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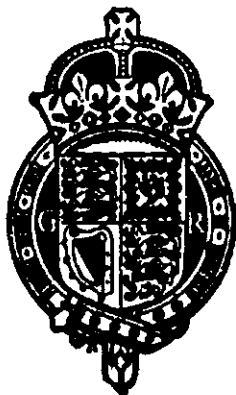
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No. 1470.

# NORTHERN RHODESIA

## REPORT FOR 1928

*(For Reports for 1926 and 1927 see Nos. 1380 (price 1s. 0d.)  
and 1410 (price 1s. 3d.) respectively).*



LONDON:

PRINTED AND PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE.

To be purchased directly from H.M. STATIONERY OFFICE at the following addresses:  
Adastral House, Kingsway, London, W.C.2; 120, George Street, Edinburgh;  
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1930.

Price 1s. 8d. Net.

58-1470

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MAP.

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# NORTHERN RHODESIA.

ANNUAL REPORT, 1928.

## PREFACE.

The territory known as the Protectorate of Northern Rhodesia lies between longitudes 22° E. and 33° 33' E. and between latitudes 8° 15' S. and 18° S. It is bounded on the west by Angola, on the north-west by the Belgian Congo, on the north-east by Tanganyika Territory, on the east by the Nyasaland Protectorate and Portuguese East Africa, and on the south by Southern Rhodesia and the mandated territory of South West Africa; comprising in all an area that is computed to be about 287,950 square miles. The River Zambesi forms the greater part of the southern boundary; its two main northern tributaries are the Rivers Kafue and Luangwa. With the exception of these river valleys, the territory consists of a table-land varying from 3,000 to 4,500 feet in height, though in the north-eastern portion, and especially in the vicinity of Lake Tanganyika, the altitude is greater.

The little that is known of the early history of Northern Rhodesia is very fragmentary and is gleaned from the accounts of the few intrepid travellers who penetrated into this unknown territory. The curtain of obscurity lifts for a moment when we read the diaries of the Portuguese Governor of Sena, Dr. Lacerda, who led an expedition in 1798 from Tete into Kasembe's country, close to the eastern shores of Lake Mweru. He was followed in the early 19th century by two Portuguese traders, Baptista and José, who brought back stories of the great interior kingdom of the Balunda, which extended from Lake Mweru to the confines of Barotseland and included the whole of the country drained by the Upper Congo and its tributaries. This kingdom is reputed to have lasted from the 16th to the 19th century. Very few historical facts are known about it, but the name of Muati Yamvo, the dynastic title of the Paramount Chief, is associated, like Monomotapa, with many half-legendary stories. Neither of these expeditions was of any very great geographical value and it was not till 1851, when Dr. Livingstone made his great missionary journeys and travelled through Barotseland and visited the Victoria Falls, that the civilized world had its first authentic information of Northern Rhodesia. Other and later explorers who brought back stories of the barbarism of the natives, of the wealth of game, and of the glories of the Victoria Falls were Serpa Pinto, Cameron, Selous, and Arnot.

From the very early days when the hordes of migratory Bantus swept southward from Central and Northern Africa, Northern Rhodesia has been subject to constant invasions from stronger tribes on its borders. So much so, that the vast majority of the

present native population, though of Bantu origin, is descended from men who themselves invaded this country not earlier than 1700 A.D. One or two small tribes, numbering now only a very few thousand, such as the Masubia on the Zambesi, are all that remain of the inhabitants of Northern Rhodesia prior to that date. Though the story of these invasions has passed into oblivion, their traces remain in the extraordinary number and diversity of races and of languages in the country.

At the present time statistics are available of seventy different tribes resident in the territory, of which the most important are the Awemba (108,310), Achewa (71,488), Angoni (49,131), and Awisa (46,549) in the Eastern Districts; the Barotse (110,079), Batonga (95,818), Balenge (39,675), Balala (38,495), Balovale (31,173), and Bakaonde (30,182) in the Western Districts; and the Asenga (62,385), and Alunda (56,609) members of which are resident in both Eastern and Western Districts. There are said to be 30 distinct native languages in use, of which Chiwemba and Chinyanja have been adopted for educational purposes in the Eastern Districts and Chitonga (closely allied to Chila) and Sikololo in the Western. In addition to these, Chinyanja is in use as the official language of the police, and is probably the language most generally spoken by Europeans; it is, in reality, a Nyasaland language—the word means “Language of the Lake”—but it is also spoken to some extent round Fort Jameson.

The chief invaders of the early part of the 19th century were the Arabs from the north; the Angoni, a branch of the early Zulus who fled from the oppressive tyranny of Tchaka and who settled in the north-east of the territory; and the Makololo, an offshoot of the Basuto family, who, in the beginning of the 19th century, fought their way from the south through Bechuanaland and across the Zambesi under the noted Chief Sebitoani; they conquered the Batoka, the Basubia, and the Barotse and founded a kingdom which was distinguished by a comparatively high degree of social organisation.

The duration of the Makololo kingdom was short. Soon after the death of Sebitoani, the Barotse rebelled and massacred the Makololo to a man. The influence of their occupation is still to be seen in the Sikololo language, which is largely spoken amongst the tribes near the Zambesi. The Barotse under Lewanika enlarged their kingdom by conquering one or two of the surrounding tribes, such as the Bankoya and the Balovale. Beyond these limits their authority was both nebulous and ephemeral. In the year 1890 Lewanika asked for British protection and on the 27th June the Barotse Concession was signed, by which Lewanika recognised the Protectorate of Queen Victoria and gave to the Chartered Company certain mining and commercial rights over the whole of his dominion. Lewanika, on his side, received a yearly subsidy of £2,000.

During this time the slave trade established by the Arabs continued unchecked. Its baleful influence had gradually spread from the shores of Lake Nyasa and Tanganyika over the whole territory ; but with the establishment of a Government post at Abercorn in 1893, the slave trade in this part of Africa received its first serious check. In each succeeding year more Arab settlements on the Lake shore were destroyed. Sir Harry Johnston defeated the Arab Chief Mlozi at Karonga in 1894, and the last caravan of slaves, which was intercepted on its way to the east coast, was released at Fort Jameson in 1898. Even after that, bands of slave raiders were occasionally encountered on the north-east boundary, and skirmishes with them took place as late as 1900 ; but with the final establishment of the administration of the British South Africa Company the slavers quickly disappeared from the country.

The status of the conquered tribes under Lewanika's dominion was that of a mild form of slavery. This social serfdom was brought to an end by an edict of Lewanika's, who in 1906 agreed to the emancipation of the slave tribes.

Previous to 1899 the whole territory had been vaguely included in the Charter granted to the British South Africa Company, but in that year the Barotseland-North-Western Rhodesia Order in Council placed the administration of the western portion of the country by the Company on a firm basis ; and this was closely followed by the North-Eastern Rhodesia Order in Council of 1900 with similar effect. The two territories were amalgamated in 1911 under the designation of Northern Rhodesia, and the administration of the Company (subject to the exercise of certain powers of control by the Crown) continued until 1924, when, in terms of a settlement arrived at between the Crown and the Company, the administration of the territory was assumed by the Crown, and the first Governor was appointed on 1st April, 1924.

The currency in use consists partly of English coinage and partly of notes of the Southern Rhodesia issue of the Standard Bank of South Africa and Barclay's Bank (Dominion Colonial and Overseas) both of which have branches and agencies in this country. The coins and notes of the Union of South Africa are also current at par.

English weights and measures are employed.

There are considerable climatic differences between various parts of the country. The Zambesi, the Luangwa, and the Kafue valleys experience a much greater humidity and a more trying heat than do the plateaux above 3,500 or 4,000 feet. The hottest months are October and November, before the rains break, when the mean maximum is  $97^{\circ}$  in the Zambesi valley stations and  $85^{\circ}$  at plateau stations. The mean maximum for the eight months of the hot season (September to April) is approximately  $90.3^{\circ}$  with a mean minimum of  $64.5^{\circ}$  while the corresponding figures for the four months of the cold season (May to August) are  $78.7^{\circ}$  and  $46.6^{\circ}$ .

During 1928 the highest mean maximum recorded at Livingstone for any one month was  $97.2^{\circ}$  in October and the lowest mean minimum for any one month was  $42.8^{\circ}$  in July; at the same station the absolute maximum for the year was  $103.6^{\circ}$  recorded in October, and the absolute minimum was  $37.0^{\circ}$  recorded in July. The highest temperature recorded in the territory was  $116^{\circ}$  at the Barotse National School in October and the lowest was  $30^{\circ}$  at Solwezi in July.

