HANDBOOKS PREPARED UNDER THE DIRECTION OF THE HISTORICAL SECTION OF THE FOREIGN OFFICE.—No. 113

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TANGANYIKA

(GERMAN EAST AFRICA)

LONDON:
PUBLISHED BY H.M. STATIONERY OFFICE

1920

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Editorial Note.

In the spring of 1917 the Foreign Office, in connection with the preparation which they were making for the work of the Peace Conference, established a special section whose duty it should be to provide the British Delegates to the Peace Conference with information in the most convenient form—geographical, economic, historical, social, religious and political—respecting the different countries, districts, islands, &c., with which they might have to deal. In addition, volumes were prepared on certain general subjects, mostly of an historical nature, concerning which it appeared that a special study would be useful.

The historical information was compiled by trained writers on historical subjects, who (in most cases) gave their services without any remuneration. For the geographical sections valuable assistance was given by the Intelligence Division (Naval Staff) of the Admiralty; and for the economic sections, by the War Trade Intelligence Department, which had been established by the Foreign Office. Of the maps accompanying the series, some were prepared by the above-mentioned department of the Admiralty, but the bulk of them were the work of the Geographical Section of the General Staff (Military Intelligence Division) of the War Office.

Now that the Conference has nearly completed its task, the Foreign Office, in response to numerous enquiries and requests, has decided to issue the books for public use, believing that they will be useful to students of history, politics, economics and foreign affairs, to publicists generally and to business men and travellers. It is hardly necessary to say that some of the subjects dealt with in the series have not in fact come under discussion at the Peace Conference; but, as the books treating of them contain valuable information, it has been thought advisable to include them.

It must be understood that, although the series of volumes was prepared under the authority, and is now issued with the sanction, of the Foreign Office, that Office is not to be regarded as guaranteeing the accuracy of very statement which they contain or as identifying itself with all the opinions expressed in the several volumes; the books were not prepared in the Foreign Office itself, but are in the nature of information provided for the Foreign Office and the British Delegation.

The books are now published, with a few exceptions, substantially as they were issued for the use of the Delegates. No attempt has been made to bring them up to date, for, in the first place, such a process would have entailed a great loss of time and a prohibitive expense; and, in the second, the political and other conditions of a great part of Europe and of the Nearer and Middle East are still unsettled and in such a state of flux that any attempt to describe them would have been incorrect or misleading. The books are therefore to be taken as describing, in general, *ante-bellum* conditions, though in a few cases, where it seemed specially desirable, the account has been brought down to a later date.

G. W. PROTHERO,
General Editor and formerly
Director of the Historical Section.

January 1920.

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Note.—In this book the name Tanganyika, now adopted for the British portion of what was German East Africa, has generally been used, excepting where conditions prevailing under German rule are in question. The western portion of German East Africa, consisting of the greater part of the districts of Ruanda and Urundi, which under present arrangements are to be administered by Belgium, is included in the survey as being formerly German territory.

I. GEOGRAPHY PHYSICAL AND POLITICAL

(1) Position and Frontiers

Tanganyika lies between 1° and 11° 44′ S. latitude, and about 28° 50′ and 40° 35′ E. longitude; it marches with Kenya and Uganda in the north, with the Belgian Congo in the west, with Northern Rhodesia and Nyasaland in the south-west, and with Mozambique in the south. Its area is about 384,000 sq. miles.

From the mouth of the Umba the boundary between Kenya and Uganda, and Tanganyika, runs in a north-westerly direction towards Victoria Nyanza, but bends so as to pass north of Mount Kilimanjaro. It reaches the east shore of Victoria Nyanza at 1° south latitude and, after crossing the lake, continues along that parallel until it reaches the northern bend of the River Kagera, the course of which it follows as far as the Kakitumba confluence. It then turns south-west, leaving Mpororo in Uganda, and, after skirting the Mfumbiro region, joins the Belgian frontier on the summit of Mount Sabinio. From this point the boundary runs by Mounts Karisimbi and Hehu to the northern shore of Lake Kivu at a point half-way between Ngoma and Kissenyi. From here it proceeds south, leaving the islands of Kwijiri and Iwinje, with Gombo (formerly German), in the possession of Belgium. From Lake Kivu the boundary follows the valley of the River Rusizi, keeping to the chief western branch of its delta as far as Lake Tanganyika. It then follows the middle of Lake Tanganyika to the mouth of the River Kalambo at the southern end of the lake.

From this point the south-western boundary of Tanganyika follows a somewhat irregular course east-south-east to Lake Nyasa at the point where the River Songwe flows into the lake, and continues southwards down the middle of Lake Nyasa to about 11° 34′

south latitude. The southern boundary, which divides Tanganyika from the Portuguese province of Mozambique, leaves the shore of Lake Nyasa in latitude 11° 34′ 30″ south and follows in general that parallel to the River Rovuma, a distance of about 34 miles. Thence the Rovuma forms the boundary to within about 30 miles of its mouth; there the frontier leaves the river and, after running parallel to its course for a short distance, turns due east, reaching the coast at Cape Delgado, leaving the lowest ford and the mouth in Tanganyika.

(2) Surface, Coast, River System, and Lakes

Surface

The territory of what was German East Africa has a varied surface, and for purposes of description may conveniently be considered under the following six headings: (1) the coastal region, (2) the Rand Mountains, (3) Kilimanjaro and Meru, (4) the East African plateau, (5) the Victoria Nyanza region, and (6) the region of the Western Rift.

(1) The *coastal region* occupies a narrow strip of country in the north of the territory between the Rand Mountains and the sea, and widens as it proceeds south until, in the country north of the Rovuma, it occupies the greater part of the territory. Its surface is broken by small plateaux, abrupt rocky *inselberge*, and considerable hill ranges. Both in climate and in vegetation the area is clearly divided into two sections: (*a*) the extensive region which includes the valley of the Rufiyi and stretches south to the Rovuma, and (*b*) the narrower strip north of the Rufiyi between the coast and the Nguru and Usambara mountains.

(*a*) The southern district is occupied by a series of small plateaux, of which the Makonde plateau is the most important, reaching an altitude of between 2,000 and 2,600 ft. These plateaux are badly watered and covered with dense bush. Farther north, in the neigh-

bourhood of Kilwa, are the Matumbi hills, whose eastern slopes are well watered and fertile.

West of the Makonde and Mweru plateaux lies a badly watered country covered with myombo wood, which extends over the whole of the interior between the Rovuma and the Ubena. The Rovuma valley itself is rocky above the mouth.

In the north-west of this region lies the Mahenge district, which includes the Upogoro hills and the broad Ulanga depression. The low-lying alluvial plains of the River Ulanga are extremely fertile.

The plains north of the Rufiyi towards Kisaki have similar characteristics, but are covered with bush, and almost uninhabited. Farther down the river cultivation increases, and the alluvial lands of the delta are fairly well populated, though there is much jungle and mangrove swamp.

(*b*) The northern section of the coastal region includes the important district of the somewhat isolated Uluguru mountains. On the north-west these mountains rise abruptly above the surrounding plains to a height of 8,200 ft. Their surface is extraordinarily broken, and, except on the west, their slopes are covered with forest.

(2) The *Rand Mountains*, which form the eastern edge of the East African plateau, are divided into three sections by the rivers Ruaha and Pangani. To the south-west lie the highlands of Ungoni, Ubena, and Uhehe; between the Ruaha and the Pangani is the Central Plateau, fringed by the Nguru and Usagara mountains, and to the north lie the Usambara and Paré ranges.

(*a*) The Ungoni Highlands rise gradually from the upper Rovuma towards the Nyasa watershed, and consist of a well-watered fertile plateau lying at an altitude of 3,200 to 4,600 ft. They were formerly one of the best cultivated districts of the territory, and have been named "the granary of German East Africa;" but the population was enormously reduced by the suppression of the rising of 1905, and large

districts are now covered with bush. From the Ungoni plateau the thinly-peopled but fertile Matumbi hills stretch northwards to the Ruhuje. These heights are lower than the northern part of the Ungoni plateau.

Beyond the Ruhuje rise the high plateaux of Ubena and Uhehe. These lie at a general altitude of 5,000 to 5,500 ft., but in parts of Uhehe especially considerably greater heights are attained. The plateaux consist for the most part of open grass-lands.

On the north-west the Uhehe plateau falls away to the Usungu depression, through which flows the Great Ruaha. This region suffers from drought in the dry season, and from inundation during the rains. The southern parts consist of open grass plains, and in the north there is open forest alternating with stretches of bush.

(*b*) Beyond the Ruaha depression, the Usagara—Nguru section of the Rand mountains runs north-west till it is broken by the Masai Steppe and the Pangani valley. It consists of three ranges, which are divided by the broad valleys of the Mukondokwa and the Mkundi. On the east the ranges rise abruptly out of the Useguha-Wami plains, and on the west slope gradually down to the Ugogo plateau and the Masai Steppe. The whole region contains much fertile land.

(*c*) The Usambara-Pare Range forms a wedge-shaped mountain mass which runs inland in a north-westerly direction from the Tanga-Pangani coast towards Kilimanjaro. It rises sheer on all sides from the surrounding plains, and has been cut into a number of different ranges by deep and broad valleys, of which the most important is that of the Mkomazi.

In the well-watered districts the vegetation is exceptionally rich, and the tropical rain forest of eastern Usambara is one of the most valuable forest regions of the Protectorate.

(3) The district of *Kilimanjaro and Meru* belongs to the southern extension of the volcanic region of British East Africa. The two mountains rise from the isolated level plateau. Kilimanjaro (Kilima-Njaro), which

consists of two peaks united by a saddle, is the highest mountain in Africa (19,391 ft.), and Meru (Mweru), which lies about 43 miles east-south-east, has an altitude of 14,960 ft. The mountain region consequently embraces every degree of climate from tropical to polar, and the middle zone might be suited to European settlement.

On both mountains the tropical rain-forest reaches up to a height of 6,500 ft. to 9,500 ft., but on Meru there is also a belt of forest of a much finer type between 4,600 and 6,000 ft.

(4) The *East African Plateau*, which occupies the greater part of the territory, is divided by the Rand mountains into two regions, namely (*a*) the interior region of the Masai Steppe and the Eastern Rift, and (*b*) the Unyamwezi or Central Plateau in the west.

(*a*) In Tanganyika the Eastern Rift loses much of its valley character; south of Lake Natron (Magad) the eastern wall falls away, and, past Lake Manyara as far as latitude 6° south, the western wall alone remains defined. West of this main depression are other smaller ones, the most important of which are those occupied by Lake Eyasi and Lake Hohenlohe.

The greater part of the region east of the Rift consists of dry steppe country covered with thorn scrub, which in some districts, e.g., the Masai Steppe and the Marenga-Makali plain, approaches desert conditions. Characteristic of the whole region are the salt lakes and swamps, such as the Wembere and the North Ugogo Steppes, in which the rivers lose themselves.

The only district which is sufficiently watered is the strip of highland country lying immediately to the west of the Eastern Rift, which has an altitude of between 5,000 and 11,000 ft. It attains its highest point in the Winter Highland south of Lake Natron, where the volcano of Lengai (Denyo-Ngai) is still active. The lower slopes of these highlands are covered with rain forest of the same type as that of Kilimanjaro, but above 6,500 ft. the wood gives place to high pastures, which are said to be suitable for European stock-raising.

(*b*) The Unyamwezi, or Central Plateau, extends from the watershed of Victoria Nyanza to the Rukwa depression, and from the western limits of the Eastern Rift region to the mountains east of Lake Tanganyika. It lies at an altitude of 3,600 to 4,300 ft. above the sea, and forms the water-parting between the rivers flowing towards the Atlantic and those flowing into the Indian Ocean. The climate is hot and dry, and the region possesses but one perennial river, the Mlagarazi. The whole region is a great undulating plain broken by frequent granite tors and by occasional *inselberge*.

The north-western districts of Usumbwa and Uha represent a transition from the conditions of the plateau to those of the lake. The climate is equatorial, like that of the lake region, not of the trade-wind type which prevails in Unyamwezi.

(5) In the *Victoria Nyanza region* the plateau which stretches westwards through Karagwe, Ruanda, and Urundi to the Western Rift, falls abruptly to the western shores of Lakes Kivu and Tanganyika; transition from the plateau to Victoria Nyanza is gradual and broken in places by groups of hills.

To the east of the lake the grass-lands end in the barren Masai Steppe, but Ushashi and Usukuma are fertile. Usinja, south-west of the lake, is hilly and covered with myombo wood, and in the southern parts there is much dense bush. Beyond Usinja the Western Plateau rises immediately above the lake, and there is no low coastal strip. The only important island in the southern portion of the lake is Ukereve.

The western highlands rise in successive ranges from Victoria Nyanza towards Lake Kivu and the volcanic region to the north of it, and attain an altitude of over 9,000 ft. in the western part of the Ruanda highlands, while in Urundi, south of Ruanda, the hills are even higher. There is much virgin forest in the mountain districts of south-west Ruanda.

(6) The western frontier of the territory follows the line of the *Central African Rift* (Western Rift)

from the north end of Lake Kivu to the middle of Lake Nyasa, and this district may be considered as forming two sections, those of Kivu—Tanganyika to the north, and Rukwa—Nyasa to the south.

The region of the Western Rift consists of a very narrow lowland strip, which in some districts vanishes entirely, and a region of mountains and high broken plateaux which separate the Rift from the Central Plateau.

(*a*) Kivu—Tanganyika Section.—In the extreme north the mountains of western Ruanda descend abruptly to the narrow but fertile and well-peopled eastern shore of Lake Kivu, which is the highest lake of the Western Rift valley.

The coastal strip east of Lake Tanganyika is broader than that on the Belgian side of the lake. North of the Mlagarazi, the Urundi plateau rises above the lake, and to the south are the picturesque highlands of Utongwe and Uwende. On the south-east the Ufipa plateau, consisting of well-watered and fertile grasslands, rises steeply between Lake Tanganyika and the Rukwa depression, and is continued southward by the Urungu plateau into Nyasaland.

(*b*) Rukwa—Nyasa Section.—The Rukwa depression has a length of about 180 miles and a breadth of 15 to 37 miles. Lake Rukwa occupies the southern part of this and fluctuates considerably in area. South-east of the lake lies the mountainous district of Ukimbu. It is dry, and covered by a light steppe forest. The great Nyasa depression is bordered on the north-east by the Livingstone Mountains (highest altitude about 9,840 ft.), which descend sheer to the lake. North of Lake Nyasa is the alluvial Konde plain, which is blocked by a great mountain mass from which rises the peak of Rungwe, the highest mountain in Nyasaland.[1] Between the Konde mountains and the River Songwe rise the Bundali uplands.

[1] The height of this mountain has been variously given by different authorities as 9,850, 10,416, and 14,000 ft.

Thus practically the whole of this section consists of highland country, and mountain pasture is the predominant type of vegetation, the only important exception being the fruitful Konde plain. The Konde and Bundali uplands are also fertile, and support a very large population. On Rungwe and the other important heights there is a zone of virgin forest above the limit of native settlement (about 5,000 ft.).

The northern section of the Livingstone Mountains has a cool and moderately dry climate, and is said to be suitable for European settlement, Buanyi, the district east of the Elton plateau, being particularly healthy.

Coast

The coast, about 470 miles in length, is uniformly difficult to approach owing to its shelving character, to the numerous coral reefs, and to the changing bars at the mouths of the rivers. There are, however, several good natural harbours, notably Kilwa Kisivani or Old Kilwa, about 15 miles south of Kilwa Kivinje, and Mikindani Bay, 40 miles south-east of Lindi. Neither of these has up to the present been much used. Tanga and Dar es-Salaam are the only large ports which possess really good harbours.

There are three large islands off the coast: Zanzibar, which is the natural centre for the trade of the territory, Pemba, and Mafia. Of these, Mafia, which alone forms part of Tanganyika, is a low island, fringed with mangrove swamps, about 27 miles long and with a maximum width of 9 miles. Besides these there are numerous small coral islands.

The low shore of the mainland is either sandy or fringed with mangroves; behind it rises a coral terrace from 30 to 80 ft. high, and at a comparatively short distance from the sea the surface rises again sharply to the region of the coastal back-country.

River System

The coastal drainage area, to which all the important rivers belong, consists of the coastal region des-

cribed above, together with the Rand mountains. It is therefore comparatively narrow in the north of the territory, and widens out greatly south and west of Usagara. In the south it comes at many points within a few miles of Lake Nyasa.

By far the most important of the coast rivers is the Rufiyi, which includes in its basin about one quarter of the whole territory. In spite, however, of the vast area of its drainage system and the size of its delta, the volume of water in the dry season is not great, and the river is of little value for navigation. The river consists of two main branches, of which the northern is formed by the junction of the Kizigo and the Ruaha, and the southern, known in part of its course as the Ulanga, is formed by the junction of the Kilimbero and the Luvegu. The first branch drains Ubena, Usunga, Usagara, and the south-eastern part of the Central Plateau; the second Mahenge and a part of Ungoni and Uhehe.

The Rovuma, which rises in the Ungoni highlands near Songea, forms for the greater part of its course the frontier between the territory and Portuguese East Africa (Mozambique), but the mouth is entirely in Tanganyika. Its chief drainage area lies to the south in Portuguese Nyasaland.

The most important river in the north of the territory is the Pangani or Ruvu, which rises on the slopes of Kilimanjaro, and flows to the sea between the Masai Steppe and the Pare-Usambara mountains.

Farther south the Wami waters northern Usagara and the neighbouring districts, and the Kingani drains the Uluguru mountains and Uzaramo. Owing to the large rainfall in these districts, the latter is an important river in spite of its small drainage area. The other coast rivers, e.g., the Matandu, the Mbemkuru, and the Lukuledi, are intermittent in flow, except in the lower parts of their courses.

The rivers belonging to the region of the East African Rift are of little importance, owing to the low rainfall which prevails in that district. They either

flow into the lakes of the Rift Valley or lose themselves in the steppes.

There are a certain number of rivers which flow into the various great lakes. Of these the chief is the Kagera, a large and very important river, head of the Nile system, which drains the greater part of the Ruanda and Urundi regions, and finally flows into the western side of Victoria Nyanza, just over the border of Uganda. Many of the smaller lakes to the west of Victoria Nyanza (see below) also communicate with the Kagera, and feed its upper waters.

Lake Tanganyika has one important affluent, the Mlagarazi, which drains south-western Urundi and the Uha and Uvinza districts. Its eastern and southern tributaries drain the greater part of the Unyamwezi plateau, but these are only of importance during the rainy season. Lake Tanganyika is intermittently connected with the Congo system by the small river Lukuga.

The only important affluent of Lake Nyasa is the Ruhuhu, which drains a part of the Ungoni highlands.

Lakes

Victoria Nyanza, the largest lake in Africa, occupies an area of about 27,000 square miles (including islands), and has a length and breadth of about 220 miles, with a depth of about 228 ft. It possesses few good harbours, and the best anchorages are on the low and broken southern coast. The most important port situated in Tanganyika is Mwanza, at the southern extremity of the lake.

In the plateau west of Victoria Nyanza there are numerous small lakes which lie in three groups: (1) north-west on either side of the Uganda frontier; (2) in the Kisaka district and East Ruanda; and (3) in Karagwe. Most of these communicate with the Kagera River, but Lake Mohazi in the Kisaka group and Lake Ikimba in Karagwe are without outlets.

Lake Kivu, which lies at an altitude of 4,920 ft.

above the sea, has a length of about 60 miles and a maximum breadth of 30 miles. Its coast is excessively broken. It drains into Lake Tanganyika, 74 miles to the south, by the River Rusizi.

Lake Tanganyika is about 400 miles long, with a maximum breadth of 56 miles, and a maximum depth of 4,758 ft. Its area as measured on the best maps varies from 12,300 to 12,400 square miles, and earlier estimates appear to be excessive. The coast is often precipitous and the harbours are few and poor. The waters of the lake are brackish, owing to the salt brought down by the Mlagarazi.

Lake Rukwa, a small and shallow lake of very variable dimensions, is without outlet, and drains a considerable tract of country in the south of the Central Plateau. The water is brackish.

Lake Nyasa, the third largest lake in Africa, has a length of about 360 miles, a width of from 50 to 15 miles, and a greatest known depth of 2,316 ft. The section of the lake bordered by Tanganyika is badly provided with harbours.

The region of the Eastern Rift contains three important lakes: the *Natron* (*Magad*), *Eyasi* (*Nyarasa*), and *Manyara*. All of these are very salt and have no outlets.

(3) Climate

The climate of Tanganyika is determined by its latitude and its position relatively to the Indian Ocean, which is considerably warmer than the Atlantic. Generally speaking the rainfall is low for a tropical country and varies greatly from year to year, while in some years there are great droughts. Three types of climate are to be distinguished: (1) the Indian or trade-wind type, which prevails over the greater part of the country; (2) the monsoon type, which prevails in the north-east; (3) the equatorial type, which prevails in the north-west.

(1) The first type of climate is influenced primarily

by the south-east trade-winds. It has only one rainy season in the year, and its hottest period is at the end of November, immediately before the beginning of the rainy season. The coolest and driest period of the year is from June to August, when the south-east trade-winds blow. Thereafter it becomes increasingly warmer until the rainy season, which lasts from December till April, with the heaviest rainfall from December to February. The winds during the rainy season are weak, and vary from north-east to south.

(2) The region where the monsoon type of climate prevails is bounded by a line running from the mouth of the Rufiyi through the territory to the north-west, including the countries of Uluguru and Unguru, together with most of the smaller northern lakes except Eyasi (Nyarasa). Usagara, Ugogo, South Unyamwezi, and Tabora are included in this region.

The monsoon type of climate has two rainy seasons. The south-east trade-wind prevails to a great extent from June to September, but gradually turns to the south and passes into the south-west monsoon. This period, during which the winds blow from south-east to south-west, is the cool and dry season.

After the southern winter, the north-east monsoon gradually prevails. There is an interval of varying and gentle winds, which give rise to the lesser rainy season at the end of October or in November. When the north-east monsoon establishes itself there follows the driest and warmest period of the year (December to February). The hottest month is February, just before the beginning of the great rainy season.

