a clause forbidding disturbance of native villages or plantations without Government consent. It is the practice at present to treat all natives residing on such estates as tenants at will, but our attention has been called to the judgment of the High Court of British Central Africa in 1903, which laid down that the customary rights maintained by this clause reserved to resident natives freehold rights amounting to at least eight acres per hut, and that a proprietor could not claim a native as tenant on the ground that he had moved, if he had allowed him to do so without objection. As a result of this judgment and in order to settle the question of the native rights, an Ordinance (No. 5 of 1904) was passed, providing for setting aside a proportion of the private land as native locations, but this has never been carried into effect.

We are bound to say that there seems to be grave doubt whether the demands for rent at present made by many of the estate owners on the resident natives are sound in law, and whether the Government is justified in enforcing them. Our apprehension is increased by the fact that native rights depending on identical documents in Northern Rhodesia have been fully protected, the residents on estates being treated as freeholders and not disturbed without compensation. When the administration of Northern Rhodesia was transferred to the Crown assurances were obtained that this practice would be continued.

We cannot but regard it as anomalous that in southern Nyasaland the machinery of Government is being used to impose on native residents claims by landowners to rights which are, *prima facie*, not included in their titles, while such claims are not enforced in northern Nyasaland and are excluded in Northern Rhodesia. This condition of affairs is likely before long to lead to agitation and possibly to litigation.

The case is clearly one for compromise on a fair basis and for settlement by special legislation. The British South Africa Company, who have shown appreciation of the position of the natives, are most anxious to secure delimitation of the native rights on their land in Northern Rhodesia, and the principles adopted should apply to their adjacent estates in Nyasaland. We understand that over the greater part of the privately-owned area in Nyasaland, including the British South Africa Company's land, the supposed right to treat the native residents as tenants at will has not been exercised. This should continue until such time as the native lands within the estate boundaries can be delimited and placed under the care of the Trust Board, the landowners being in recompense guaranteed against further claims and exempted from the special land tax discussed below.

The complicated problem of the developed or partly-developed estates in southern Nyasaland will require more detailed treatment. The European freeholders have charged rent to the natives residing on their land. Such rent is usually paid in cash, but in some cases by so many days' labour. All European landowners have been required to pay land tax in respect of the whole of their estates, including the areas occupied by natives, and the Governor is of the opinion that the only method of dealing with the problem is to re-acquire from the landowners convenient blocks of sufficient area to accommodate the natives at present residing on the estates for whom accommodation acceptable to them and to Government cannot be provided elsewhere on Crown lands. The money for this redemption might be obtained by the introduction of a graduated land tax which, it was suggested to us in Nyasaland, might also make for development. One scheme suggested was that the first 500 acres should be free, the tax rising by $\frac{1}{2}$ d. per acre for each successive 500 acres. On this basis a 2,000 acre estate, which now pays £4 3s. 4d. per annum land tax, would pay a surtax of £6 5s. 0d., whilst a 10,000 acre estate, which now pays £20 16s. 8d., would pay a surtax of £104 3s. 4d. Such a tax would encourage the multiplication of holders of moderate areas of land, which is considered desirable in the interests of both European and native production. The large privately-owned estates would doubtless under pressure of this form of taxation be either partly released to Government for addition to the Native Land Trust, sold, or leased to new settlers or to progressive natives whose status would then be better defined than at present. If this proposal is considered feasible, we suggest that regard should be had to those estates where considerable capital expenditure and development have taken place, and these should be given rebates so that they should receive an advantage over those which have not been so developed. But, if the estates are to be freed from the rights of the resident natives, they must be prepared to pay an equivalent for these rights in one form or another. Such payment, whether in land or cash, should go to the Native Land Trust.

The numerous immigrants from Portuguese East Africa, mostly Anguru, do not share in the rights reserved in the certificates of claim, except in the rare instances where they have been adopted into

resident village communities. Their case will require special treatment, but it is desirable that as far as possible they should be absorbed into the general native population.

It would be a grave oversight on our part in dealing with Nyasaland if we did not refer to the very exceptional work done by the Christian missions. This work dates back to a time prior to the establishment of the British Government. The celebrated Church of Scotland Mission at Blantyre was under the distinguished leadership of Dr. David Rufell Scott from 1881 to 1898. The brick church of which Dr. Scott was architect was erected by native labour between the years 1888 and 1891. This is one of the most remarkable buildings in Africa, and there can be no doubt that the superior skill of the natives of Nyasaland in building and carpentering is due almost entirely to the work of these pioneer missionaries. The Public Works Department is fortunate in being able to secure the services of a considerable body of skilled native labour.

Other missions early in the field in Nyasaland were the Universities Mission, whose headquarters are at Likoma Island in Lake Nyasa, the Livingstonia Mission of the Free Church of Scotland, the White Fathers, the Marist Fathers, and a large Mission of the Dutch Reformed Church.

One is loth to criticise the endeavours of these bodies, to whom in the main is due such progress as the natives have so far achieved, but there is no doubt that some of the mission schools are in great need of more effective European supervision. We were informed that if the missions knew what was being taught by untrained native teachers in some of their so-called mission schools they would be aghast. It is clear to our mind that Government, in full co-operation with missionary effort, should undertake the task of more effective inspection and supervision.

There are a considerable number of Mohammedans, particularly the Yaos, in Nyasaland, and as many of the Mohammedans do not like sending their children to the mission schools there is at present no provision for them.

Nyasaland is not anxious at present to come into the East African Customs Union or to adopt East African currency. The former would involve a larger increase in duties than either natives or non-natives could at present afford. The currency of the Protectorate is that of the United Kingdom, and local opinion is averse to change. The Protectorate would, however, probably be willing to contribute modestly to any information and publicity bureau in London and to the Amani Institute. Lack of communications cuts off Nyasaland from contact with her neighbours, and consequently there is little possibility of greater co-operation in medical or other work or services. So, finally, we would repeat that the whole future of Nyasaland is bound up with the possibility of liberal Imperial assistance in the development of its communications with the sea.

CHAPTER IX.

TANGANYIKA TERRITORY.

Area—365,000 square miles.
 Population (Census 1921)—
 Europeans—2,447 (Officials, 621).
 Asiatics (Arabs and Indians)—15,000.
 Natives—4,107,000.
 Capital—Dar-es-Salaam.

Tanganyika Territory, formerly German East Africa, is the largest, most populous, and most varied territory under British administration in East Africa. It is larger than Nigeria (excluding the British sphere of the Cameroons), and has an area of about one-third that of British India.

Of the European population of 2,447 at the time of the 1921 census, 1,598 were British subjects, the remainder being chiefly Greeks and Dutch. Of the total European population (including officials) 555 were resident in Dar-es-Salaam, 387 in Arusha, 224 in Tanga, 209 in Moshi, 145 in the Morogoro district, and 158 in the Tabora district.

Of the Asiatics, 9,400 were Indians and 4,780 were Arabs.

The three most populous native districts are Mwanza—702,000, Tabora—502,000, and Bukoba—320,000. These three districts are contiguous and all situated in the north-west of the territory, the population being for the most part in the basin of Lake Victoria. The rest of the territory is extremely sparsely populated, large tracts of land being almost completely unoccupied. In these game, embracing a great variety of African fauna, abounds, and its control is a very special problem, requiring the constant attention of the Game Preservation Department. We were much impressed by the work which this department is performing.

No part of Africa suffered more severely from the ravages of the Great War than the Tanganyika Territory. Fighting took place more or less continuously over the greater part of the territory for over four years, and the loss of life, especially among the native population, and the destruction and decay of property were severe. The German forces were entirely dependent upon the local resources of the territory during the long campaign and the native population suffered very heavily from their requisitions of carriers and food supplies. It may be said that even yet the shadow of the Great War with its tremendous disturbances has not passed altogether from the territory. The country is only just beginning to recover from the economic effects of the disturbance, and 1924 was the first year in which both plantation and native production were able to make appreciable advances.

Tanganyika Territory is a "mandated" territory, and consequently Great Britain has a special responsibility before the world for insuring its good government and development. By Article 119 of

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the Treaty of Versailles Germany renounced all her rights in her overseas possessions, including German East Africa, in favour of the Principal Allied and Associated Powers collectively. At a Meeting of the Supreme Council at Paris in May, 1919, the Principal Allied and Associated Powers conferred the mandate upon His Britannic Majesty to administer that part of the former colony of German East Africa which is now known as Tanganyika Territory.

The conditions and terms of the mandate were finally confirmed by the Council of the League of Nations on the 20th July, 1922. The most important articles of the mandate are:—

Article 3.

“ The Mandatory shall be responsible for the peace, order, and good government of the territory; and shall undertake to promote to the utmost the material and moral well-being and the social progress of its inhabitants. The Mandatory shall have full powers of legislation and administration.”

Article 5.

“ The Mandatory

(1) Shall provide for the eventual emancipation of all slaves and for as speedy an elimination of domestic and other slavery as social conditions will allow;

(2) Shall suppress all forms of slave trade;

(3) Shall prohibit all forms of forced or compulsory labour, except for essential public works and services, and then only in return for adequate remuneration;

(4) Shall protect the natives from abuse and measures of fraud and force by the careful supervision of labour contracts and the recruiting of labour;

(5) Shall exercise a strict control over the traffic in arms and ammunition and the sale of spirituous liquors.”

Article 7.

“ The Mandatory shall secure to all nationals of States Members of the League of Nations the same rights as are enjoyed in the territory by his own nationals in respect of entry into and residence in the territory, the protection afforded to their person and property, the acquisition of property, movable and immovable, and the exercise of their profession or trade, subject only to the requirements of public order, and on condition of compliance with the local law.

Further, the Mandatory shall ensure to all nationals of States Members of the League of Nations, on the same footing as to his own nationals, freedom of transit and navigation and complete economic, commercial, and industrial equality; provided that the Mandatory shall be free to organise essential public works and services on such terms and conditions as he thinks just.

Concessions for the development of the natural resources of the territory shall be granted by the Mandatory without distinction on grounds of nationality between the nationals of all States Members of the League of Nations, but on such conditions as will maintain intact the authority of the local Government.”

Article 10.

“ The Mandatory shall be authorised to constitute the territory into a customs, fiscal, and administrative union or federation with the adjacent territories under his own sovereignty or control, provided always that the measures adopted to that end do not infringe the provisions of this mandate.”

Article 11.

“ The Mandatory shall make to the Council of the League of Nations an annual report to the satisfaction of the Council, containing full information concerning the measures taken to apply the provisions of this mandate. A copy of all laws and regulations made in the course of the year and affecting property, commerce, navigation, or the moral and material well-being of the natives shall be annexed to this report.”

Article 12.

“ The consent of the Council of the League of Nations is required for any modification of the terms of this mandate.”

We found both in the Tanganyika Territory and in the neighbouring British Colony and Protectorates grave misunderstandings regarding the nature and status of the country as a mandated territory. These misunderstandings have undoubtedly had a prejudicial effect on the investment of capital and the undertaking of commercial enterprise. We were asked whether it was true that the mandate was for a limited time only. We were asked whether the League of Nations could deprive Great Britain of the mandate and hand the territory back to Germany. It was even suggested in the “ East African Standard ” while we were in East Africa that the League of Nations had the power of imposing German or other nationality upon British subjects resident in Tanganyika Territory. It was suggested to us that the League of Nations could so interfere with the actions of the Administration as to hinder settlement and commercial enterprise. We did what we could to point out that there was no time limit to the duration of the mandate, that it was impossible for the League of Nations to alter the terms of the mandate without the consent of the British Government, and that it would be impossible to take away the mandate from Great Britain without the unanimous consent of the Powers represented on the Council of the League of Nations, on which the British Government is permanently represented, and of the Allied and Associated Powers, including France and America, to whom Germany renounced her rights and who conferred the mandate on Great Britain.

While we are satisfied with the permanence of the title thus given to Great Britain to administer the territory, we are of opinion that the best further security to such title, should such be needed, lies in the good administration of the territory by Great Britain, and, above all, in the development and opening up of the country to all legitimate enterprise. As we have already said, a special trust is imposed upon Great Britain to secure the further development of the territory and the material, moral, and social advancement of all its inhabitants without distinction of race, colour, or creed.

The whole country is tropical, but there are two highland areas in the extreme north-east and south-west of the territory which are suitable for European settlement. The two highland areas may be defined as (1) the Usambara Plateau together with Mount Kilimanjaro (the Moshi and Arusha districts) in the north-east, and (2) the larger highland area in the south-west which stretches from Manda on Lake Nyasa as its southern, to Iringa as its northern, point, and westward to Tukuyu, formerly Neu Langenburg, in the Rungwe district.

In both these areas European settlement is climatically feasible and the land is capable of producing, under skilled management, very valuable crops of coffee and maize. The Kilimanjaro and Arusha areas are already settled to a considerable extent with Greek, Dutch, and a few English coffee planters. Much of the coffee can be grown under irrigation, and, given scientific care in cultivation, the yield per acre is high and the quality exceptional. Arusha coffee has been during the past year the highest priced coffee produced throughout the whole of East Africa, averaging some £10 per ton more than Kenya coffee. The industry is of special value to the territory as a whole, and every effort should be made to increase the area in the Arusha district growing this specially high priced crop. On Mount Kilimanjaro there is a very dense native population, and it is clear that no more land on that mountain should be alienated to non-native enterprise.

Owing to the absence of railway communications there is practically no settlement as yet in the south-western highlands. There is a considerable native population in their neighbourhood, namely, 237,000 in Rungwe, 148,000 in Songea, and 104,000 in Iringa. But owing to lack of communications and capital only a very small portion of these very valuable highlands are in any way developed by either native or non-native enterprise. In our opinion, there is room in the south-western highlands for both.

As in the German days, the principal export of the territory is sisal hemp. The following figures give the relative importance of the various domestic exports during 1923 :—

(1) Sisal hemp	...	...	...	...	£ 367,000
(2) Groundnuts	...	...	...	...	264,000
(3) Coffee	...	...	...	...	204,000
(4) Cotton	...	...	...	...	177,000
(5) Copra (coco-nut)	...	...	...	...	131,000
(6) Hides and skins	...	...	...	...	117,000

The minor exports are maize, beeswax, simsim, rice, and ghee. There are also small exports of gums, resins, gum copal, rubber, and mangrove poles. Elephant ivory is an important item, the domestic export in 1923 being valued at £51,000. Mining is in its infancy, being practically confined to mica and gold, the last-named from the newly-discovered alluvial fields in the Ufipa district and from a small reef deposit at Sekenke in the north-central district. This latter only began producing during 1924, and is now turning out about 800 ounces of gold a month. There are also gold deposits near Mwanza. Coal is known to exist in the Ufipa district and elsewhere,

but it has not yet been properly prospected. A belt of marble, which is of value for building and agricultural purposes, stretches across the territory from north to south. There appears to be an important deposit of cassiterite (tin ore) of high quality in the Bukoba district, but this is not yet worked. A complete geological survey of the territory is very desirable. The forests contain a certain amount of valuable timber, but as yet these have been exploited commercially to a very small extent only.

The figures available when we left Tanganyika Territory show that the value of the domestic exports during the first nine months of 1924 increased by no less than 60 per cent. over the corresponding period in 1923.

Sisal hemp is at present the most important industry and export of the territory. The yield per ton of leaf is higher in Tanganyika Territory than elsewhere in East Africa, and in quality and length is second to none in the world. Sisal is essentially a non-native crop, requiring considerable capital expenditure, the factory and machinery alone costing upwards of £10,000. Sufficient acreage around the factory has to be maintained in continual cropping to feed the factory to its economic limits, and a factory is not justified unless at least 2,000 acres of sisal of various ages are under cultivation for its supply. The greater part of the machinery is pre-war and of German origin, and most of it is efficient. A good deal, however, remains to be done by further mechanical invention to improve the yield per ton of leaf and to introduce further labour-saving devices. Most of the German plantations suffered terribly from neglect during and immediately after the war and are only now getting back into proper condition. However, new areas are being planted, and, if anything like present prices (£45 per ton) continues, the industry should prove most profitable to the territory and to all who embark capital in it. The bulk of the sisal is grown in the coastal belt on the drier lands, and it would seem that the best quality sisal is obtained under conditions of low rainfall, excessive rain making for too much fleshiness of the leaf.

Cotton is an increasingly important crop in several widely separated districts of Tanganyika Territory, though its area is at present limited by lack of means of communication and the small number of ginneries. Direct native production of cotton in the territory amounted to 42.8 per cent. in 1922/23 and 64.3 per cent. in 1923/24. The European production of cotton is chiefly in the Morogoro area. In 1924 the Department of Agriculture distributed 1,000 tons of cotton seed to natives, an increase of approximately 100 per cent. over the previous year. The chief districts where cotton seed was distributed to natives were Mwanza—338 tons, Morogoro—208 tons, Lindi—160 tons, Rufiji—120 tons, and Tabora—68 tons. The native production of cotton lint in the season 1923/24 amounted to :—

Mwanza, including the Shinyanga district					
of Tabora	...	...	...	...	1,750,000 lb.
Morogoro	...	...	...	...	448,000 lb.
Lindi	...	...	...	...	248,000 lb.
Rufiji	...	...	...	...	238,000 lb.

Special attention has been given to the introduction of ploughing among the natives of the Shinyanga district, which seems to hold out exceptional promise as a cotton-growing area. It may be said that the whole of the Rufiji valley and its tributaries form a great potential cotton-growing area. Unfortunately, the population of this area is sparse. The Acting Director of Agriculture informed us that in his opinion the Rufiji valley could maintain in progressing affluence at least eight times its present population.

The chief groundnut areas, the production of which is rapidly increasing, are at present Mwanza, Tabora, Kondoa Irangi, and Dodoma. The increase in groundnut production in the Shinyanga area has been particularly remarkable, so much so that at present the local transport facilities are entirely inadequate to remove the crops produced. Proposals have, we understand, recently been put forward for the organisation of a motor transport service to carry the produce from the district to the railway. Several thousand tons of groundnuts will probably be left to rot in the coming season unless existing facilities can be supplemented in some such way.

The export of coffee in 1923 amounted to 4,047 tons, consisting of 2,562 tons of native-grown *robusta* coffee from the Bukoba district, 177 tons, of which 20 tons were produced by natives, of *arabica* coffee from Mount Kilimanjaro, and 213 tons of European-grown *arabica* coffee from Arusha. The remainder was produced by European planters on the Usambara Plateau.

The principal producing areas of copra are on the coast, and in 1923 6,669 tons were produced, of which 1,548 tons came from Tanga, 1,460 tons from Mafia Island, 1,277 tons from Dar-es-Salaam, and 1,160 tons from Bagamoyo. A large proportion of the coco-nut plantations are the property of Arabs.

It is estimated that in Tanganyika Territory there are approximately 4,000,000 head of cattle and 4,000,000 sheep and goats. The export trade in hides and skins is increasing, principally from the Mwanza area.

The Agricultural Department is still very deficient in staff and requires to be largely supplemented if real progress is to be made. We were informed, for instance, that in the Bukoba district there had been only one visit from an officer of the Agricultural Department in over two years, and this for a fortnight only. In Arusha we were informed that there had been only one visit from an Agricultural Officer during the past four years. Both European and native coffee growing require constant supervision and expert advice. We regret to learn, too, that the Empire Cotton Growing Corporation have temporarily withdrawn assistance from the territory, and that there has not been that harmonious co-operation between their representative and the Department of Agriculture which is so desirable in an important potential cotton-producing country.

It is regrettable that the pink boll worm, which is unknown in Uganda and Nyasaland, has appeared in Tanganyika Territory, and we were informed by an officer of the Administration in the Tabora district that seed was distributed in that district which came from

the Morogoro area infected with disease. The result of this has been, so we were informed, that a district where natives had been encouraged to plant with Government seed has now been put in quarantine for a year, with the resulting set-back to native industry. In our opinion it is most undesirable that such disturbance in the native mind should arise through such a cause, more particularly as it should be possible to obtain any quantity of perfectly clean and healthy seed from Uganda. We are satisfied that if any progress is to be made in cotton growing in Tanganyika Territory, and there are few parts of the world where there are greater opportunities for its successful cultivation, the utmost watchfulness and efficiency on the part of the Agricultural Department is essential.

As in the case of the Agricultural Department, the Medical Department in Tanganyika Territory is at present insufficiently staffed both in regard to European officers and native assistants. The shortage of staff is particularly noticeable in the most populous north-western districts. Apart altogether from the incidence of such tropical diseases as sleeping-sickness, malaria, yaws, and elephantiasis, venereal disease is a serious problem. This accounts in part for the terribly high rate of infant mortality throughout the greater part of Tanganyika Territory. The following is a summary of information on this point given in the Tanganyika Medical Report for 1921 :—

“ There is not a shadow of doubt that infantile mortality is appallingly high. There is evidence to show that it stands at somewhere near 300 per thousand. Statistics collected concerning 285 wives of 34 chiefs show that only 405 infants survived out of a total of 707. As the tribe in question had not suffered either pestilence or famine and the children of the chiefs had naturally a better chance of surviving than those of the ordinary natives, this high death-rate is especially significant.”

Our detailed observations in regard to medical needs in Tanganyika Territory will be found in the general chapter dealing with medical services, and we refer in another chapter to the influence of the tsetse fly in retarding the progress of the territory. It is not too much to say that in Tanganyika Territory the problem of the tsetse fly is the outstanding problem confronting the Government, and the whole resources of the Administration will have to be harnessed to combat this plague.

We return to the all-important question of railways and communications. The existing system consists of, first, the Central Railway from Dar-es-Salaam to Kigoma on Lake Tanganyika (780 miles), and, secondly, the Tanga line from Tanga to Moshi (237 miles). Both railways suffered severe damage and deterioration during the war. Between 1919 and 1924, in addition to current expenditure, approximately £489,000 has been spent by way of capital expenditure on the lines, buildings, and rolling stock. The Central line is now in good order as regards the permanent way and rolling stock, but the Tanga line still leaves a good deal to be desired. There is also a narrow-gauge line, 90 miles long, in the hinterland of Lindi in the south-east of the territory.

The General Manager of Railways informed us that back work is now practically caught up, and that the figures for 1923/24 show a revenue from the Central line of £195,000 against an expenditure of £251,000 (net loss £56,000), and for the Tanga line a revenue of £43,000 against an expenditure of £80,000 (a loss of £37,000). He expressed the opinion that in the year 1924-25 the Central line would nearly pay its way and that the loss on the Tanga line will be considerably reduced. He pointed out that it had not been the policy of the railway to squeeze all it could out of rates, which had been fixed so as to encourage production by every reasonable means. We hope this policy will be allowed to continue.

The Central line was completed to Lake Tanganyika just before the war, and it is clear that the principal considerations before the German Government in pushing forward this single line without feeders were :—

- (1) strategic;
- (2) in order to secure at the earliest possible moment a share of the important mineral traffic from the eastern Congo.

It was clearly their expectation that, once the Central line had been completed, its commercial value would depend on the further construction of the necessary feeder railways and roads. The German Government had already nearly completed the earthwork of the first branch line northwards from Tabora into the populous areas to the north, and had intended to extend this northern spur :—

- (1) in the direction of Bukoba—Ruanda;
- (2) to Mwanza.

This last project had been decided upon after very careful surveys had been made by the Germans as to the possibilities of extending the Tanga line from Moshi to Lake Victoria, but the extreme difficulty from an engineering point of view of crossing the Great Rift Valley and traversing a rocky volcanic crater country immediately to the west of it, as well as the practically uninhabited area through which such a railway would have to run, decided them to abandon such a project in favour of making Tabora the most important collecting junction on the Central line for the populous north-west.

With regard to the great undeveloped southern area of the Territory, the Germans had considered possible lines from Lake Nyasa to the subsidiary port of Kilwa, but these, too, appear to have been abandoned in favour of the wiser policy of concentrating at the port of Dar-es-Salaam. The Germans had undertaken preliminary investigations for routes from Lake Nyasa to a point on the Central line. In our opinion the whole question of the development of the south-western highlands, as well as the basin of Lake Nyasa, depends on the construction of such a line.

The General Manager of the Railways has gone into this question very carefully and has investigated possible alternative routes. We discussed this question very fully and considered all the data that were put before us, and our recommendation is that the line should be commenced at Ngerengere (Kilometre 145 of the Central Railway) and should proceed *via* Kisaki to Kidatu on the Great Ruaha

River: This river, the only formidable one on the route, should be bridged at this point, and thence the railway should follow the left bank of the Kilombero River and thence by the Pitu Valley (a tributary of the Kilombero) to the Rutukira Valley, and thence from the confluence of the Rutukira and Ruhuhu to Manda (Wiedhafen) situated in the Amelia Bay on Lake Nyasa. This is the route recommended by the General Manager.

The Kilombero Valley may be described as a great alluvial plain which could be turned into one of the finest cotton, sugar, and rice producing areas in the world, and which by drainage and irrigation could eventually cover approximately 1,000 square miles.

The Pitu Valley was described to us as very fertile and fairly well populated, and the centre of one of the richest potential grain districts of the country.