The rainy season usually commences in November and lasts until April, after which month rain is rarely experienced and then in negligible quantities. Rainfall generally was low during the latter part of the rainy season (January to April) and during February there was a serious drought over the North-Western Districts. There were low rainfalls in October and November, but this improved in December after a drought in the early part of that month.

The temperature was generally below normal and the year may be said to have been colder than has generally been experienced in past years.

#### I.—GENERAL.

The Commission on Closer Union of the Dependencies in Eastern and Central Africa under the Chairmanship of Sir Edward Hilton Young paid a short visit to the territory during April, 1928. Evidence was taken at Livingstone, Lusaka, and Broken Hill.

The first municipality in Northern Rhodesia was inaugurated at Livingstone on 1st April and Mr. R. Davidson became the first Mayor.

Native affairs have been quiet. The work of the Native Reserves Commission was completed during the year and the areas demarcated as Reserves can be seen on the map accompanying this report.

The territory was to have been visited by His Royal Highness the Prince of Wales during the dry season of 1928, but owing to the unfortunate illness of His Majesty the King, since happily restored to health, the tour had to be abandoned before His Royal Highness had reached Northern Rhodesia. His Royal Highness the Duke of Gloucester, however, passed through on his way to Cape Town and enjoyed a certain amount of big game shooting in the North-Eastern Districts of the Territory.

Her Royal Highness Princess Marie Louise also paid a visit to Northern Rhodesia on her way to the Belgian Congo.

The Right Reverend Monsignor Arthur Hinsley, Bishop of Sebastopolis and Rector of the English college at Rome, visited the territory as Visitor Apostolic in Africa on behalf of H.H. the Pope. He inspected the two Roman Catholic Missions operating in Northern Rhodesia.

A conference of Directors of Native Education was held at Nairobi in November, 1928, and was attended by the Director of Native Education for Northern Rhodesia.

Mr. G. A. S. Northcote was appointed Chief Secretary of Northern Rhodesia and arrived in February, 1928.

Immigrants into Northern Rhodesia in 1928, exclusive of natives, numbered 1,066, of whom 929 were British subjects. The following comparative figures of immigration, exclusive of visitors, are indicative of the increasing progress being made by the territory:—

1923	1924.	1925.	1926.	1927.	1928.
260	438	474	756	1,038	1,066.

Eighteen persons were deported, 5 having criminal records, 8 being indigent, and 5 illiterate. Of these deportees 5 were natives. No figures of emigration are available.

Eight hundred and fifty natives are reported to have immigrated into the territory during the year; most of these came from Angola, Mozambique, and the Belgian Congo.

## II.—FINANCE.

Prior to the year under review the financial history of the territory records an unbroken series of annual deficits. It is satisfactory to be able to record that the financial year 1928-29 shows a surplus of revenue over expenditure of £16,438. The expansion in revenue has been well maintained, the percentage of increase exceeding that for the previous year. This is attributable to the development, now in progress, of the mineral wealth of Northern Rhodesia, particularly to the development of the rich copper ore deposits that have been discovered in the Ndola District.

The revenue from all sources for the year amounted to £541,606, an increase of £66,923 or 14.1 per cent. over the previous year. Revenue from Customs duties produced £175,964, an increase of £29,463 or 20.1 per cent. Licences, taxes, and internal revenue produced £245,942, an increase of £25,153 or 11.4 per cent. mainly due to substantial increase under native tax and income tax. Fees of Court or Office produced £50,355, an increase of £33,363 or 50.9 per cent. mainly accounted for by larger receipts under mining revenue and registration of natives and by certain unforeseen items. Post Office revenue of £38,789 shows an increase of 18 per cent. The steady expansion of postal business, noticeable in previous years, is being maintained. Rent of Government property declined from £10,666 to £10,208, due to the fact that the acreage of land that has passed under final title exceeds the acreage of land taken up under permits of occupation. Interest, £1,299, is less by £793 owing to smaller surplus cash balances held. Miscellaneous, £9,459, compares with £9,671 collected in the previous year in which there were exceptionally large receipts under sales of ivory. Land sales

amounted to only £10,059, a decline of £9,125, attributable to agricultural depression which prevented several farmers from completing the purchase of their farms. The revenue from plot sales was normal.

The expenditure for the year amounted to £525,168 compared with the sanctioned estimate of £549,488 or a net saving of £24,320. Substantial savings occurred under practically all heads of expenditure due to economy which has contributed towards the attainment of a satisfactory surplus; an excess of £5,632 occurred under pensions and gratuities mainly due to the payment of death gratuities to the personal representatives of six deceased officers.

Extraordinary expenditure amounted to £28,769 and besides a substantial programme of buildings included the cost of an aerial survey of the Rhodesia Congo Border Concession.

STATEMENT SHOWING THE ACTUAL EXPENDITURE TO THE  
END OF MARCH, 1929.

<i>Head of Expenditure.</i>	<i>Actual Expenditure to 31st March, 1929.</i>
	£
1. The Governor ... ..	6,963
2. Secretariat ... ..	7,659
3. European Education ... ..	19,141
4. Printing and Stationery ... ..	6,611
5. Department of Native Affairs ... ..	15,283
6. District Administration ... ..	105,036
7. Treasury and Income Tax ... ..	11,410
8. Customs ... ..	9,035
9. Posts and Telegraphs ... ..	31,496
10. Lands Department ... ..	15,968
11. Survey Department ... ..	10,596
12. Audit Office ... ..	3,482
13. Judicial ... ..	5,237
14. Attorney-General ... ..	4,222
15. Northern Rhodesia Police ... ..	64,089
16. Prisons ... ..	12,659
17. Health ... ..	47,742
18. Veterinary ... ..	19,007
19. Agriculture ... ..	11,485
20. Mines Department ... ..	2,447
21. Public Works Department ... ..	7,586
22. Public Works Annually Recurrent ... ..	21,477
23. Percentage of Tax ... ..	8,400
24. Miscellaneous Services ... ..	14,875
25. Pensions and Gratuities ... ..	30,632
26. Interest Account ... ..	3,861
Total Ordinary ... ..	£496,399



<i>Extraordinary :</i>				£
27. Printing and Stationery	...	...	...	1,305
28. Survey Department	...	...	...	5,148
30. Public Works	...	...	...	22,316
Grand Total				£525,168

STATEMENT SHOWING THE ACTUAL REVENUE TO THE  
END OF MARCH, 1929.

<i>Head of Revenue.</i>	<i>Actual Revenue to 31st March, 1929.</i>
	£
1. Customs	175,964
2. Licences, Taxes and Internal Revenue	245,492
3. Fees of Court or Office, etc.	50,335
4. Post Office	38,789
5. Rent of Government Property	10,208
6. Interest	1,299
7. Miscellaneous	9,460
Total	£531,547
8. Land Sales	10,059
Grand Total	£541,606

The surplus for the year, therefore, amounted to £16,438.

The following statement gives the financial position as at 31st March, 1929 :—

Excess of Assets over Liabilities at 1st April, 1928	£
...	80,781
Excess of Revenue over Expenditure, 1928-1929	16,438
Excess of Assets over Liabilities at 31st March, 1929	£97,219

The following is a statement of assets and liabilities as at 31st March, 1929 :—

<i>Liabilities.</i>	£	s.	d.
Deposits	38,075	14	1
Post Office Savings Bank	6,103	10	4
Administrator-General and Registrar	5,429	2	8
Crown Agents for the Colonies :—			
Overdraft	113,000	0	0
Excess of Assets over Liabilities	97,218	16	6
	£254,827	3	7

<i>Assets.</i>	£	s.	d.
Cash ... ..	77,352	7	4
Investments ... ..	5,000	0	0
Administrator-General and Registrar ...	5,429	2	8
Advances pending receipt of Loan Funds :—			
Roads and Bridges ... ..	74,584	17	11
Central Research ... ..	18,370	18	5
Zambesi Survey ... ..	3,250	0	0
Advances ... ..	44,189	4	11
Unallocated Stores ... ..	26,650	12	4
	£254,827	3	7

The revenue and expenditure for the last five years were :—

	Revenue.	Expenditure.		Total.
		Ordinary.	Extraordinary.	
	£	£	£	£
1924-25 ... ..	309,795	325,778	14,549	340,327
1925-26 ... ..	371,046	372,847	21,298	394,145
1926-27 ... ..	421,035	421,584	33,867	455,451
1927-28 ... ..	474,683	475,175	43,631	518,806
1928-29 ... ..	541,608	496,399	28,769	525,168

In addition to the recurrent and extraordinary expenditure, the Government expended during 1928-1929 £46,601 on development schemes in anticipation of loan funds under the Palestine and East African Guaranteed Loan. The total amount sanctioned by the Legislative Council is £224,000 of which £49,604 was expended during 1927-1928 making a total of £96,205 expended at the 31st March, 1929. This expenditure is at present financed by advances from the Crown Agents. The development schemes that are being undertaken by the Government are :—

- (1) The construction of arterial roads, including necessary bridges and pontoons, estimated to cost £185,000.
- (2) The construction of a Central Research Station at Mazabuka for the Agricultural and Veterinary Departments, the estimated cost of which is £30,000.
- (3) The aerial survey of a part of the Zambesi river at a total cost of £6,500.
- (4) The establishment of a port at Mpulungu on Lake Tanganyika costing £2,500.