During the interval of uncertain winds between the departure of the north-east monsoon and the return of the south-east to south-west winds, which prevail between June and September, is the greater rainy season from March to May, with extraordinarily copious rainfall. In the mountainous districts there is generally a third rainy season in July.

(3) The north-west or equatorial region is bounded roughly by a line drawn from south of Ujiji to the

southern end of Lake Manyara, and from there due north. It includes the country west of Victoria Nyanza and Victoria Nyanza itself, together with the large districts of Usukuma, North Unyamwezi, and Uha, and the country round Lake Tanganyika as far south as Ujiji.

The equatorial climate is distinguished from the other two in that it has two warmer and two cooler seasons, with two rainy seasons separated by a short abatement of the rains. The two warmer periods are October and February-March, the two cooler July and November-December, i.e., the warmer periods are when the sun is above the equator, the cooler when it is at its farthest north and south. The variation in temperature between the coolest and warmest months is slight. In Ujiji, for instance, which has an average yearly temperature of 75° F. (24° C.), the seasonal range is only about 4·5° F.

Easterly winds prevail in this district. From May to August the south-east trade-wind blows hard, and the dry season lasts from May to September (Victoria Nyanza) or even October (Tanganyika). The rainy season is from October to May (Victoria Nyanza) or November to April (Tanganyika). There is a short abatement in the middle of the rainy season about January, which divides it into two parts. The influence of the north-east monsoon does not extend so far inland, and the climate is affected considerably by the local winds in the basins of the great lakes, and by calms.

The varying heights above sea-level of different parts of the country also give rise to a considerable variety of local climates, and from this point of view we may distinguish six climatic levels:—

(1) The warm and rather damp coast-region (up to rather more than 300 ft. above sea-level). The characteristics of this part of the country are high humidity of atmosphere, moderate rainfall, and a temperature moderated by the neighbourhood of the sea. Average yearly temperature 78° F. (25·5° C.); yearly variation on the northern coast 12° to 14° F., on the

southern coast 20° F. Daily variations in the extreme months on the northern coast 11° to 16° F., on the southern coast 20° to 22° F.

(2) The hot and moderately dry zone between the coast and the ranges which bound the Central Plateau (300-1,600 ft.). Here the characteristics are low humidity of atmosphere, less rain, and a rather lower yearly temperature, but greater daily and yearly variations.

(3) The moderately warm and moist zone of the eastern slopes of the ranges which bound the central plateau (1,600-6,500 ft. and above). The characteristics are high humidity of atmosphere, heavy showers almost daily, and a somewhat lower temperature, although with greater extremes.

(4) The hot and dry zone of the Central Plateau (average height 4,000 ft.), the climate of which of course differs greatly in different places. Its prevailing characteristics are, however, very low humidity of atmosphere (at Tabora under 40 per cent.), little rainfall (at Tabora 32 in. or 810 mm.), a fairly high mean temperature (at Tabora, July, 70° F. or 21° C.), and great daily and yearly variations (at Tabora sometimes exceeding 36° F. or 20° C. daily).

(5) The cool and moist zone of the sub-alpine heights (6,000-10,000 ft.). To this belong the lower parts of the heights mentioned under (6), and the higher peaks of Usambara, Unguru, Usagara, Uluguru, Uhehe, Konde, and Ruanda, with the Livingstone mountains and the volcanic district west of the Eastern Rift. The characteristics here are high humidity of atmosphere, much mist, and fairly low yearly temperature, with great extremes.

(6) The cold and dry alpine zone above 10,000 ft. This includes Mounts Kilimanjaro, Meru, Karisimbi on the Congo border, Lomalasin, Rungwe, and a few other mountains. The characteristics of this zone are low humidity of atmosphere, little rain, snow, and a low temperature, with very great extremes.

(4) Sanitary Conditions

Malaria is prevalent throughout Tanganyika, and is the most serious obstacle to European settlement, being common even in the high districts of the interior. The coastal regions are specially affected, and the Bismarckburg district south-east of Lake Tanganyika also has a very bad reputation. There are, however, many districts, such as Usambara, the slopes of Kilimanjaro and Meru, and the volcanic highlands of Ruanda and Urundi, which are perfectly suitable for habitation by Europeans, although cases of malaria may be met with even at a height of 4,500 ft. The German Government undertook energetic measures against the disease at Dar es-Salaam and Tanga, which were attended with some degree of success.

Other diseases affecting Europeans are blackwater fever, dysentery, and recurrent fever. The last, which is often known as tick-fever, is also very common among the natives, and is carried by infection along the chief caravan routes, especially along that from Mwanza to Tabora.

Sleeping sickness occurs in two forms: (1) The form carried by the tsetse fly (*glossina palpalis*), which has been introduced on both sides of Victoria Nyanza from Uganda, and also on the east coast of Lake Tanganyika from the Congo, the latter district being especially affected. The Government attempted to stamp out the disease by segregating the infected persons in concentration camps and by destroying the breeding-places of the fly; and in the Victoria Nyanza districts the disease is now said to be well under control. (2) The Rhodesian form of the disease, which is carried by *glossina morsitans*, and occurs on the upper Rovuma.

Ankylostomiasis (hook-worm disease) is almost universal among the natives of the Protectorate, but has been combated by sanitary measures and by treatment with thymol. Much mortality among the natives has also been caused in the past by small-pox. Systematic

vaccination, however, has recently been carried out, and in 1909-10 about 800,000 natives were inoculated. Leprosy is also very widespread.

Plague, which was formerly endemic at places in the Iringa district, is sometimes introduced at Mwanza and the coast ports. The last outbreak occurred in 1914 at Dar es-Salaam.

There are two large hospitals at Dar es-Salaam and Tanga, and a fine Government sanatorium in the west Usambara mountains.

(5) Race and Language

Race

There are traces in Tanganyika of the existence of an aboriginal population of Bushman-Pygmy type, but the racial foundation of the population of the Protectorate is formed by Bantu peoples. The different tribes are distinguished by the districts in which they dwell, as the Wanyamwezis of Unyamwezi, the Wazaramos of Uzaramo, and so on.[1] The open character of the interior has facilitated tribal migrations, and there has been little opportunity for the evolution of strongly differentiated types. The population have, however, been subjected to more external influences than any other portion of the Bantu race, and the invading peoples have communicated something of their blood and culture to the tribes with which they came in contact. These invading peoples are: (1) the Wahimas (or Watusis) in the north-west; (2) the Masais in the north-east; (3) the Wangoni-Zulus in the south; (4) the Arab-Swahilis on the coast and in the centre. Roughly speaking, the population of the whole Protectorate may therefore be divided into these four sections.

(1) The *Wahimas* or *Watusis* are a pastoral people of Hamitic race, dwelling in the region lying between the great equatorial lakes. They are most numerous and the type is purest in the districts of Ruanda, Mpororo, and Urundi, while they are also found in smaller

[1] In Bantu *U* denotes country, *Wa* people, and *Ki* language.

numbers and much mixed with the Bantu throughout the north-western districts. The Watusis of Ruanda, and to a less extent of Urundi and Uha, have organized a strong feudal social system, in which the Bantu natives, known as Wahutus, who make up from 95 to 99 per cent. of the population, occupy a semi-servile status. In certain districts the ruling chiefs are of Watusi blood, and a considerable number of Watusi cattle-keepers are to be found throughout Unyamwezi.

(2) The *Masais*, also of Hamitic race, are warlike nomads, who formerly wandered with their herds throughout the Masai Steppe. The majority of the Masais of Tanganyika occupy a reserve south of Mount Meru. The Masais, like the Wahimas, are dolichocephalous and remarkably tall and slender, while in colour they are considerably lighter than the negro.

Two other tribes of Hamitic stock, the Wanderobbos and the Wakwafis, closely allied to the Masais, are found in the Masai Steppe. They do not possess the strong tribal organization of the Masais, and exist by hunting rather than by war and cattle-farming.

Throughout the country between the Pare mountains and Victoria Nyanza on the one hand, and the Rhodesian frontier and the south of Ugogo on the other, all the native tribes have been affected by contact and intermixture with the Masais. On the east coast of Victoria Nyanza the Wageias of Kavirondo seem to belong to the Nilotic negro race, and the Wasandawis and Wakindigas in different districts of the Eastern Rift are said to represent the aboriginal Bushman race. With these exceptions, however, the tribes of this region are Bantu, more or less modified by Hamitic blood and influence.

(3) The *Wangonis*, a Bantu people of Zulu stock, are established in the highlands east of Lake Nyasa. From this centre, which became known as Ungonis, they raided far into the interior of the territory. The Wahehes succeeded in repelling the Wangonis by

adopting their own weapons and military organisation, and in this way Wangoni influence may be said to extend to all the tribes conquered by the Wahehes as well as to those conquered by the Wangonis themselves.

The Wangonis were variously known as Magwangwaras, Mafitis, Mazitus, and Watutas in the different districts in which they raided, and these names were also applied to any tribe like the Wahehe using Zulu weapons. Owing to wholesale inter-marriage and the embodiment of conquered peoples in the Wangoni tribe, a Wangoni racial type can hardly be said to exist.

(4) *Arab-Swahilis.* Of all the external influences that have operated on the peoples of the territory, that of the Arabs has been by far the most important. Arab and Persian (Shirati) colonies have been established on the coast for a thousand years; the great period of Arab influence in the interior, however, was in the nineteenth century under the Omanian rulers of Zanzibar. The number of pure Arabs in the interior was always very small, and it is now quite negligible, but their influence survives and extends itself in the bastard Swahili race and culture.

Swahili was originally the name given to the descendants of the Arab and Persian settlers in the islands of Lamu and Patta, who spoke a mixed Arab-Bantu tongue. By degrees the name was extended to all those who spoke the language, that is to say, to all the natives who are under the influence of Arab and Mohammedan civilization. Thus practically the whole coast population is Swahili; and, as this element is naturally adapted to be the intermediary between the ruling race, whether Arab or European, and the natives, every extension of civilization and government control in the interior brings with it an increase in Swahili influence. Tabora is one of the strongest and oldest centres of Swahili influence in the interior, and Swahili traders and minor officials are to be found everywhere along the railways and in the administrative centres.

Bantu Tribes.—The most important peoples as yet not mentioned are the Wanyamwezis and Wasumbwas of the Central Plateau, from whom the bulk of the plantation labour has been drawn in the past; the Wakondes, who inhabit the fertile northern end of Lake Nyasa; and the Yaos on the Rovuma. The peoples of the coastal back-country, such as the Wamakondes and the Wamweras, are for the most part barbarous and timid, and of little value for the development of the territory.

Language

The vast majority of the inhabitants of the territory speak various forms of Bantu. The Masais and Wanderobbos have preserved their original Hamitic tongue, which has had some influence on the surrounding Bantu dialects. The Wahimas have adopted the Bantu speech of the conquered race. The Wasandawis in Ugogo and one or two other tribes farther north are said to speak a primitive non-Bantu language similar to Hottentot. Swahili is understood almost everywhere in the territory, and is the recognised language of administration and commerce.

(6) Population

Distribution

The total native population was estimated to be about 7,641,800 in March 1913. It was distributed as follows among the various districts:—

District.	Population.	Density per square mile.
Ruanda	2,000,000	187
Urundi	1,500,000	132
Tanga	168,400	61
Dar es-Salaam	161,500	39
Bukoba	270,500	26

District.	Population.	Density per square mile.
Rufiyi	89,100	26
Moshi	118,300	24
Mwanza	620,000	24
Lindi	395,500	22
Pangani	98,500	18
Langenburg	195,800	17
Wilhelmstal	98,600	16
Ujiji	240,000	15·9
Morogoro	158,400	12
Bagamoyo	72,800	12
Tabora	437,500	10·6
Dodoma	299,400	10·4
Kondoa-Irangi	218,300	10·4
Mahenge	120,000	9
Arusha	84,200	6·2
Kilwa	93,000	4·1
Songea	90,300	4·1
Iringa	90,000	3·4
Bismarckburg	81,700	2·3

The total white population at the same date was 5,336, of which 4,107 were of German nationality and 90 of British. In 1912 there were 128 British and 268 "Colonial English," chiefly Boers. The coloured population other than native was 14,933 in 1912.

As will be seen from the above statistics, population is thickest in the north-western districts between the lakes and in the coastal region. In Ruanda and Urundi the chief cause of the density has been the existence of strongly organized native states which imposed discipline on the natives and prevented depopulation by war. In the south-west of the territory a densely populated district occurs in Kondeland at the north end of Lake Nyasa. The coast districts owe their comparative density of population to the presence of the coast towns and the European plantations, which draw large numbers of native labourers from the interior to

Usambara, &c. The thinly-peopled districts of the interior can be divided into two classes: the steppe regions and the districts depopulated by war. The former includes the Masai Steppe, Ugogo, and the country east of the Rukwa depression. Instances of the latter are the Songea district and the highlands south-west of Lake Natron. The warlike races of Tanganyika, the Masais, the Wahehes, and, above all, the Wangonis, have depopulated the districts most exposed to their raids, and the Masais themselves have been almost exterminated by the loss of their cattle from disease (*cf.* below, p. 34).

Towns and Villages

Tanganyika possesses a number of comparatively large and important towns dating from the period of the supremacy of Zanzibar. These lie along the great trade-route which crossed Lake Tanganyika from the Congo to Ujiji, and ran through Tabora, Kilimatinde, and Mpapwa to the coast at Sadani or Bagamoyo, and so to Zanzibar.

The prosperity of these places was ruined by the suppression of the slave trade and the fiscal closing of the Congo frontier, but Tabora still remains the largest town in the territory, with 40,000 inhabitants (1907); Ujiji also has a considerable population (14,000).

Few towns of any importance have grown up during the German occupation. The largest are the inland port of Mwanza on Victoria Nyanza (population about 14,000), Moshi (6,000, including 800 white men), and Wilhelmstal. Of the coast towns the largest is Dar es-Salaam, the seat of government, which has a population of 25,000, of whom about 1,000 are white men. Tanga and Bagamoyo are also important places on the coast.

Movement

The natural increase of the population of the territory has been greatly checked in the past by war. The

period of native wars, which depopulated whole tracts of country, was followed by the risings against the German Government, which were suppressed with great loss of life. The most serious of these, that of 1905-7, is recent enough for its results to be still visible throughout the southern districts. The great epidemic of rinderpest in the early days of the German occupation also had a very adverse influence on the growth of the pastoral tribes, especially on that of the Masais. There has also been a tendency towards the depopulation of certain districts through labour emigration; for example in some parts of Unyamwezi and Usumbwa the decrease in population has been as much as 14 per cent. between 1910 and 1913. This is not, of course, sheer loss, but nevertheless the class of plantation labourers have a larger death-rate and a smaller birth-rate than other parts of the population, and in consequence there is a serious drain from this cause.

There has been a considerable increase in the European population of late years, but it has consisted for the most part of officials, missionaries, soldiers, and engineers. The class of true settlers, i.e., planters and farmers, numbered 758 in January 1912, and was settled principally in the Usambara and Kilimanjaro districts. This class consisted mainly of Germans, but there was also a considerable number of Boers, and many British and Greeks were settled on Kilimanjaro and Meru.

A large number of Asiatics have entered the territory as small traders, artisans, &c. In 1912 the total non-native population, excluding Europeans, amounted to 14,933. The majority of these were British Indians, but Goanese, Arabs, and Levantines are also numerous.

II. POLITICAL HISTORY

Chronological Summary

1505 Foundation of Kilwa fort by the Portuguese.
1587 Sack of Kilwa by Zimba.
1698 Occupation of mainland of Zanzibar by Muscat Arabs.
1784 Revolt of Mombasa against the Seyyids of Muscat.
1832 Seyyid Said subdues Mombasa and makes Zanzibar his capital.
1832-40 Extension of his rule on mainland.
1856 Death of Seyyid Said.
1858 Burton travels through Unyamwezi to Ujiji.
1858 (Aug. 3) Speke discovers south coast of Victoria Nyanza.
1861-62 Speke's second expedition to Victoria Nyanza.
1870 Seyyid Majid dies and Bargash succeeds.
1877 Lease of the mainland offered by Bargash to Mackinnon.
1884 Peters obtains his first treaties from the natives.
1886 First agreement with England.
1887 Charter given by Germany to the German East African Association.
1888 Occupation of the coast and Arab rising.
1889 Wissmann appointed Imperial Commissioner.
German Protectorate proclaimed (Oct. 22).
1890 (July 1) Treaty with England.
1891 (Jan.) Imperial Government takes over East Africa from the German East African Association.
First Governor appointed.
Usambara Railway begun.
(Aug.) Destruction of von Zelewski's expedition.
1892 (June) Fighting at Tabora and Kilimanjaro.
1893 Tabora Boma stormed.
Usambara Railway opened to Pongwe.
Fighting near Kilwa.
Exploration between Victoria Nyanza and Lake Tanganyika.
1895 Wissmann appointed Governor.
1896 Severe fighting in Uhehe. Iringa taken.
Liebert appointed Governor.
1897 Hut-tax introduced.
1900 Steamer launched on Lake Tanganyika.
1901 Von Götzen appointed Governor.
1902 Usambara Railway opened to Korogwe.
1904 Usambara Railway reaches Mombo.

1905 Central (Dar es-Salaam to Tabora) Railway begun.
Outbreak of great rising in the south.
1906-10 Dernburg Colonial Secretary.
1906-12 Von Rechenberg Governor.
1907 Suppression of rising.
1908 Central Railway reaches Morogoro.
1909 Central Railway reaches Kilossa.
1910 Boundary Protocol between Great Britain and Germany and Belgium.
1910-11 Lindequist Colonial Secretary.
1911 Dr. Solf Colonial Secretary.
1912 Usambara Railway extended to Moshi.
Central Railway reaches Tabora.
Schnee becomes Governor.
1914 Central Railway reaches Kigoma, on Lake Tanganyika.

i. Early History

For the early history of European dealings with this country reference may be made to *Mozambique*, No. 121 of this series, p. 22. The whole coast of Italian, British, and German East Africa was in the sixteenth century under Portuguese influence, but no permanent Portuguese post was maintained within the limits of what was lately the German colony. The fort which was built at Kilwa in 1505 was abandoned after a few years, and the government was carried on from Mozambique or Mombasa. Kilwa, however, remained an important post under Portuguese suzerainty until the end of the seventeenth century.

Kilwa was the capital of an Arab kingdom whose power extended from Sofāla, in the south, nearly to Mombasa, in the north. It was identical with Kilwa Kisivani or Island Kilwa, being situated on an island in the bay to which the name "Kilwa" properly belongs. Here are the remains of the fort already mentioned, and those of mosques and other Arab buildings.[1] The modern port of Kilwa, which was the headquarters of a German district, is about twelve miles to the north. It was

[1] Burton, *Zanzibar: City, Island, and Coast*, vol. ii, p. 342; Strandes, *Die Portugiesenzeit von Deutsch- und Englisch-Ostafrika*, pp. 62-65, 86, 88.

founded in the early part of the nineteenth century by fugitives driven out by Seyyid Said. Its name is properly Kilwa Kivinje, which Strandes interprets as Kilwa "of the *casuarinas*" (i.e., the *Casuarina equisetifolia*, a tree well-known on hot lowlands).

After the Portuguese conquest Kilwa remained tributary under its native rulers. In 1587 it was sacked by an invading army of Zimbas, a Bantu race of cannibals, who afterwards came into contact with Turkish invaders at Mombasa. It seems to have lost its prosperity after this time, and in 1698, with the rest of this coast, it fell into the hands of Saif bin Sultan, Imâm of Muscat.

The island of Zanzibar soon became the centre of Arab rule. The recovery of Portuguese power for a few years (*c.* 1728) was only temporary; the power of Muscat continued to increase; and when Seyyid Said left Muscat and made Zanzibar his residence, his ships were able to establish his power along the coast.

Until the time of Seyyid Said, who began to rule in 1804, the power of the Imâms was intermittent. The internal dissensions of Oman prevented any effective exertion of force in East Africa; and the attacks of the Wahhabis still further weakened the rulers. The defeat of the Wahhabis by the Government of Mehemet Ali of Egypt in 1813, and the suppression of the pirates of the Persian Gulf by the British in 1819, followed by Sir L. Smith's expedition to the Persian Gulf in 1821, relieved Sultan Said of many of his difficulties, and enabled him to turn his attention to Africa.

In 1824 Captain Owen, of the frigate *Leven*, having made a treaty with the Benu Mazruis, an Arab tribe which was in possession of Mombasa, proclaimed a British protectorate. Against this Sultan Said, as suzerain of the tribe, protested; the Government of India admitted his contention, and annulled the treaty. During the years 1829-32 Said attacked Mombasa, and eventually subdued it after desperate fighting, several times renewed. He then made Zanzibar his headquarters,

and took up his residence there in 1832. He commenced a series of expeditions against the Swahili tribes of the mainland, and attacked the ports over which his family had claimed or exercised power, until ultimately the whole coast of what became German and British East Africa accepted his rule. Mogadishu, Barāwa, and the islands of the Lamu archipelago admitted his suzerainty; and his claims (although he could not enforce them) extended to Aden, Berbera, and Zaila. The islands of Zanzibar, Pemba, and Mafia were under his immediate rule.

Said was a good ruler of the Oriental pattern, and promoted the prosperity of his dominions. Among other things he introduced the clove-tree into Zanzibar and Pemba, which now supply the greater part of the cloves for the whole world. In 1856 he died; and from that time Zanzibar has been entirely separate from Muscat. Said's fourth son, Majid, obtained the African possessions on condition of an annual payment to Thuwainy, who retained Muscat. These terms were settled by the arbitration of the Viceroy of India, whose award, dated April 2, 1861, was accepted by both parties. It was followed on March 10, 1862, by a joint declaration of Great Britain and France, in which they reciprocally engaged to respect the independence of Zanzibar. Majid died in 1870, and was succeeded by his brother, Bargash. Throughout the reign of these Sultans the British Agent at Zanzibar exercised great influence over the whole coast; and the Sultans, both before and after the separation from Muscat, had practically no relations with any other European Power, though certain other Powers had rights of consular jurisdiction within their dominions.

