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**COLONIAL REPORTS—ANNUAL.**

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**No. 1096.**

**NYASALAND.**

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**REPORT FOR 1920.**

(For previous Report see No. 1075.)



**LONDON :**

**PRINTED AND PUBLISHED BY**

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**H.M. STATIONERY OFFICE** at the following addresses:

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**1921.**

*Price 9d. Net.*

No. 1096.

**NYASALAND.**ANNUAL GENERAL REPORT FOR THE  
YEAR 1920.\*

## GEOGRAPHICAL AND HISTORICAL.

## BOUNDARIES.

The territory comprised in the Nyasaland Protectorate is a strip about 520 miles in length and varying from 50 to 100 miles in width. It lies approximately between latitude S. 9° 45' and 17° 16', and longitude E. 33° and 36°. The area is roughly 40,000 square miles, or about one-third the area of the British Isles. The most southerly portion of the Protectorate is about 130 miles from the sea as the crow flies.

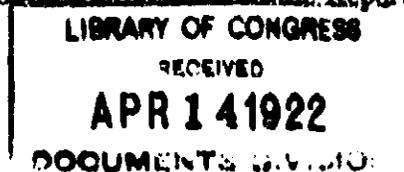
This strip falls naturally into two divisions: (1) consisting of the western shore of Lake Nyasa, with the high tablelands separating it from the basin of the Loangwa river in Northern Rhodesia, and (2) the region lying between the watershed of the Zambesi river and Shire river on the west, and the Lakes Chiuta and Chilwa and the River Ruo, an affluent of the Shire, on the east, including the mountain systems of the Shire Highlands and Mlanje, and a small portion, also mountainous, of the south-eastern coast of Lake Nyasa.

The Protectorate has for boundaries:—

- On the East .. .. Lake Nyasa (on the eastern shore of which lie Tanganyika Territory, formerly German East Africa, and Portuguese East Africa).
- On the South .. .. Portuguese Zambesia.
- On the West .. .. Portuguese Angoniland, North-Eastern Rhodesia (under the British South Africa Company's administration).
- On the North .. .. Tanganyika Territory.

The limits of the Protectorate were laid down in a Proclamation dated 14th May, 1891, and the respective spheres of influence of Great Britain, Germany and Portugal were defined in an Agreement with Germany in July, 1890, and in a treaty with Portugal in June, 1891.

\* A map of the Protectorate will be found in the Report for 1912-13, No. 172 [Cd. 7050-13].



The administrative area includes a concession at Chinde, leased from the Portuguese Government, on which merchandise for British territory is transhipped free of all Portuguese duties. The Protectorate is divided for administrative purposes into three Provinces, the Southern, Central, and Northern, each of which is in the charge of a Provincial Commissioner. Each Province is sub-divided into Districts in the charge of Residents.

The chief towns are Blantyre, with about 300 European inhabitants, and Zomba, the seat of the Government.

### HISTORICAL.

Very little is known of the history of the region now called Nyasaland before the middle of the past century. Jasper Bocarro, a Portuguese, is said to have been the first European to visit Nyasaland; he appears to have travelled early in the 17th century from the Zambesi to the junction of the Ruo and Shire Rivers, and thence via Lake Shirwa and the Lujenda River to the coast at Mikandani.

The real history of Nyasaland begins with the advent of Dr. Livingstone, who, in 1859, after many years of travel and preparation, was placed at the head of a well-equipped Government expedition with the object of completing his previous researches on the Zambesi. Livingstone had heard reports of the great Lake from which the Shire was said to flow, and determined to find it. After experiencing considerable difficulty in ascending the Shire he discovered Lakes Shirwa and Pamalombe, and on the 16th September, 1859, reached the southern shore of Lake Nyasa. The name of the lake was recorded as Nyasa by Livingstone, that being its Yao appellation, signifying "broad water," and synonymous with the word Nyanza used further north. Livingstone was closely followed by a Mission under Bishop Mackenzie, sent out by the two English Universities. The Mission settled in the Shire Highlands, but on account of loss of its members by sickness and otherwise, it withdrew in 1862. It was subsequently re-established in 1881 on Lake Nyasa, with headquarters at Likoma, where it still remains.

In 1874 the Livingstonia Mission, named in honour of the great explorer, was founded by the Free Church of Scotland. The first party of missionaries was sent out in 1875, taking with it a small steamer, in sections, for use on the lake. They were joined in 1876 by the pioneers of the Church of Scotland Mission, who chose the site of the present town of Blantyre, and established themselves in the Shire Highlands, while the Free Church applied itself to the evangelization of the inhabitants of the shores of Lake Nyasa.

In 1883 the increasing British settlement in Nyasaland induced H.M. Government to appoint a Consul, and Captain Foot, R.N., went in that capacity to Blantyre, taking as his private

secretary Mr. D. Rankin, who afterwards discovered the Chinde mouth of the Zambesi.

A serious danger had arisen in connection with Arab slave traders who had settled at the north end of Lake Nyasa. At the time of Livingstone's first visit, he found the Arabs established in a few places on what is now the Portuguese shore of the lake, and at Kota-Kota, on the west side, where there was a settlement under the control of a functionary called a "Jumbe"—a coast Arab and a representative of the Sultan of Zanzibar, who claimed authority over the Arabs wandering in those regions. Arab caravans, trading with the tribes in and beyond the valley of the Loangwa, were in the habit of crossing the lake on their way to and from the sea coast. In course of time these Arab traders established themselves in strong stockades in the Wa Senga country, and then adopted an alternative caravan route overland at the head of the lake. This brought them into contact with the Wankonde, inhabiting a fertile district on the north-west of Nyasa, and eventually a Zanzibar Arab named Mlozi, who had begun by trading in the country, proceeded to surround his trading stations with stockades with a view to taking forcible possession of the district.