The Banks that operate in Northern Rhodesia are the Standard Bank of South Africa, Limited, which has branches at Livingstone, Lusaka, Mazabuka, Broken Hill, and Ndola, and Barclay's Bank (Dominion, Colonial and Overseas) which has branches at Livingstone, Lusaka, Broken Hill, Ndola, Fort Jameson, and Bwana M'Kubwa. The total of the amounts deposited at these Banks at the 31st December, 1928, was £545,463 as compared with £519,035 at the 31st December, 1927.

The Post Office Savings Bank has increased its operations, the deposits at 31st December, 1928, amounting to £5,408 as compared with £4,650 at 31st December, 1927. During the year, the amount invested on behalf of depositors increased from £4,000 to £5,000. The sums deposited during 1928 amounted to £5,780 as compared with £5,669 in 1927. At the 31st December, 1928, there were 366 depositors, a net increase of 90 for the year. It is apparent, therefore, that the Savings Bank is growing in popularity and provides a much needed service.

### III.—PRODUCTION.

#### A.—Land and Agriculture.

Of the total approximate area in the territory of 184,288,000 acres, the North Charterland Exploration Company holds a concession over 6,400,040 acres, subject to the assignment of native reserves amounting at present to 2,148,440 acres. The British South Africa Company owns, subject to the assignment of native reserves of 1,094,475 acres, three freehold areas in Tanganyika District comprising 2,758,400 acres. 2,753,023 acres have been otherwise alienated for purposes of European settlement, not including 32,321 acres of land leased without option to purchase. The total area of alienated land is, therefore, 11,943,783 acres, about 6½ per cent. of the whole territory.

Most of the alienated land is used for grazing, some of it is cultivated, but a large area is unsuitable for either grazing or cultivation owing to the absence of water. The following table will give a comparative idea of the acreage of the various staple crops under cultivation in the five previous seasons :—

Season.	Maize. Acres.	Tobacco. Acres.	Wheat. Acres.	Cotton. Acres.	Total under cultivation. Acres.
1923-24 ...	42,377	2,462	1,250	2,331	52,243
1924-25 ...	85,568	4,323	2,633	16,702	61,712
1925-26 ...	86,470	4,939	3,387	11,849	60,297
1926-27 ...	44,837	6,719	2,780	693	69,837
1927-28 ...	43,889	7,339	1,819	286	62,928

Smaller areas were planted with fodder crops, ground-nuts, potatoes, kaffir corn, oats, etc., which are considered minor crops.

Climatic conditions were again somewhat unfavourable to the European agricultural community, the rainfall for the season 1927-28 being below the average. Early rains fell in some districts, but not in others, where planting was delayed in consequence. Later rains allowed crops to obtain a good start and satisfactory stands resulted in most districts. During February the climatic conditions were most unfavourable. Cloudless skies and intense heat were

experienced and rain was recorded only at five stations in the settled area adjoining the railway line, where the rainfall was 2.13 inches, as compared with an average of 6.82 inches during a normal season. It was feared, at one time, that an almost total failure of crops would result. Good rains, early in March, saved the situation in all but isolated groups of farms. In view of the conditions which were experienced the results must be looked upon as satisfactory, but a general lowering of yields has resulted.

The maize crop amounted to 183,870 bags. The yield being 4.9 bags per acre, as compared with 250,068 bags and an average of 5.5 bags per acre for the previous season, which was the highest on record. The acreage abandoned rose from 1,904 in 1926-27 to 3,836 for 1927-28. This increase of 100 per cent., and the lower yield, were almost entirely due to the prolonged drought in February. Allowing for this setback, the yield was, on the whole, satisfactory. The tendency which has been prevalent to plant ever-increasing acreages is being slowly displaced by a policy of reasonable acreages well planted and fertilized. The continuance of such a policy must, in time, result in great advantage to the grower and increase in yields.

The following table gives maize statistics from 1921 onwards:—

Year ending 31st December.	Acreage, in thousands of acres	Average yield per acre.	Yield, in thousands of bags.	Farm con- sumption, in thousands of bags.	Surplus available for sale, in thousands of bags.
1921 ... ..	29	4.88	145	18	127
1922 ... ..	25	3.49	99	18	81
1923 ... ..	38	5.18	199	32	167
1924 ... ..	35	3.08	129	28	101
1925 ... ..	36	2.67	95	23	72
1926 ... ..	36	4.87	177	37	140
1927 ... ..	44	5.50	250	36	214
1928 ... ..	48	4.59	183	32	151

The above figures are exclusive of native-grown maize of which no reliable statistics are available.

After satisfying all local requirements, the maize grown has supplied a considerable amount for export to the Belgian Congo. A large amount of the farm-grown maize is handled by a co-operative society, which, in the past, has secured large contracts for the Congo mines, and it is hoped that similar contracts will be obtained in the future. Owing to the development in mining areas in the territory, the local demand for maize has increased very considerably and the general position is satisfactory. The average price of farm-grown maize, which must be regarded as the territory's staple crop, has been about 11s. 6d. per bag of 200 lb. net.

The tobacco crop amounted to 3,249,378 lb., of which 2,983,683 lb. was produced in the Fort Jameson district. The variety principally grown is a bright Virginia, and in one of the western districts 18 acres of Turkish were sown, yielding 12,700 lb. The year under review has seen a most distressing change in the position of the tobacco planters in the territory. For some years previous the market in Africa and the United Kingdom has absorbed, at good prices, all the leaf produced, and the industry appeared to be in a prosperous condition. The increase in the acreage planted and in the yields was steady until the season 1927-28. During that season the largest crop ever grown in Northern Rhodesia was produced. Although the increase was considerable, it was in no way comparable to the unparalleled increase which took place in Southern Rhodesia. As a consequence the markets, which had already begun to react to the increased amounts available, became glutted and sales practically ceased. As usual by far the greatest amount of leaf grown in the territory had been produced in the Fort Jameson district, and the planters found themselves in grave financial difficulties. In the farming districts adjoining the railway line the amount of tobacco grown was comparatively small, and in most cases the acreage was reasonable and formed only a portion of more general farming operations. Although the failure to sell the crop has caused the greatest disappointment and inconvenience, in only a few cases has it caused difficulties comparable to those in the Fort Jameson district.

The total acreage planted with wheat was 1,734 and the yield was 8,512 bags, a decrease of 1,046 acres and 2,074 bags on the previous year. Although this is most disappointing, it must be pointed out that the amount of rain which fell in some districts during the season 1927-28 was insufficient to allow many dams to be filled and the acreage under irrigation had to be limited accordingly. Apart from this fact, the position as regards wheat production is unsatisfactory, the decrease in the acreage planted during the last three seasons being 1,653 or nearly as much as the total acreage planted last season. Customs statistics for 1928 are at present available for the months of January to October inclusive only. During that period Northern Rhodesia imported flour to the value of £14,352, and £15,215 worth of flour passed through this territory to the Belgian Congo. At Lusaka there is a mill capable of grinding very large quantities of wheat. It is not suggested for a moment that if an amount of wheaten flour equal to that imported were produced it would find an immediate market. The majority of flours used to-day are composed of blends of different wheats and certain of them have become popular with the public. If we are to enter into competition with these blends a greatly increased organisation will be necessary; nevertheless, the longer we delay the greater will be the difficulty of obtaining a larger share of the markets than

we possess at present. Comparative figures for wheat for the past four years are as follows :—

<i>Year.</i>	<i>Acreage planted.</i>	<i>Yield, in Bags of 200 lb. net.</i>
1925	2,633	9,895
1926	3,387	11,687
1927	2,780	10,586
1928	1,819	8,754

As regards cotton-growing, experience has shown that the variety of seed used in the past is unsuitable for local conditions. The policy of Government, therefore, is to persuade farmers severely to limit the acreage put under cotton until a satisfactory variety of seed is available. To this end experimental work is being actively prosecuted at the research station in close liaison with departments of other Governments and stations of the Empire Cotton Growing Corporation in Africa. The information gained during the season 1926-27 was most satisfactory and the position is rendered more hopeful by the fact that the Empire Cotton Growing Corporation have seconded an officer to the department who is devoting the whole of his time to the problem. It may be stated that there is an increasing feeling of optimism that Northern Rhodesia may yet take her place among the cotton-producing colonies. If cotton can be firmly established as a paying rotation crop, it will do much to increase the stability of the whole agricultural industry.