The Arab rule over the seaboard was generally admitted; but there was no agreement as to its extent inland. The trade of the ports was mainly in the hands of British-Indian subjects, Hindu and Mohammedan; but the inland trade was almost entirely in slaves, and was worked only by

Arabs. Sir John Kirk, who long occupied the post of British Consul at Zanzibar, and exercised great influence in the time of Seyyid Bargash, held (in 1885) that—

> "the Sultan's authority is weak in this direction" [*i.e.*, in the interior], "and can only be said to be felt on the trade routes, though undoubtedly he has, through his subjects, a certain power in places far distant, as Manyema, for instance."

Considering all the circumstances of the British connection with East Africa, the British Government might at any time have proclaimed a protectorate of the whole country up to the Great Lakes, had it chosen to do so. The influence of Sir John Kirk was very great; and in commercial matters Mr. (afterwards Sir) William Mackinnon was also in a position of great power. In 1877 he was actually offered a concession and seventy years' lease of the Customs and administration of the whole area later comprised in British and German East Africa. But the Foreign Office refused its sanction, the British Government being here, as elsewhere in Africa, unwilling to increase its responsibilities.

ii. German Interests in East Africa

Before the year 1884 Germany had had no official connection with East Africa, though a German trading firm had long had its headquarters at Zanzibar. Among other German missionaries, Krapf and Rebmann had studied the races and languages of the country, and had made some journeys of exploration, discovering the mountains of Kenya and Kilimanjaro. Much information as to East Africa had thus been accumulated and made available in Germany. After the conclusion of the Franco-Prussian War in 1871 some leading Germans began to advocate tropical colonization in this and other regions. Among them may be mentioned Vice-Admiral Livonius, who recommended a protectorate of Zanzibar, and E. von Weber, who demanded the

annexation of the region of the Juba river. But the French also had commercial interests on this coast, and had enquired into its history and trade, Captain Guillain, of the French Navy, being one of the principal authorities on these subjects. There was therefore no ground before 1884 for supposing that Germany had any special claims to consideration in East Africa, or that her rulers contemplated any settlement there.[1]

In that year, however, Dr. Karl Peters, Dr. Jühlke, and Count J. Pfeil found their way into the Usagara highlands, and obtained from local chiefs a number of treaties ceding extensive rights to the German Colonization Society. On the strength of these treaties the Society was granted by the German Government a charter giving it sovereign rights over the large tract of country between the dominions of Zanzibar and Lake Tanganyika. A number of similar expeditions followed, by means of which treaties of the same nature were obtained as far south as the boundary of the Portuguese province of Mozambique, and as far inland as the shores of Lakes Tanganyika and Nyasa. To the north, other treaties were obtained from the Sultan of Witu and neighbouring chiefs, upon which claims were based not only to the coast between the Tana and Juba rivers, but also to a territory extending far inland—claims which threatened to shut off British expansion from the regions of the Upper Nile.

The Sultan of Zanzibar protested in vain against the infringement of his rights, but, not being supported by the British Government, he yielded to threats of force, accompanied by the despatch of a German squadron to Zanzibar. The British point of view was that no opposition should be offered to German expansion within certain limits; and Sir John Kirk was instructed to act in accordance with this decision.

[1] See also *Kenya*, No. 96 of this series, p. 45.

iii. Relations and Agreements between Great Britain and Germany

After Lord Salisbury's accession to office in 1885, a joint British, French, and German Commission was appointed to determine the precise limits of the sovereignty of the Sultan of Zanzibar, the British commissioner being the future Lord Kitchener. The Commission reported in June 1886; and, following on their report, an Anglo-German Agreement was concluded on October 29/November 1, 1886, which was accepted, under pressure from the British Government, by the Sultan of Zanzibar on December 4. It recognised the Sultan's rights over the whole coast from the Portuguese border in the south to the mouth of the Tana river in the north, for a depth of 10 miles inland, and to certain other ports north of the Tana, together with the islands of Zanzibar, Pemba, Lamu, and Mafia; but his claim to the vast inland territory was not recognised. He was invited to lease to the German African Company the Customs duties at the ports of Dar es-Salaam and Pangani, in return for an annual payment by the Company; and Germany adhered to the Anglo-French Declaration of 1862, which recognised the independence of Zanzibar. The agreement drew a line of demarcation between British and German spheres of influence in East Africa. In the following July (1887) the two Governments agreed that each would discourage attempts at annexation by their citizens in the rear of the other's sphere.

As soon as the Agreement of 1886 had been concluded the German Company's agents set to work to induce the Sultan to cede his rights on the mainland; and a lease of these rights for fifty years, subject to certain payments, was obtained on April 28, 1888. A similar concession in the British sphere had been made on May 24, 1887, to the British East African Association, incorporated in 1888 by

Royal Charter as the Imperial British East Africa Company. Having obtained their concession, the German Company, incorporated by Imperial Charter in March 1887, and thenceforth known as the German East African Association, took over, on August 16, 1888, the administration of the whole of the coastal districts now included in Tanganyika.

Meanwhile, Dr. Peters had embarked on a new adventure. He proposed an expedition for the relief of Schnitzer, better known as Emin Pasha, who was isolated at Wadelai, on the Upper Nile, and obtained a promise of co-operation from Major H. Wissmann, who had crossed Africa from west to east some years before. Just at that time the outbreak among the natives of the east coast, which is mentioned below, took place. The German Consul-General, Dr. Michahelles, recommended that Wissmann should be appointed Imperial Commissioner (*Reichskommissar*) of the new territories, where signs of disturbance were appearing. Wissmann, who was accordingly appointed in February 1889, immediately took up this work, and the relief expedition fell through for the time; it was, however, revived in 1890, though not looked on with much favour by the German Government.

That Government was then endeavouring to negotiate a general settlement of outstanding questions with England, and saw a danger in Peters' endeavours to open up a passage from the neighbourhood of Witu to the Upper Nile. The news of Stanley's success in relieving Emin Pasha was received while Peters, after evading an English squadron which was co-operating in the German blockade of the coast, was making his way into the interior. His expedition of relief fell through; but by the exercise of his peculiar gifts he was able to obtain treaties which ceded extensive rights to Germany. These were all abandoned in the ensuing Agreement with England. Bismarck had never intended any acquisitions north of the British sphere to be more than a means of bargaining—a "*Kompensa-*

tionsobjekt," as he called it.[1] He considered his pending Agreement worth more than the whole of Witu; and well he might, considering that Heligoland was one item in the bargain. Peters had arrived in Uganda when the news reached him.

The Arab and Swahili peoples of the coast had not been consulted on the question of the cession to a German Company of the rights on the coast, and greatly resented the transfer. The Germans were opposed everywhere, and their settlements were attacked. For a time all were abandoned except Dar es-Salaam and Bagamoyo, which were protected by a German squadron. The Company having shown itself incapable of administering this territory, it was taken out of their hands, and an Imperial German Protectorate was proclaimed on October 22, 1889. Meanwhile, a military force had been raised and placed under the command of Wissmann. By the middle of 1890 the country had been reduced to submission, although further outbreaks occurred in the next year.

The matters at issue between Great Britain and Germany in this and other fields were dealt with by the Agreement of July 1, 1890, generally known as the Heligoland Treaty. This Agreement, so far as it concerned East Africa, had three consequences. The first was the definition of the frontier of German East Africa, as described elsewhere (p. 1). The second was the withdrawal of the German protectorate over Witu, together with all other German claims north of the Tana river. This second result was effected by Article II of the Treaty, which ran as follows:—

> "In order to render effective the delimitation recorded in the preceding Article, Germany withdraws in favour of Great Britain her Protectorate over Witu. Great Britain engages to recognise the sovereignty of the Sultan of Witu over the territory extending from Kipini to the point opposite the island of Kwyhoo, fixed as the boundary in 1887.

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[1] Zimmermann, *Geschichte der Deutschen Kolonialpolitik*, p. 160.

"Germany also withdraws her Protectorate over the adjoining coast up to Kismayu, as well as her claims to all other territories on the mainland to the north of the River Tana, and to the islands of Patta and Manda."

The third result was the absolute cession to Germany of German East Africa, coupled with the recognition of British predominance at Zanzibar and in Witu. This was effected by Article XI of the treaty.[1]

The indemnity to the Sultan was fixed by an Anglo-German exchange of Notes on October 27/28. Already on June 14 the Sultan had placed himself and his interests entirely in the hands of the British Government. On the mainland and in the island of Mafia all his rights were permanently ceded to Germany, while Zanzibar and Pemba became a British Protectorate, formally notified to the world on November 4, 1890. Germany gave up her ex-territorial privileges in Zanzibar in June 1907, under the provisions of the Convention of November 1899 (the 'Samoa' Convention).

iv. Material Development

The authority of the German Government over its East African colony had now been firmly established. An Imperial Governor was appointed, and the country was divided into administrative districts. Dar es-Salaam became the capital. This place had been founded by Seyyid Majid in 1862; but Seyyid Bargash had deserted it in 1871. It had, however, a good position on the Zanzibar Channel, and a much better harbour than Bagamoyo. Peters founded a factory there in 1887; and, in the outbreaks of the following years, it was one of the few places which were firmly held. It was soon discovered by surveyors to be the most suitable port for the starting-point of a railway from the Indian Ocean to Lake Tanganyika. This railway and its utilization to obtain control over the commerce of Central Africa, especially that of the

[1] See Appendix II, p. 111.

eastern parts of the Congo State, was one of the principal objectives of German policy; and it is probable that the continuance of the line through the Congo to the Atlantic was part of the scheme.

Even before this main line was undertaken, a beginning had been made of a railway from the port of Tanga, the most northerly in the colony, towards the fertile lands of the Kilimanjaro district. Tanga is the best harbour for security and depth in Tanganyika; a modern town, well laid out, has rapidly developed there. The railway was opened to Moshi in 1912, and has since been connected with the Uganda Railway by the extension to Moshi of the Voi-Taveta branch.

Bismarck's fall and von Caprivi's accession to power did not entail any change in Germany's colonial policy. For the time being no further extension was desired; and in East Africa especially an interval was needed for consolidation and development. Wissmann went on leave, his task of subduing the first outbreak being apparently accomplished. His successor, von Soden, however, had to quell disturbances in many places. The worst of these was among the Wahehes, the warlike tribe of Uhehe in the Usagara mountains, south of Kilossa (now a station on the Central Railway). Here a force of native troops under von Zelewski was surrounded and cut to pieces; the commander himself, with nine European officers and 250 Sudanese soldiers, being killed. About the same time Schmidt was engaged with the Mafitis in the south-west, and Peters was attacked in the mountain country near Kilimanjaro. Wissmann, who was at Dar es-Salaam, was now entrusted with the task of obtaining steamers for the Great Lakes, the control of which was essential to the effectual domination of the country. He succeeded, with British co-operation, in taking a steamer up the Zambezi and the Shire, and reached Lake Nyasa with it towards the end of 1892. The development of railways and harbours was another element in the same problem. The Usambara line from Tanga was begun in August 1891, and harbour works at Dar es-Salaam were undertaken at the same time.

The way for the ultimate construction of the Central Railway was prepared by expeditions against the Sultan of Tabora in 1891, and against the Wahehes near Kilossa in 1892. The Boma (fort) of Tabora was taken early in 1893; and in the autumn of the same year there was severe fighting near Moshi (Kilimanjaro) against the Wajaggas. Von Soden was succeeded by von Schele in September 1893; but, conditions still continuing uneasy, it was thought necessary to recall Wissmann to deal with the situation. During his short period of office Wissmann was engaged in war against Sultan Makhemba and the slave-dealer Hassan-bin-Omari near Kilwa, with success; but ill-health forced him to retire at the end of 1896. Von Liebert, his successor as Governor, held office till 1901.

The war against the Wahehes went on through the latter part of 1896, when it was ended by the taking of their stronghold, Iringa. The chief, Quaqua, killed himself when he found his tribesmen surrounded by the Germans; and the power of the Wahehes was destroyed. At the same time the Masais of the north, who had resisted all efforts to subdue them, were nearly exterminated by a great cattle epidemic, which deprived them of their only means of subsistence. In the north, too, there was an expedition against the warlike tribes of Mount Meru, who had been guilty of killing two missionaries.

v. Native Opposition to German Rule

For the next few years comparative peace seems to have reigned, the more warlike tribes having been for the time being reduced to impotence. Discontent, however, was widespread. The general harshness of the administration and the pressure on the native populations to supply labour for the German plantations was no doubt responsible for this feeling, to which the hut-tax, introduced in 1897, also greatly contributed. This

tax was, it seems, introduced not so much for revenue purposes as in order to force the natives to work for the planters so as to obtain money to pay the tax. Besides the forced labour, other causes of discontent are specified by German writers, such as the extortions of Indian traders and the violent conduct of men accompanying caravans; but it is evident that hatred of the hut-tax and of labour on the plantations were the principal causes. Von Liebert was succeeded in 1901 by Count von Götzen, who held office till 1906.

Concerted Rising of Southern Tribes.—It was not till 1905 that the great outbreak of the tribes took place, the most important since the Arab rising of 1888. It differed from all preceding rebellions in that there was concerted action among the tribes; and it was not found possible by the German rulers to utilize ancient enmities to induce one tribe to attack another. The rising began in July 1905 in the Matumbi hills, near Kilwa, and spread rapidly over the southern part of the colony. In debates in the Reichstag it was attributed to the reckless raising of the hut-tax and the enforced labour of all who did not pay it. The rising led to von Götzen's retirement in the beginning of 1906, and the appointment of von Rechenberg as Governor.

To deal with this serious rebellion great efforts were necessary; and naval and military forces co-operated. Missions and military posts had been destroyed, and many persons killed. The fortified post of Livati had fallen; Mahenge and Songea were besieged for many months. The revolt spread northwards to the centre of the colony; but the tribes of the north did not take part in it. After the main rising had been suppressed, a guerrilla war lingered on till 1907. It is admitted that 75,000 persons perished through the war and concomitant troubles.

The loss of life following the suppression of this rebellion was no doubt actually much greater. Sir H. H. Johnston[1] puts it at 120,000, and this is probably

[1] Sir H. H. Johnston, *Colonization of Africa*, 2nd edn., p. 413.

no exaggeration. The crops and herds were deliberately destroyed by the Germans, and the people were left to perish by famine.

vi. Recent Material Development

During the comparatively peaceful periods before and since the rising the development of the country proceeded. This development was mainly material. Communications were the object of unremitting attention, railways being extended, roads and bridges constructed, and steamers placed on the lakes. Experiments in every kind of crop were instituted, and every assistance was given to the planters.

From 1906 to 1910 the office of Colonial Secretary in Germany was held by Herr B. Dernburg, who showed great energy in promoting the welfare of the German colonies; the completion of the railways and the development of trade must be mainly attributed to the policy initiated by him.

III. SOCIAL AND POLITICAL CONDITIONS

(1) Religious

The ancient trade settlements of the Arabs on the coast and the more recent political rule of the Imâm Seyyids, which had its centre at Zanzibar, led to the diffusion of the Mohammedan religion along the whole coast of German East Africa, where the entire population of Arab or mixed origin professes that creed. Away from the coast, however, Islam has made comparatively little progress, and is mainly confined to spots situated along the caravan-routes where there are settlements of Arab slave-dealers. Of these settlements the principal are Tabora and Morogoro. Outside these limits the great majority of the population retain their original forms of belief, which are of an animistic nature, and include ancestor worship. A large number of Christian missions, both Protestant and Catholic, have been established in German East Africa; among the former are German Evangelical, Moravian, and Lutheran Societies, and the University Mission of Central Africa. Among the latter are, or were, the Algerian 'White Fathers,' the so-called 'Black Fathers,' and the Bavarian Benedictines. The English Missions were the strongest in educational work.

(2) Political

The colony was divided into twenty-four districts, of which nineteen are civil districts, taking their names usually from the principal ports or inland centres,

while two were military districts and three were residencies.[1]

The civil districts were the following: Wilhelmstal (including the settled part of the Usambara mountains); the coast districts of Tanga, Pangani, and Bagamoyo; Morogoro (on the plateau above Dar es-Salaam); Dar es-Salaam (a coast district); Rufiyi (principal town Mohoro); Kilwa and Lindi (coast districts); Songea (on the route to Lake Nyasa); Langenburg (on Lake Nyasa); Bismarckburg; Ujiji (on Lake Tanganyika); Dodoma; Moshi (Kilimanjaro and the Masai Steppe); Mwanza (south of Victoria Nyanza); Tabora (on the Central Railway)[2]; Arusha; and Kondoa-Irangi. Iringa and Mahenge in the plateau south of the central railway are military districts.

The residencies, Bukoba, Ruanda (capital Kigali), and Urundi (capital Usumbura), were situated in the country between Lake Victoria Nyanza and Lake Tanganyika.

In 1911 a new regulation regarding the institution of an advisory council came into force, in accordance with which the Governor was assisted by a council of three official and five non-official members (with five substitutes), all of whom had to be natives of Germany. These were selected by the Governor from a list of thirty chosen by the different districts, apparently by the German residents.

(3) Educational

In accordance with German theories, the object of the system of education in force was mainly to teach a sufficient number of natives trades and handicrafts in which they can be of use to European employers. The schools are for the most part in the hands of Protestant and Catholic Missions; but a certain number were under direct Government management. The objects

[1] Cd. 7620-51, Diplomatic and Consular Report on German East Africa, 1912-13.

[2] Mwanza and Tabora include the country formerly known as Unyamwezi.

of all seem to have been identical; but very little accurate information on this subject is available.

The figures for the various schools, according to a report prepared in 1911,[1] were as follows:—

	No. of Pupils.		
	Elementary.	Higher.	Industrial.
Government schools ..	3,494	681	137
Mission schools:			
Roman Catholic ..	31,274	724	61
Protestant (6 German, 2 English, 1 American)	29,716	472	88
Total	64,484	1,877	286

A return for 1913 gives the number of pupils in Government schools as 6,177, and in five Protestant and three Roman Catholic schools as 108,557. A comparison with the figures for 1911 shows that much confidence cannot be placed on the accuracy of these returns.

GENERAL OBSERVATIONS

(a) Future of Tanganyika

A review of the history of German East Africa, as given above, proves that, prior to the advent of the Germans, Great Britain, or the British Government of India, was in effect recognised as Protector of all this central East African coast, and that it was not merely British abstention from interfering with German intrusion but active British support of German wishes that brought German East Africa into being. By the permanent establishment of British influence and authority on this coast, the state of affairs would be revived which, prior to 1884, received general acquiescence.

[1] Calvert, *German East Africa*, p. 101.

German East Africa was clearly the most valuable German possession in Africa and by far the most dangerous, in German hands, to the peace of Africa. General Smuts's views on this point, the views of one who has been peculiarly concerned in redeeming Africa from German domination, are familiar.[1]

(b) The Labour Question

The population, numbering between 7 and 8 millions, is very unevenly distributed. It is mainly of Bantu origin, and the languages spoken belong to that family (see above, pp. 16-19). The Swahili of the coast has a large Arabic admixture, and is becoming the *lingua franca* for the whole country. Tribes are numerous and vary much in character. Some are nomadic, pastoral, and warlike; others settled and peaceful. Nearly all are capable of maintaining themselves without working for wages, and object to doing so. Hence the establishment of the plantation system—that of great estates demanding large supplies of labour—must, if continued, lead to perpetual discontent and trouble.

The German view, as stated by Hassert[2], is that "colonization consists in the utilization of the soil, its products, and its men, for the economic profit of the colonizing nation"; or, in G. A. Fischer's phrase, that "colonizing Africa is making the negroes work."

It seems clear that, although the rapid development of the colony as a farm devoted to the cultivation of tropical products required by Germany (which seems to have been the aim of the Government) may be promoted by the German system, the permanent improvement and civilization of the people was incompatible with it, as it led to violence and cruelty on the part of the rulers and revolt or sullen depression among the natives.

[1] See his Address delivered before the Royal Geographical Society on January 28, 1918.

[2] *Deutschlands Kolonien*, 2nd edn., p. 618.

IV. ECONOMIC CONDITIONS

(A) MEANS OF COMMUNICATION

(1) Internal

(a) *Roads, Caravan Routes, and Tracks*

Before 1914 motor roads existed only in the north-eastern corner of the territory. These are now all destroyed, owing to the late war. Wide, well-kept roads, fit for light wheeled traffic, and in some cases provided with rest-houses and stores, ran through all the settled parts of the territory. Metalled roads were found only near the chief European towns, such as Dar es-Salaam and Tanga. From Dar es-Salaam, a coastal road, fit for wheeled traffic on the section beyond Pangani, led northward into British territory. A main road led from Dar es-Salaam across the territory to Kigoma on Lake Tanganyika, with main roads branching off northward to Kondoa-Irangi and to Mwanza, and southward to Bismarckburg and to Neu-Iringa, Neu-Langenburg and Mwaya. Another road branched southward to Mahenge and round to Kilwa Kivinje, which was also connected with the capital by a direct coast road. Kilwa was the starting-point of the main road from the coast through Livale and Songea to Wiedhafen on Lake Nyasa. Main roads connected Lake Nyasa with Tanganyika, and Tanganyika with Lakes Kivu and Victoria. Other important roads were those leading from Wilhelmstal to Moshi and Arusha, from Pangani to Kondoa-Irangi, from Bagamoyo to Itumba and also to Morogoro, from Mahenge to Songea, and from Lindi to the Rovuma and thence to Songea. There were many native tracks, some passable

for bicycles. Elephant tracks served in some instances as roads for light traffic.

As the result of military operations, the whole road system of the Government has been destroyed and will have to be reconstructed. On the other hand, military exigencies have led to the opening of fresh tracks, roads, and light-railway routes, most of which may with advantage be maintained or improved and extended.

The introduction of railways has greatly reduced caravan traffic; but there were several important caravan routes still in use in 1913, especially in the native states of Ruanda and Urundi, where they connected Bukoba, on Victoria Nyanza, with Kissenyi, on Lake Kivu, and Usumbura, on Lake Tanganyika. Caravans were a costly and wasteful means of transport, the more so as they withdrew great numbers of natives from agriculture to act as porters. The Germans reckoned that an average day's march for good carriers was 12 to 16 miles. It has been estimated that one railway train, of average capacity and engine power, does the work of 13,000 carriers at about one-twentieth of the cost. Pack-animals were sometimes used, and certain routes were fit for ox- and donkey-waggons. Animals, however, quickly succumbed to the tsetse fly.