The maximum elevation which such a railway would have to cross is on the divide between the Indian Ocean (Pitu Valley) and Lake Nyasa (Rutukira Valley), at an elevation of 2,940 feet above sea level. When one remembers that the Mau summit of the old Uganda line is over 8,000 feet above sea level, and the summit of the new through line to Uganda (Uasin Gishu) is over 9,000 feet, the difficulties and consequently the cost of the proposed Lake Nyasa trunk line should be materially less than any other similar line hitherto constructed in East Africa.

The total length from Ngerengere to Manda by the proposed route is just over 400 miles. It is the most considerable new construction which we recommend to you, and it would do more to open up and develop a vast new area of Africa than any other line which we can suggest. We recommend that you should invite the consent of the Treasury to an immediate survey and estimate of the cost of this line. We consider that this survey should be undertaken not merely from an engineering point of view, but also from an economic and administrative point of view, and that the survey party should be accompanied by a qualified agricultural officer who should report on the possible agricultural development of the different areas which the line would traverse, and on the means of access to it from the Iringa district.

We advise this route not only in the interests of the development of Tanganyika Territory, but also because it would provide the cheapest and quickest route and outlet for the northern half of Nyasaland and the eastern parts of North-Eastern Rhodesia.

We are satisfied that the other alternative route to Lake Nyasa *viâ* Dodoma, Iringa, Tukuyu to Mwaya (the port at the extreme north end of Lake Nyasa), although giving a more direct route to the south-western highlands of Tanganyika Territory, would be more expensive and more difficult. The eastern portions of these highlands could be connected by means of roads with our proposed line at different points in the Kilombero Valley, while the western portions in the neighbourhood of Tukuyu could use the excellent existing road from Tukuyu to Mwaya and lake transport from Mwaya to Manda. We wish this new trunk line to Lake Nyasa to be regarded as of primary importance.

In our opinion the most urgent new railway construction is the completion of the Tabora-Kahama line (which will be open this year) to Mwanza. This line should, in our opinion, proceed from Kahama to Shinyanga and thence *via* Kuru (to the east of the existing Shinyanga-Mwanza road) to Mwanza. We are glad to learn that the portion from Kahama to Shinyanga has been sanctioned in principle. It should be pushed forward without delay.

Shinyanga district is one of the richest, most densely populated, and progressive native areas in the whole territory, while between Shinyanga and Mwanza lies a promising cotton area. Animal transport between Shinyanga and Tabora is out of the question on account of tsetse fly. Fly again appears north of Shinyanga and between Shinyanga and the frontier of the Mwanza district. Motor transport is out of the question between either Shinyanga and Tabora or Shinyanga and Mwanza except during the dry months of the year.

The total distance from Tabora to Mwanza by the route we propose is approximately 260 miles. Thus, leaving out the already sanctioned branch to Shinyanga, approximately 140 miles of new construction will have to be undertaken.

A study of the map of East Africa makes it clear that sooner or later all the railway systems should be linked in physical connection in order to secure the maximum of economy in management and control. Instead of a series of separate managements, survey staffs, and railway workshops, a single organisation would enable great economy to be effected in these matters, and salaries could be afforded that should enable the East African railway service to attract first-class men.

We therefore considered how best such physical connection between the various railway systems could be effected, due regard being had to the need of opening up the greatest possible profitable area. We have come to the conclusion that these two desiderata would best be attained by a line connecting Moshi at the foot of Mount Kilimanjaro with Dodoma on the Tanganyika Central Railway, such a line passing through Arusha, Gwanzave (Ufiome district), Kondoa Irangi, to Dodoma. This would involve some 280 miles of new construction which could be begun from both ends simultaneously.

In view of the existing physical connection between the Tanga line and the Uganda Railway by the existence of the Voi-Kahe branch, constructed as a military railway during the war, we recommend that the management and operation of the Tanga line should be transferred forthwith to the Uganda Railway. The Tanga line would remain in the ownership of the Tanganyika Government, and the terms on which the operation of the line would be taken over by the Uganda Railway should be the subject of joint recommendations to you by the High Commissioner for the Uganda Railway system and the Governor of Tanganyika Territory.

We should like to suggest, however, that, in addition to the arrangements regarding finance, service, and rates in connection with the proposed transfer of the Tanga line, the Government of Tanganyika Territory and the unofficial residents in Tanga district should

have some representation on the new Inter-Colonial Board recently established in connection with the Uganda Railway, in order that the interests of Tanga shall be represented.

We recommend that the extension from Sanya river, the present terminus to the west of Moshi, to Arusha should be approved and commenced as soon as possible.

The three new railways which we recommend in this territory have an importance from a political and administrative point of view in addition to their economic value. Tanganyika Territory is geographically the centre of the group of British East African Dependencies, and, if any advance is to be made in the direction of better co-ordination, effective means of communication with Nyasaland and Northern Rhodesia on the one hand and Uganda and Kenya on the other are essential. The railway programme we suggest takes this consideration into account.

But, apart from external communication, the proposed development of the railway system is urgently required from an internal point of view. In our opinion there has been a tendency to concentrate expenditure and interest in Dar-es-Salaam and the places which can be easily reached from Dar-es-Salaam by means of the Central Railway, with the result that both the northern and the southern areas of the territory have been comparatively neglected. In particular, Mwanza and Bukoba have suffered from shortage of staff in all departments and from lack of attention by the headquarter officers in Dar-es-Salaam, the main cause having been the difficulty in communications.

The absence of railway or road communication between the Tanga-Moshi-Arusha area and the capital has led to an agitation started in the Arusha district for the transfer of the northern area of the territory to Kenya, with which it is linked by the Voi-Kahe railway and by means of the motor road from Nairobi to Arusha. In our opinion insufficient attention has been given to the important northern districts, and the feelings of the settlers in the northern areas are not without some cause. To this feeling have been added the fears and misunderstandings regarding Great Britain's position as Mandatory. Arusha planters took the lead in this matter and they definitely urged annexation of their district by Kenya. They were at first supported by their colleagues in the Moshi district, but we gathered when at Moshi that opinions in this district had undergone considerable change. The non-native communities in Tanga expressed no desire for the proposed annexation. The natives were strongly opposed to it.

We pointed out that annexation was out of the question without a revision of the terms of the Treaty of Versailles, and that, even if the administration of the north-eastern highlands by the Government of Kenya were thought desirable on its merits, the area would remain mandated territory, subject to the conditions of the mandate. In that case an annual report would have to be rendered by the Governor of Kenya in the same manner as in the case of the British Mandated Territory of Togoland which is administered as part of the Gold Coast Colony. This would confer upon the Permanent

Mandates Commission, and the Council of the League of Nations, the right to review and comment on all Kenya legislative or administrative action applied to the mandated area.

We are, however, satisfied that the desire for the suggested transfer would disappear if the Arusha district were rendered more accessible from Dar-es-Salaam by the construction of further road and rail communications, and if greater attention and encouragement were given in future to the special needs of the district in such matters as coffee development and European education.

The plains round Mount Kilimanjaro and Mount Meru are capable of considerable development by means of irrigation, the rainfall on the two mountains being high, and at present running very largely to waste. Such development would require considerable capital and non-native enterprise, but, if it were undertaken, large crops of irrigation cotton both native and non-native could be produced, and the most valuable and suitable *arabica* coffee area in the whole of East Africa considerably extended. On the actual mountains of Kilimanjaro and Meru there is already a large, in some places a congested, native population, and no further land can be alienated. But in the plains round the mountains, provided irrigation is carried out, further non-native settlement can safely be encouraged.

To return to the question of communications, the Director of Public Works informed us that he regarded the country as being "starved for roads." It is essential that in a country like Tanganyika Territory there should be a definite road policy. The department responsible should have the duty not only of constructing and maintaining existing public roads and bridges, but also of drawing up, in consultation with the General Manager of Railways, the Agricultural Department, and the Native Affairs Department, a programme of main and feeder roads to be carried out as and when money is available, either from loan funds or from current revenue. There should also be an annual report on roads.

Some of the roads might be usefully and economically constructed by native authorities such as chiefs and councils of chiefs (should our recommendations in this respect be carried out) out of their own revenues, but such roads should conform to some general plan for the development of the territory as a whole. In the main only dry weather roads are required, and the expense is not great except where bridges over the permanent rivers and bad drifts are required.

As the greater part of the territory must, for climatic reasons, necessarily be regarded as a purely native area, the questions of native affairs and native education are all-important in connection with the progress of the territory. We are of opinion that it is essential that there should be a Secretary for Native Affairs responsible directly to the Governor. This officer should be in the main advisory and not executive, the ordinary administrative staff being organised under Provincial Commissioners directly responsible to the Chief Secretary. The Secretary for Native Affairs, however, might have executive control over the Labour Department, the constitution of which in Tanganyika Territory we have advocated in the general section of this report dealing with labour. The

Secretary for Native Affairs and the Labour Department should draw up an annual report on the work of the department, giving as far as possible statistics regarding the number of natives employed, rates of pay, number of days worked, and the health conditions of native labour, whether employed by the Government or by private employers. This report should be published.

Tanganyika Territory already possesses an Education Department hitherto purely concerned with native education, and in this connection still further limited to the supervision of Government native schools. There is at present only one European school in the territory, and this is purely for Dutch children in the Arusha district. This school is a voluntary school, but receives a grant-in-aid from the Government. The Government has as yet made no provision for, or contribution towards, Indian or Arab education. The Indian Associations which we received at Dar-es-Salaam, Tabora, Mwanza, and Tanga all urged the necessity of something being done to remedy this defect, and we are satisfied that there is an obligation upon the Government to do something in the matter. At present practically the only education received by Indian children is Mahommedan religious education in the Koran schools.

The problem of European education presents considerable difficulties, particularly the elementary education of children of European officials and the education of the children of the large Greek community. Where it is impracticable on account of smallness of numbers to establish a European school, arrangements might be made by the Government of Tanganyika to assist the education of such scholars in Government boarding schools in Kenya by means of bursaries. The absence of any educational facilities is a special hardship to the lower paid European officials, who cannot afford, out of their present meagre salaries, to maintain their children in England for education.

There are at present 72 Government elementary schools for natives in rural areas, as well as the Government central schools for natives at Dar-es-Salaam and Tanga, special schools for chiefs' sons at Tabora and Bukoba, and a Government school in the town of Mwanza in charge of a White Father. But the bulk of the native children receiving some form of education are being educated in missionary schools of varying quality. Approximately 100,000 boys are on the books of various missionary schools, but it is safe to say that probably not more than 50 per cent. are in any way regular attendants.

The education provided by missionaries in Tanganyika Territory is almost purely religious and literary in character. In Dar-es-Salaam and Tanga the vast majority of the native population are Mahommedans, while even in the country districts a number of the chiefs have become Mahommedans, even though the majority of their people are still pagans. This necessarily constitutes a very special problem, but we are satisfied that, if any real progress is to be made, there must be far greater co-operation between Government and missionary effort in the matter of native education than there has been in the past.

When in Tabora we received representations from the White Fathers to the effect that the Administration has not in the past been sympathetic to missionary effort. Our petitioner alleged that obstacles had been placed in the way of the extension of the White Fathers' work which had not been placed in the way of Mahomedan effort, and, as far as we were able to judge, there is some foundation for this allegation.

We are of opinion that responsible missionary effort is greatly needed in Tanganyika Territory and that it should be sympathetically viewed by the Government. We urge that a conference should be summoned by the Governor of all the leading missionary bodies to work out a scheme for Government co-operation with missionary activity in regard to native education, and that an Advisory Board on native education should be established, on which missionaries and other unofficials should be represented.

The chief difficulties of the Education Department at present are the shortage and under-payment of the European staff and the severe shortage of adequately trained native teachers. When we were in the Territory the total European staff, including headquarters and masters, amounted to six, and both salaries and status, as well as numbers, left much to be desired. We understand that it is proposed to establish a native teachers' training college at Mpapwa on the Central line, not far from Dodoma. Mpapwa is the headquarters of the veterinary establishment for the territory, and would, in our opinion, make an ideal site for such a college.

Among other matters brought to our notice in Tanganyika Territory, as later in Uganda, was the question of communication by wireless telegraphy. The only wireless station in Tanganyika Territory is the Belgian station at Kigoma on Lake Tanganyika. This is part of the network of 42 wireless stations maintained by the Belgian Government throughout the Congo. The absence of a wireless station at Dar-es-Salaam is a serious handicap to shipping and to port management, as, without ship to shore communication, ships arrive without the harbour authorities being aware what cargo is to be unloaded, or what space is available for outward cargo. We definitely recommend that immediate sanction should be given to the establishment of a wireless station at Dar-es-Salaam.

At present there is no direct telegraphic communication between Bukoba and the rest of Tanganyika Territory. When in Mwanza we sent a telegram to Bukoba announcing the probable time of our arrival. This took three days to reach its destination, the telegram having to go *via* Tabora, Dar-es-Salaam, Mombasa, Nairobi, and Kampala.

At Mwanza and Bukoba there still remain the remnants of the two German wireless stations destroyed during the war.

We are of the opinion that the development of wireless communications in East Africa is of great importance. There is considerable interruption of land lines by game and by native depredations, as well as by the destruction of poles by white ants. We hold that

the establishment of wireless communication between all the principal administrative centres in Tanganyika Territory and Uganda would be of great value to the administration and to the development of the country, and in our opinion it would be far cheaper than the extension of the existing inadequate system of ordinary telegraphic wires.

We recommend that, in accordance with the request of the late Governor of Uganda, enquiries should be made and that, if necessary, a wireless expert should visit East Africa for the purpose of estimating the cost of linking up the principal centres, and those districts not yet served by any telegraphic communication, by means of wireless telegraphy. The experience and cost of maintenance of the wireless system in the Congo should be of assistance in such an investigation. Further, in this connection the possibility of wireless connection with the southern Sudan should be borne in mind.

Turning to the general question of finance, there is no doubt that the position of Tanganyika Territory is improving rapidly. The Treasurer expressed to us the view that in 1925 current revenue and current expenditure would balance, after allowing for certain much-needed increases in the district and technical staffs. No money, however, will be available from local sources for capital expenditure on works of development.

When the mandate system was under discussion at Paris, it was recognised that the acceptance of a mandate might involve the Mandatory Power in great expense.

In accepting the mandate for Tanganyika, His Majesty's Government accepted the obligation of the expenditure involved in giving the natives entrusted to their care the best possible government. The task of restoring the wreckage of war has now been largely completed, but in such matters as education, medical work, and scientific research the pre-war standard has not yet been reached. This is the subject of comment from those who are on the watch for opportunities of effective criticism of our administration.

We are strongly of opinion that the amounts hitherto provided from Imperial funds in aid of ordinary expenditure or in repairing the damage of war must not be treated as a debt to the Imperial Exchequer, but as a free grant. The territory is progressing so rapidly that it seems probable that further grants of this nature may not be required, but, even should this hope prove unjustified, the improvement of the necessary services should not be retarded in order to avoid further free grants. On the other hand loans-in-aid of development may properly be regarded as repayable, and should bear a reasonable interest and sinking fund so soon as there is a surplus of revenue available for this purpose. But we hold it to be essential, if the obligations undertaken by His Majesty's Government are to be adequately discharged, that loans for the purpose of building schools, hospitals, and scientific institutions, for railway extensions, roads, bridges, and harbours, for markets, electrical undertakings, water supplies and other municipal works, should not be stinted and should be made on the least onerous terms. It may

be pointed out that the fulfilment of this duty will lead to the rapid increase of trade, largely British, and be of direct benefit to many branches of British industry.

Owing to the disturbed conditions which resulted from the war, native taxation in the Tanganyika Territory has in the past been low. Now, owing to the increase of native production, to the growing demand for labour, and to the fact that wages in the Tanganyika Territory are generally higher than elsewhere in East Africa, the native tax might be raised in most districts. In 1924 it varied from 2s. per annum (the lowest) in the Kigoma district to 9s. (the highest) in the prosperous Bukoba district. It is, we understand, intended to raise it in some districts to 10s. per annum.

There have been difficulties of collection in the past, due almost entirely to shortage of administrative staff. But, with the gradual increase of district staff and the greater efficiency of the native auxiliary staff, the yield has steadily improved.

The customs duties are identical with those of Kenya and Uganda, and these are high, especially on articles of European consumption. Though there is this uniformity of duty and free trade in local products between the three contiguous territories, there is no complete customs union such as exists between Uganda and Kenya. The result is that there have been considerable divergences of interpretation in the administration of the law between the customs authorities at Mombasa and those at Tanganyika ports respectively. Such divergences are particularly annoying to traders, and have been the subject of continued representations to His Majesty's Trade Commissioner in East Africa. Further, there are cases, especially at Bukoba and Mwanza, where double duty is being paid, for at present only bulk goods consigned through to Tanganyika ports on Lake Victoria escape paying customs duty at Mombasa. Any goods not so consigned or goods broken in bulk pay customs duty at Mombasa and again at Bukoba or Mwanza. We are satisfied that, both for these reasons and in the interests of East African trade and commerce as a whole, the sooner there is a complete customs union between the three territories the better. We are convinced that Tanganyika Territory in particular has everything to gain and little to lose by a union which is giving every satisfaction as far as Uganda is concerned. We are glad to learn that a customs conference is now sitting at Dar-es-Salaam to consider this question.

The actual customs duties were fixed at a recent inter-colonial conference presided over by His Majesty's Trade Commissioner in East Africa, Colonel W. H. Franklin, and we are of opinion that, once adopted, there should be as few changes as possible. However, when the period for review arrives, the present rather formidably long list of dutiable articles might be simplified.

The particular tax which has given rise to recent controversy in Tanganyika Territory is the profits tax. In general, we are of opinion that, not only in Tanganyika but also in Kenya and Uganda, the wholesale and retail traders get off with very light taxation. We recognise that the taxation of the middleman presents great difficulties in every country owing to his singularly favoured position for

“passing it on.” But the shopkeepers, especially those who cater for the native trade both as buyers and as sellers, are doing remarkably well in East Africa and should pay a greater share of taxation. The Tanganyika profits tax was designed for this purpose and sought to make more effective the former German tax of the same kind.

We are, however, forced to the conclusion that there are difficulties of assessment and collection which make it desirable that the profits tax should be maintained only until such time as a more effective substitute has taken its place. Such substitute might take the form of higher trade licences with or without a higher non-native poll tax. Even so, much of the tax would inevitably be passed on to the native. Undoubtedly the better alternative would be an income tax, but this necessitates an expensive machinery for its collection as well as special difficulties in a young developing country. An income tax would also hit the officials, whose salaries at present are none too affluent. Nevertheless we urge the early consideration of some such alternative. In the meantime, if a language requirement is to be insisted on, we express the view that, as English, French, and Swahili are authorised in connection with the presentation of books for assessment of profits tax, Gujerati, which is probably more frequently used as the language of commercial accounting than any other in Tanganyika, should be allowed equally with the other three.

The land problems in Tanganyika are not so difficult as they are in Uganda, Kenya, and Nyasaland. On the coast Arab tenure, governed by Mahomedan law and custom, is fairly general. In the districts settled by the Germans freehold titles were granted to non-natives, and in these areas lands were set aside by them as native reserves, *i.e.*, land in which natives, either collectively or individually, may be regarded as having “acquired an interest” before the enactment of the Ordinance of 1923 which defined all land other than those lands in which a previous interest had been acquired as “public land.” Vast areas have neither occupier nor claimant. In regard to further alienations of public land only 99 years’ lease can be granted, and only 5,000 acres to any concessionaire except with the express approval of the Secretary of State. We consider that these two main provisions are wise and should stand.

Various amendments to law and administration in regard to land, are, however, required. Only five years was allowed for the establishment of title. This period may have to be slightly extended. Individual native claims exist, especially in the Bukoba district, which were recognised by the Germans and should form the subject of special investigation and report. In this respect the Bukoba position is analogous to that of its immediate neighbour, Buganda. The land officer informed us that among the more educated natives there is a drift away from communal towards individual right in land.

Where new leases of land are made, we consider that development conditions should be inserted in the terms of the lease. But it is clear that, if capital is to be attracted for the development of irrigation crops, reasonable terms and considerable duration of lease

should be allowed, subject always to periodic revision. We understand that it has been the practice only to offer very short leases, much less than the 99 years allowed by the Ordinance.

In Dar-es-Salaam and other parts of the territory we found a general demand on the part of unofficials for the establishment of a Legislative Council. We are satisfied that the time has come when a Legislative Council should be established. The constitution of the Council should provide for an official majority, and the unofficial members should be individuals nominated without regard to representation of particular races, interests, or public bodies, and should be persons selected as being most likely to be of assistance to the Governor in the exercise of his responsibilities.

CHAPTER X.

ZANZIBAR.

Area (including Pemba)—1,020 square miles.

Population (Census, 1921)—Europeans, 270.

„ „ —Asiatics, 13,855.

„ (Census, 1924)— { Arabs—16,478.

„ { Africans—186,187.

At Dar-es-Salaam the Chairman received a letter from His Highness Khalifa bin Harub, Sultan of Zanzibar, inviting the Commission, on behalf of himself and of all his subjects, to visit his dominions. Invitations were also received from the Zanzibar Chamber of Commerce and from the Indian National Association of Zanzibar. It was regretted that owing to the short time available it was not possible for the whole Commission to accept the invitation, but, at the request of the Chairman, Mr. Linfield and Mr. Calder made arrangements to proceed to Zanzibar, and they submit the following report:—

We arrived at Zanzibar about mid-day on the 26th of September on the s.s. "Mashobra", and proceeded to the Residency, where we were the guests of Mr. A. C. Hollis, C.M.G., C.B.E., the British Resident. After lunch we motored across the island to Dunga and Chwaka accompanied by the Resident, the Acting Senior Commissioner, the Director of Agriculture, and the Acting Private Secretary, and inspected clove and coco-nut plantations. On the morning of the 27th September we received deputations from the Chamber of Commerce, the Arab Association, and the Indian National Association. Upon the departure of the deputations, we visited the harbour works, the health office, the hospitals, the new school buildings, and the Peace Memorial hall. Accompanied by the Resident we were entertained to luncheon by His Highness the Sultan at his Palace at Kibweni, and had an interesting discussion with His Highness on various matters affecting the welfare of his dominions. In the afternoon a visit was made to Mkokotoni, the new bridge at Kipange, and the Government plantation at Selem. On the evenings of the 26th and 27th we met the leading official

and unofficial members of the European community at dinner at the Residency. We left Zanzibar for Dar-es-Salaam on board H.H.S. "Cupid" early on the 28th.

We wish, in the first place, to record our appreciation of the facilities afforded to us in our enquiries by all sections of the community in Zanzibar. In particular we are greatly indebted to Mr. A. C. Hollis, the British Resident, for his assistance and hospitality. We wish also to place on record our pleasure at noting the harmonious relations between the different races in Zanzibar. On many of the matters put before us Europeans, Arabs, and Indians were in complete agreement; on others there were naturally different views expressed, but, generally speaking, the divisions of opinion were not on racial lines, and there was a marked absence of racial feeling and antagonism. Before finally deciding on the recommendations now submitted, we had a discussion on Zanzibar problems in Nairobi with the late Sir Robert Coryndon, High Commissioner for Zanzibar.

The mechanism of Government in Zanzibar is not satisfactory. There are serious delays in arriving at decisions and in getting them carried out, and there has been a marked absence of consultation and co-operation with the unofficial community. All sections of the community in Zanzibar are agreed that to meet the difficulties it is necessary to abolish the post of High Commissioner for Zanzibar and to reform the constitution of the Protectorate Council.

The post of High Commissioner for Zanzibar was created on the advice of Sir Henry Belfield when the supervision of Zanzibar affairs was transferred from the Foreign Office to the Colonial Office. It was started as a temporary expedient, but Sir Henry Belfield's two successors as Governors of Kenya have each in turn been appointed High Commissioner for Zanzibar. The British Resident has to refer all matters of importance to the High Commissioner at Nairobi, and all communications on such matters from the British Resident to the Colonial Office have to be sent *via* Nairobi. The office of High Commissioner costs Zanzibar about £2,000 a year; it causes great delays in the transaction of Government business, and it appears to have no compensating advantages. The Governor of Kenya is fully occupied with the difficult problems of Kenya and has no time to deal adequately with the entirely different problems of Zanzibar.

We have come to the definite conclusion that there are no adequate grounds for continuing the office of High Commissioner. His Highness the Sultan refers to the matter as follows in a memorandum submitted to us:—

"Let me draw your attention to the office of High Commissioner for Zanzibar. Formerly Kenya was ruled from Zanzibar, but now it would appear from debates in the Legislative Council of Kenya as if Zanzibar was ruled by Kenya! The post of High Commissioner was started as a temporary one only. Sir Henry Belfield, when I talked with him about it, told me that it was merely an experiment for starting the new Colonial Office administration. In that same year came the war, and the post was continued on military grounds until the war ended. It should now be abolished; firstly, on account of unnecessary expense, and, secondly, because in former times the decrees which I or my predecessors promulgated when under the Foreign

Office became law when countersigned by His Majesty's Diplomatic Agent, while now they must go to Nairobi for approval. In any case the Government of Kenya can have little knowledge of affairs in Zanzibar, where conditions and problems differ so profoundly."