About the time of Mlozi's settlement in the Nkonde country, the African Lakes Company had obtained a footing at Karonga for the purpose of opening up communication with Lake Tanganyika, and their agents, in endeavouring to interpose between the Wankonde and Mlozi, were drawn into a conflict with the Arabs, who attacked and besieged Karonga. The Arab attack was eventually repulsed after desperate fighting, and later, on the arrival of reinforcements, Mlozi's stockade at Mpata was attacked and partially destroyed. The success of this and subsequent hostilities early in the following year was, however, rendered incomplete owing to the vacillation of the native allies of the British. A fresh attempt to break up Mlozi's power was made in 1888, by a force of natives under Captain Lugard and other volunteers, but, though a good deal of damage was done to the Arabs, it was found impossible to bring the war to a satisfactory conclusion without the aid of disciplined troops and efficient artillery, and after several months of intermittent fighting, Captain Lugard left Nyasaland in the spring of 1889. During this period, in November, 1888, an envoy was sent by the Sultan of Zanzibar, at the instance of Sir C. Euan-Smith, H.M. Consul-General, to endeavour to compel the Arabs to come to terms with the British, but the mission proved fruitless as the Arabs declined to recognise the Sultan's authority.

In the autumn of 1889, Mr. (now Sir) H. H. Johnston, H.M. Consul at Moçambique, arrived in Nyasaland, and on the 22nd October concluded a treaty with Mlozi, who undertook to desist from further encroachment against the Wankonde, and peace was restored.

The future of Nyasaland assumed an entirely new aspect on the discovery of a navigable entrance to the Zambesi by the Chinde mouth. This opened up a direct waterway to the Shire districts, and disposed of the obstacle to the development of the country, hitherto caused by its only means of approach being overland through Portuguese territory. Two other events at this time also directed attention to Nyasaland and the possibilities connected with it, one being the application for a Charter by the British South Africa Company, and the other the despatch of an imposing expedition under Major Serpa Pinto, destined, according to the Portuguese Government, to proceed to the Upper Zambesi and Lower Loangwa.

In the summer of 1889, Mr. Johnston arrived at Mozambique to take up the duties of British Consul in Portuguese East Africa, and proceeded, as arranged previous to his departure from England, to travel in the interior with a view to reporting on the troubles with the Arabs.

Near Chiromo, Mr. Johnston came up with Major Serpa Pinto's expedition, consisting of a large native force and a European staff, which had been deflected northwards after traversing the Lower Zambesi. Major Serpa Pinto informed Mr. Johnston that his mission was of a scientific nature, and that he was on his way to Lake Nyasa, and requested the British Consul's good offices to secure him from molestation by the Makololo people through whose district his route lay. In reply, he was advised by Mr. Johnston that the passage of so large a force was in itself likely to provoke hostilities, and was further warned that any political action on his part, north of the Ruo, would oblige Mr. Johnston to take steps to protect British interests.

Mr. Johnston, during his progress up the Lake, induced the Jumbe of Kota-Kota to place his country under British protection, and on arriving at Karonga arranged similar treaties with Mlozi and other Arab and Wahenga chiefs, after which he proceeded to Lake Tanganyika. On his return, an agreement was made with Mponda, a Yao chief at the south end of the Lake. During the period from 1889 to as late as 1898, frequent punitive expeditions had to be organised against various recalcitrant chiefs who had opposed the introduction of British rule or, having accepted it, had sought to throw it off. Among these may be mentioned Makanjira, Zarafi, Kawinga, Mpeseni, and Gomani. Such expeditions and the use of military force must be regarded as incidental to the settlement of an uncivilised country and the disturbance of despotic rules.

In the summer of that year an Anglo-Portuguese Convention ratified the work of Mr. Johnston, Mr. Sharpe, and other pioneers of British Central Africa, and in the following spring a British Protectorate over the countries adjoining Nyasa was proclaimed. Mr. Johnston was appointed as the first Commissioner and Consul-General on 1st February, 1891, and, for nearly five

years, also administered the British South Africa Company's sphere north of the Zambesi. Until 1910, the British South Africa Company continued to furnish an annual contribution to the expenses of the Protectorate, for police and other services rendered in what is now North Eastern Rhodesia. On the 22nd February 1893, the name of the Protectorate was changed to the British Central Africa Protectorate.

In December, 1902, a contract was entered into with the Shire Highlands Railway Company, Ltd., for the construction of a line of railway from Chiromo to Blantyre (subsequently extended to Port Herald) to overcome transport difficulties on the Shire river. In 1915, owing to the continued fall in the level of Lake Nyasa and flow of water of the Shire, the Central African Railway was opened, connecting Port Herald with Chindio on the Zambesi, making a total length of 174 miles. The Trans-Zambesi railway connecting Beira with the Zambesi opposite Chindio is now under construction and is expected to be opened for traffic in March, 1922.

In July, 1907, a new constitution was granted to Nyasaland which changed the name of the Protectorate from "British Central Africa" to "Nyasaland," and provided for the appointment of a "Governor and Commander-in-Chief" in lieu of "Commissioner and Commander-in-Chief," and the establishment of Executive and Legislative Councils, the latter to include both official and unofficial members to be nominated by the Crown.

Two sessions of the Legislative Council are held annually, in March and September, and on such other occasions as are found necessary for the enactment of legislation of an urgent nature.

## GENERAL OBSERVATIONS.

### POPULATION.

The European population is approximately 1,000 males and 500 females; the native population 545,000 males and 655,000 females, and the Indian population 500 males and 60 females.

### HEALTH.

The health of the Protectorate during the year 1920 was, on the whole, good; there was a marked decline in the returns of cases of small-pox, which fell to less than one-half as compared with the previous year, and there has been no recrudescence of influenza in epidemic form, though the occurrence of catarrhal affections reported from one or two areas may have been of this nature.

The admission rates for venereal diseases, however, exhibit a steady rise as compared with previous years, and steps are now being taken to deal with this class of complaints by the opening of special hospitals for their reception and treatment.

Diphtheria has been of very rare occurrence in past years, but five cases with one death were reported during 1920.