(*b*) *Rivers*

Tanganyika is well watered, and its lakes and rivers should prove of great value in its development. The direction of the river courses is convenient for trade purposes, but there are many rapids and other obstacles, and during the dry season some rivers are very low.

The *Kagera* is the only river among those flowing into the great lakes which is valuable as a means of communication. A proposal to survey the Kagera and its two chief tributaries, the Ruvuvu and Akanyaru, and to improve their channels and furnish them with suitable river craft at a total cost of 2,850,000 marks, was approved by the Government in 1913 in connexion

with the projected railway from Tabora to the Kagera river bend (see p. 48). The aim of this two-fold project was to open up the rich and thickly-populated cattle districts of Ruanda and Urundi.

The principal navigable rivers flowing into the Indian Ocean, named from north to south, are the Pangani, Wami, Kingani, Rufiyi, Matandu, Mbemkuru, Lukuledi, and Rovuma.

The *Pangani* is tidal and navigable for steamers for 22 miles from its mouth; beyond this, even in the dry season, it might be used by small craft below and above the falls, which occur 45 miles from its mouth. The *Wami* has two mouths, of which the more northerly, the Purahanya, is navigable for a few miles. The *Kingani*, or *Ruvu*, on which shipping transport was opened in 1913, is difficult of access by reason of a large shifting sand-bar near its mouth. At Dunga, which is 35 miles up the river, there is a depth of about 6 feet. The river is navigable throughout the year for steam pinnaces up to Mafizi, and for several months for vessels of heavier draught.

The *Rufiyi*, which was regarded by the Germans as the best waterway in the territory, has a broad delta with many mouths. One of the most northerly, the Simba-Uranga, is navigable as far as Salale for vessels of 2,000 tons, and all the northern outlets are navigable by revenue cutters and dhows. Above the delta the river can be navigated by steamers as far as Mtanza in the dry season, and as far as Kibambove (Kibambwe) in the rains. A scheme for making the lower section of the Rufiyi navigable for about 125 miles at an estimated cost of 5,000,000 marks was approved by the German Government in 1913. Above Ulanga station (40 miles from the Shuguli rapids) about 144 miles could be made navigable at small cost. The Ruaha, the chief tributary of the Rufiyi, is navigable by large canoes at least as far as Kidatu.

The *Matandu*, the *Mbemkuru*, and the *Lukuledi* are navigable to a moderate extent. The navigation of the *Rovuma* is very difficult.

(c) *Railways*

Although the German East Africa railway system was not very highly developed before the war, the policy initiated was progressive and far-seeing. Its main objects were to occupy effectively the inland native states and to draw the trade and mineral exports of the southern and eastern parts of the Belgian Congo to an outlet on the Indian Ocean. The original intention was to construct three railways running across the Protectorate from east to west—a northern line reaching the south of Victoria Nyanza, a central line reaching Lake Tanganyika, and a southern line reaching the north of Lake Nyasa—and to link these together by lines running north and south. Only the second of these lines has been completed; the first has been taken less than half way, and the third has not been begun. The concentration at Dar es-Salaam of the expanding commercial interests of the territory, with the consequent decline of the other ports, led to the postponement of the completion of the northern and southern railways, while a proposal to construct lines branching out from the Central railway came into favour. Opinion, however, continued to be divided as to the advisability of this course. There was much to be said for a system of parallel railways, serving several ports and thus enabling German East Africa to compete for a considerable proportion of the trade to and from the upper Congo, north-east Rhodesia, and Nyasaland.

At the outbreak of war there were, excluding light railways, only two lines in the Protectorate, viz., the Northern or Usambara railway, and the Central or Tanganyika railway. Both were of metre gauge.

The *Northern* or *Usambara railway* runs from Tanga in a north-westerly direction, roughly parallel to the frontier of Kenya (British East Africa), to Moshi (354 km.) at the foot of Kilimanjaro. It is of great commercial importance as giving access to Usambara, the hill region, in which most of the European plantations are situated, and to the healthy

cattle-ranching country near Kilimanjaro. The line was begun in 1891, and was opened to Korogwe in 1902, to Mombo in 1904, to Bwiko in 1910, and to Moshi in 1912. It was to have been taken on to Arusha, through country suitable for white settlement, and preliminary earth-work was in progress in 1913. The intention was ultimately to prolong the line to Victoria Nyanza, but with the Uganda railway already serving the lake, a second line seems hardly necessary. The Uganda and Usambara railways were linked during the war by the extension to Moshi of the Voi-Taveta branch of the Uganda line. Further connecting lines might be constructed as needs arise.

The control of the Usambara railway was handed over by the Government in 1908 to the Deutsche Kolonial-Eisenbahn-Bau- und Betriebs-Gesellschaft. The working of the line up to March 31, 1914, was shown in the company's report as follows:—

	1911–12.	1912–13.	1913–14.[1]
	Km.	Km.	Km.
Average length of line ..	268	352	354
	Marks.	Marks.	Marks.
Receipts	1,182,240	1,204,038	1,184,300
Working expenses	791,054	911,092	795,632
Gross surplus	391,186	292,946	388,668

The journey from Tanga to Moshi used to occupy fifteen hours. The fuel consumed in the locomotives was wood. The rolling-stock in 1912 included 18 locomotives, 25 passenger coaches, 6 combined postal and luggage vans, about 280 goods trucks, open and covered, of various sizes, 3 travelling cranes, and 1 derrick.

The *Central* or *Tanganyika railway* runs west from Dar es-Salaam through Morogoro, Kilossa, and Tabora to Kigoma on Lake Tanganyika (1,252 km.). It was

[1] Incomplete; the figures are based upon the average for three months (January—March).

owned by the Ostafrikanische Eisenbahngesellschaft, Berlin, and represented state enterprise in a thinly-disguised form. Its capital was 21,000,000 marks, in 7,000 shares, to be gradually redeemed under a special scheme. By 1913 nine-tenths of the shares had been bought by the Government. The same company owned and operated the electric power-station at Dar es-Salaam, and financed the Ostafrikanische Landgesellschaft, which was formed to deal with the land concession granted to the railway.

The line was begun in 1905, reached Morogoro in 1908, Tabora in 1912, and Kigoma in 1914. The chief engineering difficulty was the bridging of the River Mlagarazi. The total cost of construction was £5,850,000, and the average cost per kilometre £5,000.

This railway is not likely to yield large profits for a long time to come. The regions that it traverses, after the coast section, are practically undeveloped. It was claimed for the line that, in addition to facilitating the interchange of native products, it would enable merchants in many parts of the Congo to obtain their goods more easily from Dar es-Salaam than from Matadi on the Congo river.

The financial position of the railway in 1912 and 1913 can be seen from the following table:—

	1912.	1913.
	Marks.	Marks.
Expenditure	2,939,102	2,703,602
Receipts		
(1) Passengers and baggage	515,684	516,252
(2) General goods	1,392,092	1,531,643
(3) Construction material ..	2,289,834	1,932,158
(4) Miscellaneous	178,127	216,055
(5) Electric works	140,054	148,465
(6) Interest on capital ..	157,550	197,960
	4,673,341	4,542,533

The percentage of working expenses to gross receipts was 66, which was a favourable result for the last year

of construction, though it was higher than the average calculated on the aggregate figures for all German colonial railways.

In 1913 the rolling stock included 63 engines, 44 of which were tank engines, 30 passenger coaches, 319 goods waggons, 29 water-trucks, 4 cranes, 39 derricks, and 98 trollies. The station accommodation was excellent.

Light railways.—A number of light railways had also been constructed before the war. The most important of these was the Sigi railway, opened in 1910. This was a 75-centimetre gauge line, running from Tengeni on the Usambara railway to the Sigi saw-mills (23 km.). In 1914 it belonged to the Deutsche Holz-Gesellschaft für Ostafrika, but was managed by the Deutsche Kolonial-Eisenbahn-Bau- und Betriebs-Gesellschaft. Negotiations were in progress with the Colonial Treasury, with a view to adding it to the Usambara railway. The gross receipts from this line in 1912-13 were 38,520 marks, and the working expenses 28,380 marks.

There were also light railways, of which details are lacking, from Mtangata creek to Kigombe; from the Pangani river to Busirihof; at Amboni, near Tanga, where there are sulphur springs and the plantations of the Westdeutsche Handels- und Plantagen-Gesellschaft; from Makuyuni to Ambangalu; and from Mkumbara to Neu-Homow (95 km.). There was a temporary light railway running inland from Lindi for about 24 kilometres.

Two lines branching from the Usambara railway were under construction when war broke out. One was to run from Ngomeni (28 kilometres from Tanga) to Bwiti at the north-east end of the Usambara mountains, and then down to join the main line again at Korogwe. The other was a trolly line from Mombo southward to Nderema near Handeni.

A number of short light railways were latterly constructed to assist the military operations of the invading forces. Some will remain, while the routes

taken by the lines that are to be removed may possibly be followed by permanent lines in the future. The extension to Moshi of the Voi-Taveta branch of the Uganda railway was constructed as a temporary line, but has already proved its intrinsic usefulness, and will probably remain as a permanent link between the Usambara and Uganda railways.

Railways projected or proposed.—A large number of railways traversing the territory have been proposed at various times. With few exceptions, these proposals were for branch lines from the Central railway. It is very questionable whether such concentration of the traffic along one main line and through one port, advantageous as it is in the early days of a colony, does not become a serious drawback when the colony begins to develop. The lower part of the line becomes congested, and the port becomes incapable of dealing expeditiously with its traffic.

The six most noteworthy proposals for branches from the Central railway, named from west to east, were as follows:—

(1) A line from Tabora north-westward to the bend of the river Kagera (481 km.), with extensions to Bukoba, Kigali (Kigari), and Mulezi. Its object was to open up the districts of Ruanda and Urundi in such a way as to prevent the Uganda railway from capturing their trade. In the Budget of 1914 a sum of 17,000,000 marks appeared as the first instalment of a loan to the Ostafrikanische Eisenbahngesellschaft for the construction of this line. Construction was expected to take three or four years, and the total cost was to be 50,000,000 marks, including the vote of 2,850,000 marks for surveying and improving the river Kagera with its tributaries and adjacent water-courses (see p. 42).

(2) A line running northward from Tabora by St. Michael to Mwanza on Victoria Nyanza. Such a line would pass through a district said to contain some gold, but otherwise of little value, and its chief source of profit would be the lake-borne trade of the port.

(3) A line running northward from Zaranda (the station for Kilimatinde) to link up the Central railway with Arusha.

(4) A line either from Kilossa (290 kilometres from Dar es-Salaam) or possibly from Mpapwa, farther west, to Bismarckburg at the southern end of Lake Tanganyika. This is an important project, for such a line would tap the cotton district of Usungu, and would be the shortest route from Dar es-Salaam to Katanga and parts of northern Rhodesia; it would come into competition with the existing line from Beira and the projected Benguella railway from Lobito Bay, of which about one-third has been constructed.

(5) A variant on the last scheme was a line from Kilossa through Iringa to Neu-Langenburg and thence to the north end of Lake Nyasa.

The first section of each of these lines would run through important productive areas; but serious difficulties would be encountered in crossing the country between Lakes Tanganyika and Nyasa.

(6) Similar difficulties in construction would attend another scheme, viz., a railway by way of Ulanga (on the River Ulanga, a tributary of the Rufiyi) across the Mahenge plateau to Lake Nyasa. This scheme was considered in 1913 by the Kolonial-Wirtschaftliches Komitee.

In the north of the territory the chief project has been the continuation of the Usambara railway to Victoria Nyanza. The extension of the line from its railhead at Moshi to Arusha was under construction in 1914. A railway commission reported in that year upon two projects of further extension:—

(*a*) Arusha—Lake Manyara—Mwanza (546 km.); estimated cost, 60,200,000 marks.

(*b*) Arusha—Lake Manyara—Solima Point (Speke Gulf) (477 km.); estimated cost, 55,500,000 marks. The balance of advantages was in favour of the former line, which, however, would run through thinly-populated country, lacking wood and water.

Another proposed line in the north was to branch

from the Uganda railway at Lumbwa station and run to Fort Ikoma, in the north of Mwanza district (about 150 miles, of which 50 would have been through former German territory).

Farther west, a short line was suggested from Victoria Nyanza past Burigi lake to the bend of the Kagera, but this presented grave engineering difficulties. A line was also proposed from Lake Kivu to the north end of Lake Tanganyika, along the eastern bank of the Rusizi.

In the south of the territory the most important line proposed was the Southern railway from Kilwa to Wiedhafen on Lake Nyasa, roughly following the existing caravan route from the coast to the lake. It was to be divided into four sections:—Kilwa–Livale (220 km.), Livale–Mbarangandu (150 km.), Mbarangandu–Songea (180 km.), and Songea–Wiedhafen (120 km.). The total length would have been 670 kilometres, and the cost was estimated at 57,000,000 marks. There are no serious engineering difficulties in the way of such a line, which would open up a very rich area, hitherto undeveloped, and might well become the chief artery for the trade of Nyasaland.

(*d*) *Posts, Telegraphs, and Telephones*

Posts.—In 1913 there were fifty-four post offices. Mails to and from Europe were carried direct by steamers of the German East Africa combine and also by ships of other lines which touched at Zanzibar. All coast post offices were visited regularly once a month by Government steamers. Letters reached the Victoria Nyanza ports generally by the Uganda railway. From these points mails were carried by runners to Ruanda and Lake Tanganyika. Runners were commonly employed on postal services in the interior away from railways.

Telegraphs and Telephones.—In 1914 there were thirty-four telegraph offices, operating 2,537 kilometres of land lines. There were three main telegraph sys-

tems before the war. The first ran near the line of the Tanganyika railway from Dar es-Salaam to Ujiji and Kigoma. From Kilossa there was a branch line, about 130 miles long, to Neu-Iringa; from Tabora a branch went north to Mwanza; from Ujiji another branch ran roughly parallel with the shore of Tanganyika to Bismarckburg, and was continued into British territory at Kituta (Kitata). The second line ran along the coast from Dar es-Salaam northward to Tanga, and southward to Mikindani. The third, based on the Usambara railway, went through Wilhelmstal and Moshi to Arusha. Eighteen of the telegraph offices had telephone exchanges. The length in 1912-13 of the telegraph and telephone lines together was under 4,000 kilometres—no great length considering the size of the country.

Heliograph communication was much used by the Germans for internal communication in the hill regions. Dodoma, Kondoa-Irangi, Singida, Mkalama, and Kilimatinde, were connected in this way. Thus, too, Mahenge communicated with its sub-stations.

(2) External

(a) *Ports*

(i) *Coast Ports*

At all ports in Tanganyika goods have to be discharged and loaded by means of lighters. The following are the chief seaports:—

Tanga is the terminus of the Usambara or Northern railway, which serves the principal European plantations. In 1913 it owned a small pier where dhows could load and unload by means of two cranes of eight tons capacity, and improvements were contemplated, among them a large deep-water pier. The landing, trans-shipment, and lighterage of goods was let to a contractor under Government regulations.

Pangani has a shallow harbour, and ships drawing more than 3 metres cannot pass the bar at the river mouth. Pangani was served twice a month by a

Government steamer and by a steam lighter of the Deutsche Ostafrika-Linie. It trades especially with Pemba and Zanzibar, exporting ivory and copra, and also refined sugar, produced locally.

Bagamoyo used to be a starting place for caravans, but owing to its inferior harbour facilities was not chosen for a railway terminus. The anchorage for deep-draught vessels is 2 miles from the shore. The position of Bagamoyo at the mouth of the Kingani river brings it a large dhow traffic.

Dar es-Salaam (pop. 25,000) is the terminus of the Central railway and a port of call for European liners. Its harbour, about 3 miles long and half a mile wide, is entered by a channel of 4½ fathoms depth, increasing farther in to a depth of 6½ to 10 fathoms. Ships of more than one hundred tons gross register must carry a pilot on entering and leaving; only Zanzibar vessels and those of the Deutsche Ostafrika-Linie are exempt, since they are well acquainted with the harbour entrance. Hansing & Co. have had a practical monopoly of the lighterage, to the exclusion of non-German interests. Electric cranes transfer cargo from the lighters to the Customs wharves, and the landing-stage is connected by a side line with the railway. A floating dock, built in 1901, was sunk by British cruisers in August, 1914. It belonged to the Ostafrikanische Eisenbahngesellschaft, which in 1913 took over the Imperial flotilla and the coastal steamer service, the charge of Dar es-Salaam docks and workshops, the supply of water to ships in harbour, and also the services on lakes Tanganyika and Nyasa and the Rufiyi river, receiving a subsidy of 250,000 marks per annum, in addition to any profits that might be earned.

Kilwa Kivinje was formerly very useful to slave traders, but its importance has now gone. About sixteen miles south of it is *Kilwa Kisivani*, which has the best natural harbour in the south of the territory.

Lindi, the chief port of the southern districts, lies on the left bank of the Lukuledi river, which is nearly

1,000 metres wide at this point. The harbour is good, but insufficiently protected from east winds. Ocean-going vessels can enter only at high tide, and even then cannot reach the town. Lindi has a healthy climate, and is the centre of a large plantation district.

Smaller ports are Sadani (Saadani), sixteen miles north of Bagamoyo; Kilindoni, on the island of Mafia, which exports copra; Chole, on the same island; Salale, on the Rufiyi, exporting mangrove wood and cotton; Mikindani, which lies in a deep bay, but is very unhealthy; and Kionga near the Portuguese border. These are visited by coastal steamers and steamers of the Bombay service.

(ii) *Lake Ports*

The great lakes form what may be called a second coastline of the territory. In addition to serving the needs of adjacent districts within what was German East Africa, they carried a considerable and increasing traffic to and from the neighbouring protectorates of other countries.

(1) *On Victoria Nyanza.*

Mwanza, on the south, (pop. about 15,000, including 70 Europeans) is unhealthy, but has a good harbour. The construction of the Uganda railway caused the value of the annual trade of this port to rise from £14,000 in 1903 to over £260,000 in 1912. It exported skins, hides, wax, rice, and ground-nuts, and cotton cultivation had recently shown great promise.

Bukoba, on the west, a well-built town, was severely damaged during a British attack. It is healthier than Mwanza, but has a rather poor harbour. It had a large and increasing export trade in hides, ivory, rubber, coffee and ground-nuts, and was practically the only port serving the rich districts of Urundi and Ruanda. The total value of its trade rose from £193,000 in 1911 to £271,000 in 1912.

Shirati, on the east, was the German frontier port and served the Wagaya territories, but its landing is bad. It exported ground-nuts, hides, skins, sesame, samli (clarified butter), and cotton.

Trade on Victoria Nyanza had developed greatly, owing to the Uganda railway, and was severely taxing the existing means of transport.

(2) *On Lake Kivu.*

At the northern end of this lake are Ngoma, Bobandana (Belgian) and Kissenyi (formerly German, now Belgian), and at the southern end is Lukemba, on the Rusizi. The northern region suffers periodically from volcanic outbursts, Kissenyi alone lying outside the volcanic area and possessing a sandy beach.

Ngoma is in danger of eventual destruction by lava flows. It lies about two miles west-north-west of Kissenyi and has no shelter. A little bay (where a small launch might be kept) is formed by the crater of Ngoma hill. The water is so deep that the construction of a pier or mole of wood or stone is impracticable, but a floating landing-stage might be made or a wharf built out from the face of the rock.

Kissenyi may be of importance in the future, as the lakes provide an alternative route to the projected Cape to Cairo railway. The town is well laid out and has good buildings, and the Germans meant to make it an important trade centre. It lies on a wide bay with a gently sloping and sandy foreshore, and the construction of a breakwater is feasible.

(3) *On Lake Tanganyika.*

The Germans looked on this lake as the key to the trade of central Africa. Its chief ports, named from north to south, are Usumbura, Kigoma, Ujiji, Kirando, and Bismarckburg.

Usumbura was suggested as a possible starting-point for the railway line to the south end of Lake Kivu.

Kigoma was chosen as the terminus of the Tanganyika line, because it has a fine well-protected harbour with a depth of nearly fourteen metres. On the southern side of the peninsula forming the bay the station and a quay 250 metres long were built in 1914.

Ujiji was settled by Arabs early in the last century. Its importance lay in its position as a gateway to the Belgian Congo. Its trade was built up on rubber, ivory, and slaves, and when the slave-trade ceased, it still remained a commercial centre for Indians and Arabs and for caravans proceeding to the upper Congo. The town used to be on the water's edge, but owing to the fall of the lake was in 1914 nearly 400 metres distant from it. Though unhealthily situated amongst sand-flats and river deltas, it is free from *glossina palpalis* (tsetse fly), the carrier of sleeping sickness. The port has been transferred to Kigoma.

Kirando has an excellent anchorage, entirely protected by outlying islands; it has substantial station buildings, a large mission, and a sleeping-sickness segregation hospital.

Bismarckburg has only a fair harbour, though steamers can lie close in-shore. The anchorage is exposed and entirely unprotected to the west.

(4) *On Lake Nyasa.*

Lake Nyasa has hitherto had little trade. The two existing trade-routes—(a) from Kilossa to Langenburg and (b) through British Nyasaland—had serious disadvantages, the chief being the prohibitive cost of transport. The mountains of the district are rich in minerals, and the lake adjoins a large agricultural region which it would conveniently serve if the railway between Kilwa and the lake were constructed, and if railway and shipping freights were low enough to make an export trade possible. The natural trade centre for the north-eastern side of the lake is Wiedhafen; but, if mineral development should precede agricultural, the projected railway might be diverted to a terminus at

the north end of the lake, where Alt-Langenburg and Mwaya provide harbours within the territory.

(*b*) *Shipping Lines*

Passenger and goods traffic with Europe, India, and other parts of Africa was almost exclusively in the hands of the Deutsche Ostafrika-Linie, working in connexion with the Woermann, the Hamburg-Amerika (African service), and the Hamburg-Bremer-Afrika lines. Four steamers sailed each month from Hamburg, two by the eastern and two by the western route round Africa. There were also regular mail and cargo services to Bombay, and coast steamers serving the ports of German and Portuguese East Africa. In 1890 the Deutsche Ostafrika-Linie was paid a subsidy of £45,000 (900,000 marks) for its East Africa service, and in 1900 this was raised to £67,000. The subsidy appears to have sufficed to defray all the Suez Canal dues payable by the company.