The Zanzibar Chamber of Commerce, the Arab Association, and the Indian National Association all represented that the office of High Commissioner should be abolished. We recommend that all the powers vested in the office of High Commissioner should devolve on the British Resident. No inconvenience need be feared from such devolution, as the British Resident has in the past exercised these powers as Acting High Commissioner when the Governor of Kenya has been on leave. No change should be made in the title of the senior British official in Zanzibar. He should continue to be designated British Resident and not High Commissioner or Governor, as British Resident correctly indicates his position in this Arab protected state.

The Protectorate Council which was instituted about 11 years ago has not proved an efficient medium for enlisting the support and interest of the unofficial community in public affairs. The Council is presided over by the Sultan, its functions are purely advisory, its members are sworn to secrecy, and no report of its deliberations is published. In the past it has been extraordinarily difficult for any member of the unofficial community in Zanzibar to learn what the Government was doing and why any step had been taken. Even the annual estimates of Government revenue and expenditure, *i.e.*, the annual budget, were kept secret from the general public. We believe that the only real remedy for this state of affairs is to replace the Protectorate Council by a properly constituted Legislative Council. That Council would discuss and approve the annual estimates, promote legislation, debate any matters of general interest, and publish a record of its proceedings. His Highness the Sultan is anxious to associate his subjects more closely in the work of Government, and we believe he would be prepared to agree to the limitation of his power of legislating by decree which the constitution of a Legislative Council would involve. The Legislative Council should have an official majority and the unofficial members should be nominated after consultation with the different unofficial bodies. There would be a small executive council or cabinet, which would advise the Sultan and decide on the Government measures to be introduced in the Legislative Council. Whether the Sultan should attend and preside at the meetings of the Legislative Council is not easy to determine, and we would suggest that His Highness's wishes in the matter should be ascertained. We recommend that the British Resident should be authorised to consult with His Highness with a view to granting a constitution on the lines briefly outlined above and to submitting definite recommendations as to numbers of official and unofficial members, exact powers of the new council, etc.

The prosperity of Zanzibar depends upon its clove industry, and it is admitted on all sides that the condition of that industry is not satisfactory. The Arab owners of the clove plantations are heavily in debt and find it most difficult to obtain labour and credit facilities; there are difficulties owing to the uncertainty as to plantation boun-

daries, drying of cloves, adulteration, planting of new trees, development of the Government-owned plantations, marketing, etc. The monopoly of the clove industry which Zanzibar has hitherto enjoyed is threatened by the encouragement of clove plantations by the French in Madagascar. An agricultural commission enquired into the conditions in the industry in 1923 and submitted majority and minority reports. A most useful memorandum on the commission's recommendations has been prepared and published by Yusufali Esmailjee Jivanjee, a member of the Zanzibar Protectorate Council; memoranda on the same subject have also been drawn up by the Zanzibar Chamber of Commerce and the Zanzibar Indian National Association. Considerable diversity of opinion exists as to the best steps to be taken and correspondence is proceeding between the Zanzibar Government and the Colonial Office. The short time at our disposal in Zanzibar did not permit us to go into the questions thoroughly on the spot, and in the circumstances we make no specific recommendations.

There is, however, one point on which all parties in Zanzibar are agreed. For many years large numbers of natives have proceeded voluntarily from the Tanganyika Territory to seek employment in Zanzibar at the season of the clove harvest, and there is considerable apprehension in Zanzibar lest at any time steps may be taken in Tanganyika to restrict the flow of this voluntary labour. The prosperity of Zanzibar depends upon this seasonal influx of labour for the clove harvest: the labourers are well treated, receive good wages, work under congenial conditions, and return to the mainland when the harvest is over. We recommend that no restrictions should be put in their way.

An important question for consideration is the currency in Zanzibar. When, after the war, the currency in Kenya, Uganda, and Tanganyika was changed from the Indian rupee to a sterling basis, Zanzibar decided to retain the Indian rupee. Recently, however, the Zanzibar Chamber of Commerce passed the following resolution:—

“ That this Chamber lays before the Government its considered opinion that the adoption of East African currency, guaranteed on a similar basis to that pertaining on the mainland—ensuring a steady parity of exchange between such currency and sterling—would be to the advantage of the Protectorate, and advances the following reasons in support of such opinion:—

1. Only 20 to 25 per cent. of the local trade is conducted with rupee countries, and this figure appears to be decreasing yearly—the balance of trade being negotiated through sterling.
2. Of the 20 to 25 per cent. referred to above, a proportion is negotiated through sterling, as, for instance, some of the trade in Tea and Gunny Bags. It is recognised that the principal import in this percentage is Rice (a staple article of food), but we would point out that this article is subject to market fluctuations of 25 per cent., and fluctuations of exchange would weigh but little in the more important fluctuations occasioned by supply and demand.

3. A part of this trade with India is conducted on a barter basis—Cloves being exported against imports of foodstuffs and piecegoods.
4. Indian trade is largely conducted on a cash basis—goods being sold on arrival and proceeds remitted. Whilst practically the entire sterling trade is conducted by forward contracts, and the deletion of the risk of the exchange fluctuations would tend to greater safety in business and consequent increased prosperity on a sound basis, eliminating the gambling element in one respect-- which element has been so detrimental to the interests of the Protectorate in the past.
5. The transshipment trade of Zanzibar is rapidly declining, and, although we do not pretend that this is entirely due to exchange difficulties, it is our opinion that the removal of such difficulties would tend to improve the prospects of such transshipment trade. It would also encourage the production of foodstuffs on the mainland for the supply of the Protectorate, which would also stimulate transshipment trade.
6. It has been brought to the attention of the Chamber that some merchants, whose interests are entirely bound up in trade with India, are rigorously opposed to the scheme, and we fully appreciate that a change in currency would cast the burden of a fluctuating exchange on their shoulders, but are of the opinion that such burden would be more justly imposed on 20 per cent. of the trade than on 80 per cent. as at present.
7. We appreciate that prejudice exists in all countries against changes in currency, but are of the opinion that such prejudice would be overcome in due course and should not stand in the way of development. There can be but little doubt that the rapid strides now being made on the mainland are fostered by freedom from exchange fluctuations.
8. If it be decided to make the change advocated, the date the change should come into force and the rate of conversion will have to receive very careful attention. The ideal time would be during the "off" season here, and with the exchange at or near 1s. 4d. in India, when the natural conversion rate would be 1s. 4d. Should these conditions not be synchronous we realise that it would be a difficult matter to fix a rate which will not bear too heavily on any section of the public. We think, however, considering the great benefit to trade generally from the proposed change, that even this difficulty will not be impossible of solution at the hands of the Government's expert advisers here and in London.

We request the Government to examine the arguments and submit the views of this Chamber to the Colonial Office for examination by financial experts."

The Indian National Association of Zanzibar in the memorandum submitted to us wrote on the subject :—

“ The existing currency needs no alteration. If at all the Government contemplates any change, our Association submits that no steps should be taken in that direction without first taking the public into confidence. The currency fiasco in the Kenya Colony should be a sufficient warning against any change without first consulting public opinion.”

The Arab Association was opposed to any change of currency. The question is pre-eminently one for careful consideration by currency experts, but we are inclined to think that the commerce and general prosperity of Zanzibar would be increased if, at a suitable time and subject to proper safeguards, its currency were changed to East African sterling.

The question of the entry of Zanzibar into the East African customs union is on an entirely different footing. All sections of the Zanzibar community are opposed to such a step, believing that the large increases in customs duties which it would involve would be a burden on Zanzibar commerce and prosperity. We have had memoranda from sources outside Zanzibar which seek to show that in the long run Zanzibar would benefit by inclusion, particularly as regards its entrepôt trade. There is no doubt that the mainland countries would gain from the extension of their customs union to include Zanzibar, and smuggling, which probably goes on to a certain extent at present, would cease. But we are satisfied that it would be quite unjustifiable to attempt to force the Zanzibar Protectorate into a customs union to which all sections of the Zanzibar community are opposed. The position may alter if at a later date any considerable section in Zanzibar desire inclusion, and possibly the mainland territories may then be prepared to consider some reductions in their tariff to induce Zanzibar to come in. All sections in Zanzibar are in favour of free exchange of local products with the mainland territories. It appears, however, that these territories are not all agreeable to such an arrangement unless Zanzibar comes into the full customs union.

Work has been proceeding for over three years on a scheme for the extension of Zanzibar harbour. The Sultan, the Chamber of Commerce, the Arab Association, and the Indian National Association agree that the harbour works were started without consulting the public in any way, and that the scheme was on a grandiose scale and has involved much wastage of public money. We are satisfied that the primary need of Zanzibar, so far as communications are concerned, is more roads throughout the islands, and recommend that the harbour works scheme should be revised and curtailed; that no more money should be spent on it than is absolutely necessary; and that the programme of road construction should be accelerated as funds permit.

CHAPTER XI.

UGANDA.

Area (Land area)—	94,000 square miles.
European Population, Census 1921—	1,269 (Officials—341).
Asiatic	” ” ” —5,600.
Native	” ” ” —3,000,000.
Administrative Capital—	Entebbe.
Commercial Capital—	Kampala.

The Protectorate of Uganda consists of the Kingdom of Buganda (population three-quarters of a million, area 20,000 square miles), the three Principalities of Ankole, Toro, and Bunyoro, which all lie to the west of the River Nile, and a large tract of country roughly in the shape of a triangle lying between the Nile, Kenya Colony, and the Sudan.

The greater part of the country consists of a vast slope, descending gently from 3,750 feet above sea level at Lake Victoria to the Sudan frontier some 1,750 feet lower. In the extreme west lie the Toro highlands, stretching upwards to the great mountainous mass of Ruwenzori 16,000 feet high. On the eastern edge of Uganda on the Kenya frontier rises Mount Elgon, a large extinct volcano, 14,000 feet high, very regular in shape.

The great plain of Uganda, as we may roughly describe the central portion of the territory, is already famous for the remarkable development of cotton as the economic crop. Cotton has been successfully cultivated in Uganda for the last fifteen years, but it is only during the last three that its natural advantages for the production of this particular crop have been fully realised.

Cotton is sown in Uganda between May and July, and the harvest begins in December, ginning and the main transport to the coast taking place from the 1st January until June. Thus Uganda, if able to dispose of its crop quickly, has an additional advantage in being able to deliver its cotton at a time when American supply is short. Uganda is still fortunate in being completely free from the usual pests which threaten cotton plants. Boll weevil, pink boll worm, and red boll worm are unknown.

Uganda cotton is a rain crop, and so far no attempt has been made to grow long staple cotton under irrigation. The staple now produced, about 1½ths inch, is rather better than American middling, and at the present time the best Uganda cotton fetches approximately 5d. per lb. (lint) more than American middling in the Lancashire market, *i.e.*, Uganda cotton is now fetching approximately £31 a bale of 400 lb. The crop harvested in 1923 yielded approximately 93,000 bales, and in 1924 137,000 bales, while the 1925 crop may be anything from 175,000 to 200,000 bales. This astonishing increase in production and purchasing power is the dominating economic and social factor in Uganda to-day. The revenue is buoyant and trade is booming. The only limiting factors to continued rapid increase are:—

- (1) The willingness of the natives to cultivate more land.
- (2) The supply of labour.
- (3) The provision of further transport facilities.

The bulk of the cotton is produced by peasant cultivators on small patches through the use of the hoe. More than three-quarters of the present crop comes from the Eastern Province, *i.e.*, from the country lying between the Nile and the Kenya frontier, but increasing quantities are now being grown in both the Kingdom of Buganda and the Principality of Bunyoro. At present only a fraction of the suitable land is in fact cultivated.

Hitherto the sole means of export has been by steamers on Lake Victoria to Kisumu and thence to Mombasa by the old Uganda Railway. The new railway, however, has been surveyed and sanctioned from Turbo, the present terminus of the Uasin-Gishu branch of the Uganda Railway, to Mbulumuti on the railway between Jinja and Namasagali.

The construction of this new line, consisting of 75 miles in Kenya from Turbo to Tororo and 110 miles in Uganda from Tororo to Mbulumuti, is being started from both ends this year. Further, a branch from Tororo to Mbale is also to be constructed, and, if the money already granted by the Imperial Government proves sufficient, it will be extended in the direction of Kumi. The construction of this new line will require the services of at least 5,000 labourers on the Kenya section and 10,000 labourers on the Uganda section continuously during the year 1925, and the speed with which the railway can be completed depends upon the sufficient supply and efficiency of this labour.

The old transport route *via* Kisumu will be strained to breaking point in the removal of this year's crop, and it is urgent that the new railway should be completed at the earliest possible moment. It is feared, however, that it is not likely to be ready before the end of 1926.

The districts offering the greatest capacity for still further increase are those lying to the north of Lake Kioga. The natives in those districts are Nilotic, and, unlike the Baganda, are used to handling cattle as well as to the cultivation of cereal and leguminous crops. Their demand for ploughs exceeds the supply, and, whereas by the use of the hoe only small patches of cotton can be cultivated, the introduction of the plough has immensely increased their productive power.

The internal transport system of Uganda is somewhat complicated. The Nile is not navigable between Lake Victoria and Lake Kioga; from Namasagali on Lake Kioga it becomes navigable down to Atura, this section being served by two steamers "Stanley" and "Speke." (Navigation on Lake Kioga and this section of the Nile is liable to interruption by the spread of papyrus.) From Atura to below the Murchison Falls the Nile is again not navigable; from Lake Albert down to Nimule the Nile is again navigable, and this section is served by the steamers "Samuel Baker" and "Livingstone." Here the Uganda transport system ends, but on entering the Sudan the Nile is broken by a series of rapids and no navigation is possible between Nimule and Rejaf. The Sudan steamers run from Rejaf to Khartoum.

The re-handling of cargo in Uganda has hitherto been frequent and costly, and the chief problem before us in the future development of the transport system is to reach the navigable basin of Lake Albert by means of a continuous rail connection with Mombasa.

There are two possible ways of effecting this. One would be to bridge the Nile at or near Mbulumuti and to carry the new railway due west through the northern part of the Kingdom of Buganda and thence through the Principality of Bunyoro to Lake Albert itself. The construction would not be easy because, in addition to the Nile bridge, there are a series of swamps and rivers practically the whole way to Bunyoro. In Bunyoro the line would have to cross the escarpment and thence descend by steep grades to Lake Albert. It would, however, be by far the shortest route to our goal and would no doubt lead to a considerable development of what is to-day a comparatively sparsely populated area.

The other alternative is to regard the section from Tororo to Mbulumuti as a branch and to take the main line to the navigable Nile *via* Mbale, Soroti, Lira, and Gulu, either to Nimule itself or to some point on the navigable Nile between Nimule and Lake Albert. This alternative would certainly seem preferable in spite of its greater length, as it would pass through actual or potential cotton country throughout, and the average cost of construction per mile would almost certainly be lower.

Our object in urging that the further railway from Mombasa should be extended as soon as possible to the Lake Albert section of the Nile is primarily to secure an effective economic development of Toro, Bunyoro, the West Nile and Acholi districts of Uganda.

In regard to the first of these, a road is in course of construction from Fort Portal, the capital of Toro, to the new port Ntokoro at the south end of Lake Albert.

But, apart altogether from the advantages to Uganda and the southernmost parts of the Sudan, we are attracted by the possibility of providing a means of access to the north-eastern Congo *via* Mombasa and Lake Albert. During our tour we saw at various points between Mombasa and Butiaba on Lake Albert a good deal of machinery destined for the gold mines at Kilo and Moto in the north-eastern Congo. This machinery at present travels from Mombasa to Kisumu by rail, from Kisumu to Jinja by steamer, from Jinja to Namasagali by rail, from Namasagali to Masindi Port by steamer, and from Masindi Port to Butiaba on Lake Albert over some 80 miles of rather dangerous motor road.

It is obvious that the existing transport system is not likely to satisfy the requirements of the big mineral and agricultural development now in course of initiation in the north-east Congo, and we understand that the Belgian Government contemplate the construction of an entirely new railway, approximately 600 miles in length, through very difficult country to Stanleyville on the navigable Congo. It would be clearly to the advantage of East Africa if, by improving the facilities between Lake Albert and Mombasa, a share of this valuable economic development in the Congo could be secured.

Our definite recommendation is, therefore, that sanction and the necessary financial assistance should be obtained for the construction of the continuation of the Uganda Railway from Mbale through Soroti to Lira at the earliest possible moment, and that in the meantime the Government of Uganda, in conjunction with the Uganda Railway Department, should set up a Commission to inquire as to the best route to be followed by the railway from Lira to the Lake Albert-Nimule section of the navigable Nile. The Government of Uganda should also co-operate with the Belgian authorities in the north-eastern Congo in selecting and equipping the most suitable route for motor transport between this section of the Nile and the Moto area.

Uganda is already in possession of the best and most developed road system in East Africa. Good material can be obtained almost anywhere and the construction is not expensive. Road maintenance, however, causes some difficulties owing to the scarcity of local labour, and we witnessed a good many maintenance gangs in the employ of the Public Works Department drawn from the thickly-populated neighbouring area of Ruanda (under Belgian mandate).

There can be no doubt that road development in Uganda has been largely responsible for the great increase in the growth of cotton, most of the cotton being grown along the road sides. Money spent on roads is doubly valuable, as it not only encourages the cultivation of economic crops but, almost as important, encourages the circulation of traders and natives, and increases the natives' wants in bicycles and other imported goods.

Provided the main trunk railway line from the south-east at Tororo to the north-west on the navigable Nile can be constructed, we are of opinion that branch lines will not be needed for some time to come, it being possible to feed the railway by means of road and steamer transport. It is possible that in some places caterpillar traction may enable a greater radius from the railway to be developed than by the use of ordinary wheeled motor transport. We have already alluded to the road rail experiment now in operation between Kampala and Bembo, and the report of the working of this system during the year 1925 should be interesting.

Cotton is so clearly established as *the* most important product of Uganda that other exportable crops are at present of comparatively minor importance. Coffee comes second. Hitherto Uganda coffee has been chiefly grown by the few European planters established in the Protectorate, the most important areas being Toro and Bunyoro. In fact, it is only those parts of Uganda that are climatically suitable for white settlement. In quality and price the Uganda coffee is not up to that produced in the highlands of Kenya or in the north-eastern corner of Tanganyika Territory. It would seem that in the western parts of the Uganda Protectorate, both for European and native cultivation, coffee of the *robusta* type is more suited to the climatic conditions than *arabica*. Some of the European planters who formerly grew *arabica* are now growing *robusta*. On the western slopes of Mount Elgon, however, which are densely popu-

lated by the Bagishu tribe, natives have recently commenced the growing of *arabica* coffee, and the results of this experiment will be watched with interest.

A good deal of rubber has been planted by European planters in the eastern part of the Kingdom of Buganda, but for the past few years the low price of rubber has rendered tapping unprofitable. With the slightly increased price of rubber now ruling, tapping has again become practicable on a few of the better estates.

When in Uganda we were present at the opening of the first large sugar factory on a plantation recently acquired by Mr. Nanji Kalidas, a prosperous Indian merchant. Mr. Kalidas has invested a considerable sum of money in this new enterprise, and the factory is capable of turning out some 6,000 tons of refined sugar per annum. It is an up-to-date factory built on the lines of the most modern installations in the West Indies. Mr. Kalidas has a plantation round the factory of some 1,500 acres under cane, and he is endeavouring to obtain further supplies from native peasantry in the neighbourhood. The enterprise should be able to provide sugar not only for local consumption but also for export. Further, Mr. Kalidas hopes to use the molassine waste for the manufacture of power alcohol, and there is also the possibility that molassine can be mixed with cotton seed and used as a foodstuff for cattle. There can be no doubt that in quality and yield sugar-cane in Uganda holds out great promise.

There are considerable swampy areas in Uganda at present derelict which could be utilised for the production of rice, and, owing to the comparatively high and well distributed rainfall on the northern and western shores of Lake Victoria, it is also conceivable that plantations of cinchona (quinine) and of the oil palm might be introduced. We saw some cinchona plants at the Forestry Station at Entebbe, which appeared to be quite healthy, and we understand that one English planter has already commenced experimenting with its production.

The main foodstuff produced by the Baganda and some of the kindred tribes is the banana. The banana forms by far the most important article of their diet. Beans and grain are also grown, but the bulk of the latter is used for conversion into beer. In Nilotic areas various forms of millet are the principal foodstuff of the native population. Peas are grown as a rotation crop to cotton. Chillies are an important native crop and in exports rank third, after cotton and coffee.

It is open to question whether a banana diet is altogether satisfactory. In former days it was supplemented by fish, but the virtual destruction of the fishing industry on Lake Victoria by the removal of the population of the islands on account of the sleeping-sickness outbreak has greatly diminished the supply. Lake Victoria teems with edible fish, and there can be little doubt that the fishing industry could now be revived. We understand that steps are being taken to investigate the fish resources of the Lake.

The forests of Uganda are valuable, but so far not very much has been done towards their scientific exploitation. The most valu-

able timber is the Mvule tree, which grows in the southern parts of the Eastern Province, where the estimated supply is at least 1100,000,000 cubic feet. It is a hard, heavy wood, and the trees grow to great dimensions. The most important local soft timber consists of different varieties of podocarpus, growing chiefly in the southern part of the Kingdom of Buganda near the Tanganyika frontier. The timber usually employed by the natives in the construction of their huts, as well as for fuel, is a local tree known as the Usambye tree. The bark of this tree also provides the celebrated Uganda bark cloth which was formerly the principal clothing material used by the natives. This tree has been artificially grown in avenues along the roads; and is now being grown in regular plantation patches as well. In spite of the considerable forest resources of the country, the supply and cost of wood for fuel and building purposes in places like Kampala presents a considerable problem, and in view of the proposed railway construction it will be necessary at once to establish special plantations of wood fuel for the railway. We are of opinion that there is room for considerable improvement in the administration of, and in the encouragement given by Government to, the Forestry Department.

A geological survey of Uganda has been begun, and we understand that there are indications of mineral oil in the western Rift Valley, in the neighbourhood of Lake Albert. If oil can be proved on a commercial scale in this area it may have considerable importance to the economic development of the whole of East Africa.

In the town of Kampala water supply presents considerable difficulties, the greater part of the water being at present carried from the Lake, which is a most extravagant and wasteful use of labour.

We have already stated in the chapter dealing with labour that the supply of labour in Uganda is a very real and pressing problem. In the areas opened up, by means of transport facilities, to cotton development the native has found an easy means of acquiring what is for him at present considerable wealth. If by the cultivation of an acre of cotton he can obtain all the money he requires for payment of his taxes and his immediate needs, he is disinclined for further effort. As an example of the shortage of labour, we were informed at the Government Agricultural Station at Serere that no labour was available to pick the selected cotton seeds for distribution among the natives.

The natives of Uganda have shown considerable industry in extending the area under cultivation of cotton and food crops, but once they have been paid for their cotton, say in the month of January, they are at present disinclined for further effort until the new planting season in May or June commences. Local administrative officers and the ginneries managers informed us throughout the cotton growing districts that it was increasingly difficult to obtain the services of any local labour for public works or for the running of the ginneries. Very few of the ginneries can work full time owing to shortage of labour. Consequently unginning cotton has to be stored for long periods, and the advantages of early marketing before the American crop becomes available are frequently lost. Not

a few planters, both European and Indian, in the cotton producing areas are extremely hard hit by the difficulty in obtaining labour.

The present policy of the Government is to organise the recruiting of labour from the western parts of the Protectorate where cotton production is at present impracticable owing to distance from railway communication. This involves bringing down large numbers of men considerable distances from their homes into districts where the language and other conditions are quite different. This cannot be regarded as a permanent solution of the problem, because, as a result of new railway construction, local cultivation for export will develop in the districts from which it is now drawn. At the present time it may be said that the cotton growers are becoming a special class for whom all the other community services have to be provided by wage labour imported from outside. We have to record our opinion that, in the eastern part of the Kingdom of Buganda and in the southern part of the Eastern Province, the present shortage of labour is due not to lack of population or to inability of the population to provide the necessary labour, but to the disinclination of the population to work at anything but cotton growing. We were given to understand that all the labour for the construction of the new railway from Tororo to Mbulumuti would have to be brought from distant outlying parts of the territory, and at the work on the new pier at Jinja we observed that none of the labour was local labour.

There is little doubt in our mind that the same propaganda issued by the Government which has resulted in the rapid extension of cultivation must be directed to securing a greater participation by local natives in the public works, transport, and other services necessary for the preparation and handling of the cotton crop for export.

Everything that can be done has been done by the Uganda Government to protect the interests of the native cultivator and to ensure him the maximum price for his cotton. The sale and ginning of cotton is under the control of a Cotton Control Board, which fixes the ginning sites and the cotton buying centres. The latter are designed to prevent any ring being formed by local ginneries, and there can be no doubt that the native producers' interest has been very fully safeguarded. While there is no doubt that in the Bantu areas the men have, under the influence of propaganda, taken a larger share in the work of cotton production, the bulk of the work is still done by the women.

One of the conditions precedent to further development in the desired direction as well as to increased areas under cotton is the further use of the plough, and for this purpose ploughing schools, where both the natives and their cattle are trained, have been introduced with beneficial results. The principal ploughing district is the Teso area, but here out of 80,000 acres under cotton only 4,000 are ploughed at present.