Of insect-borne diseases, trypanosomiasis is endemic in the Protectorate; the disease, however, is almost entirely confined to the Dowa and Marimba districts.

Tick-fever is fairly prevalent in the Lake districts, but is only rarely met with in other areas.

There were no cases of plague during the year, and it is hoped that the measures which have been adopted will result in the stamping out of the disease. More than three millions of rats have been destroyed during the past four years in the affected area, which is a small one at the north end of the lake.

Leprosy, though not common, appears to be widely spread, and attention is being directed to the segregation of cases in their own villages.

The foregoing are diseases which call for special notice among the native population.

As regards Europeans, malaria is the principal ailment and black-water cases occur; but gastro-intestinal disorders and muscular rheumatism (fibrositis) are fairly prevalent. There were only two cases of enteric fever and one of paratyphoid reported during the year. Dysentery cannot be said to be common and is chiefly of the bacillary type.

The Government maintains at Zomba, Blantyre, and Fort Johnston, hospitals for reception of European patients at which midwifery cases are taken. There are also hospitals at some stations for treatment of natives. Much medical work in the Protectorate is performed by various mission bodies.

#### IMMIGRATION AND EMIGRATION.

During the year, 913 Europeans arrived and 506 left the Protectorate; 33 Indians arrived and 37 left; and 3,533 natives returned while 6,099 left. Europeans in Nyasaland proceed frequently, on an average about once in three years, to Europe, or to a temperate climate elsewhere for the purpose of recuperating health. Natives leave the Protectorate in large numbers for South Africa, where more highly paid work than they are able to find locally attracts them. They are there employed principally in mining, agricultural, and domestic work.

#### AGRICULTURE.

Europeans not in the Public Service or engaged in missionary work are employed principally in agriculture or trade. The most important crops grown are tobacco, cotton, tea, and fibre. The high prices for tobacco obtained in the previous year led to an influx of European planters, of whom many were married officers who had served in the War, with the intention of growing

tobacco. The year under review has been an unfortunate one for them and others, by reason of stagnation of markets and a fall in prices. When conditions become normal there is every prospect that tobacco and cotton will be produced in large quantities and that with due attention to cultivation and grading, and with increased transport facilities, they will find a profitable market. Tobacco grown in the Protectorate is granted on import into the United Kingdom a preference over foreign tobacco of one shilling and fourpence per lb.

Practically all varieties of vegetables and many of the cereals grown in temperate climates will grow well in various parts of the Protectorate. Cattle and sheep are raised also, but they are subject to diseases which call for measures the expense of which may render it advisable to embark with caution on any industry solely connected with cattle or sheep-breeding. With internal facilities and reduction of cost of production the Protectorate may well become self-supporting, so far as food supplies are concerned.

#### TRADE.

The trade of the Protectorate, apart from goods imported for sale to Europeans, is principally that of cotton goods, blankets, hoes, and salt for natives. The bulk of this native trade is in the hands of Indians, but European firms maintain stores at important centres and are largely concerned in the wholesale trade. The very high price of cotton goods which the native is not now able to pay, has resulted in heavy stocks accumulating which are not likely to be sold at present prices. Until prices drop there is no likelihood of any great improvement in the present position. As native requirements expand and as the demand for manufactured articles increases, the trade of the Protectorate will benefit, but there is not at present any marked prospect of rapid development, and the natives are using largely skins and bark cloth.

#### LABOUR.

The native male population is 545,000, of which, approximately 300,000 are adults, including aged and infirm. The area cultivated by Europeans under cotton, tobacco, tea, rubber, and fibre, which are the principal crops, is roughly 50,000 acres. It is difficult to estimate the area cultivated by natives for production of foodstuffs for the whole native population of 1,200,000, but as the principal crop grown is maize, it must be extensive and may be put at not less than 900,000 acres. During 1920, an average number of 14,000 Nyasaland natives was employed on the Rhodesian mines. A number were engaged also for the

construction of the Trans-Zambesi railway. It is estimated that at least 20,000 adult males are employed annually outside the Protectorate. Much of the local transport is performed by native carriers and a further 20,000 men at least are occupied on this service. As better means of transport are introduced, this number will become available for other work. The average number of natives employed on various public works is probably 2,500. It is estimated that each acre cultivated by Europeans requires one native constantly employed, but as natives work generally only for three or four months in each year, three to four men per acre are required. The usual wages paid to agricultural labourers is 6s. a month with food if they are not resident on the estates. In addition, medical attention is provided and some cost is incurred for recruitment of the labourers and for their transport. It may safely be estimated that the monthly cost for agricultural labour is not less than 8s. Although the native population appears to be sufficiently high, with the attractiveness of wages outside the labour problem within the Protectorate is growing more difficult.

CRIME.

A legacy of the War has been an increase in native crime, chiefly highway robbery and larceny cases. Native carriers have been attacked and their loads stolen, and stores raided and private houses entered. A reorganisation of the Police under European officers in four of the principal districts was effected during 1920, and has had a marked effect in the repression of crime, especially of a predatory character.

GOVERNMENT FINANCE.

The Government financial year covers the period 1st April-31st March, while this report in other respects deals with the calendar year. The actual figures of revenue and expenditure for the financial year 1920-1921 are not yet available, so that in respect of that period the figures given below are partly estimated.

<i>Year.</i>	<i>Revenue.</i>	<i>Expenditure.</i>
	£	£
1916/17 .. ..	*148,284	128,272
1917/18 .. ..	144,239	143,639
1918/19 .. ..	187,645	150,198
1919/20 .. ..	186,927	217,669
1920/21 .. ..	268,000	262,000

\*Augmented by an Imperial grant in aid of £10,150.

