Annual medical and sanitary report / Uganda Protectorate.

UGANDA PROTECTORATE.

Annual Medical and Sanitary Report

FOR THE YEAR 1912.

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UGANDA PROTECTORATE.

ANNUAL MEDICAL AND SANITARY REPORT

FOR THE

YEAR ENDING 31ST DECEMBER, 1912.

SECTION I.

(*a*) MEDICAL STAFF.

The Medical Staff consisted of :—

The Principal Medical Officer.
The Deputy Principal Medical Officer.
The Medical Sanitary Officer.
15 Permanent Medical Officers.
4 Temporary Medical Officers.
2 Temporary Medical Officers for dealing specially with venereal diseases.
1 Dental Surgeon.
2 Nursing Sisters.
2 European Dispensers.
2 Assistant Surgeons.
15 Sub-Assistant Surgeons (including 2 attached to the troops).
8 Compounders.
And a varying number of Native Attendants.

The following joined the Protectorate during the year on appointment :—

Dr. A. R. Neilson	From England.
Dr. B. Spearman	Do.
Dr. A. H. Owen	Do.
Nursing Sister B. V. Hearsum... ...	Do.
Assistant-Surgeon Karam Singh ...	From India.
Do. Bhagwat	Do.

And 4 Indian Sub-Assistant Surgeons and 3 Compounders.

A Dental Surgeon (Mr. G. S. Bateman) was also appointed locally for the dental treatment of Government Officials.

Invaliding.—Dr. J. C. A. Ridgway was invalided from the Nile Province and left for England in December.

Deaths.—Nil.

Leave.—The following were on leave during the period stated opposite their names :—

	From	To
Capt. G. Lane, R.A.M.C. (S.R.)	30th March, 1912,	27th November, 1912.
Dr. G. C. Strathairn ...	25th March, 1912,	29th October, 1912.
Dr. J. M. Collyns ...	13th August, 1912,	end of year.
Dr. J. H. Reford ...	5th December, 1912,	do.
Dr. C. H. Marshall ...	3rd October, 1912,	do.
Capt. G. J. Keane, R.A.M.C.	1st January, 1912,	6th September, 1912.
Dr. J. A. Taylor ...	1st January, 1912,	26th January, 1912.

	From	To
Dr. J. E. Hailstone ...	1st January, 1912,	14th June, 1912.
Dr. R. E. McConnell ...	31st December, 1912.	
Dr. T. J. Cobbe	30th January, 1912.	Retired.
Dr. J. C. A. Ridgway ...		Invalided.
Nursing Sister B. Pether-bridge	1st January, 1912,	20th April, 1912.
Dispenser F. E. Westray	22nd April, 1912,	27th November, 1912.
Do. J. D. Buckland	31st December, 1912.	

Left the Service—

Dr. T. J. Cobbe. Resigned.
Nursing Sister M. Thomlinson. On completion of engagement.
Do. M. A. Lush. Resigned.
Do. Radcliffe. Do.

The work of the Asiatic subordinate staff continues satisfactory as a whole in that it is up to the normal standard of this class of official.

The scheme referred to in the two previous Annual Reports, under which the conditions and terms of service of all Medical Subordinates are placed on a definite and more satisfactory basis, is still under consideration.

Native Attendants continue to render satisfactory service according to their capacity, but until education has made some progress in the country there is little prospect of their attaining a very high standard of usefulness, or of any material extension of the duties and responsibilities assigned to them.

(*b*) FINANCIAL.

The estimated expenditure of the Medical Department for the year 1912–1913 was as follows :—

Personal Emoluments—	
Permanent Medical Officers	£8,426
Clerical Staff, Medical Storekeeper, Packers, Messengers, &c.	701
Temporary Medical Officers and subordinate staff for sleeping sickness preventive measures	1,904
Temporary Medical Officers and subordinate staff for dealing with venereal diseases	996
Medical Sanitary Officer and Clerk	605
Total personal emoluments	£12,632
Other Charges—	
Epidemics and anti-malarial measures...	£600
Miscellaneous charges	303
For suppression of sleeping sickness	4,495
For dealing with venereal diseases	346
	£5,744

HOSPITALS AND DISPENSARIES.

Personal Emoluments—	
Pay of Nursing Sisters, Dispensers, Indian Medical Assistants and Native Attendants	£3,825
Other Charges—	
Medical and Surgical Stores	£1,700
Upkeep of Hospitals	750
Miscellaneous charges	627
	£3,077
Total Charges—	
Personal Emoluments	£16,457
Other charges	8,821
Total	£25,278

It is too soon after the close of the financial year to be in a position to say what the actual expenditure has been, but so far as can be seen at present the estimate will not be exceeded, although the savings will probably be small.

Revenue.—The only sources of revenue are hospital fees and sale of medical and surgical stores.

It was estimated that the former would realise £100 and the latter £50.

The actual revenue in the former case will probably be approximately as estimated, and in the latter case it will probably be more than double the estimate.

SECTION II.

PUBLIC HEALTH.

(*a*) GENERAL REMARKS.

Taking all circumstances into consideration, the conditions of general health may be considered to have made satisfactory progress during the year. There has been an increase of over 27,000 in the total number of cases treated, but this is due to a larger population having been dealt with and to the increased confidence shown by the native in European methods of treatment, and not to any actual increase of sickness.

There has been a marked increase in the prevalence of diseases of the respiratory organs among natives, the number of cases treated being 13,466, as compared with 7,863 last year. There has also been a notable increase in blackwater fever among Europeans and Asiatics.

The increased number of cases under the former head is no doubt partly due to the increased general attendance referred to above, but that there was also an actual increased prevalence, probably to be accounted for by unusually persistent and heavy rains, is shown by the native returns, in which 1,823 deaths are attributed to "chest complaints," as against 1,547 last year.

The native returns show a satisfactory decrease in the number of deaths attributed to the more common communicable diseases, namely, dysentery from 1,087 to 759, plague from 1,961 to 1,282, sleeping sickness from 1,486 to 932, small-pox from 1,044 to 519, and measles from 537 to 289. These returns, however, are not received from Bukeddi, but only a special return for plague, which shows 1,659 deaths, as against 1,773 last year for that district.

The diseases calling for special attention are plague, venereal diseases, spirillum fever, leprosy and sleeping sickness among natives, and malaria and blackwater fever among Europeans and Asiatics.

The death returns compiled from both official and native sources, the latter of which are not very reliable as regards diagnosis, show that "fevers" (a very comprehensive term, but probably including chiefly malarial and spirillum fevers), venereal diseases, respiratory affections, muhinyo (which includes Mediterranean fever and probably several other diseases), plague, parturition, paralysis and sleeping sickness, in the order named, were the chief causes of mortality.

The number of deaths attributed by natives to "child-birth," namely, 1,049 for 30,469 living births, as against 821 for 28,363 living births last year, is a high one, and shows that our efforts to inculcate the principles of simple hygiene should be continued and extended if possible. Unfortunately, the native customs and prejudices in relation to pregnancy and lying-in and the

care of infants are probably more harmful and more difficult to overcome than any others.

In the more completely administered areas there is reason to believe that the teaching of general habits of cleanliness and of precautions in relation to communicable diseases is making some progress.

In outlying districts of immense area, where, owing to limited staff, a Medical Officer can rarely be present, it is extremely difficult to control the prevalence of disease and to prevent the existence of permanent foci for the spread of diseases which are of an endemic or infectious nature.

Plague is being dealt with in the Eastern Province, where it is endemic in the central cotton-producing area of the Protectorate, and the conditions of sudden and rapid development of trade and communication have been specially favourable to its spread. The use of inoculation has been extended during the present year, and its use has been welcomed by many of the natives. 13,458 inoculations have been carried out, and local administrative and medical opinions concur in believing the measure to have been highly beneficial in controlling the spread of infection. Its use has so far been confined to ports, trade-routes, stations and other trade centres. It will be still further extended during 1913.

Plague is also endemic in many other parts of the Protectorate, though it seldom comes under observation. It may, however, at any time become a serious danger with the opening up of the country, increased intercommunication and local concentration of the at present scattered populations of parts where it is endemic.

Venereal diseases continue to be very prevalent, and it is satisfactory to note an increased attendance for treatment at Government Dispensaries. Measures for compulsory legislation have been prepared for Buganda Kingdom, and it is hoped they may soon be applied.

Sleeping sickness, though its prevalence has enormously diminished, is, in the absence of a cure, and with the continued presence of the carrier in the infected areas, only held at bay by our present measures, and the strictest precaution should therefore be used in relaxing existing regulations in regard to it.