Up to the present coffee planting has been in an experimental stage. It may now be said to be definitely established as an industry. During the season 1926-27 the amount produced was more than six short tons. Almost the whole of this was exported to the United Kingdom and the price obtained was most satisfactory. Last season the amount produced was increased to a total of nearly seven short tons. Increased planting is taking place in the Abercorn district.

There appears to be no reason why coffee planting should not become of considerable importance.

The citrus export trade is increasing rapidly. Last season 3,750 cases of fruit were exported, of which a large proportion went to the Belgian Congo.

The crops grown by natives are at present mainly confined to foodstuffs for their own consumption, though in certain districts, especially in the proximity of the mines, additional quantities are grown for sale. Preliminary investigations have been made with a view to ascertaining whether other economic crops can be introduced to areas remote from the railway line and the mines to enable the

natives to produce cash crops at their own villages. In the report of the Assistant Agriculturist stationed in the Abercorn district, there appears the following statement :—

“ There is no doubt about the keenness of natives to take up agriculture, but at present they do not see any reason why they should change their methods of growing their foodstuffs because they are able to produce all the food they require.”

It is very questionable whether the first portion of the statement can be applied to the natives of the territory in general, but there is no doubt that the latter part expresses most aptly the feelings of the majority. There are, of course, the few who are anxious to copy and benefit by the methods adopted by Europeans, and the number of ploughs which are sold year by year at up-country stores is indicative of the progressive feeling which is being engendered in the minds of those who live in the proximity of settled areas. In the more remote districts very little improvement has taken place. With the exception of certain isolated missions, the attempts at agricultural instruction in the past have been negligible, but there is evidence of a general awakening to the necessity for this work if the native is to remain in a contented state in his own village. It should be unnecessary to state that any agricultural instruction which is to be given should be entrusted to those who are qualified by training to carry it out to the best advantage, and that any change which is brought about should be the result of a thorough understanding of the general principles of progressive agriculture. It would be unwise to endeavour to change the general principles of native agriculture too suddenly. Many of their methods may be, and are, extremely wasteful, but some of them are founded upon ideas which are not unsound and all of them are, at present, established as a part of native tradition.

Although the foundations of a better native agricultural system must be laid by careful instruction in the underlying principles, it is felt that practical illustrations will be of much value and are, indeed, essential. With this in view the department is to undertake the education of selected natives for employment as demonstrators. These natives will reside at, and be members of, the Jeanes School which is being erected on the outskirts of the Research Station at Mazabuka and their technical education will be in the hands of the staff of the station. In the course of time they will be posted to district work under the supervision of the staff of the department or the agriculturists attached to missions.

The year under review has again been a somewhat difficult one for stock owners. The rainy season did not fulfil its early promises and a dry interval, in some districts, in February, and the almost total cessation of rain in early March, caused an inadequate growth of pasture. During the later months of the dry season, and particularly during the period when cold nights were experienced, cattle

began to lose condition and the losses from poverty, before the early rains brought relief, were heavy. At the end of the year, owing to the early rains, the growth of pasture was sufficient to cause a great improvement in the general condition of stock.

During December a Conference of Representatives of the Cattle Owners' Association and of the Mining interests, was held in Livingstone under the presidency of the Governor, to consider the question of the meat supply in relation to the increased mining development. The general feeling of those present was that, although an actual shortage was not evident at the moment, the time was quickly approaching when Northern Rhodesia would be unable to supply her own demands. A free discussion took place on the whole subject and the members of the Cattle Owners' Association agreed to submit proposals for meeting the situation.

### B.—Mining.

The intensive prospecting and development features of previous years were again prominent. The big increase in production which is expected from the big copper discoveries will not be forthcoming for some time.

The Bwana Mkubwa plant treatment has been improved. The new mining machinery has already done much to improve the position in the open cast whilst satisfaction prevails as a result of boreholes to sulphides in depth.

The Nkana Mine, belonging to the same company as Bwana Mkubwa, has been carrying out an extended drilling programme with highly satisfactory results. The proposed branch railway to this mine is under construction.

At the Rhodesia Broken Hill Mine the electrolytic zinc plant has been continuously and successfully in operation. Lead ore down to existing water level has been practically worked out and the pumps are now to be lowered a further stage.

Development work at the Roan Antelope Mine has been taking the form of mining preparation for an immense daily output. The branch railway line is through to the mine but preparations for work upon such a considerable scale may take two years to complete.

At the Nohanga Copper Mines Limited the new shaft and cross cut has safely and effectively opened up the deposits. Exploratory drilling has also been done and is continuing.

The attention which has been paid to the development of the Kansanshi Mine during the last two years is yielding satisfaction to the owners, the Rhodesia Katanga Railway Junction and Mineral Company Limited.

Selection Trust Limited and Rhodesian Selection Trust Limited operating in the "Nkana Grant Area" were rewarded with very striking finds of copper sediments similar geologically to the Roan



Antelope and Bwana Mkubwa deposits but more extensive and richer than either. The uniformity of value in the boreholes put down is also excellent.

Of these discoveries the Mufulira Mine is coming into being with rapidity as work is being concentrated upon it.

The Rhodesian Congo Border Concession Limited and Loangwa Concessions (Northern Rhodesia) Limited (the latter being a recent amalgamation of the previous Loangwa, Kasempa and Serenje concessions) have been in continued operation under the control of the Anglo-American Corporation Limited.

Accurate and detailed geological and topographical maps of the different parts of the territory in which these concessions have been particularly interested to date are being prepared.

Rhodesia Minerals Concession Limited have sublet certain areas to the Luri gold areas and have pegged gold locations which are to be worked. A plant was erected for this purpose and is being operated.

The following table shows the mineral production during 1928 :—

			£	s.	d.
Gold	...	602.39 ounces	2,558	15	0
Silver	...	87.73 ounces		9	12 0
Copper	...	5,930.43 tons	382,932	10	0
Lead	...	4,676 tons	98,951	5	0
Mica	...	7,930 lb.	1,982	10	0
Zinc	...	13,176.30 tons	331,844	11	0
Vanadium	...	113,656 lb.	80,979	18	0
Manganese	...	1,792 tons	2,688	0	0
Iron Ore	...	4,466 tons	2,233	0	0
			<hr/>		
			£903,680	1	0

The aggregate capital of the mining companies operating in the territory is approximately nine and three-quarter million pounds.

#### IV.—TRADE AND ECONOMICS.

Northern Rhodesia is in the curious position of being divided into two Customs zones. The Northern zone, which is known as the Congo Basin, is governed by the conditions of the Berlin Act of 1885. Goods imported into this zone, therefore, are not subject to the terms of the Agreement with Southern Rhodesia and the Union of South Africa, though the duties imposed are in almost all instances similar to those imposed in the Southern zone, except that equality of trade is granted to all nations. The Zambesi Basin zone, as the latter area is called, is subject to Customs Agreements with Southern

Rhodesia and with the Union of South Africa, which includes for the purposes of the Customs Agreement the High Commission Territories of Bechuanaland, Basutoland, and Swaziland.

Under the existing Agreement with the Union of South Africa, Northern Rhodesia receives 12 per cent. *ad valorem* on removals from the Union of South Africa of imported goods and 6 per cent. on removals of South African manufactured goods; unmanufactured produce of South Africa is not subject to duty. The minimum sum payable by the Union to this territory is £12,500 per annum. The Union of South Africa charges the actual duty at Union rates on removals from Northern Rhodesia of imported goods, but allows entry free of duty of Northern Rhodesia produce.