The excess of assets over liabilities at the 31st March in each year was as follows :—

31st March, 1917	..	..	..	62,369
" " 1918	..	..	..	62,969
" " 1919	..	..	..	100,408
" " 1920	..	..	..	69,674
" " 1921 (partly estimated)	..	..	..	97,000

The Public Debt was :—

31st March, 1917	..	..	..	177,434	} Excluding War Loans.
" " 1918	..	..	..	192,800	
" " 1919	..	..	..	192,890	
" " 1920	..	..	..	211,890	
" " 1921 (partly estimated)	..	..	..	209,387	

Of the amount of public debt as on 31st March, 1921, £172,190 1s. 3d. represents the amount still due to the Imperial Treasury against sums advanced for the purpose of redeeming lands originally granted to the Shire Highlands Railway in connection with construction of the line from Port Herald to Blantyre. These lands were repurchased by the Government for £180,800, which sum was advanced by the Imperial Government. A sinking fund of 1 per cent. was created from which the loan will be repaid. The contribution to sinking fund with interest at 3½ per cent forms a charge against the revenue of the Protectorate. The balance of the public debt consists of part of a loan granted by the Imperial Government for the construction of roads and railways in the Protectorate. So far, only £40,000 has been received, which has been reduced by sinking fund contribution to £39,700 7s. 6d. Interest and sinking fund at 4 per cent. and 1 per cent. respectively are charged to general revenue.

In addition to its Public Debt the Protectorate is liable for guaranteed interest on the Central Africa and Trans-Zambesi Railways, in the latter case to the extent of 6 per cent. on £1,200,000. In the former case the guarantee, 4 per cent. on £500,000, expires in 1923. The guarantee in respect of the Trans-Zambesi Railway takes effect from 1st April, 1921, and continues for 25 years.

#### TRADE AND AGRICULTURE.

The value of imports and exports during each of the last five years was as follows :—

Year.	Imports.		Exports.	
	£		£	
1916 .. ..	278,147	.. ..	284,881	
1917 .. ..	411,549	.. ..	158,324	
1918 .. ..	516,680	.. ..	485,052	
1919 .. ..	608,788	.. ..	453,251	
1920 .. ..	507,573	.. ..	670,072	

Goods in transit, specie, and goods imported by the Government are not included.

The falling-off in value of imports is due to restricted trade in cotton goods, large quantities of which are usually imported for native trade. The cost during 1920 was so high that natives could not afford to purchase cloth and in many instances they have reverted to the use of bark cloth or skins. Imports of food, drink, and tobacco rose from £64,666 in 1919 to £95,490 in 1920. Speaking generally trade in goods imported for European use improved to a considerable extent. As means of communication improve and if the cost of petrol falls to a reasonable figure, there will be considerable demand for motor vehicles of all kinds. The demand for agricultural implements is increasing, although most of the cultivation is still done by hand. The native of Nyasaland is very conservative in his methods of cultivation; and when he is engaged on European estates it is difficult to persuade him to use any other implement than a short-handled hoe. The value of agricultural implements imported amounted to £37,499 in 1920 compared with £19,908 in 1919, that of hardware in 1920 was £47,318 and of vehicles £29,259, compared with £26,740 and £9,618 respectively in the previous year.

The United Kingdom supplied 65·5 per cent. of the total imports; Portuguese East Africa 18·3 per cent.; British Possessions 12·7 per cent., and foreign countries 3·5 per cent.

The following are the principal exports, with quantities exported, in each of the last three years:—

	1918.	1919.	1920.
	lb.	lb.	lb.
Cotton ..	2,630,026	1,285,334	913,718
Tobacco ..	6,060,852	4,565,579	4,963,130
Tea..	355,788	879,010	496,830
Fibre ..	344,238	594,364	290,822
Rubber ..	53,679	121,128	128,253
Coffee ..	122,715	177,710	64,362

Soil and climatic conditions are most suitable for the cultivation of cotton and tobacco. Nyasaland has earned an enviable reputation for its cotton, and with care in the selection of seed and cultivation so as to maintain a suitable staple there are, when prices improve as they should soon do, great possibilities, both of largely increased cultivation and of good returns to growers. The acreage under cotton has decreased from 29,578 acres in 1915 to 18,274 acres in 1920, but this reduction is largely due to cotton land being used for tobacco owing to the better prices obtained for tobacco during the War. The yield per acre of lint varied from 114 lb. in one district to 32 lb. in another district, but with proper care in the selection of land high yields may be expected.

The acreage under tobacco rose from 4,507 acres in 1911 to 14,218 acres in 1920. Nyasaland tobacco is admitted by British manufacturers to be the only Empire-grown tobacco that competes successfully with certain grades of Virginia tobacco. The burning quality of local tobacco, with its high percentage of potash and low quality of chlorine, is excellent, but substance or body is said to be lacking. A series of fertiliser experiments is contemplated which should throw light on the possibilities of producing this property by the supply of various food plants.

With the Imperial preference of one shilling and fourpence per lb., to which reference has been made above; with care in cultivation and grading; and with assistance from British manufacturers in finding a market for the tobacco, there is every reason to anticipate a very large extension of tobacco cultivation in Nyasaland with prices which should yield a profitable return to cultivators.

The tea industry is confined practically to the south-eastern portion of the Mlanje district. The low price which tea fetches at present in the markets is a deterrent to any expansion and the acreage under tea decreased from 4,840 acres in 1919 to 4,285 acres in 1920.

The acreage under Para rubber increased from 500 to 1,200 acres and that under sisal hemp from 2,290 to 3,830 acres; but these crops, together with coffee, chillies, capsicums, ground-nuts, and wheat occupy, at present, positions only of minor importance.

Large areas of maize, which forms their principal foodstuff, are grown by natives. This plant grows luxuriantly and yields abundantly in many districts. Given suitable means of transport at reasonable cost maize should form here, as is the case in Rhodesia, a profitable crop for export.

Cotton and tobacco are also grown by natives. If a steady, remunerative price, instead of greatly fluctuating prices, could be assured, there are great possibilities in the production of cotton by the natives, who, in many cases, produce good crops and grade well. Sun-cured tobacco is produced by natives and the better grades are of very good quality.