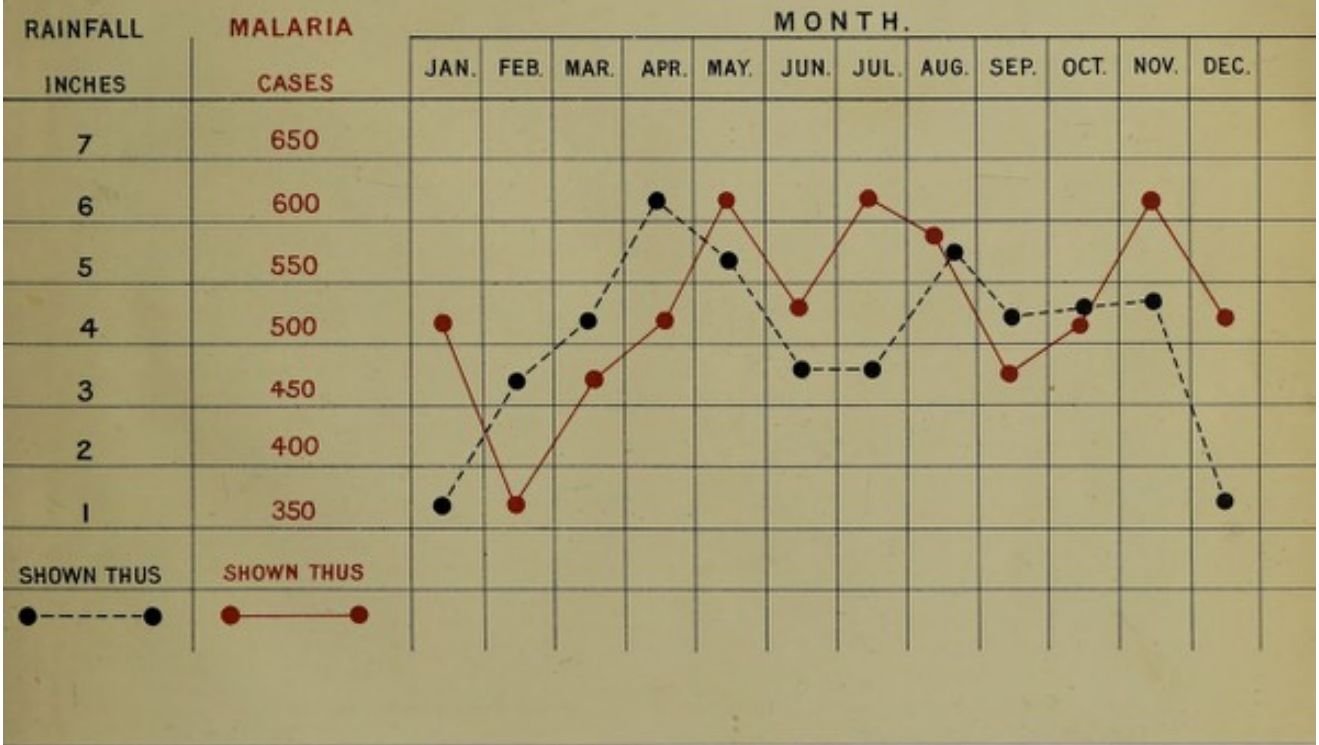
Tick fever is a very difficult disease to deal with among natives, but the worst foci of infection are probably to be found in the camps and locations for porter traffic and in native prisons, and steps should be taken to improve these. Any system of wheeled transport which would considerably reduce porter traffic would naturally be beneficial.

As reported last year, steps have been taken for the segregation of lepers by the natives themselves, but it is too early yet to judge of the results of this experiment. The disease, though not common, is widely spread, and the actual degree of prevalence can only become known as the outlying districts come more and more under medical observation. It does not seem necessary as yet for Government to establish leper asylums, but accommodation is required in one or more prisons for a small number of leper convicts.

The fact that every year many more natives are coming in for European medical treatment is a hopeful sign for the future, but progress must necessarily be slow owing to the backward state of the people to be dealt with, and much patient work will have to be done before we can hope to arrive at a satisfactory condition of public health among natives.

The sanitation of townships improves slowly, and a satisfactory increase in the attention given to these matters has followed the appointment of a Medical Sanitary Officer and the institution of Local Sanitary Committees, which have, since his appointment, been controlled by him. If, however,

COMPOSITE CHART SHOWING INCIDENCE OF MALARIA IN THE UGANDA PROTECTORATE DURING 1912 IN COMPARISON WITH THE RAINFALL.



sanitation is to be improved to meet the conditions brought about by the rapid increase in buildings and in population, funds must be available to carry out or extend such schemes as are found necessary, concurrently with the development of townships, especially for conservancy, drainage, water supply, hospital and prison accommodation; and staff must be available for effective sanitary supervision.

The term "township," from the point of view of sanitary measures and reports, is somewhat misleading. In many cases a large township area has been declared for administrative purposes, and such an area, of 12 square miles or even larger, may include several native villages or locations which are at some distance from the town proper, and which cannot readily be brought under sanitary control. The town proper to which I have alluded may contain some four or five European houses, some dozen Indian shops and a few hundred natives.

Further remarks on important diseases will be found below under their respective heads. Vital statistics, sanitary measures and other matters will also be dealt with in detail.

1.—GENERAL DISEASES.

765 cases were dealt with under this head, of which 630 were debility and 104 anæmia, the corresponding figures for last year being a total of 375 cases, of which 226 were debility and 115 were anæmia cases.

No seasonal prevalence is indicated and no special remarks are called for.

2.—COMMUNICABLE DISEASES.

(1) Mosquito or Insect Borne.

Malaria, Relapsing Fever and Sleeping Sickness were the principal causes of sickness under this head.

Malaria.—6,363 cases came under treatment, with 10 deaths, as compared with 5,286 cases and 6 deaths last year. The percentage of admissions for Malaria on the total admissions was 6·29, as compared with 7·49 in 1911. There were 235 cases among Europeans.

The highest admission rate was in the months of May, July and November, when over 600 admissions were recorded in each month. The lowest was in February, when only 370 cases were recorded.

Seasonal influence is marked in this disease, as will be seen by the accompanying composite chart for the whole Protectorate, and it is almost invariably found that the admission rate increases or decreases in proportion to the amount of rainfall, the greatest incidence being usually at the end of the rainy season.

The general type was, as usual, mild, and the cases chiefly Aestivo-autumnal or tropical Malaria, 5,335, or over five-sixths of the total admissions, being under this head.

There has been a marked increase in the number of cases at Mbarara and Fort Portal, for which the Medical Officers are unable to account, while satisfactory decreases are recorded at nearly all other Stations.

It will be observed by a perusal of Table A, at end of Sec. III., that the percentage of cases contracted outside the Stations varies greatly from that of last year. Bombo, Fort Portal, Hoima, Mbarara and Mbale have

considerably increased their percentage of cases contracted *in* the Station, while Entebbe, Kampala and (in a less degree) Jinja have decreased theirs.

Blackwater Fever.—This was more than usually prevalent, and affected Europeans and Asiatics.

During the year 45 cases occurred with 9 deaths, including 10 Europeans with 4 deaths, as against 18 cases with 3 deaths last year, including 4 Europeans with 1 death.

Of the above total 32 cases with 8 deaths were either treated by Medical Officers or their Assistants, or were reported as occurring in their districts, and 13 cases with 1 death were in the care of the C.M.S. Mission Doctors at Kampala.

There were 11 cases at Entebbe, 18 at Kampala (including 12 from the Indian Bazaar, treated at the Mission, with 1 death), 3 at Jinja, 1 at Bombo, 1 at Gondokoro, with 1 death, 1 at Fort Portal, 1 at Gulu, with 1 death, 1 at Mbarara and 8 in plantations or outlying places, with 6 deaths.

A full special report on this disease has already been submitted.

Dengue Fever.—Only 5 cases were recorded under this head, as compared with 69 last year.

Yellow Fever is not known to occur.

Elephantiasis.—26 cases were treated, as compared with 3 in the previous year, 7 of which are returned under Lymphatic System and 19 under Connective Tissue.

Relapsing Fever.—The number of cases treated under this head has risen from 1,084 with 17 deaths in 1911, to 1,809 cases with 13 deaths in 1912; the percentage of cases on the total admissions being 1·53 in 1911, and 1·85 in 1912.

The months of April and May contributed the highest rate, and November and December the lowest.

The admissions at Hoima have increased from 152 in 1911 to 559 in the present year, and at Kampala from 612 to 876. Both these Stations are centres of porter-traffic, and consequently centres of infection for the disease.

Fort Portal and Mbarara show a decrease in admissions under this head, and this is probably due to the decrease in porter-traffic through these Stations, owing to diversion of a considerable part of the Congo trade to the more northern route through Unyoro.

Sleeping Sickness.—The decrease of this disease continues to be most satisfactory and is believed to be general throughout all the infected areas, though much more marked in those connected with Lake Victoria and Lake Albert, in which it has been possible to carry out preventive measures more thoroughly.

The total admissions were 201, including 115 to the Sleeping Sickness Camp and 86 to various Stations; but, of the latter, the majority were transferred to the Camp and count as admissions there.

The deaths attributed to Sleeping Sickness were 932, as compared with 1,487 last year and 1,546 in 1910. Of these deaths 82 are assigned to Buganda, 747 to Busoga, 84 to Bunyoro, 11 to Ankole, 5 to Toro and 3 others. The corresponding figures for last year were 253, 1,013, 168, 6, 46 and 1. The deaths in Buganda Kingdom have fallen from 8,003 in 1905, to 82 in 1912.

(2) Infectious or Epidemic Diseases.

Beri Beri.—No case of this disease has yet come under observation.

Cerebro-Spinal Fever.—There were three cases and three deaths, as compared with 12 cases and 10 deaths last year.

Two of the cases occurred at Jinja and 1 at Kigezi.

Dysentery.—There were 475 cases with 9 deaths, as compared with 333 cases and 12 deaths last year.