The Deutsche Ostafrika-Linie is a Hanseatic shipping corporation. In 1914 this line had 2 large liners of 9,200 tons under construction, owned 25 vessels, and employed 2 vessels of each of the three companies with which it worked in combination. The total tonnage built or building in 1914 was 192,260 tons. (The fleet of the largest British line engaged in the East Africa trade comprised 47 vessels of an aggregate tonnage of 345,765 tons.) The capital of the combine in 1900 was 10,000,000 marks, in 1,000-mark shares. The book value of the fleet on December 31, 1911, stood at 19,110,000 marks, or, including lighters, docks, and other property, at 22,000,000 marks. Dividends of 8 per cent. were paid for many years before the war.

Most of the British goods imported were transshipped at Hamburg to German steamers. No British liners called at the coast ports; the Union-Castle Line was under contract not to do so. The whole of the merchant traffic was controlled by German houses, except for a few British coal and oil steamers and Norwegian

sailing-ships carrying timber. Native dhows maintained communication with the Comoro Islands, Madagascar, India, Muscat, and African trading ports. Three small Government steamers maintained connexion with the British and French liners calling at Zanzibar.

The following table[1] shows the number and tonnage of ocean-going vessels (excluding native craft) which entered the coast ports in 1913:—

Port.	No.	Tons.
Moa..	25	11,279
Tanga	229	707,616
Pangani	75	27,752
Bagamoyo	105	222,335
Dar es-Salaam	236	745,415
Salale	56	53,975
Kilwa	55	87,800
Lindi	58	102,803
Mikindani	40	84,270
Other ports..	75	53,729
Total	954	2,096,974

The native craft entering the ports during 1912 numbered 3,457, with a total tonnage of 71,689.

Traffic on the Great Lakes.—On *Victoria Nyanza* the Germans had only dhows for carrying rice from the mills at Ukereve and Nanso to Mwanza, and small steamers belonging to the Deutsche Nyanza-Schifffahrts-Gesellschaft. The latter company, besides carrying on a transport service between German trading centres and the Uganda railway, had rice mills and acted as general traders on the lake. The bulk of the lake trade, however, was in the hands of British steamers of the Uganda Railway Company, six of which are of over 700 tons displacement, and four of

[1] From the Consular Report, 1912–13.

over 1,000 tons. The British company owns about a dozen steel barges (the largest of 120 tons capacity) and also a flotilla of small craft.

On *Lake Tanganyika* trade in 1913 was handled by the small German steamer *Hedwig von Wissmann* (sunk on February 9, 1916), a Belgian steamer, two large German-owned dhows, and sundry small craft belonging to Indian and Arab dealers. The *Götzen* (400 tons), the first of three steamers intended to ply in connexion with the Central railway, was launched at Kigoma in August 1915. This was a twin screw steamer, with a draught, when laden, of 7½ ft.

On *Lake Nyasa*, before the war, the Germans had a steamer similar to the *Hedwig* called the *Hermann von Wissmann*, which was destroyed on May 30, 1915; it formerly made nine voyages per annum round the lake, starting from Alt-Langenburg. They had in 1915 a large iron boat, a whale-boat, a steel-built wherry, and many big canoes in Mwaya, and a large whale-boat in Wiedhafen. The English Government steamers on the lake were the *Gwendolen* (*c.* 150 tons), the *Pioneer* (50 tons), and an old gunboat. Two other steamers, the *Queen Victoria* (120 tons) and the *Domira* (80 tons), came once in about five weeks to Mwaya, which was also visited by two large steamers of the Likoma Mission (English), a small steamboat of the Berlin Mission, a privately-owned steamer, and three dhows. The natives use dug-out canoes; they are excellent sailors and boatmen.

The services on Lakes Tanganyika and Nyasa and the Rufiyi river were under the management of the Ostafrikanische Eisenbahngesellschaft.

(*c*) *Cable and Wireless Communication*

Tanganyika is connected with the international cable system by the line of the Eastern and South African Telegraph Company from Dar es-Salaam to Zanzibar *via* Bagamoyo.

The construction of a high-power station at Tabora in 1914 brought the territory into wireless communica-

tion with Togo and what was German South-West Africa, and through Togo with Nauen in Germany, thus making it independent of British cables. There were also wireless stations at Mwanza and Bukoba on Victoria Nyanza, and at Dar es-Salaam. The first two were intended for local administrative use; the last was principally for marine work, and in 1913 could reach ships as far off as Cape Gardafui. In 1914 the erection of a station at Kigoma on Lake Tanganyika was contemplated. This was intended to bring the internal system into communication with the chain of stations along the Congo river.

(B) INDUSTRY

(1) Labour

(*a*) *Supply*

White settlement on a large scale is not possible in Tanganyika, nor does it appear that the Germans wished to encourage it. The large tracts granted for plantations had to be worked by native labour, and the supply of that labour is the chief problem that the rulers of this territory have to face. The natives prefer cultivating their own lands to working for wages on the plantations. German residents have expressed the opinion that a sufficient quantity of native labour can be obtained only by methods of compulsion, or by taxing the native until he has to work in order to pay his taxes. It was certainly upon these principles that the Germans acted. Yet out of a native population of some 7½ millions there were in 1912 only about 172,000 engaged as wage earners. Of these 91,892 were employed on plantations. The most populous part of the country, the north-west native states, is an untapped reservoir of labour, and it is in that very region that native civilization and economic development have reached their highest point.

Possibilities of obtaining labour vary greatly in different districts. In districts where there are not many plantations local labour can be used; where

plantations are numerous planters have to rely upon labour recruited from a distance. In the Tanga interior labour is not plentiful, as the local tribes can make sufficient money for their needs by work on their own farms. One of the chief recruiting areas is the district of Tabora, in which the density of population is not great (4·1 per square kilometre), but from which labour is supplied to more densely populated parts, though this drain on Tabora's resources has helped to check the growth of its own population.

The Germans secured labour by various methods. Licensed recruiters went round to collect labourers, making a separate contract with each man engaged. Regulations governing this recruiting were issued in 1913. The number of recruiters was limited, and a district assigned to each, so that they might be more easily controlled; many abuses, such as systematic deception of the natives, were checked. The period for which workpeople could be engaged was extended from 180 to 240 working days. The new regulations, however, failed to give satisfaction to the planters, who complained that the recruiters were unable to supply enough hands, and that they still engaged men for the shorter period in order to derive profit from re-engaging them when discharged.

In the district of Dar es-Salaam 'labour markets' had been established. Planters reported the number of hands required; then such natives as were willing to work were collected in centres, where the planters met them and made contracts with them personally. This system, however, was abolished in deference to public opinion in Germany.

Taxation of the native was another method of securing his labour. He was obliged to work in order to have enough money to pay. Sometimes forced labour was insisted upon, ostensibly for default in the payment of the hut-tax.

Labour for certain purposes, such as porterage and local public works, was practically compulsory, though

paid. This forced labour was used indirectly to stimulate 'voluntary' work on the plantations. In several districts, natives who could produce cards showing that they were employed by European planters were exempt from Government labour, which they would otherwise have been forced to undertake. The system appears to have had good results in cases where supervision by European officials was possible.

(*b*) *Labour Conditions*

The native tribes differ very much in point of readiness to work and of efficiency as labourers. The Masais altogether refuse to work on the plantations. The tribes most popular with European plantation managers, and employed largely in the Tanga district, are the Wanyamwezis, from the Tabora district; the Wasukumas, from the shores of Victoria Nyanza; and the Wairambas, from the Iramba region in the south.

The Swahilis of the coast, though useless as labourers, have considerable commercial capacity, and are found throughout the territory as small traders, servants of the administration, and transport workers.

The appointment of six Commissioners of Native Labour (*Distriktskommissäre*) to superintend the relations of employers and employed had a beneficial influence on labour conditions.

Wages varied in the different parts of the territory. The highest in 1913 were paid in the older plantation districts, where, as shown in the German official report, they reached an average of 12 to 15 rupees for 30 working days. The lowest remuneration was given in districts where labour was least in demand and where payments in cash were almost unknown. In Ruanda the rate per day was 8 to 10 hellers (1½d.), in the interior of Urundi only 5 hellers, and at Usumbura 15 to 20 hellers. Food was not given in addition.

(2) Agriculture

(a) *Products of Commercial Value*

The *vegetable produce* of Tanganyika is of three sorts. First, there is the wild produce of the forests, collected by the natives; second, there are the crops, chiefly cereals, grown by the natives for their own use; third, the crops grown for export on plantations owned by Europeans and worked by native labour. The number of indigenous plants of economic value is very great, and many plants which have been introduced find in Tanganyika conditions favourable for their growth.

Foodstuffs.—Only three foodstuffs, sorghum, rice, and coffee, have so far attained any importance in the export trade overseas. The value of these exports in 1912 was 150,000, 201,000, and 1,903,000 marks respectively.

Sorghum, a large millet, called by the natives *mtama*, is grown almost everywhere, particularly on the coast, and forms the staple food, except where bananas alone are eaten. The stem contains much saccharine juice; the plant is used for feeding cattle. In 1911 more grain was imported than exported; in 1912 the situation was reversed, only 298,307 kilogrammes being imported, while 1,205,987 kilogrammes were exported. It would be possible so to stimulate cultivation that a large surplus would remain for export after all native requirements had been satisfied. Some other varieties of millet are grown, but are of only local importance.

Rice was being cultivated more and more by natives before the war, and the Central railway was expected to open up fresh rice-producing country. Water rice chiefly was grown; little was exported. In European plantations, which are mainly in the Lindi and Pangani districts, only 466 hectares of rice were being cultivated in 1912. 590 tons of cleaned rice went to Uganda[1] in 1911, and 900 tons in 1912; yet 15,735

[1] Imperial Institute Bulletin No. 2, 1917.

tons were imported in 1913 as against 13,213 tons in 1912, and 17,330 tons in 1911.

Maize is grown in preference to sorghum in certain districts of the interior; but natives accustomed to the one take unwillingly to the other. In 1912 the Europeans cultivated only 3,790 hectares of this crop. *Wheat* (chiefly in Langenburg), *oats*, *rye*, and *barley* are grown in the higher lands by white inhabitants for their own use, but not on a commercial scale.

Cassava (chiefly Madagascan) is the principal tuberous plant in the territory. The root of the bitter cassava yields (1) cassava meal, which is sold widely in France as *farine de manioc*, has much food value, and deserves more attention than it receives, and (2) cassava starch or tapioca, which is of little food value, but supplies cheap starch. Cassava is cultivated chiefly in the south-west and along the coast; it grows easily and is attacked by few pests or diseases.

Sweet potatoes are grown near the great lakes, and form one of the chief articles of diet. In Ruanda alone the annual consumption was reckoned at 2,400,000 cwt. *Yams* and *taro* grow chiefly where bananas grow. English potatoes and vegetables thrive in the higher districts of the interior. Besides peas, beans, and two kinds of spinach, young bamboo shoots, tomatoes, and cucumbers are also grown for food.

Coffee was grown successfully in the Kilimanjaro district by small planters, and by natives in Bukoba and elsewhere. In Usambara it was a failure, though much money was spent on it. Arab coffee chiefly was grown, and its prospects were good, as the quality was satisfactory and the price reasonable. In 1912 there was an export of 1,575,000 kg. (value 1,903,368 marks). In 1910 the export had been 996,000 kg. (value 837,744 marks). Germany took most of the crop, but a little went to England.

The growing of *tea* was dwindling latterly, and little has been exported.

Cocoa was more grown, 120 hectares having been under cultivation in 1912, as against 100 in 1911. The

export was not large. 10,000 kg. went to Germany in 1912, and apparently none in 1913. A little over 1,000 kg. was sent to England.

The natives grow *tobacco*, though not in sufficient quantities to satisfy their wants. On plantations tobacco-growing was still experimental in 1914. 28,000 kg. was exported in 1911 and 35,000 kg. in 1912.

Poppy-seed was produced for export. The official export figures, 2,064 kilogrammes in 1912, included hashish, betel-nuts, and poppy-seed, as well as opium. Betel-nuts were grown in the Pangani district, but in 1912 practically the whole crop (26,000 kg.) was taken by Tanga.

Fruits.—Bananas are the chief native food in the region between the great lakes, in the Kilimanjaro district, and also in west Usambara. The bananas grown by the natives are not exported. Seventy varieties of banana tree are found, of which the commonest is the true banana with a trunk of 20 to 25 ft. in length and a yellow fruit triangular in section. Many other fruits grow wild, and European fruits are cultivated for private and local consumption.

Date palms exist chiefly in Tabora, where their Arab owners farm them out to people of Indian origin, who pay high rents even for single trees. After the banana, the date is the most popular of Tanganyika fruits.

Sugar and Spices.—Sugar-cane was much cultivated under Arab rule, notably near the Rufiyi and on the lower Pangani. There were many small factories. Sugar is now grown mostly by natives. Urundi is said to be the district best suited for its cultivation. European sugar plantations existed on a small scale in four districts, and occupied 138 hectares in 1912. Rum for export was made at a refinery at Pangani.

There are many spices, and the Germans tried without success to break the monopoly of the spice islands of Zanzibar and Pemba. *Cinnamon* gives fair promise,

but may prove unremunerative owing to the fall in prices. If supplies from the French colonies were cut off from British markets, or if market prices were sufficiently remunerative, *vanilla* might be planted more widely. It was grown formerly for export. The natives grow *cloves* on the island of Mafia. *Ginger* is not indigenous, but is cultivated on a small scale in Mahenge. The growth of *common pepper*, which yields white and black peppers, has not been commercially successful, but chillies have answered well in Wilhelmstal. *Red pepper* grows wild throughout the country.

Oil-yielding Plants.—Ground-nuts are extensively cultivated by the natives along the coast and near the great lakes. They yield an oil valuable for cooking, making fats, and conserving sardines; the residue is compressed into feeding-cake. They are exported in considerable quantities to various European countries as well as to adjacent states. The export had increased from 3,099,000 kilogrammes (value 595,961 marks) in 1910 to 6,078,000 kilogrammes (value 1,273,066 marks) in 1912.

Sesame (*sim-sim*), an annual, which costs little labour and gives a generous return, is cultivated by natives in the territory as a foodstuff, and is used largely for local consumption. All the larger coast towns have primitive mills, worked usually by camels, for expressing oil from the seeds. The amount exported in 1912 represented less than 1 per cent. of the world's supply. There is a demand in Europe for sesame oil as a substitute for olive oil in soap-making, and for preparing other edible oils and fats, and the residual cake is much used on the Continent for feeding cattle. The export in 1912 was 1,881,000 kg. (value 523,179 marks), but since then the export has increased considerably, and should continue to grow as new railway sections are opened.

The *Taler gourd* is cultivated by the natives, and the seeds, which contain highly nutritious oil and albumen, are eaten both raw and cooked, but for want of a satis-

factory shelling machine have not found a market in Europe.

The *castor-oil* plant (*Ricinus communis*) grows wild everywhere, and is cultivated widely for local needs in Urundi and Bismarckburg.

The *coconut palm* up to 1914 was extensively cultivated by the Arabs for local use, but not much in European plantations, except at Dar es-Salaam and Tanga. The total number of trees owned by Europeans in 1912 was 784,500. Planters were extending existing plantations in preference to planting new areas. Despite a large local demand, the export of copra had become important, as the quality was exceptionally good.

The following table shows the export in 1910-13:—

Year.	Metric tons.	Value in marks.
1910	5,338	1,909,329
1911	5,420	1,844,971
1912	4,241	1,563,042
1913	5,477	2,348,012

Oil palms grow in the Tanganyika district and in other parts of the territory, but not in such profusion as in West Africa. North of Ujiji there are said to be 700,000. The natives make little palm-oil, and in the Tanganyika district the groves are neglected and overcrowded. European cultivation of oil palms was merely experimental in 1913.

Rubber.—The chief rubber-yielding plants native to Tanganyika are *Landolphia stolzii* and *L. tondeensis*; the former is a vine common in Langenburg, the latter a shrubby plant found in the southern parts of the territory. The chief area in which the natives collect wild rubber lies south of a line drawn from Bagamoyo to Ujiji, but collection had decreased partly on account

of restrictions and partly through the competition of other industries. The following table shows the export of plantation and wild rubber in 1910-12 (but *cf.* p. 94) :—

Year.	Plantation rubber.		Wild rubber.	
	Kilog.	Marks.	Kilog.	Marks.
1910	413,895	3,291,934	257,034	2,471,821
1911	683,753	3,606,328	152,076	1,658,301
1912	1,017,025	7,233,771	172,699	1,119,006

Of plantation rubber, the variety preferred is *Manihot glaziovii* (Ceará), which in 1912 occupied 44,903 hectares of the 45,317 hectares planted with rubber. This Ceará rubber is seen in areas of 6 or 7 square miles all over the country along the Central railway from Dar es-Salaam to Morogoro and beyond. With commendable forethought the Germans planted these trees at intervals of 8 ft. in rows 10 ft. apart over great tracts of bush country which had been looked upon as waste land. Ceará is not equal to Pará rubber; and, so far, the rubber trade in the territory has not been a complete commercial success; but plantations were largely increasing before the war, and there is good ground for hope for the future, especially when railway extensions make it possible to utilize large areas of bush land. There are rubber plantations in the Usambara district and near Kilwa and Lindi. Rubber cultivation could be widely extended as a native industry. Besides Ceará, Pará rubber (*Hevea brasiliensis*) and *Ficus elastica* have been tried in small quantities. Owing to the fall in the price of rubber in 1912, the 1913 crop of 1,367,000 kilogrammes fetched only a little over six and a half million marks.

Gums and Resins.—Copal, the exudation of a tree that grows wild, is found frequently in its fossilized state in the coastal districts. Its small export is not

likely to increase. There is plenty in the Belgian Congo, but in Tanganyika the best deposits are becoming exhausted. *Gum acacias* grow wild in some parts, and attempts have been made to introduce them elsewhere. *Acacia catechu*, which grows everywhere, yields a tanning material known as catechu, pegu-catechu, or brown cutch.

Fibre-producing Plants have an important place among the vegetable products of Tanganyika, and their yield is yearly increasing in value. The most important for export is sisal hemp, but there are also kapok, cotton, sanseviera, and others.

Kapok grows wild everywhere in profusion, and the great demand for its floss in Germany, together with the fall in the price of rubber, induced many planters in 1912 to undertake its cultivation. The export was small but increasing, and rose from 12,000 kg. (value 13,040 marks) in 1910 to 52,000 kg. (value 62,600 marks) in 1912. Central installations for preparing the fibre for export were recommended by the Kolonial-Wirtschaftliches Komitee.

The chief *cotton* districts are Lindi, in the south, and Mwanza, on Victoria Nyanza. Till 1911 cotton was grown chiefly in the north, but latterly there has been more in the south. The output, though not the price, will be seen to have been rising steadily:—

Year.	Cotton bales at 250 kilog.	Price per kilog.	Total value in marks.	Approximate value in £.
1908	1,081	0·92	249,438	12,471
1909	2,077	0·85	440,461	22,023
1910	3,581	1·21	751,299	37,564
1911	4,322	1·23	1,331,818	66,590
1912	7,526	1·12	2,110,236	105,511
1913	8 768		2,620,000	131,000

Native cultivation was heavily subsidized by the Government and by the Kolonial-Wirtschaftliches Komitee. The latter bought and delivered seed free to the Imperial provincial offices. The value of the seed distributed in 1913-14 amounted to 151,000 marks, but it was doubtful whether the distribution would be continued. Guaranteed prices were maintained for certain cottons in different districts, and prizes were given for the best cultivation, quality, and yield. Efforts were also made to replace imported Egyptian seed by locally-grown varieties and to standardize the variety in each district, so as to facilitate disposal of crops. It has been found that American upland cottons are better suited to native cultivation than Egyptian varieties.

European cultivation was also helped in a similar way, and the area under cotton increased from 1,965 hectares in 1903 to 12,941 hectares in 1912. Even the latter figure represented only about 2½ per cent. of the total area covered by European plantations in the territory. Down to 1913 there had been many failures, and everything points to native cultivation being the more advantageous system. A combination of native and European cultivation was tried in 1912-13 in the Lindi district. European plantations of about 500 hectares were sown with cereals, vegetables, and cotton, and a large ginnery was set up. The planters then let the land round the plantations in small parcels to the natives, prepared the ground by machinery, supervised the manuring, and afterwards bought at the fixed local price the cotton grown by the natives. The motor-driven ginneries set up by the Kolonial-Wirtschaftliches Komitee increased in number from 7 in 1907 to 38 in 1913. There were also many hand machines.

On March 14, 1910, an agreement was drawn up fixing the respective responsibilities of the Reichs-Kolonialamt and the Kolonial-Wirtschaftliches Komitee in furthering cotton cultivation. The Government Agricultural Research Station undertook seed trials, the supplying of water and manure, the repres-

sion of pests, the testing of soil, and the meteorological service. At the outbreak of war the Government had five or six experimental cotton stations, with white staff and travelling native instructors. The Komitee dealt with the economic and commercial side, financing light railways for transport, negotiating for the reduction of railway and shipping tariffs, improving waterways, drainage and irrigation, occasionally establishing large ginneries, making agreements for the purchase of cotton, and giving advice. It also supplied planters with machinery and presses at cost price, to be repaid in three yearly instalments.