#### LAND.

The total acreage of the Protectorate is 25,161,924 acres. Of this area, 3,705,255 acres have been alienated under certificates of claim which vest the freehold in the claimants. Of the remainder, 177,478 acres had been sold or leased up to the end of 1919, while 81,553 acres were leased during 1920. The question of land to be set aside for European and native occupation and the conditions on which such occupancy should be allowed have recently been considered by a Special Commission appointed by the Governor for the purpose. The report is now under consideration.

Except in very special cases Crown lands are not sold but leased. Leases are for 21 years, unless the land is required for slow-growing crops such as tea, coffee, and rubber, when leases for 99 years may be granted. At present, applicants generally select by examination the land of which a lease is sought. The lease is then put up to auction, but bidding is confined to applicants approved by Government. The rental per annum varies from 2s. to 1s. an acre for agricultural land (subject to revision at fixed periods) to 2d. per acre for grazing land. Yearly tenancies for store sites are granted without auction, generally at a rental of £5. Lessees are required to pay cost of survey. In 1918 eleven leases were granted, in 1919 sixty-one, and in 1920, one hundred and forty-three. Rents derived from leases in those years were £3,025, £3,586, and £11,920, respectively.

During 1920 the British Central Africa Company acquired an area of 3,000 acres at Chikwawa for cotton-growing and, in connection with this and other areas under cultivation by it in the district, is installing ginning machinery and cotton-pressing and baling machinery.

Land when sold may be valued as under :—

<i>District.</i>	<i>Value per acre.</i>
Blantyre and Zomba .. .. .	£3 to £5
Mlanje .. .. .	£3 to £5
Cholo .. .. .	£2 to £4
Chiromo .. .. .	£1 10s. to £2 10s.
Ncheu .. .. .	£1
Namweras .. .. .	£1

## NATURAL RESOURCES.

### FORESTRY.

The Protectorate is generally well covered with scrubby forest consisting mainly of small, broad-leaved, evergreen species, which rarely attain a diameter of more than 8 inches. In the Shire Highlands and other densely inhabited localities large tracts of the wooded areas have been cleared, both by Europeans and natives, for agriculture. Broad-leaved trees of large dimensions are found along the banks of streams in many parts of the country, the most valuable species being the African mahogany (*Khaya senegalensis*). A strip of land extending to 30 yards from the banks of streams is generally reserved by the Government.

A Forest Ordinance exists under which the most valuable species are reserved. Natives are allowed to utilize forest produce, other than reserved species, without a permit provided that such produce is not sold or alienated to a non-native.

The Forestry Division at present confines its control to the districts of Zomba, Blantyre, and Mlanje, and collects the

royalties on produce cut and removed under permits issued by it in those districts. In other districts this control is exercised by the respective residents.

On the Mlanje Plateau, at an altitude ranging from 4,000 to 7,000 feet, there are several small natural forests of Mlanje cypress (*Widdringtonia Whytei*). This is the most valuable building timber in the Protectorate and is largely used by the Public Works Department. These patches of forest, which are confined to the ravines and cover an area of about 2,000 acres in the aggregate, may be said to be the only area of really large timbered forest in the country.

These areas were, during the year, subjected to fire protection by means of hoeing and burning fire-lines, and the area clear-felled during the previous year was planted up with Mlanje cypress and *Cupressus torulosa*.

Existing plantations, which are situated in the Zomba, Blantyre, and Mlanje districts, and have a total area of about 900 acres, were subjected to cleaning and thinning operations, also fire protection. All blanks in the newer plantations caused by failures were replanted. These were particularly numerous in the Mlanje Plateau Plantations, due to the severe frost experienced in June and July.

New areas were planted up at the above-mentioned places to the extent of 45 acres.

The chief species favoured were *Eucalyptus saligna*, *E. rostrata*, *E. punctata*, *E. terreticornis*, *Cedrela toona*, *Khaya senegalensis* (African Mahogany) at the lower elevations, and on the Zomba plateaux, *Widdringtonia Whytei* (Mlanje cypress), *Cupressus torulosa*, and *Callitris robusta*, all of these having proved most successful in the experimental plots at the Zomba arboretum and elsewhere.

Experimental planting was continued near the shore of Lake Nyasa at the Bar, Fort Johnston, and also along the banks of the River Shire in that locality.

Large areas were planted up on private and leasehold estates by planters and others, and advice was given by the Forest authority when applied for.

In all leases of Government land for agricultural purposes a condition is now inserted whereby a percentage of the cultivated area must be planted with forest trees by the lessees.

A considerable quantity of various species of tree-seed was sold at cost price by the Department during the year.

Royalties on forest-produce brought in a revenue of £2,283 (approximately) and the sum of £184 was received on the sale of poles from plantations at Zomba and Blantyre.

VETERINARY.

The most important features of the year's progress, so far as livestock are concerned, was the importation by Government of pedigree cattle of the Aberdeen Angus, Ayrshire, and Sussex breeds, as well as a consignment of Berkshire pigs.

These animals were imported with a view not only to introducing these breeds, but in order to grade up the native livestock.

The Aberdeen Angus breed has been already proved a suitable one for crossing with the native cattle, the offspring being hardy and capable of living under the conditions to which the native cattle of the Protectorate are accustomed.

The Ayrshire cattle it is hoped will produce offspring with the native cattle with improved milking capacity, and as the breed is known to be a hardy one it is expected that they will be able to withstand the local climatic conditions of the highlands of the Protectorate.

The Sussex strain is expected to give crosses with selected native cows, suitable for transport and agricultural work. It is proposed to import animals of the Indian Zebu types from India, and as these have already been found to impress their good qualities in crossing with native stock, good results are anticipated as a result of the proposed importations.

In the early part of the year a consignment of boars and sows of the Berkshire breed was imported by Government and these have already proved themselves prolific, and it is hoped that settlers will use those European strains to produce what is the most profitable animal of the farmyard if properly tended.