There were 93 cases treated at Hoima, 74 at Gulu, 51 at Bombo, and 49 at Fort Portal. The remainder of the cases treated were distributed fairly evenly throughout the other Stations of the Protectorate.

The cases were mostly of a mild type and soon recovered under treatment.

Native Returns show a decrease of over 300 deaths under this head as compared with last year, the actual numbers being 759 this year and 1,087 in 1911.

According to both Hospital and Native Returns, the disease still appears to be more prevalent in the Western and Northern Provinces than elsewhere.

Enteric Fever.—There were 9 cases with 1 death, as compared with 40 cases and 4 deaths in 1911.

Eight of the cases occurred at Jinja and 1 case at Kampala.

Of the cases at Jinja, 7 were attributed to drinking contaminated water obtained from the vicinity of the Pier at Jinja; the probable source of infection in the other cases was not ascertained.

The case at Kampala and one of the cases at Jinja were Europeans. The remainder were Natives.

Erysipelas.—There were 3 cases, as compared with 3 cases and 1 death last year.

Gonorrhœa.—2,308 cases were treated, of which 1,961 were dealt with at the General Hospitals throughout the Protectorate and 347 at the Special Venereal Hospitals at Masaka and Kampala. In the previous year there were 2,214 cases, of which 1,737 were treated at General Hospitals and 437 at Special Hospitals.

Native Returns show 1,422 deaths under this head, as compared with 1,455 in 1911.

Influenza.—Only 27 cases are returned under this head, as compared with 58 in the previous year.

Leprosy.—33 cases are returned this year, as compared with 22 last year. 17 were of the Nodular type and 16 of the Anæsthetic type.

More cases of this disease came under observation with increased general attendance at Government Dispensaries and with extended medical observation in outlying districts, but there is no reason to believe that it is on the increase.

The chief centre of infection appears to be in the Eastern Province, East of Lake Kioga, where over 600 cases were reported by Chiefs and over 50 were actually seen in a comparatively small area by the Medical Officer on tour.

Measles.—35 cases and 2 deaths are returned, as compared with 64 cases and no deaths in 1911. According to Native Returns also it was less prevalent.

Mediterranean Fever.—Only 5 cases were returned, as compared with 20 in the previous year. The disease is believed to be endemic in outlying districts in the South and South-West of the Protectorate, where a large number of deaths is attributed to it under the name "Muhinyo," which also, however, includes other diseases.

Plague—There were 27 cases placed under treatment, with 25 deaths, as compared with 34 cases and 29 deaths in 1911, and 17 cases with 13 deaths in 1910.

According to Native Returns the deaths ascribed to plague during the past three years occurred as follows:—

	1912.	1911.	1910.
Buganda	546	613	587
Busoga	667	1,286	1,952
Bukedi	1,659	1,773	1,021
Lango	159	31	26
Unyoro	13	—	—
Toro	9	22	11
Ankole	47	9	26
Nile		No returns.	
	3,100	3,734	3,623

The greatest prevalence was, as last year, during the period June to October. All forms of the disease occurred and the type was, on the whole, severe.

Pneumonia contributed 105 cases with 32 deaths, as compared with 45 cases and 14 deaths in the previous year.

The cases were fairly evenly distributed throughout the Protectorate, except in the case of Bombo, where 37 cases and 6 deaths occurred. They were also evenly distributed throughout the year.

Small-Pox.—40 cases with 1 death came under treatment during the year, as compared with 30 cases and 2 deaths in 1911.

Thirty-six of the cases occurred at Kampala in January and February as a result of an outbreak in the Gaol late in the previous year. These cases were all mild, as the prisoners had been previously vaccinated.

According to Native Returns the deaths under this head during the past three years have been as follows:—

	1912.	1911.	1910.
Buganda	18	58	146
Busoga	482	964	433
Unyoro	8	18	29
Ankole	11	4	25
Toro	—	—	4
Nile District		No returns.	
	519	1,044	637

Vaccination.—4,621 vaccinations were performed, as compared with 3,003 in the previous year.

Of these 2,266 were successful, 456 had a modified result, 767 were failures, and in the 1,132 remaining cases the results were not ascertainable.

Of the successful results 1,864 were obtained by the Lymph issued from the Government Laboratory at Nairobi, 250 by the Lanolinated Lymph and 152 by the Dried Lymph issued by the Lister Institute.

In the case of the modified results the Lymph used was as follows:—Nairobi Lymph 427, Lanolinated Lymph 7, Dried Lymph 22. The Lymph used in the case of the failures was: Nairobi Lymph 597 cases, Lanolinated Lymph 118, and Dried Lymph 52. The totals of persons on whom the various kinds of Lymph were used are as follows:—Nairobi Lymph 3,862, Lanolinated 470 and Dried 289.

Tables showing the numbers vaccinated and percentage results are given under Section III.

Syphilis.—The cases treated under this head have increased from 3,690 in 1911 to 6,159 during the present year.

Of these 5,833 were dealt with at the General Hospitals and Dispensaries and 178 and 148 cases at the Special Venereal Hospitals at Kampala and Masaka respectively.

The special Medical Officer for dealing with Venereal Diseases was absent on leave during eight months of the year.

According to native returns the deaths attributed to this disease during the past three years were as follows :—

	1912.		1911.		1910.
Buganda	633	...	517	...	554
Busoga	313	...	643	...	454
Unyoro	221	...	99	...	139
Ankole	379	...	224	...	300
Toro	212	...	267	...	150
Nile		No returns.			
	1,758	...	1,750	...	1,597

Tuberculosis.—26 cases with 2 deaths were returned, as compared with 50 cases recorded in 1911 and 22 cases in 1910.

Yaws.—There were 508 cases placed under treatment for this disease, as against 500 in the previous year and 508 in 1910.

This disease continues to be more prevalent in the western part of the Protectorate than elsewhere, but cases occur at nearly all Stations.

Helminthic Diseases.

217 cases were returned under Cestoda and 1,296 cases under Nematoda.

Of the former 211 were due to *Tænia Saginata*, and of the latter the majority were—Ascaris (983 cases), Oxyuris (193 cases) and Dracunculus Medinensis (113 cases).

The distribution of the common Helminthic diseases appears to be general in the Protectorate, but Dracunculus is found only in the Northern part, where it is common in the Nile Valley and has been reported this year by Dr. Sells to be very prevalent north of Lake Salisbury.

(*b*) EUROPEAN OFFICIALS.

The health of European Officials continues satisfactory.

There were 385 cases treated and 2 deaths, as compared with 395 cases and 5 deaths in the previous year.

Of the 385 cases treated 339 were placed off duty, and the remaining 46 continued to do duty while under treatment.

Of the total admissions 138 were due to Malaria and 4, with 1 death, to Blackwater Fever. The other principal causes of admission were :—Diseases

of the digestive system, 68 cases with 1 death ; and Injuries, chiefly of a slight nature, 38 cases.

The following table shows the percentage of admissions under the three first-named heads, as compared with the two previous years :—

Diseases.	1912.		1911.		1910.	
	Cases.	Percentage of total admissions.	Cases.	Percentage of total admissions.	Cases.	Percentage of total admissions.
Malaria	138	36	140	37	134	37
Blackwater Fever ...	4	1·04	2	·51	4	1·09
Digestive	68	17	86	22	62	16

The following deaths occurred among European Officials during the year :—

Mr. P., at Kampala, on the 19th February, 1912, from Enteritis.

Mr. T., at Gulu, on 8th May, 1912, from Blackwater Fever.

Four European Officials were invalided during the year, the causes of invaliding being (1) palpitation, (2) neuralgia and hypochondria, (3) nervous breakdown and (4) delusional insanity.

The following table shows the number of European Government Officials invalided during the past seven years, with the causes of invaliding :—

Disease.	1912.	1911.	1910.	1909.	1908.	1907.	1906.	Total.
Alcoholism	—	—	—	1	—	—	—	1
Blackwater Fever	—	—	1	—	3	—	—	4
Circulatory Affections	1	1	—	1	2	—	—	5
General Debility	—	2	1	1	—	2	—	6
Injuries	—	—	—	1	—	—	—	1
Malaria	—	—	—	—	—	—	1	1
Morphinism	—	—	—	1	—	—	—	1
Nervous and Mental Diseases ...	3	1	—	—	2	—	1	7
Sleeping Sickness	—	—	—	—	—	—	1	1
Urinary Affections	—	—	—	1	—	1	—	2
Total Invalided	4	4	2	6	7	3	3	29
Average number of European Government Officials	265	242	223	—	—	—	—	—
Percentage Invalided	1·51	1·65	·89	—	—	—	—	—

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES OF EUROPEAN OFFICIALS DURING 1912.