Under the Agreement with Southern Rhodesia, the duty on imported goods removed from Southern Rhodesia to Northern Rhodesia is calculated at Northern Rhodesia tariff rates. A deduction of 5 per cent. is made in the case of goods cleared at the port of Beira by the Southern Rhodesia Customs.

There is a free interchange of products and manufactures between Southern Rhodesia and Northern Rhodesia, but on Union manufactures in Southern Rhodesia, which are subsequently removed to Northern Rhodesia, Southern Rhodesia passes credit to this Government at the rate of 6 per cent. on the original Union value.

Northern Rhodesia grants preferential rates of Customs duty on all goods (with the exception of certain articles, the principal of which are cattle for slaughter, tea, coffee, cocoa, chicory, rice, motor spirit, lubricating and illuminating oils, tobacco, wines, and spirits) shown to have been grown, produced, or manufactured in the United Kingdom or British possessions granting equivalent reciprocal privileges. Such preferences vary in extent from 16 per cent. to 3 per cent. *ad valorem*.

The following summary furnishes a comparison of the value of imports from British and from foreign countries during the years 1926 to 1928 :—

<i>Imports from :</i>	1928.	1927.	1926.
	£	£	£
Union of South Africa ... ..	245,909	217,063	166,001
Southern Rhodesia ... ..	371,469	261,093	258,884
United Kingdom and other British Possessions.	1,135,775	987,502	818,718
<b>Total British Possessions ... ..</b>	<b>1,753,153</b>	<b>1,465,658</b>	<b>1,243,603</b>
Foreign Countries ... ..	613,164	491,480	423,981
<b>Total merchandise ... ..</b>	<b>£2,366,317</b>	<b>£1,957,138</b>	<b>£1,667,584</b>

The following table illustrates the comparative value of the principal items of imports during the years 1926 to 1928 :—

	1928. £	1927. £	1926. £
Animals (living) ... ..	28,965	41,651	44,530
Foodstuffs, etc. ... ..	200,722	178,630	148,733
Ales, Spirits, Wines, etc. (Potable) ...	86,160	78,320	54,088
Spirits (Non-potable) ... ..	867	616	474
Tobacco ... ..	44,624	38,827	27,519
Textiles, Apparel, Yarns, Fibres ... ..	471,114	395,548	376,527
Metals, Metal Manufactures, Machinery, and Vehicles.	902,110	717,710	576,982
Minerals, Earthenware, Glasses, and Cement.	161,993	97,205	104,515
Oils, Waxes, Resins, Paints, and Varnishes	102,982	97,149	76,482
Drugs, Chemicals and Fertilisers ... ..	89,396	68,680	55,580
Leather, Rubber and manufactures thereof	53,825	46,086	30,522
Wood, Cane, Wicker and manufactures thereof.	82,311	62,685	56,087
Books, Paper, and Stationery ... ..	33,940	26,707	19,703
Jewellery, Timepieces, Fancy Goods, etc.	42,027	34,124	24,470
Miscellaneous... ..	65,281	80,200	71,372
	<u>£2,366,317</u>	<u>£1,957,138</u>	<u>£1,667,584</u>

The following summary furnishes a comparison of the value of exports to British and to foreign countries during the years 1926 to 1928 (excluding articles exported through the post and specie) :—

	1928. £	1927. £	1926. £
Union of South Africa ... ..	117,966	193,824	161,439
Southern Rhodesia ... ..	77,441	77,221	65,543
United Kingdom and other British Posses- sions.	374,644	272,045	142,761
Total British Empire ... ..	<u>570,051</u>	<u>543,090</u>	<u>369,743</u>
Foreign Countries ... ..	<u>272,536</u>	<u>202,504</u>	<u>112,728</u>
Total ... ..	<u>£842,587</u>	<u>£745,594</u>	<u>£482,471</u>

The following table illustrates the comparative value of the principal items of domestic exports for the years 1926 to 1928 :—

	1928. £	1927. £	1926. £
Animals (living) ... ..	22,456	36,205	52,608
Hides, Skins, and Horns ... ..	44,898	21,831	15,591
Ivory ... ..	9,911	8,214	7,117
Butter... ..	431	1,445	1,219
Wheat... ..	9,218	13,546	18,575
Maize, including other cereals in the grain	29,964	59,711	31,246
Maize Meal ... ..	23,488	18,437	10,566
Pulse ... ..	—	—	497
Tobacco (unmanufactured)... ..	100,848	240,568	155,832
Cotton (Raw) ... ..	238	—	4,746
Copper ... ..	231,304	133,115	23,566

	1928. £	1927. £	1926. £
Lead ... ..	71,103	88,652	43,284
Vanadium ... ..	3,457	6,749	4,498
Other (Ores) ... ..	13,277	1,165	2,047
Other (Metals ... ..	166,866	—	—
Gold ... ..	1,815	1,690	2,697
Silver ... ..	23	9	16
Lime ... ..	948	1,004	1,072
Curios... ..	293	354	505
Articles through the post ... ..	4,481	9,911	1,911

The trade balance of imports over exports is again very pronounced, amounting to £1,519,249 as compared with £1,201,613 for 1927.

This position is mainly accounted for by the fact that Northern Rhodesia's mining industry is still in the early stages of the development of its vast mineral resources. In connection with this development, importations of metal manufactures, machinery, and railway material again show considerable increases over the figures of previous years, against which the present production from the mines, though on the increase, provides no corresponding set-off. It can, however, be anticipated that the export statistics in future years will show a marked recovery in respect of the trade balance.

The following are the ports of entry into and exit from Northern Rhodesia :—

Livingstone, Ndola, and Fort Jameson (free warehousing ports); Solwezi, Mwinilunga, Nchanga, Balovale, Mufulira, Kazangula, Abercorn, Fort Rosebery, Isoka (Fife), Feira, Chiengi, Mpika.

## V.—COMMUNICATIONS.

### A.—Railways.

The principal means of communication is the railway, which, after leaving Livingstone, runs in a north-easterly direction, dividing the country into two nearly equal portions. It is now owned entirely by the Rhodesia Railways Company, which has purchased the section from Broken Hill to Sakania formerly owned by the Rhodesia-Katanga Junction Railway and Mining Company, and is part of a single system which stretches from Vryburg in Bechuanaland and from Beira in Portuguese East Africa through Southern Rhodesia to Sakania in the Belgian Congo. This single line enters the Protectorate by means of a remarkable bridge spanning the Zambesi river gorge at a height of nearly 400 feet and about 400 yards below and within sight of the Victoria Falls. It passes Livingstone, crosses the Kafue river at the station of that name, and enters the Belgian Congo slightly north of Ndola. The total length of line within the territory is 507 miles.

There is a branch line to the Roan Antelope Copper Mine from Ndola, about 25 miles in length, which was opened for traffic at the end of December, 1928. Legislation has been passed authorising the construction of another branch line from Ndola to the Nkana Copper Mine, and the construction of this line is soon to be undertaken.

#### B.—Roads.

With the exception of the short road known as the Jameson Road from Livingstone to the Victoria Falls, a distance of seven miles, and the private road of the Broken Hill Mining and Development Company leading from their plant and mine to the hydro-electric power station on the Mulungushi river, some forty-five miles away, there are no macadam constructed roads in the country, and these two only can be described as "all-weather" roads. All the other roads are earth roads, and though the smaller rivers are crossed by bridges made either of bush timber or occasionally of steel rails and the roads are embanked and sometimes gravelled where they cross marsh land, traffic is liable to be interrupted for at least two months in the year, usually in February and March.

In the last three years the mileage of roads passable for from eight to ten months in the year has very considerably increased. The following are the main lines of roads now open:—

The Great North Road runs from Victoria Falls via Livingstone, Mazabuka, Lusaka, Broken Hill, Serenje, Mpika, Chambesi river, where the crossing is effected by pontoon, and Kasama to Abercorn and Lake Tanganyika, a distance of about 1,000 miles. A branch road from near Abercorn to Mwenzo connects with the Tanganyika system and provides direct communication with Tanganyika Territory and Kenya.

A fortnightly steamboat service has been established by the Tanganyika Government on Lake Tanganyika. S.S. "Liamba" (1,200 tons) calls at Mpulungu (26 miles from Abercorn) fortnightly and a road has been made between Abercorn and this port. The "Liamba's" sailings are timed to correspond with the arrivals and departures of trains at Kigoma, thus affording through communication from North-Eastern Rhodesia to the port of Dar-es-Salaam.