Owing to the diseases of stock to which Nyasaland is subject and the increasing number of settlers, it is necessary to consider all the means that science and practical experience afford to protect the stock from disease and to raise them by the most profitable means.

The cattle industry in Nyasaland, as in any African colony, depends entirely on the possibility of protecting animals from the endemic diseases as well as excluding other epizootic diseases.

In the tsetse-fly infected areas it is impossible to keep cattle, owing to their becoming infected with trypanosomiasis, which is transmitted by these flies, but in all other parts of the Protectorate cattle can be kept, providing dipping facilities are available to protect them from the various diseases carried by ticks.

FISHERIES.

Considerable supplies of fish are obtained from Lake Nyasa and Lake Shirya. The industry is mainly in the hands of natives, who catch the fish and sun-dry them for sale to natives in other parts of the Protectorate.

Fresh fish, in limited quantities, are eaten by Europeans living near the shores of Lake Nyasa and Lake Shirwa and near rivers.

#### WATER POWER.

Water-power is utilized by the Government for the generation of electric light and power for use in Zomba.

Private persons in various districts use water-power for running saw-mills, grinding meal, ginning cotton, and preparing sisal fibre for the market.

#### MANUFACTURES.

In the strict sense of the term there are no industrial establishments or manufactures in the Protectorate. Furniture, baskets, etc., are made at the Missions and elsewhere; mats and pottery are made by natives in certain districts; chimanga meal and beer are prepared by natives throughout the Protectorate for their own use.

There are 14 cotton ginneries which handled during the year 10,267 cwt. of lint cotton, and 4,715 cwt. of tea were manufactured in the Mlanje district.

#### BANKS.

The legal currency is British sterling and there are no bank note or Government currency note issues in circulation.

The Standard Bank of South Africa, Limited, opened a branch at Blantyre in 1900, and in 1918 the National Bank of South Africa, Limited, took over the business of the African Lakes Corporation. Both banks now have branches at Zomba and Blantyre and at several important centres. Recently, both banks have opened Savings Bank branches.

There is also the Post Office Savings Bank with branches at Zomba, Blantyre, Port Herald, Fort Johnston, Kota-Kota, and Karonga. Interest on deposits is paid at the rate of 2½ per cent. The number of accounts open at the 31st December, 1920, was 409, a decrease of 29 on the previous year; the amount standing to the credit of depositors was £5,981.

#### LEGISLATION.

The principal legislation passed during the year was an Ordinance providing for payment by natives of a hut or poll tax of 6s. a year, in lieu of the former rate of 8s., with a reduction to 4s. if the native had worked for one month for a European during the year; an Ordinance giving power to the Governor

to order the closing of shops in any district or township or part thereof on Sundays or Public holidays and after certain hours ; and an Ordinance providing for the licensing and control of motor vehicles and traffic.

### EDUCATION.

Education both of Europeans and natives is confined to schools provided by Mission authorities. Eleven Missions are represented in Nyasaland and there are some 2,000 schools, at which over 100,000 children are on the school rolls. At some of these institutions education is entirely free ; at others small fees are charged. A grant of £2,000 towards the maintenance of schools was made from public funds. Technical education is given in some cases and much good work has been, and is being, done, but the standard of literary education is, generally speaking, very low. So far the Government has not established schools or training institutions, but it is hoped that some system of education approved by the Government will be established. As a rule, European children are sent out of the Protectorate as soon as they reach school age.

### CLIMATE.

The climate of Nyasaland in its essential features is similar to that of the rest of Eastern Africa within the tropics.

The climate is necessarily diversified in various districts owing to variations in latitude, altitude, and general configuration of the terrain, presence or absence of rivers, forests, etc. The South East Monsoon commences to blow strongly in September, in conjunction with the sun's increase in southerly declination, and the first rains may be expected any time after mid-October ; from their commencement to the end of December it is usual to experience violent thunderstorms and heavy precipitation in a few hours, followed by an interval varying from one to fifteen or twenty days of intense heat. With the return of the sun from its southern limit of declination, the thunderstorms diminish in intensity and frequency, and are replaced by steady rain—January and February being usually the wettest months as regard duration of rainfall as well as actual amount. After March the frequency and intensity of rainfall diminishes rapidly, and from April to September the climate is comparatively cool and dry.

It is convenient from a climatic point of view to divide the country into three sections.

The first may be classed as the Shire Valley and Lake Nyasa, where the elevation varies from 200 to 1,500 feet, and the average rainfall does not exceed 30 inches in the more open portions. Where the mountains make the valley narrower, or where they closely approach the Lake shore, the rainfall is naturally heavier. The maximum shade temperatures before the rains

frequently exceed 108° Fahr., whilst in the cold season the temperature near water often drops to below 40° Fahr., in the early morning—far lower than is experienced at elevations of 2,000-3,000 feet. This feature is frequently a disadvantage in connection with late-planted cotton.

The second, or Shire Highlands climate, may be roughly described as that experienced in the districts of Zomba, Blantyre, and Mlanje at an elevation of 2,500-3,000 feet; the average rainfall amounts to about 60 inches, the maximum temperature in the shade rarely exceeds 95° Fahr., and the minimum may fall occasionally to 45° in the cold season. When the elevation is greater, and in proximity to the various mountain ranges such as Mlanje, Zomba, Chiradzulu, the climate is different, and on the sides of the mountains facing the prevailing winds, the rainfall may be over 80 inches annually, decreasing gradually to 40 or 30 inches on the sides sheltered from the prevailing winds.

The third type of climate is experienced on the plateau, the apex of which forms the dividing line between the Shire-Nyasa, and the Loangwa-Zambesi drainage systems. The general precipitation is about 30 inches per annum, the temperatures are lower, and the atmospheric humidity is generally much less than in the zones previously mentioned; the elevation is extremely varied, and consequently wide difference is experienced at places within a few miles of one another.

The Shire Highlands climate, with well distributed rains and a moderately high degree of atmospheric humidity, coupled with temperatures free from extremes, is suitable for the cultivation of a greater variety of crops than the other two zones.