Stations.	Total number of Official Residents.	Average number resident.	Total number on sick list.	Total number of days on sick list.	Average daily number on sick list.	Percentage of sick to average number resident.	Average number of days on sick list for each patient.	Average sick time to each resident.	Total number invalided.	Percentage of invalidings to total residents.	Total deaths.	Percentage of deaths to total residents.	Percentage of deaths to average number resident.	Number of cases of sickness contracted away from residence.
Bombo	30	7	12	72	·19	2·71	6·00	10·28	—	—	—	—	—	5
Entebbe	67	67	77	277	·76	1·13	3·60	4·13	1	1·49	—	—	—	12
Kakindu	17	6	31	98	·26	4·33	3·16	16·33	—	—	—	—	—	4
Fort Portal	26	4	14	144	·39	9·75	10·28	36·00	—	—	—	—	—	3
Gondokoro	1	1	1	8	—	—	—	—	—	—	—	—	—	—
Gulu	7	1	6	43	·11	11·00	7·16	43·00	—	—	1	14·28	100·00	4
Hoima	43	3	15	283	·77	25·66	18·87	94·33	1	2·32	—	—	—	9
Jinja	12	9	54	247	·67	7·44	4·57	27·44	—	—	—	—	—	5
Kampala	70	26	66	89	·24	·92	1·34	3·42	—	—	1	1·42	3·84	—
Kigezi	3	3	3	36	·10	3·33	12·00	12·00	—	—	—	—	—	3
Nabieso	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Masaka	5	3	12	50	·13	4·33	4·16	16·16	—	—	—	—	—	5
Masindi	5	2	11	47	·12	6·00	4·27	23·50	—	—	—	—	—	—
Mbale	39	5	14	148	·40	8·00	10·57	29·60	—	—	—	—	—	3
Mbarara	18	4	18	305	·83	20·75	16·94	76·25	—	—	—	—	—	—
Nimuli	4	1	4	19	·05	5·00	4·75	19·00	—	—	—	—	—	1
Kumi	2	2	1	8	·02	1·00	8·00	4·00	—	—	—	—	—	—
Uganda Protectorate	349	144	339	1,874	5·04	3·50	5·52	13·01	2	·57	2	·57	1·38	54

(c) NATIVE OFFICIALS, INCLUDING ASIATICS.

There were 723 cases treated, with 2 deaths, as compared with 748 admissions and 5 deaths in the preceding year.

Of these 622 were placed off duty and 101 continued to do duty while under treatment.

The principal causes of admission to the sick list were:—Malaria, 231 cases; fever of uncertain origin, 136 cases; diseases of the digestive system, 116 cases; and diseases of the respiratory system, 51 cases.

Blackwater fever contributed 3 cases, of which 2 proved fatal.

One Goanese clerk, 1 Indian carpenter and 2 Sepoys were invalided during the year, the first named for general debility, the second for debility following Malaria, and the two Sepoys for paralysis and delusional insanity respectively.

TABLE SHOWING THE SICK, INVALIDING AND DEATH RATES OF ASIATIC AND NATIVE OFFICIALS DURING 1912.

Stations.	Total number of officials resident.	Average number resident.	Total number on sick list.	Total number of days on sick list.	Average daily number on sick list.	Percentage of sick to average number resident.	Average number of days on sick list for each patient.	Average sick time to each resident.	Total number invalided.	Percentage of invalidings to total residents.	Total deaths.	Percentage of deaths to total residents.	Percentage of deaths to average number resident.	Number of cases of sickness contracted away from residence.
Bombo ...	24	14	21	260	·71	5·07	12·37	18·57	—	—	—	—	—	—
Entebbe ...	58	58	144	417	1·14	2·24	2·80	7·10	1	2·08	—	—	—	3
Kakindu ...	13	8	30	61	·17	2·12	2·03	7·62	—	—	—	—	—	5
Fort Portal...	8	5	8	105	·28	5·60	13·12	21·00	—	—	—	—	—	1
Gondokoro ...	3	3	—	—	—	—	—	—	—	—	—	—	—	—
Gulu ...	5	2	19	72	·19	9·50	3·78	36·00	—	—	—	—	—	2
Hoima ...	11	3	14	107	·29	9·66	7·64	35·66	—	—	—	—	—	1
Jinja ...	41	30	115	697	1·91	6·36	6·06	23·23	2	4·87	—	—	—	7
Kampala ...	65	31	231	316	·86	2·77	1·36	10·19	—	—	1	1·53	3·22	—
Kigezi ...	1	1	—	—	—	—	—	—	—	—	—	—	—	—
Nabieso ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Masaka ...	6	4	5	1	·002	·05	·20	·25	—	—	—	—	—	—
Masindi ...	10	6	23	83	·22	3·66	3·60	13·83	1	10·00	—	—	—	—
Mbale ...	8	3	7	1	·002	·06	·14	·33	—	—	1	12·5	—	—
Mbarara ...	7	4	3	68	·18	4·3	22·66	17·00	—	—	—	—	—	—
Nimuli ...	4	3	2	6	·01	·33	3·00	2·00	—	—	—	—	—	—
Kumi ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Uganda Protectorate	264	175	622	2,194	5·96	3·40	3·52	12·53	4	1·50	2	·75	1·14	19

(d) GENERAL EUROPEAN POPULATION.

The health of Europeans generally continues to be good.

The cases treated numbered 738 with 7 deaths, as compared with 662 cases and 7 deaths in 1911, 680 cases with 5 deaths in 1910 and 475 cases with 8 deaths in 1909.

Malaria, as usual, was responsible for a large number of admissions amongst this class, viz.:—235, or 31·8 per cent. of the total, as compared with 30·6 per cent. last year. Blackwater fever contributed 9 cases with 3 deaths, diseases of the digestive system 128 cases with one death, and Injuries 53 cases.

The number of European residents has largely increased, but accurate returns are not obtainable.

The following table shows the principal causes of sickness among Europeans during the last four years :—

NUMBER OF CASES.

Year.	Malaria.	Blackwater Fever.	Relapsing Fever.	Dengue.	Enteric.	Respiratory Affections.	Digestive Diseases.
1912 ...	235	9	10	1	2	30	128
1911 ...	203	4	5	5	5	18	152
1910 ...	225	9	3	11	—	35	130
1909 ...	170	10	15	14	—	34	71

There were seven deaths in all among Europeans, viz. :—One from enteritis, 3 from blackwater fever, 1 from malaria and 2 infants from inanition.

TABLE SHOWING DEATHS AMONG EUROPEANS DURING THE PAST FIVE YEARS.

Cause of Death.	1912.	1911.	1910.	1909.	1908.	Totals.
Drowning (Accidental)	—	1	—	—	—	1
Blackwater Fever ...	3	1	3	4	—	11
Malaria	1	2	—	—	—	3
Enteric Fever	—	1	—	—	—	1
Erysipelas	—	1	—	—	—	1
Pneumonia	—	1	—	—	—	1
Enteritis	1	—	—	—	—	1
Uræmia	—	—	—	—	1	1
Hæmoptysis	—	—	—	—	1	1
Gastric Ulcer	—	—	—	—	1	1
Dysentery	—	—	—	1	—	1
Meningitis	—	—	—	1	—	1
Bright's Disease ...	—	—	—	1	—	1
Cerebral Embolism ...	—	—	—	1	—	1
Inanition	2*	—	—	—	—	2
Alcoholism	—	—	2	—	—	2
Totals ...	7	7	5	8	3	30

* Infants.

(e) GENERAL NATIVE POPULATION.

Approximately the Native population of this Protectorate is as follows :—

(*Vide* Census Returns 1911.)

Buganda	705,615
Eastern Province	1,053,358
Unyoro	130,922
Toro...	115,041
Ankole	228,700
Nile District and unadministered areas	606,833
Total	2,840,469

Births.—According to Native Returns 30,468 births took place during the year, of these 14,996 were males and 15,472 were females.

The births occurred as follows :—

	Male.	Female.	Total.
Buganda	4,523	4,522	9,045
Busoga	4,946	4,936	9,882
Unyoro	1,544	1,619	3,163
Toro	2,053	2,252	4,305
Ankole	1,930	2,143	4,073
Nile Province, Bukeddi and Lango		No Returns.	
Totals	14,996	15,472	30,468

Deaths.—Native Returns show 27,151 deaths, as compared with 27,254 in the previous year, they were distributed as follows throughout the various districts :—

Buganda	11,400
Busoga	7,502
Unyoro	2,452
Ankole	3,352
Toro	2,332
Others	113
Nile District, &c.	No Return
Total	27,151

The Native Returns as to the causes of death are not as yet sufficiently reliable to be embodied in a Statistical Return of this description, and are therefore not given here, but reference is made thereto in the section of the report dealing with diseases.

The following table shows the populations, births, deaths and rates per 1,000 for the Provinces or Districts from which the returns are made, also the percentage of still births to the total births :—

1912.	Buganda.		Busoga.		Bunyoro.		Ankole.		Toro.	
Population	536,303		243,403		130,922		228,700		115,041	
	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.	Births.	Deaths.
	9,045	11,400	9,882	7,502	3,163	2,452	4,073	3,352	4,305	2,332
Rates per 1,000 ...	16·8	21·2	40·5	30·8	24·1	18·7	17·8	14·6	37·4	20·2
Still Births per cent. of Total Births	1,001 = 11		548 = 5·5		962 = 30·4		529 = 12·9		1,998 = 46·4	

For the total population dealt with the birth rate was 24·2 per 1,000 and the death rate 21·5 per 1,000, as compared with 22·5 and 21·7 respectively last year. The proportion of still births returned to the total living births is 16·5 per cent. as compared with 13·7 per cent. last year.

As explained in previous Reports, the Native Returns of Births and Deaths are not yet sufficiently accurate or complete for statistical deductions to be drawn from them, and though the figures quoted may be supposed to give an idea of the general trend of things, it is probable that no true estimate of the increase or decrease in population can be obtained until the next census is taken.

SECTION III.

SANITATION.

(*a*) GENERAL REVIEW OF WORK DONE.