The cultivation of *sisal hemp* is the premier industry of Tanganyika. In 1913, out of 100,000 hectares of cultivated plantation land, nearly 25,000 were under sisal, while 30 or 40 modern decorticating establishments were run by steam and oil engines, and fed by light field railways. The hemp is obtained from the Mexican plant *Agave sisalana*. The first export, in 1898, was only 3 bales; in 1912 it was 17,000,000 kilogrammes (value 7,000,000 marks). In 1913 the crop represented 19,968,000 kg. of best quality (value 10,342,000 marks), and 1,136,000 kg. of hemp waste (value 368,000 marks). If sisal is to be remunerative to the planter, the price on the Hamburg market must not, according to German commercial calculations, fall below 370 marks per ton, exclusive of capital charges. A general estimate puts the average price for recent years at 500 marks per ton. The hard fibre from agave leaves is preferred for standard binder twine, as it is tough, even and strong, and does not kink when wet. It is also in request for baling twine, ropes, and many other uses. The German sisal owes its superiority to skilful treatment, but there is now excellent English and Australian scutching machinery for decorticating the leaves. The plant needs little care; if the leaves are properly cut, it lasts from ten to fifteen years. Volcanic soil and coral land, such as are found on the coast of Tanganyika,

are particularly favourable to it, and stony ground is no disadvantage. Sisal plants can be grown at elevations up to 1,400 metres. The plant has done better in Tanganyika than in its original home, and has overcome the competition of cotton by its greater yield and the quality of its fibre. Before the war there were four large North German sisal companies, one of which has paid as much as 50 per cent.

The Kolonial-Wirtschaftliches Komitee gave a high place amongst other native flosses to *Calotropis*, as being easily cultivated from seed, and fetching nearly as high a price as kapok. They advised that it should be planted alongside the latter, for it bears quickly and yields a return whilst the kapok trees are growing to maturity.

Funtumia elastica floss has also been spun successfully, and *ramie* fibre was experimented with at Arusha. The latter is important in the textile industry and in the manufacture of gas mantles; the leaves could be used as food for silkworms, which were being bred successfully in Morogoro.

Sanseviera grows principally along the upper reaches of the Pangani, in the Mwanza and Bukoba residencies, and round Tabora. The plants grow wild and propagate themselves, requiring no attention; the harvesting may be delayed for a long time, and the leaves stored for a good while before the fibre is extracted. This gives it an advantage over sisal, which must be harvested at the right moment, whilst its fibre must be extracted from the leaves as soon as they are cut.

Dyewoods of several indigenous varieties have been experimented with by the agricultural authorities.

The following figures from the German official report show the distribution of the chief crops grown on European plantations in 1912:—

	Total area under cultivation.	Total area yielding crops.
	hectares.	hectares.
Cereals—		
Maize	3,790	3,790
Rice	466	466
Other cereals	2,350	2,350
Palms—		
Coconut palms	8,178	1,983
Oil palms	104	6
Fruits—		
Bananas	155	155
Other fruits	476	476
Beverages and spices—		
Cocoa	120	70
Coffee	4,803	2,191
Others	71	71
Sugar cane	138	138
Rubber—		
Manihot	44,903	17,044
Other kinds	414	72
Fibres—		
Cotton	12,941	12,941
Kapok	2,632	641
Sisal hemp .. .	24,751	14,359

Live-stock.—Cattle-breeding is firmly established in the north-west districts, but it is prevented in many other parts by the tsetse fly, and also by rinderpest and catarrhal fever. Sir Alfred Sharpe and others look on the vicinity of Lake Kivu as one of the best cattle countries in Africa. The export of living animals through Zanzibar and the Belgian Congo was prohibited. A meat industry might be developed with success now that Victoria Nyanza and Lake Tanganyika have rail communication with the sea. Government figures for cattle in the territory are based mainly on estimate. The official report stated that in 1911 there were 42,927 European-owned and 2,060,490 native-owned cattle in the territory; while in 1912 there were 43,617 European-owned and 3,950,250

native-owned. The density of herds was greatest in the sultanate of Ruanda and in the residency of Mwanza, each of which districts in 1912 contained over 1,000,000 head, so that together they represented about 50 per cent. of the total figures.

All the cattle in the territory are of the zebu type. A large-horned variety is bred by the Watusis only, and is called after them, while a small-horned variety is found amongst many tribes, the best known being the Masais, after whom these cattle are often called. Dr. Lichtenfeld in 1913 estimated the number of the Masai cattle at 1,500,000 and of the Watusi cattle at 750,000. A smaller variety, the Sokotra zebu, found on the coast near Dar es-Salaam, was introduced by Indian traders, and is well suited to the climate.

The native methods of cattle-raising are primitive. Systematic breeding is practised with success only by the Masais and Watusis, and on a smaller scale by the Wahehe and Wagogo tribes. The best breeders are the Masais, who have reared bulls fit for the conditions of the country and suitable for use by Europeans in breeding. Official efforts to improve stock were hindered by the natives' unwillingness to sell their stock, and by the liability to disease engendered by the over-stocking of pastures. European cattle are liable to be attacked by the micro-organisms of Texas fever and anaphasmosis, which are universally present, though they do not cause fever in the native cattle. The latter are hardy and docile; breeds imported for crossing with them should have like qualities and exceed them in milk and meat production. The early attempts to cross with European breeds failed because each settler, as a rule, chose the breed best known to him in his own home in Germany, instead of studying the local conditions. By crossing, however, with bulls from the Italian Campagna, favourable results have been obtained in Sadani (Bagamoyo). In 1912 cross-bred cattle were being used to some small extent for draught purposes.

In most parts of Tanganyika *horses* cannot be used; horse-sickness appears annually between April and July. Europeans owned 202 horses in 1912. *Zebras* have been tried for draught and riding, and have been crossed fairly successfully with horses. In 1912 there were 22,091 native-owned *donkeys*, and 2,543 owned by Europeans. Europeans owned 375 *mules* in 1912, mostly imported.

The figures for the number of *sheep* and *goats* in the territory are based on estimate only. The official report gave the totals for 1911 as 4,930,560 native-owned and 33,406 European-owned, and for 1912 as 6,398,000 native-owned and 41,647 European-owned. The natives rear sheep and goats chiefly in the north, especially near the Belgian Congo frontier; 50 per cent. of those owned by Europeans in 1912 were in the Arusha district. The official report of 1911-12 stated that the breeding of sheep for wool was a failure, partly owing to lack of technical knowledge, and partly because the climate and pasturage were unsuitable.

Pigs do well in all high-lying districts; the number owned by Europeans in 1912 was 5,460. There are fair propects for *ostrich* farming, particularly in Arusha and Moshi, though the number of birds was only 173 on April 1, 1913. Both European and native *fowls* have been successfully reared, but European breeds have suffered through diphtheria.

Animal Products.—Hides and *skins* are the chief animal products. In 1913 the export reached a total of 3,456,500 kilogrammes (value 5,500,000 marks).

Samli, a preparation of clarified butter, is made in large quantities by the natives, and a certain amount is exported. Wild bees feed on the bloom of the Ceará rubber tree, and the natives gather *honey* and *wax*.

Since the German occupation the *ivory* industry which once held the chief place, has declined remarkably. The German Government adopted laws similar to those in force in British East Africa for the protection of the game, of which there are vast numbers

The quantity and value of ivory exported increased from 1906 to 1909, and then fell rapidly.

Meat and *dairy produce*, *hippopotamus* and *boar tusks*, *rhinoceros* and *antelope horns*, *cowrie shells*, *tortoiseshell*, *swords* of the *sword-fish*, and *wild silk* are exported.

(*b*) *Methods of Cultivation*

European Cultivation.—The plantation system did not begin to expand unmistakably till within the last fifteen or sixteen years. The three areas of plantations are the Usambara region, with its port of Tanga, the Central Railway region, and the southern region, served by the port of Lindi. Many British firms own interests in these plantations (*cf.* p. 87). In 1912 the total area of European concessions was 542,124 hectares, of which 105,282 hectares were under cultivation and 56,753 yielded crops. The number of Europeans employed on plantations, exclusive of owners, was 498 in 1911 and 606 in 1912.

Native Cultivation.—The low density of the population (about 8 per square kilometre) and the low development of the natives have hitherto prevented intensive culture. In 1914 it was estimated that only 1/800th of the land was under cultivation. Native methods are primitive and wasteful. Land is cleared by cutting and burning forest trees, bush, and vegetation. The ashes render the soil very fertile for about five years, after which a fresh patch is cleared and the old abandoned or planted with bananas or coconut palms. The plough is little used; the customary implement is the hoe. A very elementary system of rotation of crops is practised.

The Government *Referent* for agriculture at Dar es-Salaam was responsible for agricultural administration. Purely scientific research was undertaken by the Biological and Agricultural Institute at Amani. There were other experimental and technical stations at several centres, experts for various purposes, travelling instructors for the natives, trained engineers for visit-

ing plantations and factories, and other machinery for developing agriculture.

The planters formed various agricultural associations, which were finally merged in a National Economic Union of German East Africa and an Economic Union for the Southern Provinces.

Irrigation will undoubtedly play a large part in the development of the native states in the neighbourhood of the lake system. The Germans had prepared a scheme for drawing water from the south-east corner of Victoria Nyanza through the Mbala plain to the great Wembere plain. The expert's report pronounced this district to be extremely favourable for cotton-growing, its soil being equal to the best of Texas and the Mississippi region; crops raised by irrigation would repay the cost of constructing a canal; an area of 230,000 hectares of either good or very good cotton soil was to be irrigated by two canals with a capacity of 92 cubic metres per second; 3,000 hectares of good cotton country were to be worked on the Mbala plain. Combined with this scheme was another for using the water-power for electric traction for about 200 kilometres of the proposed Tabora-Ruanda line. The estimated cost was: canal with power installation, 26,000,000 marks; establishment of the irrigated area, 19,000,000 marks; total, 45,000,000 marks.

(c) *Forestry*

Generally speaking, there seems to be a tendency for the forest area to diminish. To check the destructive native system of tree-burning, the Government had completed the formation of a number of forest reserves. On March 31, 1913, there were already 161 reserves, totalling 484,417 hectares, or ½ per cent. of the whole area. During the remainder of the year 274,000 hectares more were to be included.

The German Forestry Service controlled the policing of forests, their protection from fire, the formation and maintenance of reserves, reafforestation, and the valua-

tion and disposal of timber. At Wilhelmstal, Morogoro, and Mohoro there were forestry offices which served twelve districts, while in other parts a forestry official was lent to the District Commissioner's staff. The Forestry Department conducted technical research in co-operation with the Biological and Agricultural Institute at Amani.

The three chief forests exploited are the Wiese, Shume, and Sigi, in the Usambara region. The chief timbers cut in the Wiese forest in west Usambara (Wilhelmstal district) are pencil cedar (*Juniperus procera*), Outeniqua yellowwood (*Podocarpus gracilior*), and common East African yellowwood (*Podocarpus thumbergii milanjianus*). The two last are sold in Germany as 'East African pine.' Yellowwood is also exported to South Africa, and the export trade is likely to develop further. Hardwood timbers are cut in the Usambara forests, and are used chiefly in the native school of carpentry at Tanga. The Shume and Sigi forests produce *mkweo*, *mkenene*, *mareka*, *mvule*, *mtamba*, and *kenge*, ornamental woods employed by coach-builders and decorators, which, though hard and firm, are light and easily worked. With improved communication, wood for railway sleepers and other purposes could be supplied from the western forests to the Sudan *via* the great lakes. Timber is also cut in the Rufiyi delta, and round the ports of Tanga, Pangani, and Kilwa Kisivani. There are magnificent timber forests on Mount Rungwe and the Poroto range, north of Neu-Langenburg and Lake Nyasa.

In 1910-11 there were 16,253 acres of mangroves under exploitation in large swamps round the mouths of about eight of the principal rivers, and the bark was exported for tanning.

The Germans hoped to make large profits from quinine, which is obtained from the bark of the *Cinchona succirubra*. Production costs little, no machinery being required. The trees were introduced in 1900, and in 1907 there were already nearly 100,000.

(*d*) *Land Tenure*

By law, ownerless lands throughout the territory were domain or Crown land, a Government enquiry determining their extent. Natives were to continue to enjoy the land they occupied and were to be allowed at least four times as much as they cultivated. This, however, was a mere official declaration, and is no guide to the actual German treatment of the natives.

Seyyid Bargash, Sultan of Zanzibar, who claimed sovereign rights over the adjoining African coast, renounced these by treaty with the Deutsch-Ostafrikanische Gesellschaft. Under his rule, the actual soil of a property and the buildings or plantations upon it had often been in the hands of different tenants; and this dual ownership, inconsistent with European ideas, survived round Tanga and elsewhere even after the German Civil Code had been introduced. The anomaly became the more noticeable as land rose in value, and as conditions of ownership of the ordinary kind were applied to an increasing extent of territory. Some attempts were made to develop a land reform policy, but these led to many conflicts between the administration and the landholders.

Natives were evicted wholesale from their homes on all kinds of pretexts, while their huts were burnt and their effects destroyed. In Tanga, the Government took possession of the land in the town, having first removed the native population, then planted palms on it, and, as copra oil realized high profits, let out small holdings at high rents. At Dar es-Salaam two-thirds of the natives (16,000) occupied the Sultan's land (*Schollershamba*), covering 24·2 hectares, which included a great part of their reserve and had been acquired by a European association which granted them the right of settlement. In 1915 the municipality received from the Treasury a grant of 500,000 rupees to buy the *Schollershamba*, and the sale contract was signed or about to be signed. There can be little doubt

that the natives would have experienced the same treatment as those at Tanga.

Outside the municipal areas, Crown land was not sold outright until at least half was cultivated, but was leased at 5 per cent. of the sale price of from 10 to 100 heller (100 heller=1*s.* 4*d.*) per hectare per annum. The leasehold conditions were that cultivation must begin at once, and must be extended at the rate of one-tenth of the land each year. Pasture land was obtainable on the sole condition of its being fenced with wire or quickset hedge. Native rights on land taken up by Europeans were to be recognized to the extent of 4 hectares per hut.

The Ostafrikanische Landgesellschaft was formed to deal with the land concession granted to the Tanganyika railway, which holds 80 per cent. of its shares. The purchasers were chiefly settlers in search of small or moderate-sized plantations.

(3) Fisheries

Fish are plentiful along the coast and islands, but the natives, with their very primitive equipment, do not catch enough to supply even an appreciable part of the local needs. The import figures demonstrate the extent of the further demand. Properly organized fisheries with facilities for salting, smoking, and drying would be profitable. Fishing for cowries, pearls, turtles, and ornamental shells is practised on a small scale, and there are a few sponge fisheries owned by Arabs.

Fish abound in the rivers and great lakes, but they are mostly coarse, and are often infested with worms. There are fisheries on the lower Rufiyi, and on the Mkomazi, Rovuma, and Pangani rivers, and also on lakes Mamba and Komba, in the Luengera valley. Lake Tanganyika has 87 species, of which 76 are not found elsewhere. Lakes Victoria, Nyasa, and Kivu have fewer varieties.

(4) Minerals

The mineral wealth of Tanganyika has not yet been fully ascertained. The district round Lake Nyasa, including the Livingstone mountains, where copper, gold, and coal are found in fairly close proximity, appears to be the most valuable; and next, probably, come the Uluguru mountains and the districts of Ruanda, north of Lake Kivu, Lindi on the southern and Mwanza on the northern frontier. With improved transport all could be exploited. In 1912 gold, mica, and garnets were exported overseas, and gold and salt overland. In 1911 the number of persons employed in mining was 2,235, an advance of 320 on the previous year.

Gold.—The most important gold mine is at Sekenke on the Iramba plateau, and is owned by the Kironda Goldminen-Gesellschaft. Some gold was also mined regularly in the Nassa mine in the Mwanza district. In 1912 the amount exported was 234 kilogrammes (value 530,624 marks); practically all went to Germany. The official report of the Kironda output was as follows:—

	1909.	1910.	1911.
Ore recovered ..	3,515 tons.	7,333 tons.	7,132 tons.
Smelted gold ..	176 kg.	429 kg.	395 kg.
Fine gold	134 kg.	347 kg.	316 kg.
Value	400,000 mk.	943,645 mk.	866,188 mk
Fine silver . ..	25 mk.	62 mk.	59 mk.
Average yield of gold per ton of ore ..	38·90 grammes	46·45 grammes	45·92 grammes

There is also gold near St. Michael, near Livale, and near Neu-Langenburg. It is possible that deposits of precious metals will eventually be found in many localities.

The *mica* of Tanganyika, though inferior to the best Indian ruby mica, is highly valued for electrical

insulation. It is found chiefly in the Uluguru mountains, but also on the north-east shore of Lake Kivu and at Mahenge. In 1911 the export, most of which went to Germany, was valued at £17,414. There are deposits also in Usambara, but these have not been successfully worked.

Iron ore is found in several places, and is smelted in primitive fashion near Lake Nyasa. There is also iron ore near Kilimanjaro. Magnetic iron ores occur in various localities, especially in the Uluguru range. There is hæmatite iron in the Upangwa district in the extreme south of the Livingstone range, and near Nyasa. *Copper* is found at Ujiji in the form of copper quartz (46 per cent. copper), and also north of Bismarckburg, and at Masazi in Lindi. *Lead* is found between 15 and 30 miles east of Kondoa-Irangi.

Coal of poor quality is found in several districts, including the highlands in the Karroo formation, and especially on the east shore of Lake Nyasa. The coal to the north-west of the lake on the Songwe and Kivira rivers is more important, being bituminous and good for smelting iron ore. There are Karroo strata on the east of Lake Tanganyika, but it is not known whether coal exists there.

Carbonate of soda was found in Lake Natron, and has been obtained in recent years by the Magadi Soda Co. from Lake Magadi close by in Kenya. A branch line connects this lake with the Uganda railway and could be extended to Lake Natron. The soda deposits of Lake Natron are, however, much more impure than those of Magadi.

Salt was worked by the Central-Afrikanische Seen-Gesellschaft (or Bergwerks-Gesellschaft) at Gottorp, near Lake Tanganyika, where there are brine springs. There were also small works in the Bagamoyo district. Deposits of sea-salt are found along the coast.

Insoluble potash, suitable for manure, exists in three forms—*felspar*, *leucite*, and *muscovite*.

Three minerals containing a high percentage of *uranium* are valuable for their radio-active property.

These are *pitchblende*, found in the Lukwangule hills (Mbakana) of the Uluguru range; *rutherfordine* (a yellow carbonate of uranium and a variation of pitchblende); and *samarskite*, found in pegmatite veins in the Morogoro district. *Tourmaline* is reported in the Uluguru mountains, and *graphite* both there and in the Lindi district; the latter is not capable of exploitation under existing conditions. *Asbestos* is reported to occur in Morogoro.

Beryls and *amethysts* have not as yet been mined. *Almandine garnets* have been exported in moderate quantities from the Lindi district.

Mineral Rights.—The Prussian law, modified by an Imperial Decree of February 27, 1906, gave the owner of the soil no claim to its mineral riches. Prospecting was free, subject in native territories to special regulations. Europeans were not allowed in the north-west native districts. Prospecting claims were laid out in squares, not in circles, as in the Belgian Congo. Discoverers could insist on their claims being converted into mining areas (*Bergbaufelder*), which were marked out in rectangles having the lengths of adjacent sides measured in the ratio of 5 to 1. Claims not worked within two years were forfeited. Mining areas were taxed, and the State claimed part of the minerals extracted.

(5) Manufactures

European industrial productions consisted chiefly of material for public and private buildings, and were not on a sufficient scale to bring about an appreciable diminution of imports. Furniture was manufactured on a large scale. There should be good prospects for cement works, roofing-tile factories, glass works, and soap factories. The skilled workmen are mostly Indian. The minor industries are almost wholly in the hands of non-Europeans. Tailors and shoemakers are mainly Goanese; laundry workers, barbers, and glaziers are Indian. There are a few Cingalese ivory and wood turners, and some jewellers. Native

work is confined to the production of pottery, iron spears, ornaments, copper and brass work, mats and baskets, wood carvings, brightly-coloured woven fabrics, oil products, cucumber molasses, soap, and salt. Large quantities of rough iron hatchets are exported to neighbouring colonies from Usindya, in Mwanza district. Dhows are built in Kilwa and Dar es-Salaam.

(6) Power

There are central electrical works, owned by the Ostafrikanische Eisenbahngesellschaft, in Dar es-Salaam. In 1913, on account of prospective extensions in the city and harbour, this company ordered a new power-house and two new dynamos, to cost 250,000 marks.

In 1913 the Governor of German East Africa granted a concession to a Berlin contractor for an electric power-station to utilize the great Mpangani falls on the Rufiyi. The water power available both from the great lakes and the coast rivers, whose steep fall into the Indian Ocean is too rapid for navigation, together with the presence of mica mines and copper deposits, offers opportunities for the erection of hydro-electric installations. Very full regulations as to water rights were drawn up by the German authorities.

(C) COMMERCE

(1) Domestic

(*a*) *Principal Branches of Trade*

European trade in Tanganyika is for the most part confined to the larger coast towns and ports, though there is a certain amount on the plantations. A great deal of the small trade along the coast is in the hands of Arabs and Indians, who trade with the natives throughout the territory with a success that the European, with his higher standard of living, cannot hope to achieve. There is also internal trade within the Indian communities, and among the natives of the interior.

There are no statistics of the domestic trade of the territory, but its growth is proved by the steady increase of the receipts from the industrial tax. Barter has been superseded more and more by cash transactions; and retail trade has been increasing everywhere, largely owing to the activity of the Indian shopkeeper, who buys hides, skins, and vegetable products from the natives, and sells them cotton clothing and other articles.