The Shire Valley—Lake Nyasa climate is more suited to crops which can stand extremes of drought and heat for long periods, whilst the plateau climate is particularly suitable for cattle-ranching.

#### COMMUNICATIONS.

Intending passengers from England can travel as follows:—

- (i.) Via Cape Town and then by rail to Beira and thence on by coasting steamer to Chinde.
- (ii.) Via Cape Town, Durban, Beira, to Chinde, all sea route.
- (iii.) Via East Coast, calling at Marseilles, Naples, Suez, Aden, Mombasa, Beira, transshipping at Beira to small coasting steamer for Chinde.

There are several steamship companies connecting with Cape Town, Beira, and Chinde, the principal being the Union-Castle Company, with their Head Office at 3 and 4, Fenchurch Street, London (this Company also runs a direct service viâ the East Coast of Africa—see No. iii., as above), and the Harrison Rennie Line, whose Head Office is at 4, East Indian Avenue, London, E.C. As fares and cargo freights fluctuate considerably

and are graded into various classes, intending passengers are recommended to communicate direct with either of the above Companies.

Chinde, the present port of entry for Nyasaland, is in Portuguese territory, situated on a sandspit at one of the mouths of the Zambesi. Communication with Beira is maintained by small coasting steamers, the time occupied on the voyage being between 16 and 24 hours according to the state of the tide and weather. There are two British companies engaged in the river transport between Chinde and Nyasaland, viz., the African Lakes Corporation, Limited (Head Office, 14, St. Vincent Place, Glasgow), and the British Central Africa Company (Head Office, 20, Abchurch Lane, London). Both these Companies are Agents for ocean steamship companies and intending passengers are recommended to communicate direct with them. There is one British hotel at Chinde, owned by the African Lakes Corporation, Limited.

From Chinde, passengers and cargo are conveyed by shallow-draught stern-wheel steamers to Chindio on the Zambesi, the time occupied by the journey in the wet season when the river is high, four days, and in the dry season anything from five to six days. At Chindio, passengers and cargo are landed, and here connect with the railway service to the Nyasaland Protectorate.

#### RAILWAYS.

Passengers and cargo are conveyed by a 3 ft. 6 in. gauge railway from Chindio to Blantyre, the commercial centre of the Protectorate, a distance of 174 miles. A railway is under construction between Beira and the south bank of the Zambesi, opposite Chindio, which will link up Nyasaland with the South African Railway system. Until a bridge is constructed across the Zambesi, connection with Chindio on the north bank will be effected by a steam ferry.

The opening of this railway will greatly facilitate transport to and from the Protectorate; it will eliminate long and expensive delays with transshipment at Beira and at Chinde, as well as the tedious journey on the Zambesi. It is expected that the journey by rail from Beira to Blantyre will be accomplished in about 34 hours against 6 or 7 days now occupied under most favourable circumstances by the route *via* Chinde and the Zambesi.

The construction of an extension of the railway from Luchenza, a station on the existing Chindio-Blantyre railway, to the south end of Lake Nyasa is under consideration. This railway will connect Lake Nyasa and countries bordering it with the railway communications referred to.

Lake Nyasa is another most important line of communication. In length about 360 miles, with a width of 20 to 50 miles, it serves the western and northern areas of Nyasaland, parts of

Portuguese East Africa and Tanganyika territory (formerly German East Africa). The connection of the lake with the railway system to Beira and South Africa is expected to lead to considerable development of valuable land adjacent to it, now lying idle by reason of the difficulties and prohibitive cost of transport.

The Government has two steamers on Lake Nyasa, one of which ("Guendolen"), sails monthly from Fort Johnston, calling at all Lake ports, but carrying Government cargo and passengers only. Two trading steamers owned by the African Lakes Corporation, Limited, make regular voyages round the Lake and the Universities' Mission to Central Africa have two steam vessels engaged in their work. There are also a few dhows engaged in trading along the Lake shores.

The average speed of the steamers is about 6 miles an hour and generally they travel by day only. Hotel accommodation is to be procured at Fort Johnston.

#### ROADS.

In the circumstances of the country at the present time, Nyasaland may be said to be well served by road communications. Excellent metalled roads exist (1) between Blantyre and Limbe and Zomba, a distance of 45 miles; (2) from Blantyre for 12 miles through the Lunzu planting area in the direction of Matope on the river Shire; and (3) from Luchenza Station on the Shire Highlands Railway for 16 miles, tapping the Mlanje planting area. Other roads of the same character are in course of construction for facilitating the transport of produce to the railway from the chief industrial centres.

The other main line communications may be summarised as follows. They are earth or gravel surface roads, but while fair roads for their purpose in fine weather, little or no guarantee can be given as to their capacity in the wet season, when not only the surface is untrustworthy, but the ordinary bridges of timber may be swept away by floods.

In addition to these main roads there are many of the same character suitable in some cases for motor cars and light lorries, in others for cycles and side-cars making connection between the principal townships and tapping areas where there is considerable European settlement.

#### MEANS OF TRANSPORT.

On routes not suitable for motor traffic, car, or cycle, passengers are transported by *machila* (hammocks slung on poles), or *garettu* (a modified jinricksha) carried or drawn by natives. Ox wagon transport is feasible on many roads, or special roads for such vehicles are permitted to be made in areas free from the tsetse fly. Motor traffic has greatly developed in recent years, but is expensive on account of the high cost of

petrol. Investigations are proceeding as to the local production of a cheaper spirit. A large part of the Government transport (passengers and goods) is performed by this means as well as that of the planters and trading firms. Motor cars and light lorries may be hired at several of the important centres, the present tariff approximating to 3s. a ton mile for goods. Passenger rates are specially arranged having regard to the journey and time occupied.

#### POSTAL SERVICES.

*Alteration in Postal Rates.*—The rates of postage, Inland and Overseas, were raised as from the 1st September, 1920. The tariff on Inland letters and for letters to the United Kingdom and all British Colonies and Dependencies, and the Province of Moçambique is now as follows:—

Not exceeding 1 oz. . . . .	2d.
For every additional $\frac{1}{2}$ oz. . . . .	1d.