It is sometimes asserted that the Government policy in Uganda has been to compel natives to grow cotton whether they wish to or not. We therefore quote a statement of policy which was issued on September 26th, 1924, about a fortnight before our arrival in Uganda :—

“ Telegram to Provincial Commissioner, Western Province,
Fort Portal.

September 26th.

I understand from Postlethwaite differences of opinion exists between him and D. C. Mbarara as to policy with reference to labour and cotton. I am directed by the Governor to state that the line to be adopted is not to be one of definite pressure towards cotton production. Natives to be informed that three courses are open, cotton, labour for Government, labour for planters, but no attempt is to be made to induce them to choose any one in preference to the others. Only one thing to be made clear that they cannot be permitted to do nothing, and be of no use to themselves or the country. Inform D. C. Mbarara accordingly.

CHIEF SECRETARY.”

It was alleged, however, that in one or two cases native chiefs had compelled the peasantry to grow cotton. On investigation we found that very few cases of this kind of action had been substantiated, but there can be little doubt that native opinion generally has taken the expressed desire of the Government that they should increase the area cultivated under cotton as an order.

The bulk of the cotton is produced by small peasants, who grow approximately an acre of cotton and an acre of foodstuffs to the family. Some of the chiefs and landowners, however, are growing cotton on large areas by the help of paid labour. We heard of a case of an individual native landlord where a single block of 300 acres of land is being cultivated in this manner. There is, of course, considerable danger lest chiefs should directly or indirectly compel labour to work for them. We understand this question is receiving from the Government the close attention which it demands.

At present the cotton-growing peasantry are not thrifty; when they are paid for their cotton they spend the whole of the money they receive almost at once on the purchase of such imported goods as are obtainable locally. A Savings Bank does exist, but very little use has as yet been made of it. Improvements in its administration should be considered. But here again propaganda is needed, and more could be done than is at present being done by the Banks to encourage deposits from the more well-to-do natives. Natives should be encouraged by precept and example to improve their present housing conditions. Unless they are prepared to build better houses the problem of sanitation can find no real solution.

When we were in Uganda 164 ginneries had been established, of which 100 are owned by Indians. The latter are financed by the Indian traders and in some cases by the Japanese. One of the sources of weakness in the industry is the fact that some ginnery owners are not in a sufficiently strong position to finance their purchases of seed cotton. They consequently have to go to others who in return for financing facilities secure a lien on the cotton when ginned. We feel that the Cotton Control Board should be very careful in granting new sites for the erection of ginneries to any individuals or companies who cannot prove that they have the means to conduct the whole operation of purchasing the seed cotton and ginning it.

It has been the policy of the Government to restrict the number of ginning sites and to prevent the establishment of monopolies by licensing cotton buying centres near the ginneries, so as to ensure competition. This works fairly well in the Eastern Province, but in the Kingdom of Buganda excessive competition has resulted in both ginneries and cotton buyers employing agents to secure the cotton far away from the ginnery or buying centres. In our opinion the man who is prepared to invest capital in erecting a ginnery deserves more consideration than the mere cotton buyer. Some people in Uganda advocate free trade in ginneries as a better alternative. If such a policy were adopted there can be no doubt that too many ginneries would be erected and that persons would be attracted to this branch of the industry who have not sufficient capital to undertake it properly. We are therefore of opinion that the existing principle of restriction should be maintained. We consider, however, that there is no objection to the capacity of the ginneries exceeding the present available supply of cotton, and that, as new roads are built and the railway develops, a fairly liberal policy should be adopted in regard to ginning sites. It is important that road policy should be co-ordinated with the selection of ginnery sites and vice versa.

There can be little doubt, looking to the future of Uganda, that, with its vast unoccupied area capable of still further cultivation, the problem of population is a serious one. Accurate statistics are not available, but it is clear that until quite recently the population has been decreasing rather than increasing. This is particularly the case in the Bunyoro district, which was formerly almost as populous as the Kingdom of Buganda, and to-day contains little more than one-fifth of the population of Buganda. There can be no doubt whatever that the principal cause of this decline has been venereal disease. Syphilis is a scourge throughout the greater part of the Uganda Protectorate. It has wrought greater havoc with the population than the more spectacular epidemic of sleeping-sickness. There have been periodic outbreaks of plague in the Eastern Province. Malaria also is endemic, but none of these have anything like the seriousness of syphilis. During the last few years the Government has initiated a great campaign against venereal disease and already the beneficial results of this campaign are being seen. A standard treatment for syphilis has been initiated by the Medical Department. The main trouble has been that no social stigma was attached to the disease and that native public opinion regarded catching it sooner or later as inevitable. We were informed that in Bunyoro they had gone so far as deliberately to infect small children with syphilis as a sort of inoculation, with the most deplorable consequences. The missions, which have been more active and more widespread in Uganda than in any other part of tropical Africa, have, in spite of great efforts, so far failed adequately to impress the population with the moral aspect of this question. The doctors, under the leadership of Major Keane, have in many cases found their efforts negated by the lack of any sense of moral responsibility in this matter. Nevertheless, the medical staff are at last making real headway by the establishment of a widespread system of country dispensaries, staffed with native medical assistants trained at the Central Mulago

Hospital in Kampala, mainly for the specific purpose of giving injections and treating the disease. We saw many painful cases of the effects of the disease during our tour, and what has happened in Uganda should be a warning to other parts of tropical Africa. In addition to the dispensaries growing up throughout Uganda, what are really necessary concomitants, namely, maternity centres, are springing up not only as lying-in hospitals but also as centres for the education and treatment of the native women. The training of a sufficient staff of native female assistants for this task has been uphill work, but it is now firmly established. The magnificent effort in fighting syphilis which is being made by both the Government and the missions deserves the highest commendation, but their efforts will in the long run prove of little avail unless by education the native population is brought to realize more fully the gravity of the position and the need for more regular and moral habits of life.

The Indian Association at Mbale raised the question of the increasing drunkenness of the natives in that area and, from a speech delivered in the Eastern Province by the late Governor before leaving for the Sudan, we gathered that this evil is by no means merely local. In Uganda, as elsewhere in East Africa, the sale of imported alcoholic drinks to natives is strictly prohibited. The natives, however, manufacture from grain or sugar-cane their own alcoholic beverages, which vary in strength from a mild beer to a potent spirit. The Governor, in his speech alluded to above, referred to the increase of crime as a consequence of the increase in drinking, and we are of opinion that energetic measures will be required to check this vice. We found some of the younger chiefs fully alive to the danger and anxious to prevent the spread of the practice.

It must be remembered that Uganda is one of those countries which has increased suddenly in economic prosperity. Thirty years ago cowrie-shells were the currency of the country and the possession of wealth by other than a few chiefs was rare. It is perhaps inevitable that during the transition stage from poverty to affluence the natives of Uganda, as in the case of other races, should be rendered open to new temptations and that the Government should be confronted with new social problems.

In no part of Africa have the efforts of the Christian missions been more welcomed by the natives than in Uganda, and everywhere one sees signs of their activity. Nearly all the leading chiefs are, at any rate, nominally Christians, and a larger portion of the population are professing Christians than in any other part of East Africa.

There are three principal missionary bodies, namely, the Church Missionary Society (Protestant), the White Fathers, and the Mill Hill Mission (Roman Catholic). No visitor to Uganda can fail to be struck by the scale of their efforts and by the outward signs of their influence and power. Three of the hills of the capital city of Kampala are crowned with great cathedrals, built under European supervision by native labour.

In no other territory in East Africa is there such a complete system of missionary schools, from the small bush school up to the

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two remarkable institutions, of the public school type at Budo (C.M.S.) and the St. Mary's College at Kisubi (Roman Catholic).

We visited a considerable number of these mission schools during our tour, and we were struck by the widespread demand on the part of the natives for further and better facilities for education, and with the manner in which they are already contributing to its cost by payment of fees. Without in any way wishing to depreciate the work which has been accomplished by the missions, we would express the opinion that too much of the education has been purely literary. Technical institutions, it is true, do exist, but they are, of course, more expensive to equip and more difficult to staff. Too many boys having received a mission education have come to consider manual labour, especially on land, beneath them. Even in the literary education, with a few notable exceptions, the standard reached is not a high one. The economic revolution which has now taken place in Uganda requires something in the nature of a revolution in education to deal with it, and as the education of the boys increases the education of the girls, which has hitherto been a matter of secondary consideration, must be taken in hand.

Above all, on the moral side, duty, discipline, and self-control must be emphasised in every school. In these matters some of the schools leave a good deal to be desired.

The Government has entered the educational field only in the last year or two, mainly by way of grants to missionary bodies. They have, however, established the Makerere College in Kampala, a central institution of the higher type for the training of mechanics, surveyors, medical assistants, and civil servants. The College is not yet complete either in buildings or staff, but in our opinion provision of such an institution on a generous scale is long overdue. A certain number of sons of the richer chiefs have been sent to England or Ceylon for higher education, and the time has come when it is necessary to provide higher education for larger numbers in Uganda rather than outside. We question very much whether it is in the interests of the natives of Uganda that they should go to Europe for the completion of their education. But no institution such as Makerere can possibly succeed unless the whole educational structure is improved in quality. The Government of Uganda has been fortunate in securing this year as its first Director of Education Mr. Hussey, of the Gordon College, Khartoum, and a great responsibility rests upon him in evolving, in co-operation with missionary effort, a more satisfactory system of education throughout.

There are certain special difficulties in connection with native education in Uganda, arising from language differences. Similar difficulties arise in Kenya and the north-western parts of Tanganyika Territory. There are many vernaculars in Uganda, but owing to the leading position in the Protectorate taken by the Kingdom of Buganda there has been a tendency to use Luganda as something in the nature of a *lingua franca*. We found, for example, in an extremely well-equipped C.M.S. school in the Teso area that the boys were being taught in Teso, Luganda, and English. In our opinion such a tri-lingual system is foredoomed to failure. In such an area we should prefer to find Teso (a Nilotic language having

no affinities with the Bantu) being used as a sole medium of instruction during the first years of school life, and English only in the higher classes. One of the principal causes of the trouble seems to be that the bulk of the teachers even outside the Buganda Kingdom are Baganda natives. Another is the absence of text-books in the vernacular. If there is to be a *lingua franca*, we are of opinion that the *lingua franca* should be English.

We have already alluded to some of the land questions in Uganda in our general chapter dealing with that subject. There is, however, in the Kingdom of Buganda, where native freehold has grown up, a land controversy of peculiar complexity, arising from the social structure and history of the Baganda people. It would appear that at some time far back in history the peculiar position of the Buganda Kingdom with its hierarchy of native civil servants (for that is what the chiefs in effect are) had been imposed from without on a Bantu people organised on a hereditary clan basis. The clan organisation still obtains in the social structure, and it would appear that in the division of the freehold land effected by the native government under the Uganda Agreement of 1900 some of the clan rights were ignored by the then existing administrative chiefs. This controversy is known locally as the "Butaka Controversy," and as far as we could gather from representatives of the Butaka community who approached us, as well as from the attitude adopted by the Kabaka (King) of Buganda, when he held an inquiry into this question, some of the clan rights have not yet been fully met. We understand that this question has been referred to the British Chief Justice and the Provincial Commissioner for Buganda for investigation, and that their recommendation will involve not, indeed, the admission of the Butaka claims in full, but the surrender and re-distribution of certain lands to the claimants. Such a re-settlement will undoubtedly involve a certain amount of friction with the native government, but it is clear to our mind that, unless the native Lukiko (Parliament) is prepared to take action in the matter, the Government of the Protectorate will be forced to deal with it.

Among the questions submitted to us for consideration by the Kabaka of Buganda and his ministers was that of the southern boundary of the Kingdom. It would appear that, when the northern boundary of Tanganyika Territory, then German East Africa, was demarcated, the boundary was fixed in Europe along the geographical line of one degree south of the Equator. The old boundary of the Kingdom of Buganda was the Kagera River, which flows at one point of its course a little to the north of the arbitrary one degree parallel and then back into what is now Tanganyika Territory, and again north of the one degree parallel to its mouth in Lake Victoria. The result has been that a small area, approximately 50 miles from east to west and 15 miles from north to south at the greatest depth, was cut off from the Kingdom of Buganda and handed over to Germany. In view of the fact that this area has now passed under British administration, the King and Parliament of the Kingdom of Buganda petitioned that this small area should be restored to them. On ethnological, political, and economic grounds there can be no doubt that the Kagera River is the proper boundary. The inhabitants of the small area of Tanganyika Terri-

tory north of the Kagera are few, but the forest resources are considerable. These forest resources can only be dealt with *via* the Kagera River, whose mouth is wholly in Buganda. The rectification of frontier asked for is necessarily a matter for the Council of the League of Nations, to whom the Kabaka and his ministers are anxious that you should refer this matter.

One of the minor questions brought to our attention in Uganda was that of the destruction wrought by game, in particular by elephants. Elephants are numerous, being estimated at at least 10,000 in the western parts of the territory and particularly in the district of Bunyoro between the Nile and Lake Albert. The damage which can be inflicted on native settlements by even a few elephants is spectacular, and there can be no doubt in our mind that the elephants must be restricted as far as possible to definite reserves. A sufficient staff of salaried hunters in the employ of Government must be maintained to keep them in these reserves and to shoot elephants of whatever size that emerge from these areas and do damage to the native settlements. In our opinion this system of salaried Government hunters, with no personal interest in the sale of ivory, is the only one likely to be effective.

CHAPTER XII.

KENYA COLONY AND PROTECTORATE.

Area—245,060 square miles.

Population (estimates supplied by the Colonial Secretary and Chief Native Commissioner in 1924)—

Europeans—10,295.

Asiatics—23,470.

Natives—2,495,065.

Capital—Nairobi.

The territories comprising Kenya Colony and Protectorate, formerly the British East Africa Protectorate, form a quadrilateral area between the parallels of four north and four south, disposed evenly about the Equator, which runs along the greater diagonal. The area is about twice that of Great Britain and Ireland, while the population, the bulk of which is found south of the Equator, is roughly one-twentieth that of the British Isles. The total area of 245,060 square miles is divided as follows:—

(a) Native Reserves in Colony	...	46,837 sq. miles.
(b) Forest Reserves in Colony	...	2,980 " "
(c) Land surveyed into farms	...	11,859 " "
(d) Area of Protectorate	...	2,200 " "
(e) Coast Province Extra Protectorate	...	13,980 " "
(f) Jubaland	...	36,740 " "
(g) Northern Frontier Province	...	92,180 " "
(h) Turkana	...	7,920 " "
(i) Remaining area	...	30,364 " "
Total	...	245,060 " "

The problems of Kenya are inherent in the presence of black, white, and Asiatic races, the reconciliation of the white ideals of trusteeship of the natives with self-interest, on the one hand, and, on the other, the responsibility which the Imperial and local Governments share to develop the natural resources of a sparsely-peopled territory which includes some of the richest agricultural soils in the world, mostly in districts where the elevation and climate make it possible for Europeans to reside permanently. We have to recognise the fact of European settlement, that an increasing number of colonists are being attracted to the Kenya Highlands yearly, and that their occupation has added greatly to the productivity of the country.

Out of the European population of 10,000 about 1,000 males are enumerated as belonging to the Administration and local forces, 2,000 males are classed as settlers, 800 represent the commercial classes, 200 the professional classes, and about 90 come under the head of missions. The numbers of Europeans have considerably increased during the last three years, especially among the unofficial classes. The Arab population is found mainly in the coastal area, while the Indians are to be found engaged as middlemen, in petty trading, in the skilled trades and minor professional occupations, throughout the territory.

The most populous native districts are Nyanza—903,000, Kikuyu—665,000, and Ukamba—327,000. As in the case of Tanganyika, the greatest density of population is in the region of Lake Victoria. Roughly one-tenth of the territory is uninhabited and uninhabitable, further areas to the extent of 160,000 square miles are occupied only by nomads such as the Somalis of the Northern Frontier Province and Jubaland, so that the mass of the population is distributed over an area of approximately 60,000 square miles. The density of population in the Nyanza reserves is roughly 100 per square mile. Certain locations are densely populated and overcrowded. Bunyoro in North Kavirondo has a population density of 1,100 per square mile. The density of population in the Kikuyu reserve is 117 to the square mile but, if cultivable land only is taken into account, the density works out at twice this figure, or approximately allows 10 acres for every adult male. There appear to be great variations in density of population within the reserves, and the effective development of the native population within the reserves would seem to point to efforts being made to secure a more even distribution.

The European population is for the most part gathered in the vicinity of the railways, and particularly in the neighbourhoods of Nairobi, Naivasha, Nakuru, the Uasin-Gishu plateau, and in the Trans-Nzoia area, from the lower slopes of Mount Elgon down to Kitale and the Nzoia river. Most of this area is more than 6,000 feet above sea level. There are roughly 2,000 white families settled on this land engaged in agriculture. All these settlers have become domiciled in the country since 1903, the year following the completion of the Uganda railway from the coast to Lake Victoria. In 1903 the Commissioner, Sir Charles Eliot, decided to attract European settlers into the country, and in 1904 an official was sent to South Africa to advertise the

advantages of the European colonisation of what was then the British East Africa Protectorate. This was in accordance with the policy of the Foreign Office, which was then responsible for affairs in East Africa. In the first instance, freehold rights over a few very large areas were granted to the first pioneers. It should be said that the Imperial Government has done much to encourage white settlement over a great part of what are known as the Kenya Highlands. Since the war, various schemes have been inaugurated to attract ex-soldier colonists by grants of land in defined areas in holdings varying from 160 to 5,000 acres. In one instance, namely, the British East Africa Disabled Officers' Colony, a fairly large tract of land was put at the disposal of men who had been partially disabled, and these men received financial assistance from the Imperial Government in the form of training grants in addition to a free grant of land.

The only outlet from Kenya is the port of Mombasa, the capacity of which to deal with the produce carried by the Uganda Railway from Uganda, part of Tanganyika, and Kenya, has been dealt with in the general chapter on transport and communications. We desire to emphasize once again the congestion at the port, and the urgent necessity for proceeding with all dispatch with the construction of new facilities to cope with the already remarkable increase in traffic, and the certain steady growth of exports for many years to come. We incline to the opinion that Mombasa Island, on which the present railway terminus stands, and upon which all exports and imports are handled, may need supplementing by wharves on the mainland.

The principal exports of Kenya for the year 1923 were:—

	<i>First</i>	<i>Whole Year.</i>
	<i>Nine Months</i>	
	£	£
Coffee	345,000	491,000
Maize	168,000	250,000
Sisal	145,000	236,000
Carbonate of Soda ...	94,000	143,000
Hides and Skins ...	85,000	118,000
Flax	35,000	49,000
Sesame	31,000	40,000
Ivory	20,000	—
Wool	16,000	25,000
Pulse	16,000	22,000
Groundnuts	14,000	33,000
Copra (Coco-nut) ...	13,000	13,000
Wood and Timber ...	10,000	15,000

Among the minor exports must be included wheat, ghee, bacon and ham, cattle, sheep and goats, dairy produce, potatoes, refined sugar (1924 only), and tanning barks.

The figures for the first nine months of 1924 show that the exports of sisal hemp, sesame, flax, copra, wood, and timber have more than doubled, while the exports of maize and coffee have largely increased in the same period. For the first time an export of refined sugar is recorded. The figure for cotton export is dis-

appointingly low, averaging only £3,000 per annum for the years 1923 and 1924, but the smallness of this figure can be partly attributed to the absence of cotton ginneries in Kenya, particularly in the Kavirondo area where most of the cotton is produced. His Majesty's Trade Commissioner in East Africa states that a good deal of raw cotton from Kenya finds its way to the ginneries in Uganda, and is included in the figures for the export of Uganda lint.

The total exports from Kenya for the year 1923 amounted to £1,564,995, and for the first nine months of 1924 to £1,627,247. The export of refined sugar for the year 1924 is particularly interesting as indicating the success of the sugar factory, which has been established in a native area, to encourage the growing of sugar-cane.

Nearly 20,000 acres of wheat were harvested during 1923/4. The yield per acre is not large owing to failures of crops due to "rust," aphids, and the sowing of wheat in districts not well suited to the crop. Experiments are at present in progress with the object of finding "rust resistant" varieties for the territory. Wheat is grown at Njoro where it was first introduced by Lord Delamere, but the principal wheat districts are now the Uasin-Gishu plateau and Trans-Nzoia. The cultivation of wheat is assisted by a heavy import duty. We are not altogether satisfied that the cultivation of wheat in equatorial areas on some of the richest soils will prove desirable in the long run, but it possesses the real advantage of calling for a minimum amount of labour for its production.

Particularly interesting is the prospect of an export of dairy produce. In this connection, mention should be made of the proposed erection by the Government of cold storage wharves at Mombasa, and the provision of refrigerator cars on the railway, which will do much to foster this trade.

The co-operative idea seems to have become firmly established in Kenya, and co-operative effort is largely responsible for the significant increase in the export of maize. The development of maize production has also been greatly encouraged by the establishment of a flat rate of a 1s. per bag (200 lb.) on the railways. Some idea of the growth of this crop is revealed by the following figures showing the acreage under European-grown maize during the last three years:—

1922	...	...	...	...	...	74,747	acres
1923	...	...	...	...	...	99,764	„
1924	...	...	...	...	...	141,147	„

We may also quote the following figures which relate to maize production during the last three years:—

				Bags.	Value.
					£
1921-22	...	...	...	50,266	41,995
1922-23	...	...	...	467,268	255,064
1923-24	...	...	...	642,680	351,330

The Government, through the Department of Agriculture, has undertaken the grading of maize, and its certificate is now accepted as a warranty of quality. Unfortunately, while the maize grown

on European farms is of the finest quality, there have been serious complaints of loss of weight and mixed quality of the native-grown article. This has led the Department of Agriculture to employ an inspecting staff which is responsible for the rejection of all maize which fails to reach a satisfactory standard. With an increased staff of agricultural officers in the reserves, and a more active interest on the part of administrative officers, there is no reason why native-grown maize should not approach the quality of that produced by the European planters, particularly if the best seed is distributed by the Government. Much of the native maize which we saw awaiting export at Kilindini was infected with weevils, and some shippers refuse to take this weevily maize as weevils will spread to other cargo in the holds.

Maize is, in some ways, the most promising crop produced by the Colony. It can be grown by natives as well as by Europeans, and on much of the land in the Highlands the yields are remarkable. We heard of one farm in the Trans-Nzoia where the yield in 1924 amounted to 20 bags per acre, while in the Kavirondo reserve we were informed of a yield of 18 bags per acre. The average yield is high, considerably exceeding that of South Africa (8 bags per acre). Kenya is specialising in the production of a flat white maize (a kind of Hickory King). The land in parts of the Highlands is a virgin loam, anything up to 40 feet in depth, and so for some years high yields can be secured without manuring, but the day will come in Kenya, as in all other countries, when the advantages of virgin soil will disappear, and recourse will have to be had to rotation crops and manuring.

Coffee is at present the most important crop and export of Kenya. It was first introduced by the Roman Catholic Fathers at Nairobi 20 years ago, and the original plants which we saw are still bearing. The yield per acre varies from about one-third ton to 1½ tons, the variation depending upon soil, climate, elevation, and the method of cultivation. Over the greater part of coffee areas shade is necessary for the coffee bushes, although on some plantations coffee is being grown without it. As a rule shade trees are planted adjacent to the bushes, but quite recently a successful coffee planter in the Turbo area has tried the interesting experiment of supplying artificial shade. This, while it involves a capital outlay of about £12 per acre, is found to have so greatly increased the yield that the additional expenditure is made good in a year or two. It is clear that no uniformity of practice is possible in regard to the cultivation of coffee, coffee produced in the neighbourhood of Nairobi requiring very different treatment from that grown in the Trans-Nzoia area.

Kenya coffee realises nearly the highest price on the London market. This is due to the grading which is carried out by the coffee planters, and to its special flavour. There is therefore considerable anxiety among the European coffee planters lest the natives should be encouraged to grow coffee, since it is feared that native-grown coffee would lessen the confidence which the coffee buyers possess in the Kenya marks, and thus depreciate their value. But, more important still, they fear that it would lead to the introduction of coffee pests and ultimately to the virtual extinction of the in-

dustry. We are not convinced that the growing of *arabica* by natives would have this effect, provided its cultivation is regulated by a coffee ordinance, and native plantations are thoroughly controlled and inspected. But in view of the cost of such inspection, and the small demand at present by the natives for such facilities; the matter is as yet one of academic and sentimental importance rather than of practical significance. This view is shared by the Director of Agriculture in Kenya.

In the year 1923 about 39,000 acres were planted with sisal, and there was a large increase in the year 1924. Sisal is essentially a poor soil crop, and can be grown where the annual rainfall does not exceed thirty inches, or even less. Every effort is being made to eliminate hand-labour in its cultivation, to improve the decorticating machinery, and to reduce the amount of labour necessary in the preparation of the hemp for market. The handling of sisal leaves before they reach the decorticator is a matter to which much attention is being given by some European owners, so that this occupation may be made less unattractive to the natives. Sisal plantations possess the advantage of supplying continuous labour for the native employees, but the disadvantage of being situated generally in districts where the native labourers cannot produce their own food crops. There is a possibility that a large area of hitherto unproductive land will, if labour can be obtained, be put under sisal in the next few years. Experiments have been carried out with a view to utilising sisal by-products in the production of power alcohol, but up to the present with very little result. We were informed by several sisal planters that they find it exceedingly difficult to persuade the British makers of sisal machinery to introduce modifications which would result in much saving of labour. At present practically all sisal hemp is sun-dried and bleached, processes which involve the employment of a large number of workers. It is hoped that this will be obviated by the introduction of hot-air plant.