The Rhodesian-Congo Border Road leaves the Great North Road near Kapiri Mposhi, and runs in a north-westerly direction via Ndola, Nkana, and N'changa to Solwezi, a distance of about 312 miles. A branch road gives access to the Belgian Congo and Elizabethville. From Solwezi a road runs in a south-westerly direction to Kasempa. It is proposed to extend this to Mumbwa at a future date, and this road will connect with the Great North Road at a point between Broken Hill and Lusaka.

A road, known as the Great East Road, is in course of construction from Lusaka to Fort Jameson. Part of it requires re-siting and it will not, therefore, be completed as early as was hoped.

Communication with the Mweru-Luapula District is maintained by a road that crosses the pedicule of the Belgian Congo from Ndola to Kapalala.

All these roads have numerous branches leading to farms, missions and Government stations or other points of European settlement in the various districts through which they pass.

The authorisation of the East African Guaranteed Loan, in which Northern Rhodesia shares, has made a scheme of arterial road construction possible. The continual development of the six-wheeled lorry and the roadless tractor is being watched with interest, and it is anticipated that the next few years will see a complete revolution in the existing transport position.

### C.—Posts, Telegraphs, and Telephones.

Telegraphic communication exists between the Victoria Falls Bridge and the Belgian Congo, and between intervening stations. The line from Livingstone to Ndola is double, while the remainder is single, the total length of wire being 1,007 miles. There is also a telegraph line from the Nyasaland border to Abercorn and another from the same border further south to Fort Jameson; the length of wire, which is single, being 149 and 8 miles respectively. Abercorn is also connected by telephone to Kasama, a distance of 108 miles; and via Kituta to Kalombo on the Tanganyika border, a distance of 21 miles. The Abercorn-Kituta line is to be extended 7 miles to Mpulungu (Msende Bay) on Lake Tanganyika in the near future and will also be connected with the Tanganyika Territory system at an early date.

A telephone service exists at Livingstone and gives continuous day and night service. The larger switchboard installed during 1927 is fully loaded and the provision of additional accommodation to meet the demand for connections is being considered. There is a trunk line from Livingstone to the Victoria Falls Hotel on the Southern Rhodesia side of the Zambesi. There is also a telephone system at Broken Hill, installed by the Rhodesia Broken Hill Development Company, but it has no private subscribers.

Postal work shows a considerable increase and once more reflects the progress that the country has made. During the year, stamps and embossed stationery were sold to the value of £18,200, as compared with £15,778 in the preceding year. Money orders were issued to the value of £46,687, and £27,694 was paid out in respect of money orders issued elsewhere. The corresponding figures for the preceding year were £41,904 and £27,070. Postal orders issued numbered 44,805, worth £24,407, while £9,557 was paid out in respect of 16,827 postal orders. The cash-on-delivery system was used by an increased number of persons, and 4,532 packets, valued at £12,822, were dealt with under it. 17,833 articles were undelivered and passed through the Returned Letter Office. The following table

shows the quantities of the various kinds of mail matter received and despatched during the year as compared with the figures for the preceding two years:—

					<i>Received.</i>		
					1928.	1927.	1926.
Letters ...	...	...	...	...	2,193,594	1,706,704	1,489,982
Postcards ...	...	...	...	...	50,636	34,540	22,308
Newspapers ...	...	...	...	...	667,866	605,592	401,840
Book packets ...	...	...	...	...	483,496	325,728	354,042
Parcels ...	...	...	...	...	49,010	41,080	33,370
Registered articles ...	...	...	...	...	60,112	50,284	37,154

					<i>Despatched.</i>		
					1928.	1927.	1926.
Letters ...	...	...	...	...	2,564,824	2,167,464	1,464,696
Postcards ...	...	...	...	...	79,354	51,376	38,540
Newspapers ...	...	...	...	...	134,446	108,316	54,574
Book packets ...	...	...	...	...	241,124	174,720	124,418
Parcels ...	...	...	...	...	12,246	8,216	6,162
Registered articles ...	...	...	...	...	75,458	53,924	34,984

#### D.—Aircraft.

There is at present no established system of air communication in the territory. There are, however, aerodromes which were prepared by the Imperial Government and are maintained primarily for the use of Air Force Squadrons stationed in Egypt. An annual flight is made between Khartoum and Cape Town.

None of these aerodromes has any ground staff or equipment and they are at present in reality no more than landing grounds.

#### VI.—JUSTICE, POLICE, AND PRISONS.

Justice is administered by the High Court of Northern Rhodesia, and by the Magistrates' and Native Commissioners' Courts subject to appeal to and review by the High Court. During the year the High Court dealt with 96 civil matters, as against 78 in the preceding year, and heard 13 actions and 5 appeals. Five petitions in bankruptcy were presented. Sessions were held at Mazabuka, Lusaka, Broken Hill, and Ndola in May and at Mazabuka, Ndola, Broken Hill, Fort Rosebery, Kasama, and Abercorn in October.

Thirty-two criminal cases came before the Court exclusive of reviews of judgments in the lower Courts: these latter numbered 320, of which 215 were confirmed, 21 quashed, 49 altered, 8 cases sent back and subsequently approved; in the remaining 27 cases the accused were bound over.

The Civil Police and Criminal Investigation Departments were involved in 5,414 prosecutions during the year. An increase of 641 cases as compared with 1927. This is the largest number of

cases on record since the inauguration of the Civil Police in the territory, and in addition to these many cases are tried at stations where there are no police.

The following figures show the convictions for the more serious crimes, as compared with the figures for 1927 :—

	1928.	1927.
Murder ... ..	18	9
Manslaughter ... ..	9	7
Arson ... ..	20	34
Forgery ... ..	2	14
Housebreaking and Burglary ...	49	53
Rape ... ..	16	4
Assault ... ..	394	92
Indecent Assault ... ..	19	12

93.5 per cent. of the persons prosecuted were convicted.

Central prisons are established at Livingstone, Broken Hill, Fort Jameson, Kasama, and Mongu, and 1,469 persons were committed to the central prisons of the territory during the year. The daily average of prisoners was 321.

Five natives were executed during the year.

There were nine deaths from natural causes amongst native prisoners in the central prisons as compared with 17 for the year 1927. The average sick was 13.77 as compared with 16.11 for 1927.

## VII.—PUBLIC WORKS.

During the year under review, approximately £92,500 (excluding "Personal Emoluments") was spent upon construction and maintenance, inclusive of works carried out under "Research Loan" and "Road Loan," all the expenditure having been curtailed as far as possible pending the reorganisation of the Public Works Department. That reorganisation was commenced in June when the Public Works Department was separated from the Mines Department. The former was placed under the control of a Director and the branches which previously existed under the heads of "Roads" and "Research" were amalgamated with the parent Department and ceased to function as separate entities. Construction has been reduced to a minimum during the period of reorganisation, which has been effected with a view to producing a Department capable of dealing efficiently with the extensive building programme which will require to be undertaken in the near future.



The following major works were completed or are nearing completion :—

*Livingstone :*

Legislative Council Chambers.  
Two houses in police lines.  
Barracks.  
Warder's cottage.  
Maternity wing at the hospital.  
Mortuary.  
Three bungalows.

*Provinces :*

Hospital and nurses' quarters at Fort Jameson.  
Native hospital at Choma.  
Drainage at Lusaka (present scheme only).  
Choma School.

The construction programme at the Research Station is nearing completion.

### VIII.—PUBLIC HEALTH.

The Government maintains European hospitals at Livingstone, Lusaka, Broken Hill, Fort Jameson, Kasama, and Mongu. Native hospitals are maintained at these places and also at Abercorn, Choma, Mazabuka, Solwezi, Ndola, and Fort Rosebery. In addition to the above many Mission doctors, hospitals, and dispensaries receive annual subsidies from the Government for medical work in native areas.

During the year, 1,045 Europeans and 8,449 natives were admitted to hospital and there were 31 and 459 deaths respectively among them. No complete records as to the number of patients treated at out-stations are available for either European or native population.

934 out-patients attended at the Livingstone European Hospital. The average attendance of new out-patients at the Livingstone Native Hospital is 120 a month, and the total average attendance about 500 a month.

The native out-patient attendance for the whole territory, therefore, greatly exceeds the estimate of 5,000 mentioned last year.