(*b*) *Markets and Towns*

Markets in Africa, when once established, do not readily change; and it is probable that after the war trade will pass through the same district markets as before. These varied in importance and number according to the density of population in the district and the degree of its development. In each of the six northern plantation districts (Kondoa-Irangi, Moshi, Arusha, Wilhelmstal, Tanga, Pangani), large markets were held daily at three points and occasionally at a few other places. The first three districts had in all six large markets, besides smaller ones on caravan routes. There were 23 markets in the Tanga district, besides those established on the plantations. Pangani had several regular markets, and there were smaller markets in the larger coast towns on the caravan routes. Of the north-western districts and residencies (Mwanza, Bukoba, Ruanda, Urundi), Mwanza had a large market in the town which gives it its name, and there were several others in the district. In Bukoba markets were rarer and were found chiefly at the Government posts and the residencies of the sultans. Ruanda had no markets where Europeans could obtain provisions. The caravans requisitioned their supplies from the sultans. Urundi had a principal market at Usumbura, and many others. In the western districts (Ujiji, Bismarckburg, Tabora) there were large markets with regular hours at Ujiji, Bismarckburg, Uha, Tabora, and Shinyanga, and

small poorly-stocked markets on the caravan routes. In the central districts (Bagamoyo, Morogoro, Dar es-Salaam, Rufiyi, Dodoma, Iringa, Mahenge) the markets were always established near the railway. Dodoma had plenty of well-supplied markets, with settlements of storekeepers, at Government posts and on the railway. The large district of Iringa had a large market at the headquarters of the administration. The quantities of native produce offered for sale were small, since the natives produced little more than they themselves required. Mahenge had a well-stocked market in Mahenge town, and there were dealers in several native places. In Morogoro markets existed only at the chief points on the railway. There were three or four regular markets in the Rufiyi district, where there are large native settlements. The small district round Dar es-Salaam was traversed by the railway and served by the capital, which had regular markets, European shops, and a bank. The districts of Langenburg and Songea towards the south were poorly developed, and had few markets, except at the administrative posts. The two southerly coast districts (Kilwa and Lindi), both well developed, differed largely in population. Lindi had white planters and Indian and Swahili merchants, besides a large number of natives, and had well-stocked markets in the coast towns. Kilwa had hardly any white people, but many Indian settlements, and possessed a large market at Kilwa town and Indian shops in several places. There were European firms in Kilwa town and one in Livale.

(c) *Organizations to promote Trade and Commerce*

Despite representations made by local planters, the Government declined to establish an agricultural credit bank until the land should come to be of value apart from any work done on it. At present the cultivated land in the territory is tropical plantation, and its value depends entirely on its being kept in a state of cultivation. Where it is neglected, the result of years of work is annulled in a very short time.

A potent influence was exercised by the Imperial Colonial Office in Berlin, and by the Colonial Administration at Dar es-Salaam. Next to these in anxiety to promote German commerce in the Protectorate came the Senate of Hamburg. In addition there was the Hamburgisches Kolonialinstitut, a training college and research institution. All the chief trading interests, such as the Deutsch-Ostafrikanische Gesellschaft, the Deutsche Ostafrika-Linie, the Ostafrikanische Eisenbahngesellschaft, the Deutsch-Ostafrikanische Bank, and private firms such as Hansing & Co., were linked with each other and with Hamburg in such a way as to form parts of a single organization. Berlin had a great colonial propagandist society in the Deutsche Kolonialgesellschaft, with several semi-independent commissions, among them the Kolonial-Wirtschaftliches Komitee, with its cotton-growing committee, rubber-growing committee, oil products committee, and colonial technical committee. Berlin stood for the Government and the military and aristocratic interests; Hamburg for those of the shipowners and merchant-traders. Little scope for organized effort was left to individual initiative beyond participation in the activities of the planters' associations. There was a Chamber of Commerce in Dar es-Salaam and probably one in Tanga. There was some friction and much state control, but all united in the desire to perfect organization, to prevent, as far as possible, any but German goods entering the colony and any but German ships being

engaged in the trade, and to ensure a place in the world's markets for the raw materials which it produces.

(*d*) *Foreign Interests*

The Germans during their occupation of the territory left little room for foreign interests. Gold mines, salt-works, plantations of sisal, cotton, and rubber, timber forests, and banks were worked by companies with their centres of administration at Berlin, Hamburg, Cologne, Düsseldorf, Wiesbaden, &c. In April 1913, the business undertakings in the territory numbered nearly a quarter of the total in all the German colonies together. Their capital similarly amounted to nearly £5,430,000, i.e., 21 per cent. of the total for all the German colonies combined.

A certain amount of English capital was attracted especially by rubber plantations. In 1910 eight rubber companies were founded or reconstituted, viz., The East African Rubber Plantation Co., Ltd. (capital £90,000); Muhesa Rubber Plantations, Ltd. (capital £135,000, with an interim dividend of 10 per cent. in the first year); Lewa Rubber Estates, Ltd. (capital £250,000); Kamna Rubber Estate, Ltd. (capital £110,000); Kifulu Rubber Estates, Ltd. (capital £100,000—in liquidation in 1917); Manihot Rubber Plantation, Ltd. (capital £50,000, increased to £110,000); Mkumbi Rubber Plantations, Ltd. (capital £70,000); Mombo Rubber Plantation, Ltd. (capital £150,000). Of these the first four were still existing in 1917, but their amalgamation was then being considered; in the meantime they were working together. The sixth and seventh were amalgamated in 1912, Manihot Rubber Plantation, Ltd., increasing its capital for the purpose. The Mombo company was formed to take over the Kautschuk-Plantage Mombo; it does not appear in the latest directories. Subsequently there was formed the Mroweka Rubber Company, in the

Lindi district, of which no particulars are available; it seems probable that the estate has been absorbed by another company. In 1914 the prosperity of the English rubber plantations was increasing, though their fortunes had been adversely affected by the rubber crisis of 1912-13.

The African Silk Corporation, Limited (London 1910, capital £150,000) was affiliated to the Afrikanische Seiden-Gesellschaft, Berlin, by an agreement stipulating that the London company should hold all the properties and branches in Bukoba, on Victoria Nyanza, and in Uganda, while the German company should hold 35,000 fully-paid preference shares and a guarantee upon a further £20,000 of the London company's capital.

Another English company was the Trepang Company, Ltd., operating in Durban as well as in Dar es-Salaam. Two Anglo-German companies were the Anglo-German Gold-mining and Exploration Company, Ltd., a small company founded in recent years at Entebbe and Mwanza, and the Deutsch-Ostafrikanische Plantagengesellschaft, in liquidation in 1912, whose interests were sold to an English combine.

The total capital represented by British interests probably did not exceed £1,500,000. The number of British private individuals settled long enough in the territory to appear in the directory before the war was less than ten. The liquidator of enemy firms in Kenya points out in his report that no British importing house was working in German East Africa before the war.

Part of the interests of the Westdeutsche Handels- und Plantagen-Gesellschaft were Swiss, and two of its directors in 1912 were Swiss. One or two non-German companies existed at Victoria Nyanza ports, including the Società Coloniale Italiana of Milan. The East African Trading Company, Ltd., an Austrian firm with an English name, had a branch at Bukoba, but its headquarters were at Mombasa. A good many

Greeks, some Dutch, and a few Italians and Portuguese appear in the pre-war list of planters and general traders.

(*e*) *Methods of Economic Penetration*

In all those districts where the Germans had fully established themselves, they prevented other Europeans from introducing their own trade. In the north-west districts even the Germans had not penetrated effectively. The local Indian and Swahili traders have monopolized most of the domestic trade, and were once regarded by the Germans as constituting a danger to their own commerce; but means were found of ensuring that they should sell German goods, or at any rate receive their wares in German ships and through German export houses.

In the north the districts round the Victoria Nyanza were economically dependent on Kenya for their supplies and for the transport of their goods; but only the internal British transport services benefited, as the German merchants and shippers were firmly established on the coast at Mombasa. The construction of railways within Tanganyika, to compete with the Uganda railway, would greatly diminish even this benefit.

So far as the present British zone is concerned, the best chance of penetration for British interests lies in encouraging the big British-Indian export houses and banks to replace the Germans in accommodating the Indian and Swahili merchants.

(2) Foreign

(*a*) *Trade Returns: Trade with other Countries*

The position of Tanganyika on the western shores of the Indian Ocean, with a long frontier in central Africa, gives it opportunities for wide distribution of trade. During the German occupation only the over-

seas trade with Germany and the overland traffic on the Uganda railway had been much developed, and there was a marked tendency to concentrate all commercial activity in the Central railway and the port of Dar es-Salaam.

The relative importance of the overseas and overland trade may be seen by comparing the figures in the following table:—

(*a*) COAST PORTS TRADE

Year.	Imports.	Exports.	Total.
	Marks.	Marks.	Marks.
1910	32,594,967	15,818,709	48,413,676
1911	40,356,236	17,122,830	57,479,066
1912	44,691,775	25,079,776	69,771,551

(*b*) INLAND FRONTIERS TRADE

Year.	Imports.	Exports.	Total.
	Marks.	Marks.	Marks.
1910 ..	5,132,143	4,755,495	9,887,638
1911	5,069,923	5,149,071	10,219,194
1912	5,268,923	6,274,247	11,543,170

The chief overland routes for foreign trade are either by way of the Victoria Nyanza ports and the Uganda railway, or *via* Moshi on the Usambara line and Voi on the Uganda railway. The importance of the first route will be much reduced if the Usambara railway is continued to Victoria Nyanza. In the south there is an outlet *via* the Shire river and by rail to Chinde; but Tanganyika's share of the trade by this route is unimportant.

In the future there should be a much larger overseas trade with India, and direct trade with Australia;

much of the former trade with Germany should be diverted to Great Britain. South Africa and the Sudan both require certain of the products of Tanganyika, and are already working to send their products thither, at first by sea and eventually overland. Italian Somaliland has few needs, and the exports of Kenya are similar to those of Tanganyika; therefore trade with these two countries is less likely to increase. The fact that Tanganyika provides the nearest route from the sea to the rich central Congo region will render its future possession very valuable. But for the war, the total trade of the territory would have amounted to more than £5,000,000 in 1915.

Trade with Germany.—The total trade with Germany rose from £1,870,000 in 1911 to £2,180,000 in 1912, an increase of 16 per cent. Excluding specie, it reached £1,285,000, or 14·4 per cent. over the figures for 1911, while there was an increase of 35 per cent. in the exports to Germany. These figures, however, do not accurately indicate the nature of the trade. Many goods entered as arriving from Germany were merely trans-shipped at Hamburg. Cotton goods from Germany, for example, valued at £175,344 in 1912, were probably not in the main of German manufacture. On the other hand, many imports *via* Mombasa and the lake ports and from India *via* Zanzibar were of German origin, and many exports entered at the Customs under the headings of 'Rest of Africa' and 'Zanzibar' went to Germany.

Trade with Zanzibar.—This trade, which is mostly entrepôt, declined from £331,000 in 1911 to £271,000 in 1912, the decrease of 18 per cent. being due to quarantine regulations following an outbreak of cholera in the island. Almost all imports declined in value except cotton goods, in which there was an increase of £10,000, due to the return to Dar es-Salaam of large quantities by buyers who could not pay for them. The value of exports to Zanzibar fell from £104,000 in 1911 to £82,500 in 1912. Copra declined by £22,500. The principal exports were copra,

simsim, ivory, sorghum, copal, coffee, maize, and bags for packing cloves.

Trade with South Africa.—According to the Official Report for 1912-13, podocarpus wood was exported to South Africa. It seems doubtful whether there will ever be an extensive import trade from South Africa as the whole of the interior trade of the territory has been captured by the Indians; but South African coal might find a market, as it is superior to Bengal coal for steaming purposes. The trade between the Union of South Africa and German East Africa, always small, was entirely interrupted by the war. Exports reached their highest value in 1913, with a total of £390, and imports in 1912 with a value of £4,132 which fell to £3,997 in 1913.

Trade with the Belgian Congo.—The trade with the Congo went by four main routes, viz., Kissenyi, Usumbura, Ujiji, and Bismarckburg, and was limited to the transit of local products, cotton goods, and provisions. Kigoma on Lake Tanganyika, the terminus of the Central railway, will become the entrepôt station for the trade of eastern Congo and north-eastern Rhodesia. In 1912 goods to the value of £57,000, carried in transit, came from or went to the Belgian Congo.

Trade with Kenya.—In 1913-14, of the total receipts of the Uganda railway (Rs. 8,195,182), German East Africa contributed Rs. 1,639,036.

Trade with Rhodesia.—Mr. Hughes, the only white inhabitant of the territory round Lake Mweru in northern Rhodesia, during the late war established between Lake Tanganyika and the Rhodesian railway good motor-road and water communication, which may lead to moderate commercial developments. In 1913 German East Africa, it is recorded, sent goods to southern Rhodesia to the value of £111, but in 1912 the export was worth only £4, and in 1914 nothing was sent.

Trade with the rest of Africa.—Excluding transit trade with the Congo, and considering only the trade *via* the Uganda railway and Mombasa, the imports

from the rest of Africa in 1912 were valued at about £22,000, and the exports about £300,000, the latter finding their way principally to America (hides and skins), Germany (coffee, cotton, ground-nuts, and simsim), and France (ground-nuts and skins). The imports came from Germany, Great Britain, the Netherlands, America, and Italy.

Trade with India.—According to the British Consular Report for 1912-13, the direct trade with India rose from £360,000 in 1911 to £440,000 in 1912, and consisted almost entirely of imports. The chief of these in 1912 were cotton goods (£155,000) and rice (£139,000). Generally speaking, more than two-thirds of the cotton goods imported into German East Africa from India were of Indian manufacture. Other imports from India were flour, samli, teakwood, and spices. Sugar, glass, hardware, umbrellas, and silk from India belonged chiefly to the entrepôt trade.

The total value of the German East Africa goods sent to India is given in the Indian returns (Cd. 8564) as follows: 1910-11, £4,000; 1911-12, £2,000; 1912-13, £4,000; 1913-14, £1,000 or less; 1914-15, £1,000 or less.

Trade with other countries, including Great Britain.—The trade with countries other than Germany, India, Africa, and Zanzibar, rose from £400,000 in 1911 to £670,000 in 1912 (imports £376,500, exports £294,000). The value of the direct trade with the United Kingdom was £291,000 (imports £124,000, exports £167,000). The chief imports in 1912 were cotton yarns and manufactures (£71,112), and corrugated iron (£14,683). The chief export was rubber (£144,950). The Netherlands sent cotton, iron goods, and tobacco, Norway timber, France wine and olive oil, Italy wine, cotton, oil, and umbrellas, and Russia petroleum, while America sent petroleum and took a small quantity of sisal hemp.

(*b*) *Exports*

The total value of the exports[1] from 1909 to 1913, exclusive of goods in transit, was as follows:—

	Marks.
1909	13,119,481
1910	20,805,394
1911	22,437,760
1912	31,418,382
1913	35,551,040

Sisal and *rubber* were the chief exports in 1912, but *skins* and *hides*, *cotton*, *copra*, *coffee*, and *groundnuts* were also important. The value of the exports of each of these, from 1910-12, was as follows[2]:—

	1910.	1911.	1912.
	Marks.	Marks.	Marks.
Coffee	837,744	1,266,034	1,903,368
Copra	1,909,329	1,844,971	1,563,042
Cotton..	751,299	1,331,818	2,110,236
Ground-nuts	595,961	489,738	1,273,066
Hides	2,889,133	3,035,183	4,067,350
Rubber	6,194,879	4,780,966	8,426,201
Sisal hemp	3,011,625	4,532,249	7,359,219

The export of *gold* began only in 1911, and fluctuated considerably, as also did that of *dairy produce*, which was first exported in 1912. The Consular Report for 1912-13 states that the total value of exports in that year was £1,570,915, of which £1,253,985 went *via* the coast ports and £316,930 *via* the lake ports. The increase on 1911 was 40 per cent., the coast trade increasing by 46·4 per cent. and the overland trade by 19·2 per cent. There was no export of specie in 1912.

In 1912, 57 per cent. of the exports went to Germany direct, 19 per cent. to the rest of Africa, excluding Zanzibar (which took 5 per cent.), and less than 11 per cent.

[1] From *Die Deutschen Schutzgebiete in Afrika und der Südsee*, 1912-13, and the British Consular Report, 1912-13.

[2] From the British Consular Report, 1912-13.

to Great Britain. There was a tendency to make less use of Zanzibar for trans-shipment and to increase the United Kingdom's quota.

The exports direct to Germany in 1912 amounted in round numbers to 18,000,000 marks; coffee exceeded 500,000, raw cotton 1,500,000, sisal hemp 7,000,000 (practically the whole crop), and the various rubbers 5,500,000. A total of 15,500,000 marks' worth of agricultural and forest produce went to Germany, amounting to more than 87 per cent. of the direct export thither.

The following table[1] shows the distribution of the exports among the various countries from 1910 to 1912:—

	1910.	1911.	1912.
	£	£	£
Germany	629,260	660,351	891,342
United Kingdom ..	35,637	74,203	167,790
Rest of Europe	38,935	59,565	103,239
Zanzibar	139,225	115,752	82,471
Rest of Africa	193,057	208,499	301,599
India	1,984	1,693	1,251
Other countries	2,171	1,825	23,223
Total	1,040,269	1,121,888	1,570,915

(c) *Imports*

The total value of the imports[2] from 1909 to 1913, exclusive of goods in transit, was as follows:—

	Marks.
1909	33,941,707
1910	38,658,777
1911	45,891,642
1912	50,309,164
1913	53,358,500

[1] From British Consular Report

[2] From *Die Deutschen Schutzgebiete in Afrika und der Südsee*, 1912-13, and the British Consular Report on German East Africa, 1912-13.

Cotton goods are the most noteworthy import, and the demand for cotton clothing of European or Indian manufacture is likely to increase as new districts are opened up and the natives increasingly adopt civilized ways. The cotton import amounted in 1913 to 28·4 per cent. of the total imports of German East Africa. In 1912 the Japanese sent ready-made shirts direct from Kobe, and found a quick market. The direct service of the Austrian-Lloyd steamers between Kobe and Aden may facilitate this trade. The share attributed to Great Britain in the cotton imports rose from £25,201 in 1910 to £71,112 in 1912. Other countries contributing cotton were America, the Netherlands, and India; of late years the Lombardy factories have competed; and in 1913 Austria-Hungary and Belgium were also seeking to obtain a share in the trade, the first-named with success.

Of imported foodstuffs *rice* is the most noteworthy, and amounted in 1913 to 6·9 per cent. of the total imports. The import may decline considerably with increased native production, and the demand can also be met from the surplus of the Belgian Congo, but the large Indian community will always prefer the special varieties of Indian rice. The import of *flour* in 1913 was 3,000 metric tons (value 999,424 marks), more than half of which came from India.

In 1913, 3,285 metric tons (value 2,519,162 marks) of *unclassified iron goods* and 1,291 metric tons of *machinery* were imported. *Corrugated iron* is used throughout the territory for roofing, and its import amounted in 1913 to 1,591 metric tons (value over 500,000 marks), or just under 1 per cent. of the total import trade.

There is a rising demand for *cement*, of which 15,000 metric tons were imported in 1913 (value 1,080,424 marks). Almost all was from Germany.

The following table[1] shows the value of the chief imports in the period 1910-12:—

	1910.	1911.	1912.
	Marks.	Marks.	Marks.
Beer, wine, and spirits ...	1,030,473	1,192,067	1,290,930
Cement	444,477	769,369	959,435
Cottons and cotton goods...	10,317,658	12,719,725	14,984,826
Drugs and chemicals ...	542,771	728,371	800,755
Fire-arms, shot, cartridges	562,188	307,425	350,941
Food-stuffs	5,245,394	6,648,277	7,174,511
Glass and china ...	590,782	790,127	877,162
Iron, raw and manufactured	1,283,834	1,462,116	1,445,043
Locomotives, bicycles, &c.	1,184,614	1,439,484	2,483,895
Machinery	1,283,834	1,462,116	1,445,043
Petroleum	507,906	582,185	531,454
Timber	414,742	666,773	751,615
Tobacco	622,473	685,864	893,577

The share taken by each country in the import trade from 1910 to 1912 was as follows[1]:—

	1910.	1911.	1912.
	£	£	£
Germany	983,853	1,212,705	1,290,978
United Kingdom ..	54,290	77,320	124,034
Rest of Europe	92,519	152,907	209,681
Zanzibar	246,739	215,258	188,648
Rest of Africa	245,053	243,748	219,570
India	291,610	359,377	439,615
Other countries	18,872	33,266	42,931
Total	1,932,936	2,294,581	2,515,457

It must be remembered, however, that the goods are entered according to the port at which they were shipped, though they may have originated elsewhere. This is especially noticeable in the case of cotton goods (see above, p. 96).

[1] From the British Consular Report.

(*d*) *Customs and Tariffs*

German East Africa was not in the German Customs Union. All imported and exported goods were therefore subject to tariff. Specific import duties were imposed on beer, wines, spirits, and all essences and perfumes that contained alcohol; on rice, maize, beans, and other cereals and pulse; on tobacco, cigars, and cigarettes; and on salt; while on all other articles not specifically exempted there was a duty of 10 per cent. *ad valorem*, except on opium, hemp, and bhang, which paid a duty of 25 per cent. *ad valorem*. Duty-free articles included seeds, manures and disinfectants, agricultural machinery, vehicles, medicine and medical instruments, most kinds of printed books, pictures and statues. The principal export duties were on live animals, ivory, horns, hides and skins, wax, tortoise-shell, cowries, fresh meat, rubber, copal, plaiting-grass, wood, sisal, sugar-cane, tobacco, and salt. *Ad valorem* duties ranged up to 15 per cent. On live-stock the duties varied from 25 rupees per horse to 1 rupee per head of sheep, goats, and parrots. There were a number of exemptions of the customary kind.

(*e*) *Commercial Treaties*

Before the war there was no commercial treaty in existence between the United Kingdom and Germany. The treaty formerly in force had been terminated in 1898, and subsequent attempts to conclude an arrangement acceptable to both sides had failed. The war, therefore, has not had the effect of abrogating any instrument of first importance. Germany, however, had rightly understood that the United Kingdom did not propose to introduce any change of practice to her detriment, and on her side she procured the assent of the German Bundesrat at regular intervals to enactments extending most-favoured-nation treatment to British subjects and products. From 1910 up to the outbreak of war Germany allowed most-favoured-nation treat-

ment to be extended to all British dominions, colonies, and possessions without exception.

In so far as Tanganyika forms part of the original free trade zone (*zone franche*) comprising the basin of the Congo and its extension to the Indian Ocean, the territory is subject to the Brussels Act and the other conventions governing that area, except in so far as later declarations may have expressly withdrawn certain portions of the said area from the operation of those agreements.

In the absence of a commercial treaty, commercial relations between Germany and Great Britain were established by Acts renewed from time to time and published in England every two years.