Immediately after the war a great impetus was given to the flax industry by the high prices which ruled in the world's markets. A mild boom was created in Kenya, and considerable areas were planted with flax, which grows well in the Highlands between 6,000 and 8,000 feet above sea level. At lower elevations there has been a certain amount of trouble with the wilt disease, and the caterpillar. Unfortunately for the planters, the market collapsed to such an extent that those who depended entirely upon this crop were faced with ruin. Much of the area under cultivation was ploughed up, and other crops, particularly maize, were substituted. Improved methods of cultivation, based upon recent researches by the United States Department of Agriculture and the Linen Research Institute, are now being adopted, and there is an indication that flax may take its place among the successful products of the Colony.

Sugar has been grown for many years in Kenya, but, until the end of 1922, was mainly for local consumption. Now there are three sugar factories in the Colony, one situated at Nuvani in the Kavirondo area, another about fifteen miles from Nairobi on the Kanubi river, and a third at Muhoroni. Owing to the climate, which allows for two planting seasons of sugar-cane, it is possible to have

canes ready for the mills during the whole twelve months of the year. This enables factories to run continuously and obviates the necessity of closing down during the off season, as is the custom in most other sugar-producing countries. There are in Kenya, in both European and native areas, about 500,000 acres of land suitable for cane farming. The chief areas are found in the coastal districts, particularly near the mouths of the rivers. The successful production of sugar for export necessarily involves large capital expenditure on factory plant, and sugar is, therefore, not a crop for the small settler. We were interested to hear that, to develop agriculture among pastoral tribes, small plants for the manufacture of jaggaree (unrefined sugar) are being put down in suitable districts which it is hoped will be fed by native producers in the district.

Tea has been grown in the Limoru and Kericho districts, and it will probably take a high place in the products of Kenya in the very near future. We are assured that the conditions for tea growing in these two districts are as favourable as any to be found in India or Ceylon. A central factory has been put up at Limoru by Messrs. Brooke, Bond and Company which is capable of handling at least a million pounds of tea yearly.

We were interested to hear that there is a possibility that the silk industry may be introduced in the territory among the natives. In most of the native reserves the mulberry tree flourishes. Experiments have already been tried with silk-worms, and the silk produced is among the best in the world. It is suggested that this might form a subsidiary industry on European farms also. The advantage in Kenya is that continuous broods of silk-worms can be obtained—four broods a year as against one brood in France and the Levant.

In addition to a large amount of maize produced for native consumption in the Territory, there is now a considerable export of native maize. It is estimated that its value will amount to £130,000 for the year 1924. Other crops now being produced by natives for export are sesame (sim-sim), groundnuts, pulse, copra, and cotton. We are not satisfied that sufficient encouragement by way of expert advice and tuition, distribution of seed, erection of ginneries, the provision of markets, has been given to natives to engage in production for export. We are assured that there are several districts where much could be done to foster cotton-growing, viz., Kavirondo, Malindi, and the Tana River. The conditions in the lake area of Kavirondo are similar to those which prevail on the Uganda and Tanganyika sides of the lake, where much cotton is being produced, and, since the Kavirondo are among the best workers in East Africa, they should be provided with the necessary markets, ginneries, and roads, and encouraged to emulate the natives in the two adjacent countries. The Malindi district is most suitable for cotton growing, but the 1924 crop, following the distribution of seed by the Agricultural Department, is only enough to keep the local ginney running for 12 days. We were informed that the Tana River basin could support a large population as against its present small one of 14,000 natives, and become a centre of cotton production under irrigation. The Director of Agriculture

estimates that about 1,300 bales of cotton are being produced annually. He does not expect that the production of cotton in Kenya could ever exceed 50,000 bales.

Altogether there seems little doubt that the Department of Agriculture has in the past devoted most of its attention to the improved cultivation in European areas, and that, until the last three years, very little indeed was done to encourage native production. In Kikuyu district, one of the richest native agricultural districts in Kenya, with a population of 665,000, there are only two agricultural officers devoting themselves to native production, and one of these has to spend a certain amount of his time at the native agricultural training farm at Kabete. We were informed that, in the Kitui district of the Ukamba province, where there are 110,000 Akamba natives, the only assistance received from the Agricultural Department in ten years has been the issue of a few bags of seed. The cotton manager of the British East Africa Corporation, Ltd., in a memorandum presented to us, states :

“ In view of the comparatively large agricultural staff employed upon cotton growing in Kavirondo it is disappointing to find so much bad planting throughout this area. The contrast in passing from the well-planted, evenly spaced, single plants in Uganda to the haphazard planting over the border, with many stands growing up together, is most marked, and it is hoped that a real effort will be made in future to give better instruction and much more personal supervision to cotton planting and cultivation.”

We are of opinion that more could be done to encourage the production of groundnuts by natives, as a large part of the territory in the neighbourhood of Lake Victoria is adapted to this crop. Groundnuts are not only a valuable export crop, but are also useful as an alternative food crop for local consumption.

Few, if any, parts of Africa possess greater natural advantages for a high-grade cattle breeding industry than Kenya. For, apart altogether from the large supply of foundation stock in the possession of the natives, there are large areas of the Colony unsuitable for cultivation which can be best used for the further development of pastoral industries. Except in the case of pure bred cattle and a few high-grade herds maintained expressly for milk production, artificial feeding is seldom practised. The housing of cattle is unnecessary owing to the geniality of the climate, whilst the expenses connected with herding, owing to the remarkable herding capacity of some of the pastoral tribes, are not excessive. As in many parts of Africa, however, the cattle industry is threatened by the prevalence of diseases, and the Animal Husbandry Division of the Department of Agriculture is doing its best, by the extension of dipping, to eradicate the ticks which are probably responsible for ninety per cent. of the diseases amongst the cattle. The Veterinary Research Laboratory at Kabete is doing good work in connection with animal diseases and the preparation of sera for inoculation against rinderpest. Over the best European cattle breeding areas, particularly where the dairy farming industry is making strides, there is no

threat from the tsetse fly. In recent years much attention has been given by Lord Delamere, the Hon. Berkeley Cole, and other stock breeders, to establish sheep rearing on the drier portions of the Highlands. Merino sheep have been introduced from Australia, and the wool clip is already appreciable in quantity. As in other sheep breeding countries, this industry, if it is to be profitable, has to be worked on a large scale. It is not an industry suitable for small farmers, and we think that mistakes have been made in the too great sub-division of the sheep breeding area of North Rumuruti.

The Animal Husbandry Department, which embraces the veterinary services, seems to devote the greater part of its time to the care of European cattle, and the setting of quarantine boundaries about native cattle areas where disease is known to exist. We were informed that a certain cattle area in one of the Ukamba districts has been in uninterrupted veterinary quarantine for not less than seven years. The Kitui Akamba possess as many or more cattle than all the European settlers in the country, but the district has received little attention from the department. It is alleged that the only activity of the department in this district was confined to the construction of a dipping tank for the station during the war, to facilitate the export of native cattle needed as rations for the troops. The tank is now abandoned and derelict.

There is a feeling among the natives that the resources of the technical departments of the country, which are supported out of the general taxation, to which the natives contribute so largely, have been used too exclusively for the development of the European areas. Stimulated by the growing wealth of the natives in the adjacent territory of Uganda, the natives have been loud in their demands for services in return for the taxes which they pay. They are backed in some of their demands by the Convention of Associations, the local administrative officers, missionaries, and, to a large extent, the commercial community.

In view of the enormous importance to the economic development of the Colony, and not least to the natives, we are of opinion that the Director of Agriculture should be given a seat on the Executive Council.

It was not until the latter part of 1922 that the Agricultural Department applied itself seriously to the task of developing native agriculture. There is now a staff of three senior agricultural supervisors, five supervisors, and about seventy native instructors and apprentices. In addition, provision is made for veterinary services in the native reserves, one senior veterinary officer, four veterinary officers, eight stock inspectors, and about forty native scouts being allocated for this purpose. When it is considered that the native population of two and a half millions is, for all practical considerations, entirely agricultural and pastoral, the inadequacy of the present staff will be appreciated. Much discontent among natives is aroused by regulations of a department which perforce can do little with so small a staff to effect improvements in agricultural methods which alone would make conformity with regulations reasonable and practicable. The best incentive to efficient production is the proper

provision of marketing facilities, and this involves not only central markets, but also the provision of roads and transport facilities, which are at present very inadequate. And it must not be assumed that the provision of additional staff and the other facilities specified would involve the Colony in large capital expenditure for which no immediate return could be expected. There is no doubt that production in the native reserves would be rapidly increased, as it has been in neighbouring territories. All that is needed is proper guidance and supervision. Again, if the native live-stock industry were properly organised, cattle, sheep, and pigs would become an important asset rather than a liability to the soil. The Veterinary Adviser to the territory expresses the opinion that a volume of trade 50 per cent. larger than at present obtains in hides and skins—the exports of which are at present affected by cattle disease and are valued at £140,624 for the year 1923-24—and an improvement in the quality of 25 per cent. could be effected by instruction in flaying, drying, and cleaning.

Practically all the native cultivation is at present done with the hoe, and the bulk of their crops are transported by head portage. This waste of human energy greatly curtails agricultural possibilities, and the employment of oxen would liberate much labour, besides developing more efficient transport.

The marketing of meat and animal by-products has also great commercial possibilities, but at present presents many difficulties. The Veterinary Adviser has been endeavouring to interest European firms in the development of such a trade, but so far his efforts have met with no response. The establishment of one or more meat factories, which was the object which he sought, would enable both Europeans and natives to dispose of their stock, of which at present very little economic use is made. This would have a beneficial effect upon the quality of stock raised. Ten per cent. of Kenya's cattle bought at a penny a pound of beef means to their owners a trade of over £300,000 a year. It is worthy of note that the demand for native stock has increased measurably during the past year. It is certain to increase progressively as employers of labour realise the increased efficiency of workers who are provided with meat as a regular article of diet. The Director of Agriculture informed us that, even if a market were found, *e.g.*, in meat export, meat canning, or meat extract, serious difficulty might be experienced in securing cattle in sufficient numbers from native owners, having regard to native customs in respect of cattle ownership. But we have been informed by competent authorities that even among the Masai, who cling most tenaciously to their time-honoured customs, this prejudice is breaking down under the influence of the desire to acquire the products of other countries. The influence of trade and shopping centres is sometimes underrated.

The closing of the Naivasha Stock Farm in 1922 after nineteen years' continuous, valuable, and economically sound work was most unfortunate. It was closed down, like other important institutions, during the period of retrenchment accompanying the financial stringency after the 1920 slump. In extenuation, it was urged that on grounds of policy the supply of pure-bred stock should be left

to private enterprise. But the private breeders, with one or two notable exceptions, do not possess either the necessary capital or knowledge in the breeding and management of pure-bred stock. The dispersal of the pure-bred female stock when the station was closed has undoubtedly retarded the progress of the livestock industry and will hamper the development of the dairying industry.

While advocating a considerable augmentation of the agricultural staff in the native reserves we realise that the development of native agriculture demands the enthusiastic co-operation of administrative officers with those of the technical departments. It is to the district administrative officer that the native looks for guidance and encouragement, and, if he is well advised by the agricultural and veterinary officers attached to him, he can effect remarkable changes in a very short space of time. We are informed that administrative officers throughout the native areas have shown keenness in increasing native production and their requests for agricultural services have exceeded the existing resources of the department.

In order that the native cultivators may be properly influenced and their efforts directed along right lines, it is essential that a larger staff of native instructors should be trained by the Government. At two institutions, one at Bukora in Central Kavirondo and the other at the Scott Agricultural Laboratories at Kabete, provision is made for the training of native pupils, of whom there are 70 at present under instruction. A feature of the work is the "model farm" on a small scale illustrating and demonstrating how a native plot should be cultivated and cropped. The experimental farm at Kabete was abandoned in 1922, and thus lost to the Colony the opportunity of carrying out under proper supervision a large number of breeding experiments, and prevented the Agricultural Department from demonstrating to a fairly large number of intelligent natives the advantages of modern agricultural methods. In addition to the training centres, a small commencement with agricultural instruction in village schools has been made in co-operation with the Education Department, and seeds are issued to these schools and to mission centres. All this effort is invaluable, but we suggest that the time has come when the creation of "model farms" on a working economic scale should be undertaken actually in the native areas. Otherwise, the innate conservatism of the natives in the area to which the pupil returns from the central institutions may crush any enthusiasm he may have acquired for progressive cultivation.

In memoranda presented to us by the Mombasa Chamber of Commerce and Agriculture it was pointed out that the coast of Kenya enjoyed a considerable overseas trade up to twenty-five years ago. It was regarded as the granary of South Arabia. At one time the seaport of Lamu was the centre of a considerable dhow trade, but this has practically disappeared. The decline in agricultural production can be partly attributed to the abolition of slavery and the sudden divorce of masters and retainers. The compensation paid to the masters produced a landed class with small capital instead of labour, and with no education to apply the former to obtain the latter. The result was that the capital was rapidly

dissipated, and large areas of valuable plantations and arable land reverted to bush. The ex-slaves, given nothing but their freedom, either drifted into towns or eked out a precarious existence in the vicinity of their former masters' lands, and, lacking initiative and given no encouragement or assistance by the Government, seem literally to have died out.

In the early days of the Protectorate, the Government attempted to assist European cultivation in the hot coastal area with little regard either to the natives or to the climatic difficulties which confront Europeans in such an area. In particular, the treatment of the Giriama tribe was very bad. This tribe was moved backwards and forwards so as to secure for the Crown areas which could be granted to Europeans. Their treatment upset the local labour supply, and several plantations which should have carried on with cotton and other products failed on this account. In addition to this, the whole country suffered from the loss of the Giriama maize. At present the European plantations on the coast are largely run on Kikuyu and Kavirondo labour, brought down under contract from a great distance. We were, however, informed at Waa, near Mombasa, that these conditions are changing, and that more local labour is being obtained. The Department of Agriculture is stated by people in Mombasa to have done very little for the coast, its activities being chiefly concentrated on temperate and sub-tropical farming in the Highlands, and not to the tropical agriculture required on the coast. This statement is borne out by the Director of Agriculture himself, in the annual report of his department published in May, 1923, in which it is stated in connection with the closing down of the Mazeras Experimental Station:—

“ Early in the year it was decided, for financial reasons, to close down this station, with the result that the department is now able to devote but little attention to the development of agriculture along the coastal belt. Having regard to the expenditure incurred on it and the staff which it carried, it cannot be said but that it has rendered useful service in past years. Many of the economic and other plants now established in the highlands were originally secured from Mazeras, its resources were drawn upon for the establishment of the sisal industry, and of sugar-cane fields, while it contributed in no small measure to such knowledge as is now possessed in respect of coastal agriculture.”

There has recently been an appointment of a Coast agricultural officer, and provision will have to be made for the further charges which will follow if his services are to be made effective.

In addition to what we have already said regarding the re-establishment and extension of Government farms, work is required on plant breeding. The present method of planting and crossing in various localities under the supervision of local European farmers is merely an expedient, and cannot be regarded as ultimately satisfactory. There is at present only one European officer engaged on this highly important work, with the result that when he is on leave most of the work stops, strains get mixed, and valuable records are lost. There is an urgent need not only in Kenya but in other territories

for soil-crop surveys in order that crops should not be grown on unsuitable soils. In fact, a general economic survey of the country would be desirable.

We cannot leave the subject of agriculture without referring to the work which has been done by a large number of European pioneers, work which must be an education to any natives who are employed on their farms. A large number of settlers whom we met on their own farms showed themselves vitally interested in the scientific aspects of agriculture, and fully alive to the importance of setting aside experimental plots of their own. In all, 4,500,000 acres of agricultural land are already occupied by Europeans. The average area cultivated by each European occupier by June, 1924, was 202 acres, while the average acreage developed by each occupier in some form or other amounted to 1,285 acres. Far more land, of course, would be developed in the European areas were an adequate supply of native labour available.

Soon after the war there was a somewhat rapid influx of new settlers under the soldier settlement scheme. The number of new farms allotted under this scheme was 1,031. Of these 770 farms remain in the possession of the original participants or their transferees. The number of transfers from the original allottees is believed to be 225. 215 of the farms have reverted to the Government, of which 192 reverted by voluntary surrender. 46 farms have not yet been taken up as their proprietors are still serving in His Majesty's forces. 734 of the farms are being actually worked at the present time.

The forests of Kenya, which cover roughly 5,100 square miles, and which should, if properly exploited, be a continuous source of revenue to the country, are at present a charge upon public funds. The cost of the Forestry Department for 1924 exceeded the revenue from royalties, timber and fuel sales, and other forest products by more than £6,000, and for 1925 the excess of expenditure over receipts is estimated at £4,000. The forest areas are fairly well defined. There is an outer coastal belt of mangroves with an inner coastal belt of hardwoods, of which ebony (an indigenous tree) is the most valuable. Nothing is being done to increase the number of ebony trees, owing to the length of time (about 70 years) they take to mature. In the districts about Laikipia and Aberdare there is an extensive forest area, which is a Government reserve. The forests on the west side of the Rift Valley, as well as those on the east, contain fine cedar trees. These include the Grogan forest concession granted for 40 years from 1912 under arrangements made in 1904. Other forest areas exist in the Kavirondo district and in the neighbourhood of Mount Kenya. In all there are at present 24 sawmills working in the Colony. The Grogan concession covers 300 square miles, and the royalties under the agreement with the Government amount to only £600 a year. On this concession the Forest Department is responsible for all replanting. When the railway line from Nakuru through the concession was contemplated, traffic amounting to 20,000 tons of timber annually was promised. In 1921 the output was 300 tons, in 1922 it increased to 9,465 tons, but in 1923 it dropped to 1,000 tons. We suggest for consideration that

the local Legislative Council might institute a full enquiry into the working of this concession. The terms on which it was granted should be a warning for the future.

The figures supplied to us for the output of timber from all forests are given approximately as:—

1920	...	...	...	...	14,000 tons.
1921	...	...	...	...	11,000 "
1922	...	...	...	...	17,000 "
1923	...	...	...	...	10,000 "

In addition to which 9,000,000 cubic feet of fuel are being supplied annually for the needs of the railway and for other Government purposes.

A certain amount of planting is being carried out by the Forest Department. Indigenous trees are planted together with eucalyptus gum, the idea being that the eucalyptus gum, a tree of rapid growth, will be cut out for fuel, leaving the indigenous woods to grow.

The cedar forests could be made far more remunerative if the cedar slats were properly graded for the pencil makers. It is suggested that a forestry officer with a sound technological training and some experience of the pencil industry should be appointed specially to supervise this work. At present there is only one European forest surveyor for the territory, and more are needed to undertake a systematic survey of the valuable forest resources. Above all, there is a great need for a silvicultural research officer.

The first railway constructed through Kenya (known as the Uganda Railway) ran from Mombasa to Kisumu on Lake Victoria (587 miles), and was completed in 1902. Before the war two branch lines had been completed: one from Nairobi to Thika (32 miles) for the development of coffee estates and sisal plantations, and one from Magadi Junction to Lake Magadi (91 miles) to develop the soda traffic. During the war a branch line was laid down from Voi to Kahe (92 miles) to connect the Uganda Railway with the Tanga Railway.

The new Uasin-Gishu Railway from Nakuru to Turbo (148 miles) was commenced at the end of 1921 and is now approaching completion. An extension is now being built from Thika through Fort Hall to the Tana River (49 miles) and will be continued to near Nyeri (32 miles). A branch line is being commenced this year from Soy Road to Kitale (43 miles) to develop the Uasin-Gishu and Trans-Nzoia areas, and a further branch line has been sanctioned from Rongai (20 miles west of Nakuru on the new Uasin-Gishu Railway) northwards to develop the Solai Valley (30 miles). Work is also commencing on the through line from Turbo to Tororo in Uganda (75 miles), and a branch line is contemplated to tap the Kavirondo reserve.

Until this programme of construction is completed, entailing as it will a very large demand on the available labour supply, it is premature to consider further branch extensions. There are, however, two further extensions for which local demand is being made, firstly, a branch from the neighbourhood of Gilgil to Thompson's

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Falls (about 50 miles), and, secondly, one from the neighbourhood of Mau Summit to Kericho (about 35 miles). Both these branches will present considerable engineering difficulties and will be expensive. Before either of them comes within the range of practical politics we are of opinion that very careful surveys will be needed.

The money for the original Uganda Railway from Mombasa to Kisumu (approximately £5,500,000) was provided by the Imperial Government. No interest or sinking fund charges have been imposed. The capital for the Magadi line was provided by the Magadi Soda Company, Limited, and that for the Nairobi-Thika line (£62,000) was a charge on the Imperial loan of £250,000 of 1913, which was later repaid out of the proceeds of the Kenya £5,000,000 loan of 1921. The Voi-Kahe line was built by the Imperial Government, but has since been purchased by the Uganda Railway for £70,000. The cost of the Uasin-Gishu line from Nakuru to Turbo (approximately £2,000,000) was provided for to the extent of £1,400,000 out of the Kenya £5,000,000 loan of 1921, the balance being intended to be covered by a subsequent loan. The interest and sinking fund on that portion of the Kenya loan of £5,000,000 which was spent on the railway is provided out of railway revenues. The cost of the main line to Uganda from Turbo to Tororo (approximately £450,000) and for the branch line into the Kavirondo reserve (approximately £250,000) will be met from the loan of £3,500,000 which was voted last year by the Imperial Parliament. That loan is free of interest and sinking fund for five years. The money for the purchase of the Voi-Kahe line (£70,000), for the Thika-Nyeri (£521,000), Kitale (£143,000) and Solai (£95,000) branches and for the completion of the Uasin-Gishu line from Nakuru to Turbo (£600,000) will be met from a loan which will be issued in the next two or three years, secured on the revenues of the Uganda Railway.

There has been much criticism of the alignment of the extension from Nakuru to Eldoret (the Uasin-Gishu Railway). This, it is urged, could have been constructed at far less expense if taken by a more direct route from Mau Summit. The new line runs for 55 miles parallel to the main line, and in places only 10 miles north of it, through an area of 100,000 acres originally conceded to Lord Delamere but now closely settled, and through the Grogan forest concession.

We have looked into the history of the matter, which has attracted much notice in recent years.

A railway connection with the Uasin-Gishu plateau was, even before the war, much needed in the interests of the settlers who had taken up land there, and a proposal for constructing the line was under consideration in 1914. As a result, survey parties were sent out, and in 1915 found a route from Nakuru through Eldama Ravine and up the escarpment and so to Eldoret.

Nothing could, of course, be done during the war, but the importance of the line was impressed on the Secretary of State (the late Viscount Long) by a deputation of settlers from the plateau in 1918, and it was one of the first schemes to be considered by the Colonial Economic Development Committee in London, appointed by Viscount Milner in 1919.

By that time an alternative proposal had been put forward for a line leaving the Uganda Railway at the top of the Mau Escarpment and proceeding at a high level northwards until it joined the route surveyed in 1915.

Early in 1920 the Governor, Sir Edward Northey, who was then in England, received a memorial from settlers pointing out that the Mau route would tap timber areas only, while the Nakuru route would tap agricultural areas as well, including a large quantity of land already productive and, altogether, at least 500,000 acres of good agricultural land. The memorial also pointed out that the Nakuru route would have great advantages as regards grades, as compared with the existing Uganda Railway, and, further, that, although the Mau route might be cheaper, the extra cost would be amply repaid as the Nakuru route would quickly produce revenue.

As regards timber, the Economic Development Committee attached importance to the prospect of traffic from the Eldama Forest, granted under lease to Major Grogan. The forest covers a wide range of altitude, and, relying on the 1915 railway survey, Major Grogan had erected his saw-mills, etc., at a low level. He represented that, while he could promise heavy traffic (quoted definitely in a letter as 20,000 tons a year) if the Nakuru route was adopted, the timber could not be brought up to the level of the Mau line, except at prohibitive cost, which he estimated at £1 a ton. As regards agriculture, the Governor pointed out that the whole of the first 40 miles from Nakuru to the Eldama Forest presented no difficulties and would yield revenue immediately.

The Committee were in favour of the Nakuru route, but the Acting-Governor (Sir Charles Bowring) telegraphed recommending the adoption of the Mau route, with a branch line from Nakuru roughly along the first 20 miles of the 1915 trace.

It was then decided that surveys should be carried out by a joint party, representing the Government and the contractors who had offered to construct the line, these surveys to cover both the schemes proposed. From this date the Nakuru-Molo River branch was an integral part of the Mau scheme.