The following diseases call for comment :—

(a) *Sleeping Sickness.*

Three Europeans have been admitted to hospital with sleeping sickness during the year. A fourth case died at Serenje on the way to hospital. He was seen by Dr. Lloyd, a private practitioner, who diagnosed sleeping sickness, but no slides were taken. These cases were all infected in the Luangwa Valley. Two of them were infected

while hunting game ; the third case and the fatal case were geologists working in the valley. Dr. Kinghorn toured the Tanganyika sleeping sickness area, but found no cases of sleeping sickness.

Only one native case has been admitted during the year. It is not known definitely that he was ever in the Luangwa valley. It would appear that the natives residing in the valley have acquired some immunity.

(b) *Malaria and Blackwater Fever.*

The following table gives the number of persons admitted to hospital suffering from malaria and blackwater fever, with mortality statistics in each case, as compared with the figures for 1925 and 1926 and 1927 :—

Year.	European		Malaria:		Blackwater Fever:	
	Population.	Cases.	Deaths.	Cases.	Deaths.	
1928	7,536	304	2	17	5	
1927	7,275	272	6	20	5	
1926	5,581	262	1	21	7	
1925	4,624	211	6	13	7	

(c) *Influenza.*

Cases have occurred throughout the territory, but the incidence only assumed serious proportions in Livingstone and Broken Hill.

(d) *Yaws.*

Results of the treatment of yaws with bismuth and sodium tartrate continue to be satisfactory. This disease is chiefly prevalent, as formerly, in the Kasempa, Kafue, and Luapula areas, and also in the Ndola District. Where treatment is available natives apply for it ; many sufferers come from the Zambesi valley for treatment at Choma.

(e) *Leprosy.*

The Native Department statistics for the year show 5,270 known lepers in the territory, an increase of 52 over last year. It is, however, probable that the early cases are not diagnosed.

A system of voluntary segregation in co-operation with the Missionary Societies has been commenced and most useful work is being carried out at Madzi Moyo (Dutch Reformed Mission) and Mwami (7th Day Adventists). Other societies are assisting, and there is in existence an organisation capable of gradual expansion in the future.

(f) *Smallpox.*

This disease has been epidemic during the year and has spread through practically the whole territory. The nature of the disease has been much discussed, and some medical practitioners are still of opinion that there were three diseases prevalent, viz.: chickenpox, alastrim or kaffir-pox, and smallpox. The Principal Medical Officer considers that alastrim or kaffir-pox and variola minor are the same disease. The mortality rate varied considerably in different districts but the disease was usually of a mild type.

Vaccination figures are not available. It was necessary to employ native vaccinators during the epidemic who were not always capable of keeping records and many Missionary Societies assisted in the work. Medical Officers, travelling hurriedly to outbreaks, often performed vaccination campaigns under circumstances that did not permit of records being kept, and generally the pressure of work on the department caused by the epidemic made it impossible to keep complete records. Southern Rhodesia estimated that 75 per cent. of the vaccinations at Livingstone on natives travelling south were successful, but it is considered that this percentage of successful vaccinations is too high for the whole territory.

(g) *Ankylostomiasis.*

Results of careful examinations at Livingstone confirm the opinion that a high percentage of the native population is suffering from hookworm disease. One Medical Officer using the flotation method for 193 cases found 158 or 81.9 per cent. to be positive, while another found 110 positive cases out of 175 examined, or 62.87 per cent. The flotation method was not used for the first 125 cases of the latter.

(h) *Bilharziasis.*

There is no indication that the incidence of the disease is increasing.

(i) *Chest Complaints.*

Pneumonia is probably the principal factor in the native death rate throughout the territory. It is responsible for the high mortality rate in the Livingstone Native Hospital. The Balovale and Mankoya native is particularly susceptible to this disease, and shows little resistance power to it. The disease is the lobular type, and true lobar pneumonia is now rarely met with.

The general health of the European population was good. The following tables show the vital statistics (European) for 1928 and previous years :-

	1928.	1927.	1926.	1925.
No. of deaths ... ..	97	72	62	63
Death rate per 1,000 ... ..	12.87	9.89	11.1	13.7
Deaths of infants under 1 year of age ... ..	15	18	7	15
Death rate per 1,000 of births in year ... ..	76.92	125	49.3	108

195 children were born, of whom 97 were males and 98 females, which represents a crude birth rate of 25.8 per 1,000 as compared with 20 per 1,000 in 1927.

The native population is estimated at 1,261,972. There is no system of birth or death registration possible at present and consequently no figures are available from which vital statistics may be obtained. Infantile mortality is known to be high and has been estimated to be between 40 per cent. and 50 per cent. of children born.

## IX.—EDUCATION.

### European Education.

There are five schools providing secondary education up to Standard VII at Livingstone, Choma, Mazabuka, Lusaka, and Broken Hill. Boarding establishments are attached to the schools at Choma and Mazabuka, with accommodation for 25 girls and 20 boys, respectively. The school at Choma opened on the 23rd July and the cost of building was defrayed by the Beit Trustees.

Six schools providing primary education up to Standard V exist at Silver Rest, Chilongolo, Lubombo, Fort Jameson, Bwana Mkubwa, and Luanshya (Roan Antelope Mine).

During 1928, three small aided schools were open for varying portions of the year.

Thirty-two teachers were employed in the schools.

The total enrolment at the close of the school year 1928 was 518 (291 boys and 227 girls), an increase of 38 over the figure for 1927 and 101 over that of 1926. At one period of the year 540 children were attending school.

### Native Education.

The education of natives in Northern Rhodesia is at present carried on almost entirely by the Missionary Societies, the Government making some grants in aid and exercising such supervision as is possible through the Director of Native Education, to assist whom two Inspectors have recently been appointed. The most pressing requirement is the training of native teachers and instructors without whom any satisfactory attempt at the education of the native population is impossible. This fact is realised by the Missionary Societies who, encouraged by the grants being made, are endeavouring to bring out more trained European educationists as members of their staffs. Generally the progress made at village schools has not been encouraging, but with the fuller provision of qualified native teachers and sympathetic visitation of mission schools by trained European educationists it is hoped that better results will ensue.

The first departmental examination for teachers' certificates was held in June, 1928, and out of 261 entrants 113 passed.

A generous grant by the Trustees of the Beit Railway Trust has enabled the Department to start at Mazabuka a Jeanes school for training native Visiting Teachers and an agricultural school for training native Agricultural Demonstrators and Instructors. A Principal has been appointed, the layout decided upon, and it is hoped that sufficient buildings will be ready to start the schools in September, 1929.

A further grant of £1,000 a year for five years from the same Trustees has been divided between three missions to assist them in getting out two Agriculturists and one Industrial Superintendent for the training of natives.

The visit of Monsignor Hinsley to Northern Rhodesia during the year should result in increased interest being taken by the two Roman Catholic Missions in this territory in education, and perhaps in increased funds for their educational work.

The London Missionary Society at Mbereshi started, during the year, under Dr. Margaret Morton, its Maternity Training and Baby Welfare Clinic, an enterprise full of promise for the future. Working in conjunction with, and as a development of, the Girls' Boarding School there, it has exceptional opportunities.

Dr. Chisholm trained six educated natives as health agents and sanitary inspectors and they started work under the control of the District Officer in February, 1929. It will be interesting to see what success they have.

Two long tours were made by members of the Department in the Kasempa, Luangwa, and Kafue districts which had not been previously visited by an Education Officer.

The Director made a tour in East Africa seeing Education Officers and some very interesting educational work in Kenya, Uganda, and Tanganyika Territory. The information obtained will be of great assistance in devising a school scheme, which is already under consideration, for Northern Rhodesia.

The following figures of expenditures from Government funds are indicative of the increasing interest and progress in provision of education for the native population:—

	£
1924-25	348
1925-26	3,994
1926-27	6,603
1927-28	6,593
1928-29 (estimated)	9,110
1929-30 (estimated)	10,845

These figures do not include contributions from the Barotse Fund and Beit Railway Trust Fund.

#### X.—LANDS AND SURVEYS.

During 1929, 81 enquiries regarding land settlement in Northern Rhodesia were received, of which 40 cases came from residents in the territory, 15 from Southern Rhodesia, 14 from the Union of South Africa, 8 from the Belgian Congo, 2 from Kenya Colony, and 2 from Australia. In addition to the above, 85 enquiries were dealt with for surveyed plots at sidings and townships. 52,211 acres were alienated under permits of occupation as new holdings, the total purchase price being £10,041 11s. 11d. Twenty-six titles to

farms were issued during the year in respect of 61,318 acres, and 52 titles for 56 township plots. Thirty-six leases were issued for 38 township plots with option to purchase, the total purchase price being £3,796, two-thirds of which has been paid on issue of the lease. Fifty-two other leases were issued for other areas of farm land. The amount received in respect of timber royalty was £2,337 2s. 2d.