(1) ADMINISTRATIVE.

I took up office as Medical Sanitary Officer in July. Owing to the time occupied in the revision of the rules under the Township Ordinance I was prevented from making a complete tour of the Protectorate before the end of the year, but I was able to inspect the Ports on Lake Chioga and the Victoria Nile and the stations in Bunyoro, besides making several visits to Jinja and Kampala.

In order to have some idea of the sanitary conditions obtaining in the out-stations I was unable to visit, I asked for similar statistics to those required in "the summaries of sanitary work done" from all the stations in the Protectorate, and the rough data received have been useful as a reference when correspondence has supervened on sanitary matters at those stations.

Local Sanitary Committees were appointed to the townships of Entebbe, Kampala, Jinja, Mbale, Hoima and Mbarara (and later Masindi) by a circular issued by the Chief Secretary which details the duties of the Committees. (Appendix A, *see* page 69.)

The establishment of these committees is an important progressive measure, in that it gives to the Medical Officer a share in the control of the general sanitation of the township, for which he was formerly only nominally responsible. The executive authority still remains in the hands of the District Commissioner as President of the Committee.

The meetings I have attended have been conducted without friction, and the interest shown in sanitary matters by the members of the various committees augurs well for the success of the scheme, and already some material progress has been the result.

A further circular in October gave powers to the Local Sanitary Committees to condemn Government Buildings, subject to the approval of the Medical Sanitary Officer and the Director of Public Works.

At Jinja I found that a voluntary sanitary board had been formed, consisting of traders, with the Assistant District Commissioner as Chairman. A voluntary rate was imposed to defray expenses of night soil men, &c. This is quite apart from the Local Sanitary Committee. It was formed to deal with conservancy and the removal of refuse.

Laws Passed, &c.

During the past year the following additions and amendments to the various ordinances connected with Public Health were published in the Official Gazette.

Under the Sleeping Sickness Ordinance.—(1) A further large tract of country in the Western Province was proclaimed an infected area.

Under the Infectious Diseases Ordinance.—(1) Enteric and cerebro-spinal fevers were declared infectious diseases.

(2) Kisumu in British East Africa and Naruboyu on Lake Chioga were declared infected places owing to the outbreak of plague.

Under the Dangerous Diseases Ordinance.—Syphilis was declared a dangerous disease.

Under the Townships Ordinance.—(1) New rules were made whereby the sub-division of Township plots by fences may be restricted.

(2) The Public Health Rules of 1910, whereby those following certain trades must be licensed subject to a Medical Certificate, were amended to include those "employed in the manufacture of soda water."

(3) Rule 5 of the Township Rules, 1910, dealing with insanitary privies, was applied to the town of Entebbe.

Under the New Railway Ordinance.—Rules were inserted restricting the traffic of passengers suffering from infectious diseases.

Venereal Diseases.—At a conference held at Government House on 30th July, 1912, it was recommended that legislation should be undertaken, both by the Government and Natives, for compulsory notification and treatment of venereal diseases, and to enforce certain general measures to prevent the spread of the disease.

On the arrival of Captain Keane, R.A.M.C., he was given notes by the Principal Medical Officer on the general lines on which he recommended legislation. Captain Keane drew up a rough draft, which was put before the Buganda Lukiko (Native Parliament) through the Provincial Commissioner.

The Lukiko framed a draft law on the lines indicated by the Principal Medical Officer. The Principal Medical Officer then drafted a law, as much as possible in the language of the native draft, which was accepted by the Lukiko practically as it stood, and has since, after revision by the Attorney General, been printed.

After it has been submitted to a full meeting of the Saza Chiefs, and has been approved by His Excellency the Governor, it will be submitted for approval to the Secretary of State.

Concurrent legislation by the Government, in the form of rules under the Dangerous Diseases Ordinance and the Township Ordinance, has been drafted and will be submitted with the Native law in due course.

The Sleeping Sickness Ordinance.—An entire revision of this ordinance is under consideration, and the new ordinance is to be published early in 1913.

Township Ordinance.—A Board was convened in August to revise, *in toto*, the existing rules under the Township Ordinance, consisting of the Attorney General (President), the Assistant Director of Public Works, the Assistant District Commissioner in charge of Entebbe and the Medical Sanitary Officer. The advice of the Principal Medical Officer was also taken at one meeting of the Committee.

New rules were drafted to deal with nuisances, adopting the model of similar rules under the Township Ordinance of Southern Nigeria. Also others dealing with buildings, roads, streets, sewage and refuse disposal, care of markets, &c., as well as anti-malarial regulations.

The drafts of these rules are still under consideration.

Government Buildings.—Further improvements in regard to verandah space have been made in all types of new dwelling houses.

A departmental rule has been issued by the Director of Public Works, dealing with the proper orientation of dwelling houses with regard to local conditions. Disregard of this point in the past has resulted in much discomfort, owing to houses being built facing in the wrong direction and so receiving no benefit from prevailing breezes, or too much exposure to the sun in the principal living rooms.

The attention of the Public Works Department has been drawn to the need for further ventilation in houses than is afforded by the doors and windows, with the result that in the future all new official houses are to be provided with ventilators fixed in the walls communicating with the outside air.

Town Planning.

General.—The Land Office have agreed that, in the general scheme for laying out Townships in the future, not more than two plots should adjoin one another, so that either a road or a sanitary lane will be provided at the back of each plot, as well as a lane between every other plot in a street.

Kampala.—A special board was convened in July last which revised the general plan of the township, with the main object of reserving "open spaces" and providing for sanitary lanes in the Bazaar. The latter are urgently needed owing to the overcrowded condition of the Indian Bazaar.

Jinja.—Sanitary lanes were devised by cutting off a certain portion of the unoccupied township plots, and in one or two cases the holders of occupied plots agreed to yield part of theirs for the purpose.

Fort Portal. Mbarara.—Suggestions have been submitted for the re-siting of these Stations, in order to separate the European quarter as far as possible from Asiatics or Natives. The matter is under consideration.

Namasagali.—The terminus of the Busoga Railway and the principal port of the Victoria Nile steamers has been the subject of much deliberation as to the siting of the European quarter, the available building land being confined to a flat topped ridge between the river and a swamp. The choice for the European site lay between (1) a position to the north of the pier and railway station, where it would be a simple matter to segregate it from Asiatics and Natives should the town develop to any size, and (2) a site to the south where segregation would be difficult, but the distance from water uncontaminated by the port would be less. On account of the unhealthy nature of the spot it was decided in favour of the north site, which is moreover more open.

Bugondo.—A port on Lake Chioga, which has no official population, but has two large cotton ginneries in course of construction, with about a dozen European employees.

The plan of the township was laid out reserving European residential sites, for Officials and others, on rising ground, and 500 yards away from any commercial plot.

Entebbe and other Stations have undergone no change in the town plan.

(2) PREVENTIVE MEASURES.

Mosquito and Insect-borne Diseases.

Malaria.—Prophylaxis against Malaria may be divided into:—

(1) Petty anti-malarial measures.
(2) Major measures.
(3) Gauze wire protection.
(4) Quinine distribution.
(5) Racial segregation.

1. *Petty Anti-Malarial Measures*—

The work of the anti-malarial gangs—numbering from 6 to 12 men in the principal stations—which was begun in 1911, has been carried on this year, and consists in:—

(1) The inspection of all compounds, and the collection therefrom of all old tins and other small receptacles liable to contain larvæ.

(2) Clearance of roof gutters, and the piercing of old gutters in places where these have by sagging retained stagnant water.

(3) Filling up of small excavations.

(4) Clearing of rank vegetation.

(5) Planting French grass.

(6) Examination for larvæ of water vessels and the weekly emptying of such as contain larvæ. Specimens of larvæ are collected (the locality being noted) and brought to the Medical Officer for identification. (It is remarkable that by these means very few anopheles larvæ have been recorded, though the imago of this species is often seen.) The commonest larva found about compounds in Entebbe has been that of the Stegomyia. The commonest adult mosquito seen is a species of Tæniorrhynchus, but the discovery of its larvæ has not been recorded. The *Culex Fatigans* is noted frequently in the larva and adult stage.

The clearing and planting is largely done by the staff kept for upkeep of Stations apart from the anti-malarial gangs.

2. *Major Measures—Drainage of Swamps—*

No new large works have been undertaken this year with the object of reclamation of swamp land, with the exception of the treatment of a small marshy lagoon at Butiaba which has just been begun.

The drainage previously done in swamps at Masindi, Hoima and Mbale has been maintained with good results.

At Kampala, the Nakivubo swamp, which runs round the foot of the hill on which the town is situated, is practically in the same condition as it was a year ago. The main channel of the stream running through it has been kept fairly clear of vegetation, but further progress in the general treatment of the swamp has been prevented by lack of funds. The necessity of the drainage of this swamp on a large scale was recognised as early as 1909. I will therefore recapitulate the work done since that date.

Early in 1910 the main channel was deepened and cleared for the length of nearly three miles. Twelve acres were cleared of vegetation and levelled as an experiment. A strip one mile long was planted with citronella grass along the stream, at a cost of £334.

As a result of this the experimental 12 acres rapidly dried up, and a large area of the swamp influenced by the deepening of the central stream showed less tendency to become waterlogged after rain.

It was estimated that the similar treatment of the whole of that part of the swamp which is owned by the Government would cost £1,500 exclusive of upkeep.