The report of the Chief Engineer in charge of Surveys was received in the summer of 1921. An important new point had arisen in the progress of the work, namely, that much of the difficult work and cost involved by the adoption of the 1915 route would be avoided by following a chord line leaving that route at 32 miles from Nakuru and joining the route from Mau at 10.72 miles north of Mau. To this near approach to Mau is due much of the criticism latterly focussed on the choice of route. Some confusion of thought seems, however, to be involved, as, if a second ascent of the escarpment is justified, it is immaterial how close the alignment passes to the existing railway.

The Chief Engineer's report necessarily included many points besides the actual cost of construction of the two lines: for example, the construction of a long siding into a forest reserve for fuel purposes which would be unnecessary if the Nakuru route were adopted;

the necessity, if the Mau route were chosen, for re-grading and re-aligning the existing railway from Nakuru to Mau in order to make it suitable as the trunk line to Uganda; the further necessity for relaying that section of the old line at an early date in order to fit it to carry the heavy traffic of the future; the amount of traffic, including timber traffic, to be expected from either route; and the probable cost of working in each case.

The report was submitted in turn to Mr. Couper, who was then General Manager of the Uganda Railway, to Colonel Hammond, and to the Consulting Engineers in this country. Each varied the Chief Engineer's figures on points of detail, and the result showed that, for the first few years at any rate, the financial advantage lay slightly on the side of the Mau route. Each, however, advised strongly in favour of the Nakuru route, on the ground that it would secure permanently a well-graded and easily worked line for traffic across East Africa. On the combined advice of these authorities, supported by the unanimous opinion of the Executive Council of Kenya, the Secretary of State decided in favour of the Nakuru route.

It should be unnecessary, but, in view of the criticisms which have been made, we consider it important to emphasise the fact that his decision was taken on carefully considered technical advice, after a complete scrutiny of the figures of relative costs and advantages.

The main attack on the Chief Engineer's figures has been directed against his estimate of £19,000 a mile for the 10.72 miles from Mau, which, it is alleged, is grossly excessive. The estimate was based on the joint survey, and there is no reason to suppose that it was more unsound than the estimate for the work actually carried out, which, allowing for the fall in the cost of materials and for economies of detail which might or might not have been possible on the Mau route, is not likely to be found much in excess of the actual cost. At any rate, the implication that what the joint surveyors regarded as the most expensive section of the surveyed routes would have proved the least expensive seems to have no responsible foundation.

Before leaving the subject of railways, we should like to pay a tribute to the excellent work which has been done by the General Manager of the Uganda Railway and his staff, and to the efficiency of the undertaking. In 1924 the working expenses were only 53.7 per cent. of the gross receipts and were actually less than in 1922, in spite of a 60 per cent. increase in gross receipts. So long as this economy in administration can be secured, there is every room for confidence that the charges on additional capital expenditure can easily be borne.

In view of the rapid increase in production for export in both Kenya and Uganda, it is not surprising that complaints are received from time to time regarding delays and congestion. The main difficulties arise not so much on the railway as at the terminal ports. At Jinja, Kisumu, and Mombasa the delays are in part due to labour difficulties, but it is clear to our mind that traffic is likely to increase very considerably in the next few years, and that further harbour works of a permanent nature will be required. These permanent

works should include the provision of further storage accommodation. Hitherto the provision of warehouses has been left in the main to private enterprise, and, in consequence, the few Government warehouses have been overcrowded and trucks have been delayed. We are of opinion that the Uganda Railway system will be compelled to consider the erection of further warehouse accommodation for the storage of both imports and exports.

We were struck by the lack of good roads in this territory, except in the immediate neighbourhood of the capital. In the other townships that we visited there were no roads capable of standing any volume of heavy traffic. The problem of road construction in Kenya is not so simple a matter as it is in other territories maintaining a much larger population, but we feel that much more could be done in the Thika-Fort Hall-Nyeri district where the road was almost impassable after a few showers of rain. There is at present no all-weather road feeding the Kikuyu reserve. Roads are urgently required both as trunk roads and as feeder roads to the railway in the Kavirondo reserve. Further work should be done on the main road from Kericho through Sotik to Narok. Improvements to the road from Kajiado to Arusha in Tanganyika Territory appeared to us to present no real engineering difficulties, and are urgently required. It is estimated that £145,000 is needed for bridges over rivers on the existing main roads, and, in view of these heavy items of expenditure, it is clear that to wait for roads to be constructed out of revenue would retard the development of the country. We understand that a proposal is being considered to impose a wheel tax of £1 a wheel to be allocated to a Road Fund, but this in itself will not be sufficient to meet the present and growing needs of the territory, and we suggest that the only satisfactory method of financing the necessary new road construction will be out of loan funds.

As in Uganda, there is no doubt that the development of the native areas depends very largely on the provision of roads. In Kenya there are comparatively few roads in the native reserves. However, in the Fort Hall area the Kikuyu natives, under the able guidance of the district officer, Mr. Stone, have already constructed 170 miles of graded roads, but the imperative need at the moment is a bridge across the River Mathiyga in order that a transverse road across the area may be made. The natives in this district have voluntarily proposed a head tax of one shilling towards the cost of bridging. In the Kavirondo reserve, where an attempt is being made to increase native production of cotton and other economic crops, roads are few and poor. This is the most densely populated area in the Colony, and the Kavirondo are certainly the most industrious and efficient labourers in the country. There seems little reason to doubt that they would be willing to construct roads needed for the economic development of their area if properly encouraged. Such roads as exist in the Kitui district of Ukamba have been made by the natives themselves without payment. The only assistance given by the Public Works Department has been the provision of a few culverts. The same deficiencies exist in the coastal area. It was represented to us by several associations at Mombasa that trunk communications are urgently needed to assist the economic life of the

district the whole way from Kismayu to Tanga. Roads, bridges, and ferries over the creeks are required. At any rate there should be a main road passable by motor-lorry traffic from Mombasa to Lamu, and from Mombasa to Tanga. The railway from Makupa to Changamwe went over the track of the old road inland from Mombasa, and an undertaking was given to make another road instead. This has not been carried out. The only direct link between Mombasa island and the mainland is the single-line railway bridge at Makupa. The present population of the island is 40,000, and it is rapidly increasing. Land values are such that the cost of housing for natives is almost prohibitive, and it is therefore imperative that they should have better access from the mainland to places of work on the island. The present ferries are costly, and their facilities inadequate for the transport of goods to and from the island. It is suggested, therefore, that road access to the mainland at Makupa should be provided by means of a bridge. We understand that such a bridge would cost £50,000, and that its erection has been under consideration for no less than ten years.

It would appear that no considered road programme of a general character has been prepared owing to financial limitations. We would, however, advise that such a programme should be drawn up. The Director of Public Works puts the capital cost of earth roads, properly graded and culverted, at £250 a mile, and metalled roads at £2,000. The natives in Kenya as a whole are somewhat suspicious of the construction of through roads through the native areas until the boundaries of the reserves have been finally gazetted and their land rights established. While trunk roads must be a charge on the central Government, it is considered that local councils might be made responsible for the construction and upkeep of second-class roads in their areas, and that this can only be effected by local taxation.

The increased prosperity of the European settlers in Kenya, which has taken place within the last two or three years, and the spur which this has given to the development of their land, together with the demands which are being made for labour in connection with the various railway construction works in different parts of the territory, are causing individual farmers to realise that there is not an unlimited reservoir of labour from the native reserves. In many parts of the territory we were informed that the majority of farmers were having the utmost difficulty in obtaining labour to cultivate and to harvest their crops, and a feeling of irritation is spreading among them for what they allege to be the neglect of these interests by the Government. Among the charges made was one to the effect that district officers in the reserves were doing their best to dissuade natives from taking up employment outside the reserves. We are satisfied that these charges are without foundation. The Trans-Nzoia planters, who are opening up a comparatively new unpopulated area between Kitale and the Uganda boundary, stated that the inflow of Bagishu labourers from Uganda had practically ceased, and attributed this to the action of their chiefs, who were preventing, by various means, their tribesmen from leaving Uganda. But it must be remarked that in the past year a very large number of Bagishu

labourers, who for many years past have found work on European farms in Kenya, have been employed on the Uasin-Gishu railway. We were informed by the Governor of Uganda that approximately 5,000 Bagishu had been in the habit every year of seeking temporary work in Kenya. When the railway construction is complete, there can be little doubt that this source of supply will again be available. It was complained by some that the encouragement which is now being given by the Government to native production in the reserves in Kenya is diminishing the labour supply. Another cause of the shortage of labour arises from the action taken by certain farmers following upon a new Masters' and Servants' Ordinance, passed by the Legislative Council last year. This led to a large number of squatters on European farms leaving them. The new Ordinance was disallowed, but the damage had been done by the irritation caused by the removal, and the natives cannot be induced to return. A further reason alleged for the difficulties in obtaining labour from the native reserves is the distance which it is necessary for labour recruiters to bring their recruits to the district officer's headquarters for the purpose of signing contracts.

We went carefully into the complaints and found that, whatever shortage of labour there might be on European farms, there is conclusive evidence to show that there has been a progressive increase in the average number of units of labour employed monthly by the colonists since the year 1921/22. The following figures are taken from the Agricultural Census for 1923/24 :—

Year.	Men.	Women.	Children.	Total.
1919/20	45,005	3,917	4,787	53,709
1920/21	55,938	4,911	6,539	67,388
1921/22	51,753	4,261	5,935	61,949
1922/23	54,406	6,609	9,942	70,957
1923/24	66,993	8,316	11,784	87,093

The decrease in 1921/22 is probably accounted for by the economic depression which overtook the Colony in that year. The increase in the year 1923/24, particularly in regard to the number of women and children employed, is due to coffee estates coming into bearing, and the consequent demand for all kinds of labour for picking the berries.

These figures do not represent the number of natives actually in employment for wages, for those natives also have to be added who are employed by Government Departments or by the Railway. The average number of registered natives in all wage-earning occupations from July to October, 1924, was 136,333.

The recorded increases in the last two years are remarkable, and would seem to justify the belief that the increased production now taking place in the reserves does not necessarily involve a disinclination on the part of natives to augment their earnings by working elsewhere. In this connection we may quote an extract from a report by Colonel John Ainsworth, C.M.G., D.S.O., late Chief Native Commissioner in Kenya, on his recent investigation (September, 1924) of conditions in the Mandated Territory of New Guinea, who there expresses a point of view which we endorse :—

"A further point for consideration is that of instituting a policy of agricultural development under which the natives can gradually become producers, and so help to increase the exports of the country and at the same time increase their own material well-being. I have discussed this question with the Director of Agriculture, who is prepared to deal with the matter provided the policy is recognised by the Administration. I realise that such a policy is liable to be opposed by planters and others—who require native labour—on the grounds that, if natives are employed on their own plantations, they will be reluctant to take on service as indentured labourers. This has been the attitude adopted by white men the world over where whites depend on black labour. Morally, of course, there is no defence for any policy which keeps the black races in a position of constant servitude to the white employer. This point is, however, so obvious that I do not propose to burden you with any argument on the subject; but I do propose to state that experience elsewhere has proved the fallacy of any argument which tries to prove that natives who are industrious in the locations will not come out to work for employers, under a system of fair wages and decent treatment. The absolute turnover of European opinion in the Kenya Colony on this subject is interesting evidence on this point. The labour problem in Kenya has been practically settled by the large proportion of voluntary labour offering from the more agriculturally-developed districts. The explanation is that, notwithstanding the increased development of the native districts, the more adventurous spirits cultivate a desire to go out and see other conditions, leaving their older relatives to carry on production at home.

"Increased industry amongst the native people will not only add to their material wealth, but will give them fresh interests in life."

It is doubtful if the Kenya settlers would, as a whole, subscribe to Colonel Ainsworth's statement that the labour problem has been practically solved by the large proportion of voluntary labour offering from the more agriculturally-developed districts, but they again and again stated to us that the best recruiter of labour was a satisfied labourer, and that no settler could exist in present circumstances if he treated his labourers badly.

High pay is not the only or the most potent factor, either in obtaining or in retaining labour. The native is attracted by good and varied food, good shelter, medical treatment when he is sick, and the provision of educational facilities. These are being provided in increasing measure on most of the larger estates and in the townships. The General Manager of the Uganda Railway has no difficulty in obtaining labour for the railway workshops, and he informed us that there is great competition among natives to enter the railway service as apprentices.

It would be a great mistake, we are convinced, to imagine that the natives generally would prefer to remain all their lives in their reserves than to seek work under Europeans. It is clear that there

is an increasing number of natives who are definitely attracted to contact with Europeans, and particularly to those estates where interest is shown in their physical, mental, and technical development.

But there is a limit to the amount of labour available. The latest figures give an estimated total native population of 2,495,065. Of this total the available able-bodied male population between 15 and 40 is estimated at 424,000. It is clear that it is neither desirable nor to be expected that more than half of the able-bodied male population should be absent from their homes at any one time. Assuming that this half is available, the maximum possible labour supply would appear to be in the neighbourhood of 200,000.

According to the Chief Native Commissioner the utmost that can be hoped for from the tribes who provide labour is that in the course of the next few years an additional twenty or thirty thousand labourers may be available. It is clear to us, therefore, that the further available supply of labour is not large, and that the only solutions of the problem are, firstly, an increased native population in the territory, and, secondly, a greater economy in the use of labour. Most of the settlers we met were fully aware of the needs in regard to increasing the numbers and physical efficiency of natives in the reserves. Their insistence on the need for providing better educational facilities for the native population, and for increased medical, maternity, and child welfare services, showed that they fully appreciated the principal causes of native inefficiency and the present failure of the population to increase. They realised also that the greatest need for these services is in the reserves and among the young. The care of native labour on European estates is generally improving. There can be little doubt that, where labour is permanently settled on European farms, much can be done by the employers to improve the health and conditions of that labour and their families. But the bulk of the labour is still casual, coming out of the reserves for short periods in the year, and therefore the sanitary conditions in the reserves are vital.

The influence of English women over the native women on their farms is a factor of immense importance in considering infant mortality. The native woman is usually deplorably ignorant of the elements of sanitation and hygiene, the care of herself, or the upbringing of her children. The majority of employers have frequent "sick-parades" and most of them "doctor" their own labour. It is quite usual also for natives in the reserves near the European areas to apply to the nearest settler for medical aid, which is readily forthcoming.

We should indeed be taking a pessimistic view of our own race if we assumed that the natives did not profit by association with the white settlers. We must not condemn Englishmen for their belief in their own ideals of civilisation, and in the soundness of the "contact" theory in spreading those ideals. The tendency on the part of some of their countrymen at home to generalise in condemnation of the whole Colony from the one or two particular cases of ill-treatment of natives is naturally resented. In spite of the trying conditions under which many of the settlers live, such cases are entirely exceptional and meet with the same measure of reprobation.

from all classes of the community as they would do in England. The general body of settlers in Kenya is composed of men and women with a keen sense of responsibility and a full appreciation of the implications of British trusteeship. In this regard we cannot do better than quote from the various resolutions of the Kenya Convention of Associations, a body which is representative of the European unofficial classes in the country :—

“ That this Convention agrees with the Select Committee that the present time is not opportune to raise the Hut and Poll Tax.” (January, 1919.)

“ That Government be urged that the proper care medically of the native population is one of its primary duties.” (January, 1919.)

“ That this Convention wishes to emphasise very strongly the urgent necessity of Government initiating at once the policy of technical education for the natives.” (August, 1919.)

“ That, it having been alleged that in certain isolated cases employers have refused to sign off natives when requested to do so on the termination of their contract, this Convention records its emphatic disapproval of such conduct and urges on Government to press for severe penalties in any authentic case brought to its notice.” (August, 1921.)

“ That in the opinion of this Convention the present Native Hut and Poll Tax is excessive and more than can be reasonably borne by the natives, and that this Convention advocates the reduction from the present rate and is of the opinion that all District Commissioners should be given power to reduce amounts in individual cases when they are satisfied that genuine hardship exists.” (March, 1922.)

We are satisfied that in Kenya there is an increasing desire for reform. It is incumbent on us at home to stimulate the reforming spirit by endeavouring to understand the problems facing the settlers and the conditions under which they live, and not to discourage their efforts by ill-informed criticism.

No one who has seen the conditions under which the European settlers are living and working in districts such as the Trans-Nzoia and Uasin-Gishu can feel anything but admiration for the efforts they are making. They are nearly all ex-soldiers or ex-sailors who have sunk such capital as they possess in the Colony. They are living “ rough,” very often in mud shanties, and are working hard on their farms. They are breaking soil which has never been tilled before, and facing all the uncertainties of climate in a new country. They have to resist the encroachment of game and overcome all the difficulties that confront pioneers. Few of them have much capital, and most of them will sink or swim in accordance with whether they can make a living or not out of their farms. They were hard hit by the slump which followed the war, and by the exchange settlement. A considerable proportion are still indebted to the banks or to private moneylenders. Nevertheless, the overdrafts are now being paid off, and we found a much better atmosphere of hope and contentment among the settlers than obtained even a year ago.

In addition to settlers of this type who are absolutely dependent on what they earn in the Colony, there is a small element of comparatively well-to-do individuals with independent incomes, who have selected Kenya as their place of residence on account of the climate, the opportunities for sport, and the social amenities of Nairobi. They form what may be described as a comparatively leisured class and they reside principally in or near the capital.

The soldier settlers impressed upon us at several meetings that, taken as a whole, the soldier settlement scheme has been a success. Some failures there undoubtedly have been, but apart from individual successes the chief characteristics of the Kenya settlers are their community pride, their love of the country, and their collective determination to make the white settlement in the highlands a real success. We found that the settlers were determined to make Kenya their permanent home and the home of their children and their children's children. There is no question of just making money in order to have enough to live on elsewhere. Settlers of such type are not wanted by the existing community. The settlers whom we met never lost an opportunity of impressing upon us their faith in the future of the highlands as a white man's country. They aspire to build up in those highlands a distinctive type of British civilisation which has neither a South African nor a West African character. The ideal expressed by them to us is based on a more complete interrelation and co-operation between the European and the African than exists in either the South or the West of the continent.

Like all pioneers they are in a hurry, and are at times impatient of Government control, especially when they feel that the ultimate control of their destinies is 6,000 miles away at Westminster, where their difficulties are not always appreciated or understood. Just as in the colonisation of the Dominions individual failures and shortcomings seem to receive more public attention at home than any general measure of success, so in the case of Kenya there has been too little recognition of the good that has been accomplished and too much emphasis on the mistakes. We wish to record our opinion that Kenya has been fortunate in the type of settler she has attracted. In fact, few of Britain's oversea colonies at their commencement have attracted a better type. They are men and women of energy and goodwill. The old social opposition between official and non-official is happily fast breaking down. There is a growing community sense, and with it a genuine effort to take the long rather than the short view.

There are, of course, occasions—we hope they will be rare—where there is direct conflict of interest between native and non-native. Land questions are the chief example. In such cases it is clearly the duty of Government to hold the balance even, and to act as an impartial arbitrator between the conflicting claims. The government of Kenya is not an easy task for any Governor or for his assistants. The task before Government consists not only of ensuring the progress of a native population of very varying capacity and standard, but also the control of a virile, energetic, pioneer European community. There is probably no Colony in the Empire to-day where those responsible for executive authority have greater need

of firmness, sympathy, and tact. Hostile attacks upon the European colonists as a whole or upon the local Government only produce reactions in Kenya. Such reactions make the solution of problems the more difficult. On the other hand, we found that fair criticism, if inspired by a desire to be helpful and constructive, was eagerly welcomed. Kenya does not imagine for one moment that it has yet found the solution for all its problems, or that these problems are in themselves easily solved. It is fully realised that there are no short cuts to prosperity, and that the African is necessarily slow moving. Alternate booms and slumps are dangerous, and an annual crisis is a bad foundation for political and economic progress.

We feel that it is in the best interests of Kenya that the growth of European settlement in the highlands should be gradual and not by fits and starts. The country cannot absorb more than a small influx of new settlers of any race for the next few years. The main problem for the European community is the closer settlement and more extensive and efficient cultivation of land already sold or leased by the Crown. By far the greater part of the land suitable and available for European settlement has already been disposed of, and new settlers should be warned that there is very little further Crown land for disposal. However, there is a good deal of land at present held by companies or individuals which can be acquired on fairly easy terms. New settlers should possess not merely the capital necessary to acquire final title to land but at least as much again for the equipment of their holdings. Many of the failures of the past have been due to settlers not having sufficient capital to continue the instalments for the purchase of their land. New settlers would be ill-advised to purchase land until they have actually seen it, and until they have personally acquired knowledge of the conditions which obtain in the country. The standard of living in Nairobi is high, and consequently the cost of living is expensive.

One of the questions asked in connection with Kenya is whether the climatic conditions are really suitable for Europeans. The bulk of the Europeans are living in the immediate neighbourhood of the Equator at an altitude of between 5,500 and 9,000 feet above sea level. Such conditions demand robust health and physical fitness, particularly freedom from heart trouble. The climate is exhilarating and bracing. European children mature very early, and there can be little doubt that there is a considerable strain on their physique, especially between the ages of 12 and 17. On the whole, the health of the European community both among settlers from Great Britain and among those born in the Colony struck us as good, and we have no reason to be other than optimistic in regard to the future of the community in this respect.

There is a certain amount of controversy regarding the advantages of "squatter" labour in comparison with contract or casual labour. Squatter or resident labourers are those who reside with their families on European farms usually for the purpose of work for the owners. Squatting possesses the great advantage that it offers to the native a natural life with his family. He has a small farm or allotment of his own and is usually allowed to keep stock,

and he is generally self-supporting as regards food. The squatter is in intimate association with his white employer or landlord for long periods and is bound to appreciate the importance of modern methods of agriculture, including stock-breeding. Other advantages we have already enumerated, but there is one which is of the greatest importance to both races, namely, the promotion of better understanding through mutual interest and sympathies.

Contract labourers are those who sign a contract of service before a magistrate, for periods varying from three to twelve months. Casual labourers leave their reserves to engage themselves to European employers for any period from one day upwards. Of this class it need only be said that they quit their reserves to earn the wherewithal to pay their "Hut Tax" and to get money to purchase a few luxuries. As the native's money wants increased, there can be little doubt that he will tend more and more either to produce economic crops for sale on his own account or to come out and obtain money by working on estates.

Although "squatters" are largely recruited from these two classes, when first taking up work outside their reserves they leave their wives and families behind them, if they have any. And many of them accommodate themselves with "temporary" wives without much difficulty; a practice which is as common as it is reprehensible and to which can be attributed a great deal of the spread of venereal disease in the Colony. Diseases of this kind contracted outside the reserves are quickly communicated on the return of the labourers.

Contract labour is usually obtained for white employers by a paid agent. The agent searches the reserves for workers, usually soliciting the aid of the local chiefs, and a contract is signed by the native before a magistrate to engage himself to an employer whom he has never seen, on a farm about the conditions prevailing on which he can know very little, and often in a locality about which he knows nothing. The system is not very satisfactory, but it is difficult to see what other alternatives are practicable.

In January, 1924, new provisions regarding resident and contract labour were embodied in a Masters' and Servants' (Amendment) Ordinance, which passed the Legislative Council. The Secretary of State for the Colonies (Mr. Thomas), in a despatch dated the 3rd July, 1924, stated that the Ordinance was "open to serious objection both in principle and in details," and felt obliged to advise His Majesty that it should be disallowed. The objection "in principle" was that the Ordinance was designed to treat natives resident on alienated lands as servants rather than as tenants.

We were asked to confer with representatives of the Kenya Government in regard to this matter, and we had full discussions with both officials and settlers on the subject. As the outcome of our discussions it was agreed to drop the 1924 Ordinance and to submit two new Ordinances to the Legislative Council after submission to the Secretary of State. This has now been done, and the enactment of the new Ordinances has been approved.

We have already referred in the general chapter on labour to the growing tendency of the Kenya natives to enter the skilled and

semi-skilled occupations. There is no colour bar, and, just as the African native is steadily replacing Indian mechanics in the various manual occupations and clerical work, so he is beginning to compete with the Indian in trade. Already there are a number of African petty-traders and for the good of the country every encouragement should be given to this class. With the progress of education we can look forward confidently to native co-operative societies, the formation of which would appear to have a natural basis in the communal organisation of native society.

We found a very strong feeling among all classes of Europeans in Kenya in favour of the continuance of the system of native registration introduced six years ago. Under the Ordinance every native outside his reserve is compelled to carry a certificate of identification. This certificate has to be signed by the employer of the native when the native enters his service and when he leaves it; the rate of wages paid on both occasions has to be shown on it. The chief object of the registration is to secure means of identifying deserters who break a labour contract.

We are of opinion that, before desertion by a labourer from employment becomes cognisable by the police, a prima facie case should have to be made out to a magistrate by an employer. This is the system which obtains in Nyasaland. We should like the local Government to consider whether the time has not come when it is no longer necessary to regard desertion as a penal offence but merely one of breach of civil contract.

We consider that more stringent penalties should be inflicted on employers who refuse to sign off employees and that registration should only be compulsory in the case of those natives who come out of their reserves to work either for Government or for private employers. We are of opinion that the charge to a native for replacing a lost registration certificate should be reduced from the present sum (2/-) to an amount equivalent to the actual cost of replacement.