(D) FINANCE

(1) Public Finance

Like the rest of the German African colonies, German East Africa had both an ordinary and an extraordinary Budget. These were made out in Africa by the Protectorate Administration and submitted to the Budget Committee of the Reichstag in Berlin, where they were often subjected to very drastic reductions. The colony was not entirely self-supporting; it received an Imperial subsidy, employed since 1909 entirely in paying for the military establishment in the territory. The total revenue obtained from German East Africa between 1904 and 1914 was just under 120,000,000 marks (£6,000,000). The total expenditure for the same years, according to the official *Statistisches Jahrbuch* (1915), was about 339,200,000 marks (just under £17,000,000), of which about 167,600,000 marks covered ordinary and about 171,600,000 extraordinary expenditure. Most of the latter was spent in 1908 and 1913-14; there was no extraordinary expenditure in 1904-7.

Although the Budget in recent years usually showed a balance between ordinary revenue and civil expenditure, this result was only obtained by crediting the revenue with a little over 3,000,000 marks annually, under the heading 'Savings from former financial years.' No details are forthcoming, and it is therefore impossible to say whether this was a real balance or a specious one merely intended to satisfy the Reichstag.

The heads of ordinary revenue in 1913 and 1914 were as follows:—

	1913.	1914.
	Marks.	Marks.
1. Taxes	5,434,000	6,220,000
2. Customs	4,425,000	5,550,000
3. Miscellaneous administrative services	1,897,000	2,024,000
4. Mint	455,000	571,000
5. Railway	528,000	653,000
6. Harbours	30,000	106,000
7. Railway shares[1]	1,001,000	1,344,000
8. Receipts of the military administration	5,000	10,000
Total	13,775,000	16,478,000

It will be seen from the above table that the principal sources of revenue were taxes (37·7 per cent.), Customs (33·6 per cent.), and miscellaneous administrative services (12·2 per cent.), which together represent more than 80 per cent. of the total.

The hut-tax of 3 rupees a year, which was unsatisfactory and could easily be evaded, was supplemented in 1908 by a poll-tax. According to this, workmen on European plantations paid 12½ hellers a month, and in the interior all adult male natives who were capable of labour and who did not already pay hut-tax were liable

[1] Interest and dividends on the shares purchased by the Government from the Ostafrikanische Eisenbahngesellschaft.

to a tax of 1 to 3 rupees a year. It was the intention of the German Government to develop the poll-tax further and to let the hut-tax drop. There was also a small industry tax, which in 1912 produced 1,023,000 marks (£50,000) and in 1914 was expected to produce 900,000 marks. About 98 per cent. of the poll-tax and hut-tax was paid by the natives, who also contributed two-thirds of the industry tax.

The articles on which export duty was levied were for the most part varieties of native produce, and most of the import duties were imposed on articles intended for native use or consumption—principally textiles.

Minor items of revenue included succession duties, salt excise duty, a tax on playing-cards, and the profits accruing from the Deutsch-Ostafrikanische Bank. The receipts of the mining administration from licences, &c., amounted to 40,548 marks in 1910, 28,400 marks in 1911, and probably about 50,000 marks in 1912.

The ordinary expenditure, according to the Annual Official Report, was divided between recurrent and non-recurrent expenses and reserve fund, as follows:—

	In thousands of marks.				
	1910.	1911.	1912.	1913.	1914.
Recurrent expenses	11,974	13,019	16,461	18,226	20.461
Reserve fund ..	1,021	546	4	87	—
Non-recurrent expenses ..	896	1,103	2,856	2,192	3,282
	13,891	14,668	19,321	20,505	23,743

Of the recurring expenditure, civil administration cost in 1913-14 over 9,000,000 marks, or 45 per cent., military administration over 17 per cent., and the flotilla a little over 1½ per cent.

The details of expenditure in 1912 and 1913 were as follows:—

	1912.	1913.
	Marks.	Marks.
1. Civil administration	8,476,981	9,308,782
2. Military administration ..	3,568,900	3,615,030
3. Flotilla..	592,274	326,000
4. Savings fund	4,289	87,015
5. Collection of taxes	92,700	209,000
6. Other expenses	3,730,650	4,767,362
7. Non-recurring expenses ..	2,856,118	2,192,126
Total ordinary expenses ..	19,321,912	20,505,315
Extraordinary expenses ..	17,250,000	34,250,000
Total	36,571,912	54,755,315

Until 1911 ordinary expenditure kept fairly level, but after that date rose steadily with the greater development of the territory. The annual extraordinary expenditure was quite irregular, varying largely with the requirements of the schemes in process of execution. It was charged to the Protectorate Loan, which was available for all four German Protectorates in Africa, amounts being allotted according to the requirements of each. Loans were raised annually from 1908 to 1911, but not apparently in 1912 and 1913. Including the loan of 45,000,000 marks placed on the estimates for 1914, the total Protectorate debt seems to have amounted at the outbreak of war to 333,807,000 marks. Of this total 173,551,000 marks (about £8,677,000) represented the share of German East Africa. The interest was calculated at 6,365,000 marks, and the money raised was used chiefly for railway and road construction.

A ten-year programme for the redemption of the 1908 and 1911 loan, extending in the former case to 1924 and in the latter to 1926, was published in the *Deutsches Kolonialblatt*. The details were as follows:—

Year.	Per cent.	Capital.	German East Africa portion.
		Marks	Marks.
1908	4	38,775,000	30,681,000
1911–12	4	38,000,000	17,299,000

Redemption was to take place during this period at a rate of 3—5 per cent.

(2) Currency

The standard coin was the rupee (rupie), of the value of about 1·33 marks (or 1*s.* 4*d.*). The heller was a hundredth part of the rupee. Small coins in use were:—

1 heller	copper	
10 heller	nickel	
¼ rupee	silver	(*sumni*)
½ rupee	silver	
1 rupee	silver	
2 rupees	silver	

There had also been copper 5-heller and ½-heller pieces, but they proved unpopular, and were recalled in 1913. A nickel 5-heller piece was proposed instead. Cowrie shells were still in use between Victoria Nyanza and Tanganyika, but were being superseded by German small coin. The Deutsch-Ostafrikanische Bank had the right to issue notes of 5, 10, 100, and 500 rupees, but these were little used by the natives. The relation of German rupees to English was approximately 104:100, and consequently English rupees and silver coin were welcomed in the territory, while German rupees and notes were at a heavy discount in British East Africa and Zanzibar. German 20-mark gold pieces were officially changed at 15 rupees in German East Africa.

(3) Banking

Banking was conducted by the Post Office Savings Bank, the Handelsbank für Ostafrika at Tanga, the Deutsch-Ostafrikanische Bank, and to some extent by private mercantile firms, such as Hansing & Co.

The Post Office Savings Bank was worked by the German Imperial Post Office. Interest at 2 per cent. was paid on sums up to 1,500 German rupees. Of 1,239 accounts opened by April 1, 1913, 45 per cent., representing a value of 99,560 German rupees, were opened by natives. The Savings Bank's liabilities on March 31, 1913, were 775,298 rupees.

The Handelsbank für Ostafrika was founded in Berlin in January 1911 by a group of German financial houses, and was opened at Tanga on December 1, 1911, with a capital of 3,000,000 marks in 500-mark shares. It had a net profit of 135,381 marks for 1913 and the dividend paid was 4 per cent.

The Deutsch-Ostafrikanische Bank was founded in 1905. Its capital in 1912 was 2,000,000 marks, in 4,000 shares of 500 marks each, fully paid. Its dividend rose to 10 per cent. in 1910, but fell to 7½ per cent. in 1914. The bank had the right to issue notes against a reserve in silver rupees, and in 1913 increased its note circulation, chiefly in the 500-rupee denomination, by 11½ per cent. as compared with 1912. It has now been succeeded by several British institutions, including the Standard Bank of South Africa, the National Bank of South Africa, and the National Bank of India.

(4) Influence of Foreign Capital

Accurate figures for the foreign capital invested in German enterprises in the territory are not available, but it does not appear to have been at all considerable except in a few plantations (see p. 87). There was some foreign capital in Italian and Dutch firms; and the businesses of Arab, Greek, and Indian traders were not interfered with by the Germans.

(E) GENERAL REMARKS

Tanganyika can never be a white man's country. Before the war the European population was about 5,000 out of a total population of between seven and eight millions. It can never become an outlet for the surplus population of the mother country. The work of the colony will always have to be done by natives, and, since the agricultural resources of the country are very great, its trade might be greatly developed if native labour were properly stimulated and organized by Europeans. Neither the Arabs nor the Germans fully realized the value of this labour, which was wasted by the slave-trade of the one and the harsh labour regulations of the other. The chief reservoir of labour, moreover, is as yet untapped, for the populous sultanates of Ruanda and Urundi have never been fully subordinated to either Arabs or Germans. The future of the country should be economically secured if the native can be assured guaranteed prices for his crops, seed distribution, and improved sanitation, and if he can be given technical assistance in combating the diseases which so frequently attack human beings, animals, and plants.

Tanganyika has the advantage of a long coast-line on the Indian Ocean, and of what is practically a second coast-line on the great lakes. The Germans by various methods kept the commerce almost entirely in the hands of German firms. It was the usual practice of the importing houses to get the goods they required from Germany if possible, or, if they were compelled to turn to other countries, to demand a much wider margin of profit on such goods than they expected to receive on goods from their own country. The Deutsche Ostafrika-Linie was subsidized by the Government, and the value of the traffic in purely German goods conveyed by it rose during the first seven years of the subsidy from £300,000 to £960,000. It was difficult for British companies to compete against such advantages; but, with these restrictions set

aside, there is every reason to anticipate a great increase in the trade with British India, Aden, and Australia, particularly as the completion of the transcontinental railway in the last-named country has brought its most populous and important regions into much closer touch with the east coast of Africa. Under new political conditions it might be possible to establish an East African Government line of local coasting and river steamers, with a flotilla on each of the great lakes. The local trade that could be built up between the coastal districts and the adjacent islands, as well as with Aden and the Red Sea ports, would be sufficiently remunerative if the working expenses were kept low and the steamers were not unnecessarily large.

If the Cape to Cairo railway is ever completed, Tanganyika will be an important section of the route. But the railway communications from east to west are likely to be of no less importance. The railway from Dar es-Salaam to Kigoma is already the easiest channel by which the resources of the eastern Congo can reach the sea, and it will probably at some future date constitute the eastern section of a heavily-worked transcontinental line. It may be doubted, however, whether the railway does not run too far north to form the best trade route to the Katanga district. The northern districts of Tanganyika have long lain within the trade sphere of the Uganda railway, though the proposed extension of the Usambara railway to Victoria Nyanza would have been a formidable menace to this connexion. The two railways are now linked together by the Voi-Moshi branch.

APPENDIX

Extracts[1] from Treaties

I

AGREEMENT BETWEEN THE BRITISH AND GERMAN GOVERNMENTS, OCTOBER 29/NOVEMBER 1, 1886, AND ADHESION OF THE SULTAN OF ZANZIBAR, DECEMBER 4, 1886

Recognition of Sovereignty of Sultan of Zanzibar over Islands of Zanzibar, Pemba, Lamu, Mafia, &c.

1. Germany and Great Britain recognise the sovereignty of the Sultan of Zanzibar over the Islands of Zanzibar and Pemba, and over the smaller islands which lie in the neighbourhood of the above within a radius of 12 sea miles, as well as over the Islands of Lamu and Mafia.

Recognition of Sultan of Zanzibar's Sovereignty over certain Territories on the Mainland

On the mainland they likewise recognise as possessions of the Sultan a line of coast which stretches without interruption from the Minengani River at the head of Tunghi Bay to Kipini. This line commences on the south of the Minengani River, follows the course of that river for 5 sea miles, and continues thence on the line of latitude to the point where it strikes the right bank of the Rovuma River, crosses the Rovuma, and runs down its left bank.

The coast-line has an internal depth of 10 sea miles measured from the coast direct into the interior from high-water mark.

Kau

The northern limit includes Kau.

Kismayu, Brawa, Meurka, Magadisho, and Warsheik

To the north of Kipini the said Governments recognise as belonging to the Sultan the stations of Kismayu, Brawa, Meurka, and Magadisho, with radii landwards of 10 sea miles, and of Warsheik with a radius of 5 sea miles.

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[1] These extracts are here printed as they stand in Hertslet's *Map of Africa by Treaty*.

Leasing to German African Company of Customs Duties at Dar es-Salaam and Pangani.

2. Great Britain engages to support negotiations of Germany with the Sultan for the leasing to the German African Company of the customs duties at the ports of Dar es-Salaam and Pangani, in return for an annual payment to the Sultan by the Company.

Respective Spheres of Influence to be Defined

3. Both Powers agree to establish a delimitation of their respective spheres of influence on this portion of the East African Continent of the same character as that to which they have agreed as regards the territories on the Gulf of Guinea.

Territory referred to in Arrangement

The territory to which this arrangement applies is bounded on the south by the Rovuma River, and on the north by a line which, starting from the mouth of the Tana River, follows the course of that river or its affluents to the point of intersection of the Equator and the 38th degree of east longitude, thence strikes direct to the point of intersection of the 1st degree of north latitude with the 37th degree of east longitude, where the line terminates.

Line of Demarcation

The line of demarcation starts from the mouth of the River Wanga or Umbe, runs direct to Lake Jipé, passes thence along the eastern side and round the northern side of the lake and crosses the Lumi River;

Taveita and Chagga (Kilimanjaro District)

After which it passes midway between the territories of Taveita and Chagga, skirts the northern base of the Kilimanjaro range, and thence is drawn direct to the point on the eastern side of Lake Victoria Nyanza which is intersected by the 1st degree of south latitude.

Mutual Engagements to respect Spheres of Influence

Germany engages not to make acquisitions of territory, accept Protectorates, or interfere with the extension of British influence to the north of this line; and Great Britain makes the same engagement as regards the territories lying to the south of this line.

Kilimanjaro Districts

4. Great Britain will use her good offices to promote a friendly arrangement of the rival claims of the Sultan and the German East African Company to the Kilimanjaro districts.

Witu

5. Both Powers recognise as belonging to Witu the coast-line which commences to the north of Kipini and continues to the northern extremity of Manda Bay.

Invitation to Sultan of Zanzibar to accede to Berlin Act

6. Great Britain and Germany will jointly invite the Sultan to accede to the Act of Berlin, 26th February, 1885, with reservation of His Highness's existing rights under the 1st Article of the Act.

Adhesion of Germany to Declaration between Great Britain and France of 10th March, 1862

7. Germany engages to adhere to the Declaration signed by Great Britain and France on the 10th March, 1862, with regard to the recognition of the independence of Zanzibar.

II

AGREEMENT BETWEEN THE BRITISH AND GERMAN GOVERNMENTS RESPECTING AFRICA AND HELIGOLAND, BERLIN, JULY 1, 1890

East Africa. German Sphere of Influence

Art. I.—In East Africa the sphere in which the exercise of influence is reserved to Germany is bounded—

German Sphere. To the North. River Umba to Victoria Nyanza.

1. To the north by a line which, commencing on the coast at the north bank of the mouth of the River Umba [or Wanga], runs direct to Lake Jipé; passes thence along the eastern side and round the northern side of the lake, and crosses the River Lumé; after which it passes midway between the territories of Taveita and Chagga, skirts the northern base of the Kilimanjaro range, and thence is drawn direct to the point on the eastern side of Lake Victoria Nyanza which is intersected by the 1st parallel of south latitude; thence, crossing the lake on that parallel, it follows the parallel to the frontier of the Congo Free State, where it terminates.

Mount Mfumbiro

It is, however, understood that, on the west side of the lake, the sphere does not comprise Mount Mfumbiro; if that mountain shall prove to lie to the south of the selected parallel, the line shall be deflected so as to exclude it, but shall, nevertheless, return so as to terminate at the above-named point.

German Sphere. To the South. Rovuma River to Lakes Nyasa and Tanganyika (Stevenson's Road)

2. To the south by a line which, starting on coast at the northern limit of the Province of Mozambique, follows the course of the River Rovuma to the point of confluence of the Msinje; thence it runs westward along the parallel of that point till it reaches Lake Nyasa; thence striking northward, it follows the eastern, northern, and western shores of the lake to the northern bank of the mouth of the River Songwe; it ascends that river to the point of its intersection by the 33rd degree of east longitude; thence it follows the river to the point where it approaches most nearly the boundary of the geographical Congo Basin defined in the 1st Article of the Act of Berlin, as marked in the map attached to the 9th Protocol of the Conference.

From that point it strikes direct to the above-named boundary; and follows it to the point of its intersection by the 32nd degree of east longitude; from which point it strikes direct to the point of confluence of the northern and southern branches of the River Kilambo, and thence follows that river till it enters Lake Tanganyika.

Map. Nyasa-Tanganyika Plateau

The course of the above boundary is traced in general accordance with a map of the Nyasa-Tanganyika Plateau, officially prepared for the British Government in 1889.

German Sphere. To the West. River Kilambo to Congo Free State

3. To the west by a line which, from the mouth of the River Kilambo to the 1st parallel of south latitude, is conterminous with the Congo Free State.

East Africa. British Sphere of Influence

The sphere in which the exercise of influence is reserved to Great Britain is bounded—

British Sphere. To the South. River Umba to Congo Free State

1. To the south by the above-mentioned line running from the mouth of the River Umba (or Wanga) to the point where the first parallel of south latitude reaches the Congo Free State.

Mount Mfumbiro

Mount Mfumbiro is included in the sphere.

British Sphere. To the North. River Juba to Confines of Egypt (Uganda, &c.)

2. To the north by a line commencing on the coast at the north bank of the mouth of the River Juba; thence it ascends that bank of the river and is conterminous with the territory reserved to the influence of Italy in Gallaland and Abyssinia, as far as the confines of Egypt.

British Sphere. To the West. Basin of Upper Nile to Congo Free State (Uganda, &c.)

3. To the west by the Congo Free State, and by the western watershed of the basin of the Upper Nile.

Cession to be made by Sultan of Zanzibar to Germany of Possessions on the Mainland and of Island of Mafia

Art. XI.—Great Britain engages to use all her influence to facilitate a friendly arrangement, by which the Sultan of Zanzibar shall cede absolutely to Germany his Possessions on the mainland comprised in existing Concessions to the German East African Company, and their Dependencies, as well as the Island of Mafia.

It is understood that His Highness will, at the same time, receive an equitable indemnity for the loss of revenue resulting from such cession.

German Recognition of British Protectorate over remaining Dominions of Sultan of Zanzibar, including Islands of Zanzibar and Pemba, and Witu

Germany engages to recognise a Protectorate of Great Britain over the remaining dominions of the Sultan of Zanzibar, including the Islands of Zanzibar, and Pemba, as well as over the dominions of the Sultan of Witu.

Withdrawal of German Protectorate up to Kismayu

And the adjacent territory up to Kismayu, from which her Protectorate is withdrawn. It is understood that if the cession of the German Coast has not taken place before the assumption by Great Britain of the Protectorate of Zanzibar, Her Majesty's Government will, in assuming the Protectorate, accept the obligation to use all their influence with the Sultan to induce him to make that cession at the earliest possible period in consideration of an equitable indemnity.

III

AGREEMENT BETWEEN GREAT BRITAIN AND GERMANY, JULY 25, 1893

Section 1. On the coast the line shall start from the high-water mark on Ras Jimbo, and shall run from thence in a straight line to the point where the parallel of 3° 40′ 40·3″ S. (astronomically determined) cuts the eastern bank of Lake Jipe. But on the coast the boundary shall be deflected as follows: It shall run from the Indian Ocean along the northern bank of the Jimbo Creek, making the foreshore in the British sphere, as far as the eastern mouth of the Ngobwe Ndogo. It shall then follow the eastern bank of the Ngobwe Creek to its end, and then run to the point where the above described straight line from Ras Jimbo to Lake Jipe meets the rising ground on which the village of Jasini stands.

Section 2. From the point on Lake Jipe, described in Section 1, the boundary line shall follow the eastern side of Lake Jipe, and round the northern side of the lake crossing the River Lumi, and following the northern bank of the Rufu River (by which is also understood its swamp), as far as the point which is distant 1 English mile east of the German road going from the Marangu station to the coast. From thence it shall run to the summit of Chala Hill in the manner shown in the annexed map. The boundary line shall bisect the Chala Lake. From the north side of the Chala Lake onwards the boundary line shall run parallel to the track, as shown in the annexed map, and 1 English mile west of it as far as the latitude of the so-called Useri Camp. It shall then run at a distance of 1 kilom. south-west of the track shown in the annexed map as going to Laitokitok, as far as the point where it crosses the Ngare Longei (Rongei).

IV

DECLARATION BETWEEN PORTUGAL AND GERMANY, DECEMBER 30, 1886

Art. II.—The Boundary line which shall separate the Portuguese from the German Possessions in South-East Africa follows the course of the River Rovuma from its mouth to the point where the River M'sinje joins the Rovuma and runs to the westward on the parallel of latitude to the shores of Lake Nyasa.

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The foregoing list does not include the earlier Portuguese and Arabic authorities on the East Coast of Africa, which will be found in the List of Authorities in *Mozambique*, No. 121 of this series. Reference should also be made to *Kenya*, No. 96, and to *The Partition of Africa*, No. 89, in the Appendix to which the Anglo-German Treaty of 1890 and the German-Portuguese Treaty of 1886 are given; also to Hertslet, *The Map of Africa by Treaty*, London, 1909, and the Atlas which accompanies it.

Maps.

German East Africa is covered by the War Office map (G.S.G.S. General Map 2814), "German East Africa," on the scale of 1:2,000,000 (July 1916); also by six sheets of the War Office International Map of Africa, G.S.G.S. 2465 (1915-19).

The War Office map (G.S.G.S. 2932), "East Africa (former German): Ruanda and Urundi," on the scale of 1:1,000,000 (1919), shows the new Anglo-Belgian boundary and possible railway route.

Larger scale maps are G.S.G.S. 3026, in 35 sheets, scale 1:300,000 (1915-16); and G.S.G.S. 3025, in 5 sheets, 4 of the Usambara (Tanga) district and 1 of Massoko (Neu-Langenburg), scale 1:100,000 (1916). The Kilimanjaro (Moshi and Arusha) district is detailed on G.S.G.S. 1764, sheets 94-I, 94-J, 94-M, 94-N, scale 1:250,000.

The War Office map G.S.G.S. 2896, scale 1:16,000,000 (1918), illustrates the free trade zone mentioned on p. 99 of this book.

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