In April, 1910, to March, 1911, the main channel was again deepened and kept clear of vegetation, and a few tributary streams treated in a like manner, at a cost of £198.

In April, 1911, to March, 1912, the main channel was kept clear of vegetation and the deepened portion extended for some distance, at a cost of £132.

In April to December, 1912, the upkeep of the main channel was the only work carried out, at a cost of £60.

The experimental 12 acres has been allowed to be covered with jungle again, but does not hold water in any quantity.

3. *Gauze Wire Protection—*

Gauze wire doors and windows have been affixed to all new permanent Officials' quarters and sleeping nets have been provided for Officers.

The use of the latter is almost universal among Europeans.

The cabins on the lake and river steamers are also mosquito protected.

The Indian Contingent Barracks were provided with gauze wire protection as well as sleeping nets.

4. *Quinine Distribution—*

Quinine is distributed on application to all Officials, and the total amount consumed during the year throughout the Protectorate for prophylactic and medicinal purposes was :—

5 grain tabloids, 55,800.
In powders, 177 lbs. 15 ozs.

A bi-weekly ration was distributed among the Indian Contingent at Kampala and Entebbe.

5. *Racial Segregation—*

This principle has not been lost sight of in the planning of new townships in order that the risk of malarial infection to Europeans, incurred by their being housed close to other races (especially Asiatics), may be diminished as far as possible in the future.

Trypanosomiasis.—The report of the Officer in charge of administrative Sleeping Sickness measures gives a summary of the prophylactic measures taken against the disease.

Extensive clearing of the fly-infested jungle in fresh areas, chiefly on the Victoria Nile and Lake Chioga, has been carried out, and former clearings have been satisfactorily maintained.

In three separate districts the population (over 14,000 people in all) have been moved to a safe distance, and, with the exception of a portion of the White Nile, all the principal trade routes may be said to be now free from infection to travellers.

The regulations for the prevention of the spread of the disease have been enforced with generally satisfactory results.

Yellow Fever.—The disease has hitherto been unrecorded in the Protectorate, but the Stegomyia mosquito is common, and the measures taken against mosquito reduction for anti-malarial purposes apply also to this species.

Filariasis.—No special steps have been taken against this condition.

Spirillum Fever.—Rest camps and labour camps when reported to be infested with ticks have been burnt in various parts of the country. Prisons under native control, which were found to be tick infested and were fruitful foci of infection, were replaced at Kampala and Hoima.

Epidemic Diseases.

Plague.—In the plague endemic area in the Eastern Province the regulations under the Infectious Diseases Ordinance have been enforced as far as possible.

Cases as well as contacts have been segregated as soon as reported. Infected huts have been burnt and steps taken towards rat destruction.

Inoculations of Haffkine serum were performed during the year to the number of 13,458 injections, chiefly in the Teso district, which is an important cotton growing centre.

The Medical Officer of Mbale, Dr. Sells, who has conducted these measures with the help of the Administration, reports that the Natives take kindly to, and even ask for, inoculation, and have conformed as a rule to the regulations enforced, except in those districts where the influence of the Administration is not so great.

The present system of Administration in these districts which depends largely on the employment of Baganda "Agents" is, however, about to be altered, and it remains to be seen whether the Natives will in the future prove as amenable to the anti-plague regulations as they have done hitherto.

Kisumu, in British East Africa, having been "a declared infected Port" for most of the year, inspection of steamers and surveillance of passengers landing at Entebbe, Kampala and Jinja was carried out, with the result that only one case of plague (fatal) occurred at Kampala which had contracted the disease at Kisumu.

Prompt disinfection of the house the patient stayed in and isolation of contacts prevented any spread of the disease.

Small-Pox.—There was an outbreak of small-pox in the Central Jail at Kampala, which lasted from December, 1911, to March, 1912. All contacts and cases were isolated and vaccinations performed, with the result that the later cases were mild and the epidemic did not extend outside the Jail.

Vaccination was performed in districts where sporadic cases had occurred, with the result that there was no alarming epidemic.

Vaccinations.—The following table shows the vaccinations performed and the lymph used :—

Result.	Calf Lymph.		Arm to Arm.		Lymph used (No. of persons).		
	Primary.	Secondary.	Primary.	Secondary.	Nairobi.	Lister Institute.	
						Lanolinated.	Dried.
Successful... ...	2,232	69	30	—	1,864	250	217
Modified	377	79	—	—	427	7	22
Failed	777	13	2	—	597	118	77
Unknown... ...	1,132	—	—	—	974	95	63
Totals ...	4,518	161	32	—	3,862	470	379

The following table shows the percentage of results obtained with the various lymphs :—

Percentage.	Successful.	Modified.	Failed.	Unknown.
Nairobi Lymph...	48·26	11·05	15·46	25·23
Lanolinated	53·19	1·48	25·11	20·22
Dried	57·25	5·80	20·31	16·63

Cholera.—No special steps were taken against this disease, which is hitherto unknown in the Protectorate.

Dysentery.—No prophylactic measures have been specially taken against Dysentery, other than the protection of water supply in stations.

Enteric Fever.—The small epidemic at Jinja at the beginning of the year was effectually stopped.

The source of infection was traced to water having been dipped close to the pier. After water-drawing for drinking purposes was restricted to a place below the Ripon Falls there were no fresh cases.

Helminthic Diseases.—No special prophylactic measures have been taken against these, and none have been considered necessary or practicable.

Trypanosomiasis.—So far as one can tell, very few new infections with trypanosomes took place, and none have come under observation, but the disease is only held in check by the existing preventive measures, and is not stamped out. It would therefore be unwise to relax any of these measures without the fullest consideration.

(3) GENERAL MEASURES.

Drainage.

Subsoil.—There is no subsoil drainage.

Surface.—The surface drainage (with the exception of the masonry drains mentioned later and the drains made for the reclamation of swamps) consists merely of roadside earth ditches with cement, stone or wooden culverts.

In places where these ditches are on a steep gradient the storm water eventually turns them into a series of pits by hollowing out the softer places. These as a rule do not hold water long, owing to the porous nature of the soil, but in some places water will remain for several days in the rainy season, and form potential mosquito breeding places.

These are particularly noticeable in parts of Entebbe and Kampala, especially where they receive the discharge of unfinished concrete drains, which, coming from compounds, contain sullage water which is often offensive.

I have called attention to this nuisance, but lack of funds has prevented any permanent improvement being made. With the exception of 100 yards "repaired" at Kampala no masonry drains were laid down during the year.

Sewage Disposal.

The Bucket Removal System has been extended this year, replacing that of the cesspit-privy, locally known as a "Choo."

All European Officials in the larger stations are supplied with bucket latrines, as are also, in Entebbe, Kampala and Jinja, traders and servants of officials, and public latrines are fitted with buckets.

Three four-seated public latrines were erected at Jinja.

Police lines at Entebbe, Kampala, Hoima, Masindi and Nabieso also use bucket latrines. I have no record of other police lines. Jinja and Mbale police use privies. The rank and file of the Military at Bombo still use the "Choo" system.

In most places the buckets are removed by hand and the contents placed in pits and buried. In Entebbe and Kampala the contents of the buckets are emptied into Crowley carts, rinsed with water and the rinsings also put into the carts.

The contents of the carts are then disposed of as follows:—

Trenching.—Trenching is systematically carried out with the major part of the excreta at Entebbe.

Incinerators.—These are in use at Entebbe, Jinja and Kampala. At Kampala almost the whole of the excreta of the population in the township area is burnt, partly in small incinerators, but mostly in one large one. The former have been found to work well with a small quantity of excreta if burnt quickly with plenty of dry fuel, but they are too expensive consumers of fuel for a large quantity of excreta.

In the large incinerator the technique is as follows:—Dry grass is rammed tight at the bottom of the furnace, the contents of the night soil carts are shot in above this and more fuel added from the top. The mass is then lit and combustion proceeds slowly, more fuel being added from time to time until the

whole is reduced to ashes. This is not according to the recognised methods advised by writers on the subject, but all who have seen this incinerator at work agree with me that the method is highly satisfactory, and there is no obnoxious smell.

The only drawback is that the process takes some hours, but as it only means the employment of one or two stokers the objection is small. Even if the grass is not quite dry the incinerator generally completes the work in spite of the fact that the contents of the Crowley carts are largely composed of fluid due to urine, the washings of the buckets, and the lavage after defæcation practised by a large number of the inhabitants.

At Jinja a portion of the sewage is dumped into the Nile at a point below the station ; and I see no reason to condemn the practice, as below the dumping point is a "prohibited" Sleeping Sickness area which extends for thirty miles on either bank, so that there are no watering places likely to be contaminated ; and the river, which is wide and much broken by rapids, soon completes the disintegration of the sewage.

Pits.—All other night soil, where pails are in use, is buried in pits.

Disposal of Refuse.

Road and street sweepings and refuse from compounds are in the three larger towns collected in carts and either burnt, buried or spread about the ground outside the station.

There are no dustbins, and the householders deposit the refuse from their compounds in an uncovered box or other receptacle, which is as often as not overfull, so that the contents become blown about the streets.

Market and slaughter house offal is either buried or burnt.

In other places refuse is removed by hand.

Water Supply.

Nothing new of importance in the matter of water supply has been instituted this year in the Protectorate.