In view of the frequent movement of natives to and from the native areas and the existence of an increasing number of detribalized natives in townships, such as Nairobi, it is clear that if the registration Ordinance was repealed, a pass system, similar to that which exists in South Africa, would have to be substituted.

Intimately associated with the subject of labour is that of land. In view of its importance to Kenya, this has been dealt with in the general chapter on land. We need here only reiterate that upon the just and equitable settlement of the land question will depend largely the solution of other problems. We met no body of natives in Kenya who did not express their dissatisfaction at the uncertainty which prevailed regarding their boundaries, and various arbitrary acts by which they alleged they had been dispossessed of tribal lands without compensation. One great cause of complaint was the alienation of land which contained the tribes' cattle salt-licks, which led to no inconsiderable friction when their cattle trespassed in their quest for salt. The Masai tribe also complained that they were denied access to the

reserve at Kingankop, where they hold a septennial festival. This area was reserved to them, but to get to it they have to cross alienated land, and they alleged that every obstacle has been put in their way. It should not be difficult to remove such a cause of irritation.

Another almost general cause of complaint was that connected with Government expenditure of native revenues, and both natives and missionaries asked that a definite proportion of the amount raised in hut and poll taxes should be allocated to funds exclusively for native needs in the reserves where the taxes are collected. The revenue from direct taxation of the natives' hut and poll taxes is approximately £575,000. The only direct tax on non-natives is a uniform poll tax of 30s.

We feel that both trade and non-native enterprise should in the future pay a larger direct contribution towards the revenue of the Colony. Just as in Northern Rhodesia and Nyasaland, and throughout the greater part of the Colonial Empire, where non-native enterprise exists, some form of income tax should be adopted. In this connection we may refer to the model income tax ordinance recently prepared by an Expert Committee which sat at the Colonial Office.*

We appreciate the difficulties which have faced Kenya farmers since the outbreak of hostilities in 1914. But it must not be assumed that their difficulties have been any greater than those of farmers, say, in Great Britain. They are now experiencing a welcome change in prosperity and will, we earnestly hope, be prepared to bear their share of the burden of direct taxation. This applies with equal force to the rest of the European community and to the Indian population.

It is quite natural that the more intelligent natives should ask that a fair proportion of the revenue contributed by them should be earmarked for native services. We do not propose to enter into detail regarding the Kenya estimates for 1925. But it should be noted that, out of an estimated total expenditure of roughly £2,000,000, approximately £327,000 is for the upkeep of military forces, police, and prisons. Provision is made for medical services for natives, Indians, and Europeans, costing £133,000, about 15 per cent. of the native hut and poll taxes. It is estimated by the Treasurer of Kenya, in the absence of reliable information, that 75 per cent. of the expenditure on medical services is in connection with the natives. This year (1925) it is proposed to spend £37,000 on native education, an increase of £9,000 on the previous year's estimate. We do not suggest that a great immediate increase in expenditure on native education alone is practicable, and we certainly would not suggest that less money should be devoted to the education of Indians or Europeans. More could be spent with advantage on the education of all three elements in the population.

The problem of native education is one of native teachers; without properly-trained teachers there can be no educational progress among the natives in the Colony. It is essential, therefore,

* See Cmd. 1788.

that every source of supply should be tapped, but at the same time every care should be taken that the native teachers put in charge of educational establishments should have had themselves more than a purely literary training, which as a rule amounts to little more than instruction in the three R's. It is imperative that, in every native primary school, instruction should be given in hygiene, sanitation, agriculture, carpentry, and other handicrafts which are calculated to stimulate native industries. There must be centres, therefore, where the future teachers shall receive such instruction. A start has been made by the Government in this direction, and there are already in existence a number of mission stations where this bias is being given to educational effort with the most excellent results. Undoubtedly missions would be prepared to co-operate and to supply the Government with the necessary teachers for Government primary schools, or, alternatively, to start more mission schools in villages, if they were given financial support from the Government. For some years at least the Government will have to rely upon missionary effort to augment its own efforts in educating the native population.

In Kenya there are 921 schools conducted by the missionary societies which afford education for approximately 42,071 natives. The missions themselves, however, realise the importance of Government control and inspection of their activities. The recent establishment of an Advisory Board for native education, on which there are four official members, two unofficials, and nine representatives of missions, has had an excellent effect in securing a policy in education which commends itself both to the missions and to the Government. The Board has already succeeded in securing unanimous approval of the establishment by the Government of a training depot for African artisans which we visited, and which seemed to be proceeding upon the soundest possible lines, and a training school for "Jeanes" teachers (or itinerating advisers to the teachers), to which mission teachers will be sent. Agreement has been reached in regard to religious instruction and a "conscience clause" has been accepted by all missions. The Government is appointing an Inspector of Native Schools, whose work will be mainly in connection with the mission schools. It is most important that Government grants to missions should be on a more liberal scale than hitherto, and should be of such a character as to enable a continuous programme of development to be undertaken.

The education of girls is as great a necessity in Kenya as in other territories in tropical Africa. A certain amount of opposition must be expected from the tribes to any attempt made to educate their women-folk. We were given an illuminating example of the attitude of the tribal chiefs and older women towards the education of their girls at a baraza at Kapsabet. There a Nandi chief threatened that there would be violence done if the native girls at a local mission station were, as he termed it, withheld from their parents, prevented from submitting to the circumcision rite, and so spoilt for marriage with the young men, thus causing their parents to lose the dowry which would have been given to them in return for the girls in marriage. But we are convinced that

the Government must be firm in its attitude towards the education of the girls of the Colony, and that every attempt should be made to absorb a number of native women into the educational system. In Uganda conspicuous success has attended the efforts of those who have paid attention to this all-important aspect. Tribal prejudice against the education of women will break down, as it is breaking down in Uganda, with the better education of the male population, who will look for companionship from their wives and not merely the performance of a number of duties. The instruction for women should include, for some time at least, most of those subjects recommended for the instruction of the male population, and should also include instruction in housewifery, infant welfare, etc.

In addition to the educational work being done in the State and mission schools, there is a good deal being done in connection with the Uganda Railway workshops at Nairobi. The growing demands of the railway for skilled workers has led to the establishment of an apprenticeship system for natives and courses of instruction, not only in subjects connected with their work, but also of general education, have been arranged. Nearly every tribe was represented in the workshops and during our visit we were given abundant evidence of the aptitude of the native boys. Already a large number of natives have been absorbed in the telegraph department of the railway, and the printing works, in addition, of course, to those who are engaged in the engineering and coach-building shops. In the Post Office, native telegraphists have been employed for some years.

As regards the education of Europeans, we were surprised to find that the curriculum in the Government schools was based upon the literary subjects in syllabuses of the Oxford and Cambridge Local examinations and London Matriculation. We visited no European school where there was a science laboratory or where instruction in agriculture or handwork was given. A large number of boys and girls in the Government schools in the Colony will probably never proceed to any other educational institution, and instruction in technical matters is vital in their own interests. We recognise that the passing of an examination test in a number of subjects enables the Director of Education to satisfy himself that a certain amount of instruction in these subjects is being given, but we feel bound to say that we were not impressed with the type of education given to the European children in the Colony. Very little care or attention is given to the provision of school libraries, and, as far as we could ascertain, the parents and prominent settlers in the neighbourhood of the schools have never been approached to make gifts of suitable books to the schools. We should like to state that we were struck by the healthy appearance of the children in the various schools we visited. The Indian school at Nairobi is one of the most excellent institutions in the whole of East Africa, the Indian headmaster one of the most enlightened educationalists we met.

We are of the opinion that some provision should be made in the estimates of the Education Department for the upkeep of the museum

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at Nairobi. There is an abundance of specimens within easy reach of the capital, and of great importance and variety. The services of a European curator with one or two native assistants should be a first step in this direction, but we look forward to the expansion of the museum on the research side. It would be a most useful addition to the Education services.

We have already said that the basis of all efforts to eradicate and to prevent disease in East Africa must be a solid foundation of knowledge regarding sanitation and hygiene. Improvement in the outlook of the natives in these matters can be effected best by the provision of educational facilities. The directions in which sanitary development all over the Colony is chiefly required are with regard to housing, water supply, the conservation and quality of food, and the disposal of sewage and rubbish. Of these the question of housing is probably the most important. The present type of native dwelling and the conditions in which the natives live in them are responsible for a large amount of disease. The present attitude of the native towards any sanitary measure is generally one of lethargy. As long as the present superstitions and beliefs continue on which the superstructure of native customs is erected, so long will it be almost impossible to institute general schemes designed to improve the public health. The universal belief in witchcraft constitutes a formidable barrier to any scheme of sewage disposal, difficult as this is in itself. Witchcraft is still rife especially amongst the Kikuyu and the eradication of its thralldom is a slow and difficult process.

The supply of food and its quality is another matter of supreme importance. The condition which obtains in the reserves is one of abundance of food at the time of harvest, followed probably in the majority of cases by comparative shortage before the next harvest is due. In times of drought there is no means of supplementing the local supplies from districts where an abundance exists. As far as information is available, the average food of the native in the reserves contains an excess of carbohydrates. There is no great difficulty in the Kavirondo reserve where the natives obtain their proteins from a fair amount of meat and fish in their diet, but with other tribes, for example, the Kikuyu, meat is a comparatively rare article of diet, mainly, it appears, as a result of superstition or religion. A greater variety of crops would lead not only to a more physiologically correct diet, but also to a lessened incidence of famine at times of drought and of outbreaks of epidemic disease which invariably accompany famine. The diseases which affect the population in the reserves of the greatest economic importance are helminthiasis (worm diseases), plague, and yaws. Tuberculosis is rapidly assuming importance, and venereal disease is becoming one of the foremost problems in the country. Dysentery and smallpox appear in epidemics, enteric is possibly endemic, and pneumonia is common. The incidence of ankylostomiasis, dysentery, and enteric can only be reduced by a system of sewage disposal. For the prevention of tuberculosis, pneumonia, and plague, housing conditions must be improved, and, particularly in connection with plague, there must be improved storage accommodation for grain. The campaign against venereal disease depends

largely upon educational effort. The habits of the people, their attitude towards sexual matters, all tend to a rapid dissemination of venereal disease when once introduced. Their ignorance and superstition, and their impatience of restraint, do not allow of their remaining in confinement until non-infectious, and their superstitions in the case of gonorrhœa are directly opposed to modern methods. Yaws is now being dealt with on lines referred to in the general chapter on medical services. An improvement in the general sanitary conditions of the reserves is required if yaws is to be finally stamped out. In the control of smallpox a systematic vaccination campaign is required. This has not been possible in the past but the increased confidence in European methods, which has come about as the result of the campaign against yaws, will probably ensure the success of any other similar undertaking.

Outside the reserves measures directed towards the health of the natives are required in the direction largely of better housing and better feeding. In the townships the provision of better housing is of paramount importance.

In the past the important subject of town planning has not received sufficient attention. Townships have been allowed to grow up in a haphazard fashion or, when some form of layout has been adopted, this form has not always been designed with due regard to principles now well recognised. The Government is now well aware of the importance of this subject and it is to be hoped that great improvements will be effected. At Mombasa a comprehensive scheme for town planning has been drawn up and adopted, and is now proceeding upon the lines laid down by the Town Planning Ordinance.

As already stated, the Government and the Nairobi municipality are aware of the importance of proper housing accommodation for natives in towns. In Nairobi the problem is most urgent. We were informed by the Principal Medical Officer that a large number of natives are without any housing accommodation at all and sleep wherever they can find shelter. The Nairobi municipality has adopted the policy of the erection of municipal houses and has asked for a loan for this purpose. The Government is considering a scheme for the housing in Nairobi of its own employees, for which its own funds will be utilised. In both Nairobi and Mombasa good permanent quarters have been supplied for the Conservancy employees.

At Nairobi also the Uganda Railway Department is formulating schemes for better housing. We were able to note with interest the improvement which has taken place regarding the type of accommodation which is provided by the Railway for its employees. Outside the townships employers are beginning to realise the economic advantages of proper housing for their employees and of the provision of better and more varied food. Shortcomings of employers in this direction can be dealt with under the Masters' and Servants' Ordinance or the Public Health Ordinance. We were interested in the Public Health Museum which has been started in Nairobi by the medical authorities. This museum contains exhibits

illustrating the spread and prevention of plague, samples of various sanitary vessels and sanitary systems, and statistical charts regarding the health of natives in various districts.

For the preservation of health in the reserves the following system obtains. The medical officer, when one is available, is stationed at the administrative centre, his duties comprising the supervision of the central hospital, and responsibility for the control of epidemics in his district and for the measures to combat the various diseases which are met with. He is assisted by an Asiatic sub-assistant surgeon, and is provided with motor transport. In addition to the central hospital there is a system of out dispensaries, manned by native dressers specially trained in the giving of plague inoculations, injections for yaws and syphilis, the performance of simple dressings, etc., but constant supervision by the medical officer is required. The population of the district to which one medical officer is allotted amounts more often than not to over a quarter of a million natives distributed over a large area. The existing staff is working at high pressure and cannot be expected to carry out more than is at present being performed. In order that the work of furthering public health in the reserves can be better undertaken than is at present possible, it is first necessary that increased staff be supplied. With augmented staffs the Principal Medical Officer in Kenya would post a second medical officer at the existing centres, whose duties would consist of travelling through the reserves to supervise treatment in connection with the control of yaws and venereal disease, vaccinations, and sanitation. In addition to a second medical officer, a sanitary overseer should be appointed whose qualifications should include a knowledge of the natives and their language, and acquaintance with simple carpentry, brickmaking, etc., in order that supervision of rat-killing, deroofting huts, draining swamps, might be more generally undertaken. The Principal Medical Officer considers that later there will be considerable scope for nurses, who would co-operate with the medical officer and conduct infant and female clinics. There is not at present even a sufficiency of medical centres in existence in the various native reserves; there are large areas in which no medical work is being undertaken. Only seven medical officers are posted for medical and sanitary work in the reserves, where there is the greatest need for them.

It was represented to us, on behalf of the missions, that they have done and are doing their share in the medical treatment of the African. At nearly all Christian mission stations there are dispensaries which have been conducted without any Government assistance whatever, although £1,000 is provided in this year's estimates for a subsidy to mission medical work. In addition there are several large mission hospitals with doctors and nurses attached. We visited those at Maseno in Kavirondo and that near Dagoreti in Kikuyu and were impressed by the work which is being done and, above all, by the devotion to duty of the staffs. A few people have misgivings regarding the grant of public funds to denominational institutions, but the need for extending any effort aiming at the prevention and cure of disease among the natives is so urgent, and of such vital importance, that we feel the Government should assist

far more liberally any institution which is capable and willing to undertake these responsibilities. If the patients at the same time substitute the Christian ethic—whatever its doctrinal shade—for some of their crude and beastly superstitious beliefs, so much the better for the natives. £1,000 is a paltry sum to provide out of a total medical vote of £133,000, and we recommend that it be supplemented immediately out of revenue. Every mission hospital is creating an asset of great importance to the Colony, viz., a class of men and women capable of taking charge of dispensaries and maternity centres, both for the Government and for employers of labour on a large scale. It must be borne in mind, moreover, that the mission doctors, remaining as they do in one district for a number of years, accumulate much information about the peoples, which in itself is of the greatest importance to the Government.

We feel that the suggestion that the Government should enter into some scheme of joint training of subordinate native medical staffs with the missions should be adopted. A medical college has already been built at Kikuyu in connection with the Alliance of Protestant Missions for the provision of such training, and a European settler has offered £10,000 if the college is assisted by the Government and the scope of the education widened to include subjects other than medicine.

It is clear that the various lines of progress which we suggest in connection with the development of Kenya will entail additional staff and expenditure. Consequently, they can only be carried out as and when there is a sufficient expansion of revenue to meet such new charges. Everything, therefore, depends on increased productivity on the part of all sections of the community with the resultant increase in purchasing power. The dual policy of increasing the quantity and quality of production on the native lands *pari passu* with the development of European cultivation is accordingly necessary, if only on financial grounds. The present purchasing power of the native population is low. We are confident that stimulus to more and better native cultivation is one of the best means of securing a higher standard of efficiency on the part of natives who seek employment from time to time on European farms. We feel that the sincere acceptance by officials, unofficials, and natives of the dual policy inaugurated by the late Sir Robert Coryndon is the necessary first step to that stability of economic conditions without which real progress cannot be maintained.

CHAPTER XIII.

CONCLUSION.

It will be gathered from our report that in our opinion the further economic development of both native and non-native production in East Africa is dependent on the early provision of increased transport facilities and, in particular, on new railway construction.

The outstanding problem is the finance of such undertakings. It is clear to us that, unless the Imperial Government is prepared to assist liberally in this matter, little or nothing can be done.

We accordingly recommend for consideration an East African Transport Loan Guarantee Bill.

Such a Bill, to prove effective, should authorise the issue of a loan for ten million pounds, guaranteed as to principal and interest by the Imperial Government and ranking as a Trustee security.

The money obtained by the issue of this loan should be advanced, at the discretion of the Secretary of State for the Colonies, on projects for railway extension, harbour developments, the construction of main roads, and mechanical transport in East Africa. In our opinion the greater part of the proposals for new construction and for the development of those services recommended in this report will be covered by this amount.

The arrangement should contemplate that during the construction period, which we may put as being the first five years, the interest would be payable by the Imperial Exchequer. After the first five years, when, in addition to the interest, the sinking fund will begin to operate, the charges of the loan will fall on the transport services in the first instance, or, failing sufficient from this source, out of the revenues of the various East African territories. Ten years from the date of issue the East African transport systems and territories could begin to repay in addition the amount advanced by way of interest from the Imperial Exchequer during the first five years.

We recognise that such a plan makes some demand on the British taxpayer for the initial period of the service of the loan. We feel that such a demand can be justified if only on the grounds of the moral obligation imposed on Great Britain for the development of its great tropical possessions. But we maintain that the indirect benefits of increased trade and production within the Empire will more than counterbalance any initial sacrifice. Further, approximately half the capital sum would be spent in Great Britain on rails, bridging material, rolling stock, etc., which at this time would provide work for the engineering industries of Great Britain and so lessen unemployment charges. Accordingly, the plan which we suggest can be justified also as a business proposition, which will redound not merely to the credit but also to the economic advantage of Great Britain.

Lest there should be any misapprehension on the part of readers of this report in East Africa, we wish to make it clear that this suggestion has not been discussed with the Chancellor of the Exchequer, and that it is put forward by your Commissioners for the consideration of His Majesty's Government and the Imperial Parliament.

W. ORMSBY-GORE.

A. G. CHURCH.

FREDK. C. LINFIELD.

JOHN A. CALDER,

Secretary.

17th April, 1925.

SUPPLEMENTARY MEMORANDUM BY MR. F. C. LINFIELD.

I find it necessary to add certain sections, in the main supplemental rather than critical, to the foregoing report. The matters with which I particularly wish to deal are (a) native vital statistics, (b) the tribal control theory, (c) return made to natives from their own taxation, (d) native land, (e) cattle-owning by natives, (f) native registration, and (g) Empire development.

(a) NATIVE VITAL STATISTICS.

No question is more vital for the economic development of the East African territories than that of the native population. It is futile to press forward schemes, whether of European settlement or of large scale native production, if the natives, who in either case must supply the labour, simply are not there. I understand that my colleagues are unwilling to quote the statistics compiled locally on the ground that they are untrustworthy. For my part, I am satisfied that the margin of possible error in them is small and that they are certainly sufficiently accurate for comparative purposes. The position in each of the territories we visited may be summarised as follows:—

Northern Rhodesia.—Statistics regarding the natives are given in the decennial census of 1911 and in that of 1921. They show a native population of 821,063 in 1911 and 979,849 in 1921. It is a very small population for so large an area, but the increase of 158,786 in ten years is satisfactory. Moreover, the details show that in the ten years between 1911 and 1921 the native population increased in every district with the exception of the Mwèru-Luapula district, in which a decrease of 17,724 is attributed to the migration of natives across the Luapula River to reside in the Belgian Congo.

Nyasaland.—Full and valuable statistics are given in the 1921 Census Report. That Report shows that in 1901 the native population was estimated at 736,724, in 1911 at 969,183, and in 1921 at 1,199,934. This is a comparatively large population for so small an area, and at first sight the increase seems satisfactory. Analysis, however, shows that, at least between 1911 and 1921, the increase

is due to immigration from neighbouring territories, and that the indigenous population is actually declining. The Census Report states:—

“ The causes of the decline in the native population which the census figures appear to show conclusively may be stated in the order of their importance to be :—

- (a) Venereal disease,
- (b) The long absence of males from home,
- (c) The decline of the powers of hereditary chiefs,
- (d) Wilful restriction of size of families,
- (e) Contact with European civilisation.”

As regards the last of these the Report states :—

“ The natives of Africa are not accustomed to sustained effort, mental or physical, and it is a matter of enquiry how far the change of habits necessitated by continuous work either in the Shire Highlands or in Southern Rhodesia will have any effect on the population. In three districts that supply large quantities of labour for outside work adult females per 1,000 males are as follows :—

West Nyasa	...	...	...	1,578
Kota-Kota	...	...	...	1,422
Dowa	...	...	...	1,401

as against 1,313 for the whole Protectorate. It is not a matter that can be decided on the scanty material available; but there is some *prima facie* evidence of higher mortality among adult males in districts that supply labour on long contracts away from home. In those districts, Lower Shire, Ruo, West Shire, Blantyre, Chiradzulu, and Zomba, where protracted spells of labour away from home are not the rule, the excess of adult females is much less marked.”

That the decline in the indigenous population has not been arrested since 1921 is shown by the following figures which were supplied to us by the census officer :—

Estimated native population	April, 1921	...	...	1,199,934
“	“	“	December, 1922	1,186,000
“	“	“	December, 1923	1,174,000

i.e., a decline of 26,000 in two and a half years despite a permanent settlement of immigrants from Portuguese East Africa of 2,147 in 1922 and 4,772 in 1923.

Tanganyika.—Full statistics are given in the 1921 Census Report. That census showed a native population of 4,107,000 as compared with 4,145,000 in the German census of 1913, and gave detailed comparisons of the increase and decrease in various districts. The following note was supplied to us in Dar-es-Salaam :—

“ Most of the apparent decrease arises from the fact that the Germans in reckoning the population of the Ujiji district calculated on the basis of five women and children to one man,

whereas the correct figures work out at about three women and children to one man. Deaths during the famine in 1919 in Dodoma and Kondoa-Irangi and deaths due to the war account for the real decrease.

It will be observed that since 1913 the population of all the inland districts except Dodoma, Kondoa-Irangi, Mahenge, and Ujiji have increased, and that the populations of all the coast districts have decreased. The decrease of population in the coastal areas is attributed to the spread of venereal disease during the war with a resultant fall in the birth-rate and increase in infant mortality."

Uganda.—The full particulars given in the decennial Census Reports of 1911 and 1921 show a native population of 2,840,469 in 1911 and of 3,064,735 in 1921. At the end of 1923 the estimate was 3,119,645. The increase is not large, but it seems established that in most districts the population is now slowly increasing. An exception is the Bunyoro district, where there has been a large decline. Venereal disease is particularly prevalent there, and the decline in population due to that disease has not yet been arrested.

Kenya.—It is unfortunate that in Kenya it was considered impracticable to include the native population in the decennial census of 1911 and of 1921. In the 1911 census no figures are given for the native population. In the 1921 Census Report it is stated that the total native population was estimated at 3,000,000 in 1911 and 2,483,500 in 1921, and that the apparent decrease between 1911 and 1921 is attributed to an over-estimate in 1911. We were informed by the Chief Native Commissioner that the official figures for the native population prior to 1914 are admittedly mere guesswork, but that, such as they are, they indicate a native population in the neighbourhood of 2½ millions. From 1914 onwards the estimates become more reliable and the following totals are obtained from returns submitted by District Commissioners each year:—

1914	...	...	2,797,475
1915	...	...	2,817,860
1916	...	...	2,758,088
1917	...	...	2,626,183
1918	...	...	2,596,399
1919	...	...	2,684,845
1920	...	...	2,464,071
1921	...	...	2,330,112
1922	...	...	2,478,325
1923	...	...	2,601,858
1924	...	...	2,495,065

The Chief Native Commissioner considers that, when every allowance has been made for defects in the estimates, it is difficult to avoid the conclusion that the population has lately shown a tendency to decline. The extent of, and reasons for, that decline cannot be determined until full details are available showing the native population in each district and the proportions of males, females, and children.

The lack of reliable statistics in the case of Kenya is particularly regrettable, as it is in the case of that dependency that the question of the adequacy of the native labour supply for work in the large areas being developed by Europeans is most acute. The question was investigated by a Kenya Labour Bureau Commission in 1921, and one of the conclusions of that Commission was that:—

“ From the year 1922 onwards there will be a shortage of labour reaching approximately 32,000 by about 1926 unless measures are adopted to increase the supply.”

Various measures, including the free flow of labour from neighbouring territories, were suggested. The Commission based its calculations on the administrative count of the population in 1921, and apparently assumed that the native population was neither increasing nor decreasing. Table II in its report gives the 1921 administrative count of the population by districts. I recommend that a similar table based on the administrative counts be prepared for the years 1922, 1923, and 1924, and that a similar table be published for each succeeding year; also that, when the time for the next decennial census arrives, full particulars should be taken of the native population in Kenya, as is done in the neighbouring dependencies.