During the year a number of farms were surveyed in various parts of the territory. In addition a large number of plots were surveyed at other places including the demarcation of the new township at Choma and additional plots at Ndola. Inspectional surveys were also carried out at Luanshya and Ndola with a view to layout of townships at these places. Several farms are surveyed within the British South Africa Company's areas in the vicinity of Abercorn, and at Abercorn itself a re-survey was carried out to demarcate the areas to be transferred to the Crown for administrative purposes.

District Surveyors are now established at Lusaka and Kasama, an arrangement which facilitates the settlement of survey matters in these districts.

Of the three aerial survey contracts let to the Aircraft Operating Company that of the townships of Livingstone, Mazabuka, Lusaka, and Broken Hill have been successfully completed and the mosaics and photo-prints handed over. These have proved of great value in connection with the survey of these towns and consideration of layout, etc.

The aerial photography of the Zambesi and its tributaries, the Kabompo and Lungwebungu, has been completed, and the mosaics will shortly be delivered. The mapping from oblique photos of portions of the Rhodesia Congo Border Concession is well in hand and fourteen sheets to large scale of the maps have been sent back after referencing for finishing off to the correct scale.

The International Boundary Commission is still at work on the demarcation of the Anglo-Belgian Boundary along the Zambesi-Congo Watershed.

The demarcation by the Survey Department of the Nyasaland-Northern Rhodesia Border along the eastern boundary of the North Charterland Concession was completed and plans lodged and approved.

## XI.—LABOUR.

### A.—Within the Territory.

Labour conditions within the territory continue to improve, and there is reason to suppose that the flow of able-bodied natives to centres outside the territory is decreasing. The larger mining companies are pursuing a progressive policy of recruiting, and are providing amenities—such as motor transport—for their employees which cannot fail to attract a number of waverers.

The number of Europeans licensed to recruit for work within the territory has risen from 8 to 18 in the last two years. The wages paid by mines and by contractors have practically doubled within the last ten years. Raw labour can now command 18s. to 20s. a month in the Ndola District.

There is reason to suppose that conditions are improving on farms also; wages show an upward tendency, but general conditions require to be proportionately advanced before the farmer or planter can seriously compete for the most efficient labour. Fortunately for the farming community there is still a class of labourer content to put up with longer hours and less remuneration in view of the greater freedom and lack of disciplinary regulations on farms.

Statistics show that the average number of natives employed in mining during 1928 exceeded the number employed during 1927 by 1,543. The number of natives actually employed on mines at the end of December, 1928, was 16,073, and the number employed at the end of 1927, 10,946.

In agriculture there was an average decrease of 5,037, mainly due to the slump in tobacco which resulted in a period of great financial stress in the East Luangwa Province.

#### B.—Without the Territory.

Recruiting of labour in the Awemba and Tanganyika Provinces for work in Tanganyika Territory has practically ceased.

The Rhodesia Native Labour Bureau continues to recruit for Southern Rhodesia, and Mr. R. W. Yule for the Congo mines. Comparative figures of natives recruited and repatriated are given below :—

	<i>Recruited.</i>		<i>Repatriated.</i>	
	<i>1927.</i>	<i>1928.</i>	<i>1927.</i>	<i>1928.</i>
R.N.L.B. ... ..	4,718	4,022	5,533	4,387
R.W. Yule ... ..	6,153	5,176	3,774	5,296
Total ... ..	10,871	9,198	9,307	9,683

The contract offered by the Rhodesian Native Labour Bureau is one of twelve month's duration, and that offered by Mr. Yule one of six month's duration.

Deferred pay was distributed by these two agencies to the amount of £52,474 9s. 5d., as compared with £45,091 16s. 2d. last year.

It is estimated that 27,650 natives left the territory independently in search of employment during 1928. The estimate for 1927 was 31,438.

There were 21,338 natives of Northern Rhodesia working in Southern Rhodesia at the end of the year. Some of these had of course been away for a number of years.

## XII.—MISCELLANEOUS.

During the year under review a Session of the Legislative Council was held on the 16th April, 1928, at which eight Ordinances in all were passed. These included provisions for the holding of Commissions of Inquiry ; the taking of promissory oaths ; a consolidating law relating to the collection of native tax ; and an enactment empowering the Mashonaland Railway Company Limited to construct a branch railway from Bwana M'Kubwa to the Roan Antelope Mine.

G. A. S. NORTHCOTE,

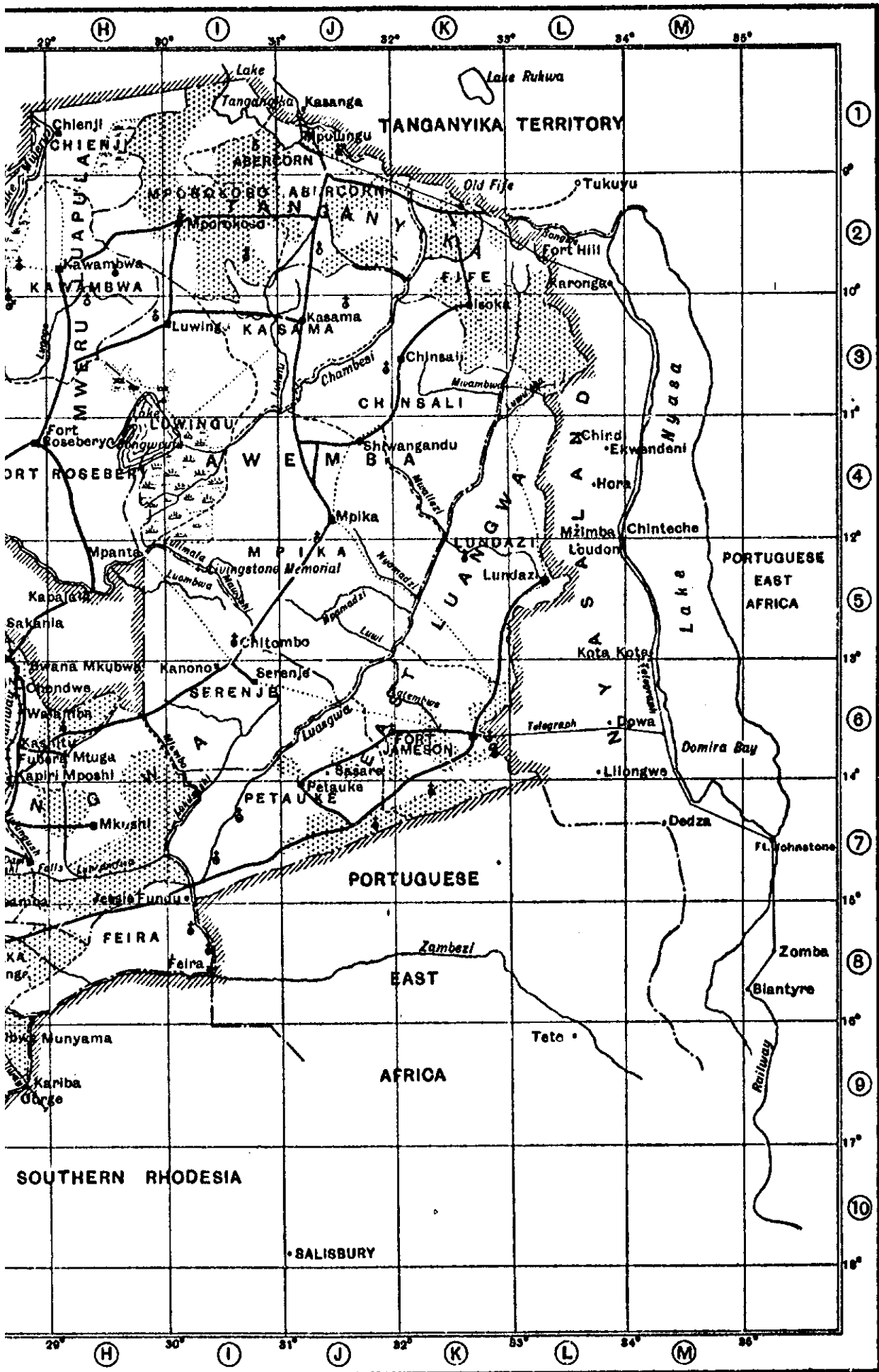
*Chief Secretary.*

14th November, 1929.

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