The precautions taken to ensure good drinking water at the various stations have been continued, *i.e.*, restricting the dipping places for drinking water in rivers and lakes to certain spots, and the protection of wells and springs from contamination by surface water, with the result that the incidence of water-borne diseases in stations has been slight.

More water tanks have been added to Officials' houses in the past year.

The question of piped water supply for Kampala, Jinja and Entebbe has been under consideration.

Filters are supplied to Officials' houses by the Government.

Clearance of Grass and Bush.

As pointed out in the report of the Officer in charge of administrative Sleeping Sickness measures, the clearing of jungle with the object of reducing the *Glossina Palpalis* has been carried out on a large scale this year, and the jungle previously cleared for this purpose has been kept well under control.

The clearing of rank grass, &c., as an anti-malarial measure has been carried out and "French grass" planted on a large scale in many stations, notably Entebbe, Jinja, Masindi, Hoima and Mbale. The grass is gradually being introduced into the more remote stations.

It is gratifying to note that the "French grass" grows well on dry sandy soil such as is found in the Bukeddi country, and I found a patch growing well at Bululu Station, on Lake Kioga, which has been abandoned for some months.

(The grass had therefore been untouched and not weeded at all.) In districts such as that of the Nile not only is it of benefit in keeping down ranker grass, but it also allays the dust nuisance.

In the districts with a more constant rainfall and a more fertile soil the coarser grass soon gets the upper hand if weeding is not rigorously persisted in.

The golf links at Masindi, Hoima, Entebbe, Jinja and Kampala, kept up at the private expense of the residents, provide a large area of cleared ground to supplement that kept up by the Government.

Buildings, &c.

Gauze wire doors and windows on Officials' residences would be with advantage fitted with some type of spring catch, and in places where mosquitoes are in abundance, porches with double wire-gauze doors would be beneficial.

The s.s. "Samuel Baker" and the s.s. "Speke" greatly need a mosquito-proof cage for dining in.

Further cell and latrine accommodation is required for the Central Jail at Kampala.

In order to diminish the spread of tick fever, the permanent labour camps at the larger stations should be provided with huts or sheds of tick-proof masonry or of corrugated iron with concrete floors.

Police lines should for the same reason be furnished with at least one or two tick-proof quarantine huts which police who have been sent out into the country districts should occupy for a few days on their return.

Insect-Borne Diseases.

The treatment of the larger collections of larvæ breeding water by oiling has been only spasmodically attempted in the past, and increased attention should be paid to this measure in the future.

Oil sprayers and automatic drippers are required for the treatment of many breeding grounds which it is impossible to drain or fill up.

Drainage of Swamps.

In 1909, Lieutenant Fraser, R.A.M.C., and myself made a malarial survey of the town of Kampala, and I was then, as now, of the opinion that no petty anti-malarial measures can be of much use as long as the Nakivubo swamp, which is in close proximity to the most crowded part of the town, remains in the condition of a vast mosquito breeding ground.

The drainage of the swamp presents no engineering difficulties, as there is an adequate slope in the valley to carry off the water if the stream flowing through it is kept clear of obstruction.

There are, however, many depressions to be filled up, and many small tributary streams from springs which require scientific drainage. A "contour" drain is needed round the foot of the hill in order to carry off the storm water.

The cost of completing the drainage of that portion of the swamp owned by the Government was estimated to cost £1,500 in 1910. This sum does not include cost of the subsequent upkeep, nor does it include the cost of drainage of that portion of the swamp which, lying beyond the township boundary, belongs to native owners who cannot, under present legislation, be made to undertake its drainage.

There is also a large portion within the township area let on a long lease to an Indian trader, and the terms of his lease do not compel him to conduct drainage on scientific principles.

The money estimated has been struck off for economical reasons, a small sum only being allowed for upkeep of work already done, and on one occasion a considerable sum was allowed to lapse owing to shortage of labour, and as the difficulties of obtaining labour are increasing year by year.

I would strongly recommend that convict labour be employed on this work, which is urgently needed for the health of the town of Kampala, where there is a very high malarial sick rate annually.

The work done on the swamps at Masindi, Hoima and Mbale should not be allowed to lapse.

The marshy lagoon at Butiaba Port should be treated by being filled in as much as possible, and the banks cultivated.

(*b*) MEASURES TAKEN TO SPREAD KNOWLEDGE OF HYGIENE AND SANITATION.

Classes given by medical officers to police units have been continued during the year, and instructions also to the military by the Medical Officer, Bombo; the elementary principles of hygiene with regard to malaria, tick fever and venereal diseases being the chief theme.

Instruction on hygiene has been given at mission schools, and the Principal of the C.M.S. school for chiefs at Budo informs me that much interest has been shown by the pupils in the subject, and that some of them have contributed articles on the subject in the local native press.

Encouraging as this example of intelligence may appear, it must, however, be considered to be exceptional, the education of the native as a whole being still in its infancy.

(*c*) RECOMMENDATIONS FOR FUTURE WORK.

Administrative.

The Employment of a Trained Sanitary Inspector for Kampala.—Under existing conditions European supervision of the sanitation of the town is inadequate.

The Medical Officer has not the time to spare from his clinical duties for making frequent house to house inspections. The Administrative Officers have also other numerous duties.

The whole of inspection and reporting to the Local Sanitary Committee of Nuisances, &c., devolves on an Indian "Sanitary Inspector," and though I have no fault to find with the present man in this respect, there is always the temptation for him to pass over offences against sanitation perpetrated by townspeople of his own race and religion.

Moreover, if the proposed new rules under the Township Ordinance become law, the disregard of a notice to abate nuisances on the report of the "person acting under the authority of the Local Sanitary Committee" may be penalised summarily by the court, and, in my opinion, the responsibility of making such reports should be delegated to a European.

The size and importance of other towns do not warrant the employment of a European Sanitary Inspector at present.

The new proposed rules dealing with nuisances should be strictly enforced, especially those which are being framed to deal with overcrowding and insanitary premises. Drastic reform in this respect is much needed in Kampala especially.

Epidemics.

Some form of permanent Isolation Hospital is urgently required at Kampala and Jinja; hitherto, when any suspected or real cases of infectious disease have occurred, the only way to house them has been to have a hut rapidly built in an isolated spot. The inconvenience of this is obvious, and the danger to the patient awaiting shelter from exposure is often great.

The keeping of unused native huts in reserve is not advisable, as they become full of vermin if unoccupied. Hospital sheds of corrugated iron with concrete floors are what is needed, and they should be so constructed that they may be easily fumigated when necessary.

Plague.

Isolation huts built of rat-proof masonry with iron roofs are urgently required at Mbale, and should be also built at Bugondo and other ports in the endemic area.

The regulations provided for plague prevention should not be relaxed, and should be exploited in the endemic areas hitherto untouched.

There is considerable danger in moving unginned cotton from the plague endemic area, owing to the possibility of its harbouring infected rats. Ginned and pressed cotton does not often harbour rats. The exportation of cotton in the unginned state from the plague endemic districts should be prohibited.

The present system of some firms of shipping unginned cotton to the ginneries at Entebbe and elsewhere is dangerous in the extreme.

Some form of disinfector is urgently required to deal with infected houses and shipping.

Small-Pox.

The universal vaccination of the natives must be made the subject of consideration, and in that case the establishment of a vaccine farm would be advisable for economical reasons and in order to ensure the plentiful supply of fresh lymph.

Sewage Disposal.

A double bucket system should replace the present system, which necessitates the washing of the buckets in crowded parts of the town.

Until the roads and streets are well paved and graded I do not recommend the institution of the system in vogue in some tropical towns, by which the full buckets are carted away, on account of the expense which would be incurred by the severe wear and tear to the buckets.

The Crowley carts might be still used, into which the night soil should be emptied; a second cart, divided into two compartments, for the empty, soiled and clean buckets to follow the Crowley carts.

The empty buckets would not be so much knocked about as full ones.

A convenient trenching ground must be found for the washing of the buckets; their incineration would not be advisable.

The success of the incinerators induces one to recommend their installation wherever the conditions as to fuel, &c., present no objection.

I would recommend that all the night soil at Jinja, except that collected at a considerable distance, be thrown into the Nile, and a well-graded road down the steep bank would facilitate this.

Water Supply.

A piped water supply is under consideration for Entebbe, and it should be borne in mind that standpipes, &c., must be provided with rubble drains or other contrivance to prevent stagnant pools being formed by their overflow.

A piped water supply of drinking water for Kampala becomes more of a necessity year by year, and in the former town water laid on for the purpose of flushing the drains is urgently required.

Drainage.

Concrete drains are urgently required for the towns of Entebbe, Jinja and Kampala.

The pressing need for a proper drainage system on a permanent basis in the commercial quarter of Kampala becomes more and more obvious as the town expands.

In addition to this the drains in this quarter need some contrivance by which they can be flushed out, especially in dry weather.

A Rem or oil engine placed in the stream below the town, by which water might be pumped to a small tank placed above the commercial quarter, is suggested to carry this out. The cost of this scheme has been estimated at £350.

Clearance of Undergrowth.—Planting.

The planting of French grass, *Cynodon dactylon*, should be encouraged as much as possible in all stations.

The gradual education of the natives in the elementary principles of hygiene should be persevered with on the present lines.

It should be remembered in this connection that the encouragement of the hitherto naked tribes to wear clothes as civilisation advances is liable to cause the spread among them of diseases such as tick fever, from which they were formerly comparatively free.