(b) THE TRIBAL CONTROL THEORY.

The “ contact ” theory of native development is dealt with in Chapter III, section (d). I consider that the benefits of that theory are overstated, its inevitable defects not sufficiently brought out, but, above all, that insufficient appreciation is given to the other theory of development which is designated the tribal control theory. I consider that the following is a fair statement of the tribal control theory:—

This theory is that the benefits which European civilisation can confer on the African can be imparted without violently disrupting his tribal and family life, and that, at the same time, a much larger production of economic crops for export can be obtained than from any white settlement or plantation system. It claims that the tribal system and control can be progressively improved; that chiefs and headmen can be educated and barbarous practices gradually eliminated; that the native families and villages can be stimulated to produce economic crops for export under advice and guidance from administrative and agricultural officers. It points to the wonderful progress which has been achieved on these lines in British West Africa (visited by me some years ago), in Uganda, and, more recently, in parts of Tanganyika, and it emphasises the following inevitable disadvantages in the “ contact ” theory: first, that the more or less lengthy absences of adult males from their homes is bad for family life; second, that diseases are acquired and brought back to the native villages; third, that the absence of male labour from the reserves throws an increased amount of food production work on the women, whereas the ideal should be to decrease the women’s agricultural work. It does not object to individual natives seeking work as labourers. On the contrary, it recognises that such work is necessary and that individual natives do on occasions derive

benefit from it. But it does maintain that the primary duty of a British Government in any African territory is to promote the development and welfare of the native inhabitants, and that experience proves that one of the best means to that end is to encourage the natives to become producers on their own account of economic crops.

(c) RETURN MADE TO NATIVES FROM THEIR OWN TAXATION.

This question arises only in those territories where there are considerable white settled areas which make demands on the central Government for expenditure on roads, education, medical and scientific services in excess of the white contribution to taxation. The problem will arise in Northern Rhodesia and in Tanganyika if the area of white settlement is extended, but at present it is acute only in Kenya. Some reference has been made in our chapter on Kenya to native feeling on this subject, but the widespread nature of the grievance and its substantial justification are not sufficiently brought out.

The Chief Native Commissioner of Kenya in a paper submitted to us estimated that in 1923 the maximum amount that could be considered to have been spent on services provided exclusively for the benefit of the native population was slightly over one-quarter of the taxes paid by them. As a concrete example, we were informed that in the last ten years the Kitui Akamba have paid £207,749 in direct taxes alone, and that "You may travel through the length and breadth of Kitui Reserve and you will fail to find in it any enterprise, building, or structure of any sort which Government has provided at the cost of more than a few sovereigns for the direct benefit of the natives. The place was little better than a wilderness when I first knew it 25 years ago, and it remains a wilderness to-day as far as our efforts are concerned. If we left that district to-morrow the only permanent evidence of our occupation would be the buildings we have erected for the use of our tax-collecting staff."

It is needless to enquire as to the responsibility for the existing state of affairs, but it is clear that, so long as one section of the community returns a considerable number of elected representatives to the Legislative Council while the more numerous section which contributes by far the larger part of the direct taxation is represented only by a nominated missionary and by officials, the inevitable tendency must be for the interests of the latter section to suffer in the allocation of public expenditure. I consider that the only equitable solution is that favoured by the Chief Native Commissioner, viz., that the tax collected in each native area should not be paid into the central treasury but should be allocated as follows: first, a definite contribution towards the expenses of the central Government; second, payment of the salaries, allowances, quarters, etc., of all the Government officials stationed in the area; third, the balance to be earmarked for expenditure on direct services in the area.

One of the first beneficial results which would follow such an allocation would be the granting of adequate salaries to native chiefs and headmen. It is futile to look for keen and efficient native rulers when their salaries are quite insufficient to enable them to maintain their proper status. We were informed that the average salary of chiefs in central Kavirondo was 77s. a month (equivalent to a cook's

wages) and the average pay of the headmen 28s. a month (equivalent to the wages of an assistant kitchen boy). The deficiency in the revenues of the central Government which would result from an equitable allocation of native taxation should be met by increased direct taxation on non-natives. The difficulty in Kenya finance is largely due to the fact that such taxation is absurdly inadequate.

(d) **NATIVE LAND.**

I am glad that my colleagues have accepted the principle of vesting native lands in Kenya in a Trust Board, but I do not consider that their proposals go far enough, and I feel sure that their adoption would not allay the widespread suspicion and distrust among the natives. One central Trust Board is not sufficient, and in any case the appointment of two settlers to the central board would increase rather than allay native suspicion. I consider that the central Trust Board might be composed of four officials and four representatives of natives (preferably missionaries), and that it should control only the miscellaneous smaller reserves. For each of the larger reserves, *e.g.*, Kavirondo, Kikuyu, Wakamba, and Masai, there should be a separate Trust Board in which the land of the particular reserve would be vested. These boards might consist of the Chief Native Commissioner as chairman, the officer in charge of the reserve as deputy chairman, and several chiefs and missionaries. No transaction affecting native land should be legal unless assented to by the board concerned.

(e) **CATTLE-OWNING BY NATIVES.**

Native tribes which are self-sufficing through cattle-owning are anathema to the contact theory of development. Such tribes are averse from sending out their young men to work as labourers, and find money to pay their taxes by the sale of surplus stock. The proper way to develop such tribes is to give them a sufficient area for their cattle, instruct them in scientific stock-breeding, and build up a trade in meat and hides.

In Kenya we listened to much criticism from settlers regarding the alleged excessive accumulation of stock by natives. The problem does not seem to arise in the other East African dependencies. But it must be remembered, first, that in Kenya the natives have not been encouraged to become agriculturists, producing crops for export from their own lands, and, second, that to make room for European settlement they have been grouped in reserves which are in many cases quite inadequate for pastoral pursuits. I agree with the view expressed in the concluding paragraph of Chapter III section (b) that tribes should not be given indefinite extensions of grazing areas on account of increase in stock, but I consider it essential that, in defining native boundaries, each tribe should be given sufficient grazing areas to enable it to keep a reasonable amount of stock. The importance of stock-owning to Bantu tribes is clearly expressed in the chapter of our report dealing with the tsetse fly.

I am afraid that the importance of this matter has not received adequate recognition in fixing native boundaries in Kenya in the past, and that even at the present time it is not appreciated. This is

illustrated by the two most important conflicts between Europeans and natives regarding land in Kenya at the present time, viz., the controversies regarding the Yatta Plains and Northern Laikipia. The Europeans claim that these areas should be reserved for future European settlement, but the Yatta Plains are claimed by the Wakamba and Northern Laikipia by the Samburu. It is not necessary to enter into the details of the controversies, but for my own part I am satisfied that, if the Wakamba and Samburu are to have reasonable facilities for cattle-owning, it is absolutely essential that they should be granted grazing rights over the Yatta Plains and Northern Laikipia respectively. For a short period the Wakamba were allowed to graze their cattle on the Yatta Plains on payment of rent. Recently the privilege of leasing the area was denied to them, their stock was driven back into their reserve, and from 20,000 to 40,000 head died of starvation.

(f) NATIVE REGISTRATION.

With regard to native registration I am of opinion that desertion by a labourer from employment should cease to be a criminal offence cognisable by the police, and that it is not at all necessary to introduce a pass system in any of the East African territories.

(g) EMPIRE DEVELOPMENT.

The question of Empire development on sound lines is of such vast importance not only to the dependencies concerned but also in its bearing on trade, commerce, and unemployment at home, that I am anxious that it should be lifted entirely above party and placed on a sound and business-like footing. I am not concerned here with those dependencies which are already so prosperous as to be able to finance their own development schemes, but there are many dependencies both in East Africa and elsewhere which are not in that fortunate position. And yet the prospects of eventual returns from development works in the latter may be just as promising as in the former. The kind of works which I particularly have in mind are railways, harbours, roads, bridges, irrigation schemes, and, where large towns are springing up, water and electricity supply schemes, etc.

In the past, works have been financed from time to time by loans and grants-in-aid from Imperial funds. But the amounts so provided have been inadequate; they have been obtained as the result of a struggle between the Colonial Office and the Treasury, and have in practice depended more on the prospective surplus in the Imperial Exchequer, the outlook of the Chancellor of the Exchequer, and the state of political parties in the House of Commons than on the real merits of the schemes in question. Moreover, the present system, or, rather, want of system, appears to have at least two further defects. In the first place, the sums advanced have never been made a definite charge on the works to be undertaken, with clear conditions providing for repayments of principal and interest when the works become productive. Thus, to take a well-known case, the profits

earned by the Uganda Railway, which cost the Imperial taxpayer five and a half millions, were for many years used, not for railway betterment, rate reduction, or repayment of capital cost, but to help balance the annual budget of Kenya. So long as loans or grants-in-aid are to be repaid, not when the specific works become productive but when the general financial position of the dependency admits, then it is clear that, by increasing its annual expenditure or decreasing its annual revenue by remissions of taxation, the dependency can always postpone the date when repayments of loans should commence. I do not suggest that such a course would be deliberately adopted, but in a growing country the local claims for increased expenditure are always apt to keep pace with, or even exceed, the natural increase in revenue. Moreover, the fact that in the past so little has been done towards repaying the principal and interest charges on works that have become productive probably partly accounts for the unwillingness of the Treasury to favour further grants.

The other great defect in the present system is that, once a loan or grant for some scheme has been sanctioned, it has been paid over in one lump sum. I am satisfied that the result of paying over to a country, where normally the Administration works on a very narrow margin, large sums which cannot be immediately expended on the scheme for which they are intended has not always been beneficial. The fact that a large sum is available in cash leads to extravagance in planning and executing the works; and the surplus money which cannot be immediately expended is used temporarily to finance other projects of the local Government.

I am of opinion that the defects in the present system would be met by the establishment of a National or Imperial Development Board to which a fixed sum would be paid annually from the Imperial Exchequer. The Road Board, which has had placed at its disposal the funds arising from certain forms of taxation, is an illustration of the useful work that could be done by an Imperial Development Board. Schemes, for which local funds were not available, would be submitted to the Board by Colonial Governments, municipalities, railways, harbour boards, etc., and the Board would be in a position to advance the money on loan at low rates of interest or free of interest for a term of years, and to take definite guarantees for repayment in the future of the sums advanced. In order to maintain the position of the Secretary of State for the Colonies as the authority responsible to Parliament for sums advanced for colonial development, it would be essential that all schemes should first be submitted to the Colonial Office, and that the Board should be unable to consider any scheme which was not submitted to it by the Secretary of State. The Board would be in a position to obtain expert advice and would then advance the money as and when it was actually required. It could also stipulate for the purchase of essential materials in this country. Primarily the Board would finance schemes promoted by the Colonial Governments or public authorities in the less prosperous dependencies, but it should not be debarred from assisting public works in the more prosperous dependencies and to a minor extent it might, in special cases, assist schemes promoted by

private companies. The self-governing Dominions would be outside its sphere.

The nature of the securities for repayment to be taken by the Board would vary in each case. They would normally be a definite charge on the receipts of the undertaking in cases of public utility services, like waterworks, electric light and power works, harbour facilities, etc. In the case of irrigation, they would be charges on the irrigated lands or produce thereof. In cases of railways, roads, and bridges I am strongly of opinion that in addition to charges on railway revenue the securities should take the form of definite charges on the lands served by the new facilities. In certain of the dependencies large areas of land have been acquired by individuals at a very low price. Transport facilities provided at the cost of Imperial funds will have the effect of increasing enormously the value of such lands, and the owners should not object to having a charge levied on their lands, thus returning to the Development Board some proportion of the benefit received from money expended from Imperial funds. As, generally speaking, the owners would not benefit from the actual increased value of their land until they sold it, or at least might not benefit so much as to be in a position to make a reasonable payment till then, I consider the development charge should be levied when the land is sold or transferred. The actual charge should bear some relation to the existing and prospective value of the land and to the cost of providing the railway, roads, or other works.

The establishment of such a Development Board would assist the advance of our dependencies, which are at present backward but have vast potential resources, on sound and permanent lines. The initial payments to the Board might be, say, £3,000,000 per annum for a period of ten or fifteen years. By the end of that time the Board would have a steady revenue from interest and repayments, and eventually it would become independent of any further grants from the Imperial Exchequer. I am satisfied that in view of the vast resources awaiting development such a Board would be a sound investment looked at merely from the narrow point of view of the taxpayer in this country. The indirect benefits from increased Imperial trade and reduction of unemployment would be incalculable.

There is one further matter which impressed me on my visit to East Africa. In certain of the dependencies very large areas have in the past been acquired at low cost by individuals or syndicates. In some cases little or no development work has been done in these areas. They are being held up until the general advance of the dependency increases the value of the land, when it will be broken up and sold in lots to newcomers. I consider that in such cases a substantial tax should be imposed on undeveloped land which has been alienated to non-natives. Such a tax will compel the present owners either to develop their holdings, or to sell in smaller lots at present prices to individuals who are prepared to develop them, or, if there is at present no market for the land, to surrender their holdings to the State. The State will then be in a position to allot such land to new settlers when transport facilities have made it

valuable. Whatever differences of opinion there may be on the subject of land taxation in old countries, I think the principle of an undeveloped land tax in new countries will meet with general acceptance.

The question of unemployment is a cause of grave concern to the people of this country; Lancashire also is anxious about the future supply of its raw material—cotton—and the increased demand for foodstuffs, due to the growth of the world's population, is seriously affecting the cost of living. On the other hand, we have within the Empire millions of acres of fertile land and enormous mineral resources only awaiting development by the provision of roads, bridges, and railways.

It is time we took advantage of the great opportunities within our reach.

FREDK. C. LINFIELD.

APPENDIX.

ITINERARY.

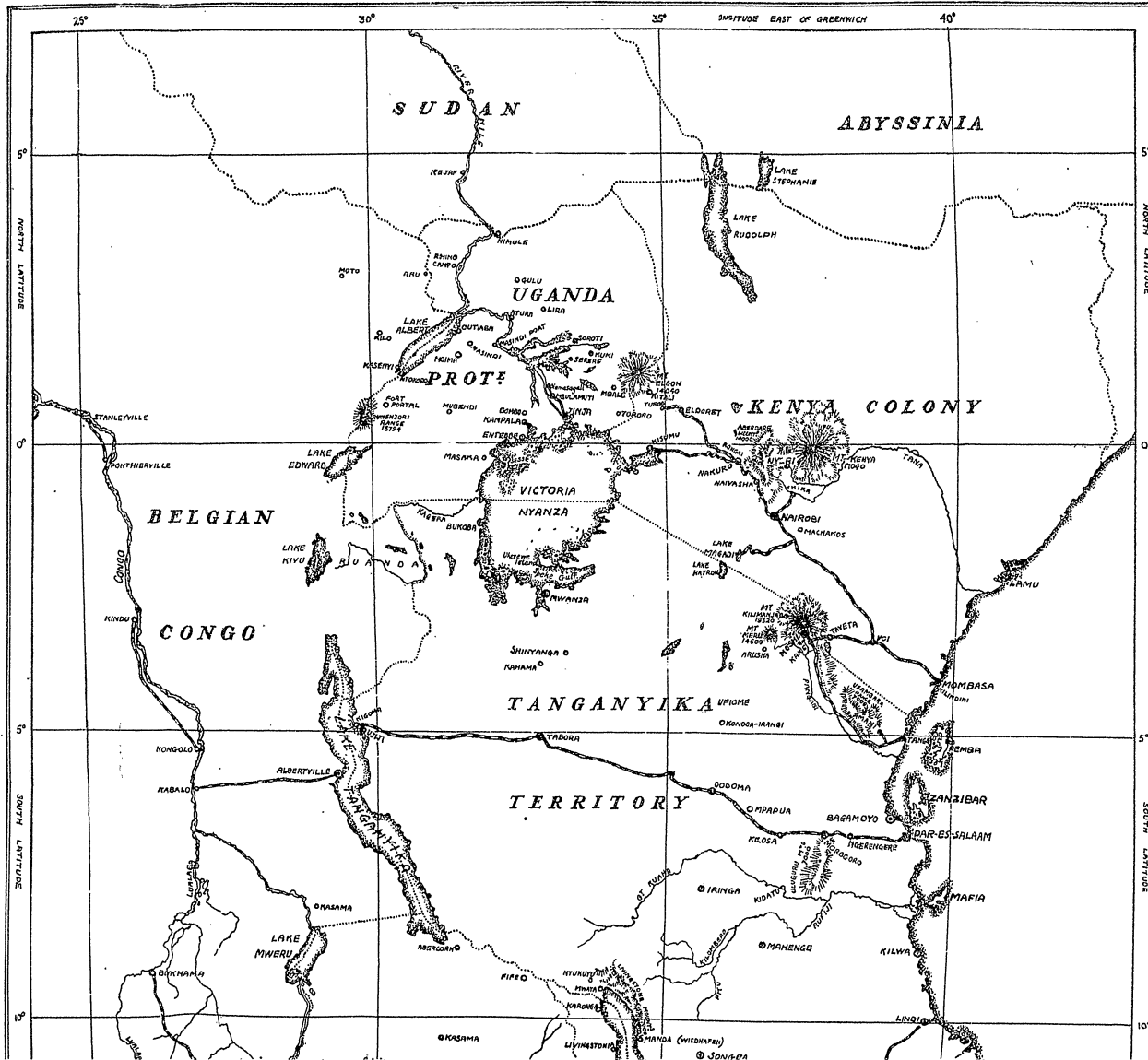
1924.

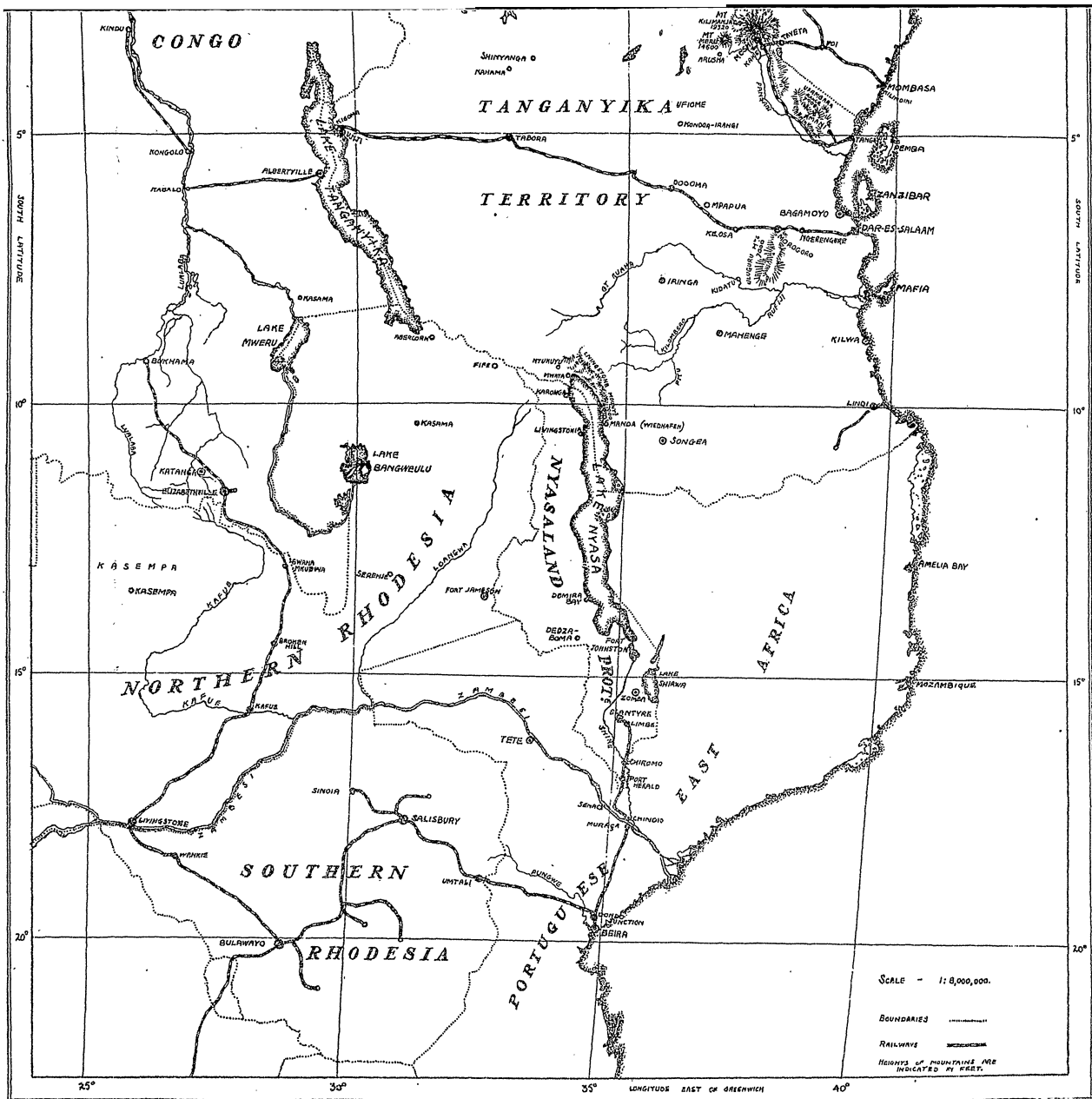
15th August-1st September.	On s.s. "Kildonan Castle" from Southampton to Cape Town.
1st September-5th September.	By South African and Rhodesian Railways from Cape Town to Livingstone. Spent morning of 4th September in Bulawayo.
5th September-8th September.	At Livingstone.
8th September-11th September.	By Rhodesian Railways from Livingstone to Beira. Spent morning of 9th September in Bulawayo and morning of 10th September in Salisbury.
11th September.	From Beira to Muraça by Trans-Zambesia Railway.
12th September.	Ferried across the Zambesi and then by Central Africa Railway and Shire Highlands Railway to Limbe in Nyasaland. By motor from Limbe to Zomba.
13th September-16th September.	At Zomba. On 15th September the Chairman and Mr. Linfield visited Blantyre, while Major Church and Mr. Calder motored to Fort Johnston on Lake Nyasa.
17th September-18th September.	Return journey from Limbe to Beira.
18th September-22nd September.	On s.s. "Karagola" from Beira to Dar-es-Salaam.
22nd September-29th September.	At Dar-es-Salaam.
26th September-28th September.	Mr. Linfield and Mr. Calder visited Zanzibar.
29th September-1st October.	By Tanganyika Central Railway from Dar-es-Salaam to Tabora; short stays at Ruva, Morogoro, Gulwe (for Mpapwa), and Dodoma.
2nd October-4th October.	By motor from Tabora to Mwanza. Night of 2nd October at Kahama and of 3rd October at Shinyanga.

- 5th October-7th October. By s.s. "Usoga" from Mwanza to Entebbe, calling at Bukoba on 6th October and Bukakata on the 7th.
- 8th October-11th October. At Entebbe. Motored to Kampala on 8th, 10th, and 11th.
- 12th October-13th October. By motor through Kiagwe and Bulemezi districts.
- 14th October-23rd October. Tour through Uganda. By motor to Jinja on 14th and spent 15th in Jinja; on 16th to Mbale; on 17th Bubulu and Siroko Valley; on 18th Serere and Soroti, on 19th Lira; on 20th to Port Atura and thence by steamer up the Nile; on 21st Port Masindi, and by motor to Masindi and Butiaba; on 22nd by motor to Hoima; and on 23rd by motor from Hoima to Entebbe.
- 24th October-28th October. At Entebbe.
- 29th October. By motor to Jinja and embarked on s.s. "Clement Hill."
- 30th October. At Kisumu and Maseno.
- 31st October. At Lumbwa and Kisumu.
- 1st November. By motor from Kisumu *via* Kapsabet to Eldoret.
- 2nd November. Visiting farms on Uasin Gishu plateau; night at Soy.
- 3rd November. By motor from Soy to Kitale.
- 4th November. By motor from Kitale to Eldoret.
- 5th November. By motor to Timboroa and then by train to Rongai.
- 6th November. Visiting farms at Njoro and in the Solai and Lower Molo Valleys. Reached Nakuru in evening.
- 7th November. From Nakuru to Naivasha *via* Gilgil and Mau.
- 8th November-21st November. At Nairobi. Visits to Dagoretti 10th November, Thika 14th November, Fort Hall and Nyeri 15th and 16th November, Ngong 19th November, and Kiambu and Machakos 21st November.

- 22nd November. Arrived at Kajiado by train in the morning. The Chairman and Major Church motored to Arusha while Mr. Linfield and Mr. Calder visited Lake Magadi.
- 23rd November-28th November. The Chairman and Major Church visited Arusha, Moshi, Tanga, and the Amani Institute and reached Mombasa on the morning of 28th November. Mr. Linfield and Mr. Calder visited Arusha and Moshi, reached Mombasa on 26th November, and visited Kilifi on 27th November.
- 28th November-1st December. At Mombasa. Visited Waa 29th November, and Kwale 30th November.
- 1st December-22nd December. On s.s. "Madura" from Mombasa to Marseilles.
- 22nd December-23rd December. Marseilles *via* Paris, Calais, and Dover to London.







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