Letters to other parts of the world are charged a uniform rate of 2½d. per  $\frac{1}{2}$  oz.

*Post Offices.*—The number of Post Offices transacting public business on the 31st March, 1921, was 25.

*Inland Mail Services.*—A good inland mail service by rail, steamer, and carrier, is maintained between Zomba and Blantyre and the outlying districts, in some cases daily, or bi-weekly.

#### OCEAN MAIL SERVICES.

*United Kingdom Service.*—The steamer service between Chinde (office of exchange for Nyasaland) and Beira, through which port all overseas mails have to pass, is irregular. Opportunities presented themselves for the despatch of London mails on 65 occasions during 1920, an average of 5.4 per cent. per month. The mails are despatched from Beira to Cape Town by rail, there being a service twice weekly, and thence by the steamer of the Union-Castle Royal Mail Steamship Company, which maintains a weekly service. Mails from London were received by 47 steamers. Parcel mails are carried between the United Kingdom and Nyasaland by the steamers of the Ellerman-Harrison-Rennie Line, sailing at irregular intervals. They are transhipped at Beira to coasting steamers. Seventeen parcel mails were received by this service.

*Direct Exchange with Moçambique Territory.*—A Convention for the direct exchange of mails between Nyasaland and the Province of Moçambique (Portuguese East Africa) was arranged in October, 1920.

*Money Orders.*—Money Orders are issued at 18 Post Offices and cashed at 20 Offices. Arrangements for a direct exchange

of Money Orders have been concluded with the following Administrations :—

United Kingdom	Northern Rhodesia.
Union of South Africa	Southern Rhodesia.
India	Zanzibar.
Aden	Province of Moçambique.

Orders issued in other countries are negotiated through the intermediary of one or other of the countries above mentioned.

*Postal Orders.*—British Postal Orders are sold and paid at all Money Order Offices. The rates of poundage charged are as follows :—6d. to 2s. 6d.=2d., 3s. to 15s.=3d., 15s. 6d. to 21s.=4d. This useful form of remittance retains its popularity, especially among the native population. The value of Postal Orders paid increased from £7,000 to £14,800.

*Telephones.*—The telephone service in Nyasaland is so far restricted to an official installation at Zomba, connecting up the various Government Offices and the Camp (K.A.R. dépôt).

*Telegraphs.*—The telegraphs are worked by the African Trans-continental Telegraph Company. Nyasaland is connected directly with Salisbury, Southern Rhodesia, Fort Jameson and Fife, Northern Rhodesia, and Tukuyu, Tanganyika Territory. The main trunk line connects Blantyre, Zomba, Fort Johnston, Domira Bay, Kota-Kota, Chinteche, Livingstonia, and Karonga. There is a branch line from Domira Bay, passing through Dowa to Fort Jameson. Blantyre is connected with Limbe, Mikolongwe, Luchenza (branch to Mlanje), Chiromo, Port Herald, and Chindio, (Portuguese Territory), by the telegraph line of the Shire Highlands.

COLONIAL REPORTS, Etc.

The following recent reports, etc., relating to His Majesty's Colonial Possessions have been issued, and may be obtained from the sources indicated on the title page:—

ANNUAL.

No.	Colony, etc.	Year.
1061	Seychelles .. .. .	1919-1920
1062	Mauritius .. .. .	" "
1063	St. Vincent .. .. .	April-December 1919
1064	Nigeria .. .. .	" "
1065	Sierra Leone .. .. .	" "
1066	Gold Coast .. .. .	" "
1067	Jamaica .. .. .	1919-1920
1068	British Guiana .. .. .	1919
1069	Trinidad and Tobago .. .. .	" "
1070	British Honduras .. .. .	" "
1071	Hong Kong .. .. .	" "
1072	Barbados .. .. .	1919-1920
1073	East Africa Protectorate .. .. .	1918-1919
1074	Leeward Islands .. .. .	1919-1920
1075	Nyasaland .. .. .	1919
1076	Falkland Islands .. .. .	" "
1077	Bermuda .. .. .	1920
1078	Grenada .. .. .	" "
1079	Uganda .. .. .	1919-1920
1080	Fiji .. .. .	1920
1081	Gibraltar .. .. .	" "
1082	Northern Territories of the Gold Coast .. .. .	1919
1083	Bechuanaland .. .. .	1920-1921
1084	St. Helena .. .. .	1920
1085	Basutoland .. .. .	1920-1921
1086	Ceylon .. .. .	1920
1087	Barbados .. .. .	1920-1921
1088	Gilbert and Ellice Islands .. .. .	1919-1920
1089	East Africa Protectorate .. .. .	" "
1090	Sierra Leone .. .. .	1920
1091	Zanzibar .. .. .	" "
1092	Cayman Islands .. .. .	1918-1919
1093	Cyprus .. .. .	1920
1094	St. Vincent .. .. .	" "
1095	Bahamas .. .. .	1920-1921

MISCELLANEOUS.

No.	Colony, etc.	Subject.
82	Imperial Institute .. .. .	Rubber and Gutta-percha.
83	Southern Nigeria .. .. .	Mineral Survey, 1910.
84	West Indies .. .. .	Preservation of Ancient Monuments, etc.
85	Southern Nigeria .. .. .	Mineral Survey, 1911.
86	Southern Nigeria .. .. .	Mineral Survey, 1912.
87	Ceylon .. .. .	Mineral Survey.
88	Imperial Institute .. .. .	Oil-seeds, Oils, etc.
89	Southern Nigeria .. .. .	Mineral Survey, 1913.
90	St. Vincent .. .. .	Roads and Land Settlement.
91	East Africa Protectorate .. .. .	Geology and Geography of the northern part of the Protectorate.
92	Colonies—General .. .. .	Fishes of the Colonies.