C. J. BAKER,

Medical Sanitary Officer, Uganda Protectorate.

SECTION IV.

METEOROLOGY.

All available information under this head is given in Table V. (page 56).

SECTION V.

HOSPITALS AND DISPENSARIES.

ACCOMMODATION.

The hospital accommodation in the Protectorate was as follows :—

For Europeans there was only one Government hospital, which is situate at Entebbe. This hospital has four single bed wards and one two bedded ward, giving a total accommodation of six beds.

There was one Asiatic hospital at Entebbe with three beds. Otherwise Asiatics are treated either in their own homes or in the Native hospitals.

The accommodation for Natives was as follows :—

	No. of Beds.		No. of Beds.
Entebbe	26	Brought forward ...	112
Do. Military ...	12	Masaka	8
Bombo	7	Mbale	8
Hoima	24	Mbarara	6
Kampala	20	Nimule	6
Do. Military ...	12	Fort Portal	4
Jinja	11	Kumba	3
Carried forward ...	112	Total ...	147

At each of the above stations a Dispensary is attached to the hospital. Government Dispensaries are also established at the following stations :— Gondokoro, Gulu, Kakindu, Kumi and Nabieso.

In addition to the General hospitals and dispensaries there were in use during the year two Special hospitals for venereal diseases, with treatment rooms attached, at Kampala and Masaka respectively, and a Sleeping Sickness Camp at Kyetume.

The buildings at these Special hospitals and camp are of a temporary nature and can be expanded or reduced according to requirements.

The hospital accommodation at most stations can be supplemented in emergency by the addition of extra beds and by building temporary huts.

The total number of cases treated at the General hospitals and dispensaries was 97,810 with 247 deaths. Of these, 2,321 with 147 deaths were In-patients and 95,489 with 100 deaths were Out-patients.

The total cases treated in 1911 were 70,571 with 251 deaths. Of these, 1,970 with 172 deaths were In-patients and 68,601 with 79 deaths were Out-patients.

The total number admitted at the Special hospitals for venereal diseases was 878, as compared with 1,293 in 1911. This reduction in number was due to the absence on leave in England of Captain Keane, R.A.M.C., the Medical Officer specially appointed to deal with venereal diseases.

The number of new sleeping sickness patients admitted to the Sleeping Sickness Camp during the year was 115, as compared with 153 in 1911 and

592 in 1910. The daily average number of Sleeping Sickness cases under treatment and observation in the camp during the year was 260. All the admissions were cases of old infection.

Cases of Sleeping Sickness presenting themselves at dispensaries for treatment are usually transferred to the Sleeping Sickness camp if the condition of the patient admits of this course.

Over 1,600 cases of illness were also treated at the construction camps on the Masindi Butiaba Road in September and October, but it has not been possible to include these in the General Statistical Returns.

Diseases Treated.

The most important or most prevalent diseases which were treated at the General hospitals and dispensaries were as follows :—

Dysentery.—475 cases, with 9 deaths, of which 41 cases, with 4 deaths, were In-patients.

Enteric Fever.—9 cases and 1 death, including 4 In-patients with no deaths.

Malaria contributed 6,363 cases, with 10 deaths, or 6·3 per cent. of the total. The indoor cases numbered 338, with 8 deaths.

Blackwater Fever gave 32 cases, with 8 deaths, of which 12 cases, with 2 deaths, were Indoor patients.

Plague.—27 cases came under treatment, of which 25 proved fatal. Of these, only 2 were admitted to Hospital and both died.

Pneumonia contributed 105 cases, with 32 deaths. Of these 67, with 23 deaths, were treated in Hospital.

Relapsing Fever.—There were 1,809 cases, with 13 deaths. 204 of these cases, with 9 deaths, were Hospital cases.

Gonorrhœa contributed 1,961 cases, with 1 death, of which 63 cases and 1 death were treated in Hospital.

Of *Syphilis*, 5,833 cases, with 4 deaths, were treated, including 706 Primary, 2,350 Secondary, 1,205 Inherited and 1,572 Tertiary. Of these, 108, with three deaths, were treated in Hospital.

The cases dealt with at the Special Hospitals for Venereal Diseases are not included in these figures.

Yaws.—508 cases of Yaws were treated, of which only one case was admitted to Hospital.

There were 1,819 cases of fever in which the diagnosis was obscure. These are classed as "Fever undefined." Five of these cases proved fatal.

Infective and insect-borne diseases accounted for 20 per cent. of the total admissions.

There were 765 cases classed under General Diseases, with 5 deaths. 630 of the cases, with 4 deaths, were cases of debility, and 104, with 1 death, were due to anæmia. 28 of these, including the 5 fatal cases, were treated in Hospital.

Under diseases of the Nervous System 2,063 cases, with 9 deaths, are recorded. Of these, 53 cases, with 7 deaths, were treated as In-patients. 1,800 of the cases are returned under the heads of Neuralgia and Headache.

Diseases of the Eye contributed 6,023 cases, including 46 Indoor cases.

Catarrhal Conjunctivitis was responsible for 5,575 of the admissions.

Under diseases of the Ear 1,885 cases are recorded, of which only 4, including 1 fatal case, were treated as Indoor patients.

Diseases of the Nose caused 1,345 admissions to the sick list, including 7 indoor cases.

Diseases of the Circulatory System contributed 99 admissions, with 5 fatal cases; 11 of the cases, with 4 deaths, were treated in Hospital. Valvular disease was diagnosed in 44 cases.

Under the head of diseases of the Respiratory System 13,466 cases, with 22 deaths, are recorded.

These include 12,523 cases of Bronchitis, with 3 deaths; 201 cases of Broncho-pneumonia, with 14 deaths, and 554 cases of Pleurisy, with 2 deaths. 168 of these cases, with 16 deaths, were dealt with as In-patients.

Diseases of the Digestive System contributed 14,499 cases, with 15 deaths, or nearly 15 per cent. of the total cases treated. Of these, 156 cases, with 11 deaths, were Hospital patients.

Dyspepsia accounted for 3,556 cases, Constipation for 4,360, Diarrhœa for 22, and Colic for 1,342.

Diseases of Lymphatic System contributed 1,091 cases, including 38 In-patients.

Diseases of the Urinary System were the cause of 58 admissions to the sick list, with 7 deaths. 12 of the cases, with 3 deaths, were In-patients.

Diseases of the Generative System produced 1,057 cases, comprised of 607 males and 450 females. Of these, 56 males and 37 females were In-patients. 10 deaths occurred among the females and 2 among the males.

Soft Chancre, Orchitis and Condyloma were the chief causes of admission among males, and Leucorrhœa and Menorrhagia among the females.

Diseases of the Organs of Locomotion contributed 5,508 cases, of which the bulk were diagnosed Myalgia. 84 of the cases were treated as In-patients, and the single death under this head was attributed to Arthritis.

Diseases of the Connective Tissue gave 1,872 cases, with 3 deaths. More than half of the cases are returned as abscess. 138, including the 3 fatal cases, were In-patients.

Diseases of the skin were responsible for 17,090 cases, or 17 per cent. of the total admissions. 90 cases, with 1 death, were treated as In-patients. Scabies accounted for 8,233 cases, ulcers 6,492, boils for 555, and eczema for 518.

Injuries, of which 54, with 7 deaths, are returned as general and 9,335, with 14 deaths, as local, accounted for a total of 9,389 admissions, with 21 deaths, or nearly 10 per cent. of the total cases treated.

Of these, 332 were treated as In-patients.

The bulk of the cases was as usual made up of slight wounds, sprains, bruises and abrasions.

Tumors contributed 97 cases, and poisons (chiefly snake bite) 69 cases, with 2 deaths.

1,524 cases were returned under the head of Animal Parasites. 217 were due to Cestoda and 1,296 to Nemotoda. Of the latter, 983 were attributed to Ascaris, 193 to Oxyuris, and 113 to Dracunculus.

Under the head Insecta 329 cases were returned. Of these the large majority are due to Jiggers.

There were 2,004 surgical operations recorded, mostly of a minor character. These included 240 hospital cases.

TABLE A.

RETURN OF CASES OF THE CHIEF INFECTIOUS DISEASES TREATED AT THE GOVERNMENT HOSPITALS AND DISPENSARIES IN 1912.

Stations.	Malaria.				Blackwater Fever.		Relapsing (Tick) Fever.				Dysentery.				Dengue Fever.		Enteric Fever.		Plague.		Small-Pox.	
	Cases.	Deaths.	Percentage of total Admissions.	Percentage contracted outside the Station.	Cases.	Deaths.	Cases.	Deaths.	Percentage of total Admissions.	Percentage contracted outside the Station.	Cases.	Deaths.	Percentage of total Admissions.	Percentage contracted outside the Station.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Bombo	954	2	7·48	29·50	1	—	21	—	·16	14·29	51	—	·40	33·33	—	—	—	—	—	—	—	—
Entebbe	614	—	7·28	91·47	11	—	32	—	·37	46·60	23	—	·27	96·40	—	—	—	—	—	—	—	—
Fort Portal ...	992	—	6·44	13·14	1	—	7	—	·04	—	49	—	·38	12·24	4	—	—	—	—	—	—	—
Gondokoro	156	1	16·00	—	1	1	13	—	1·33	—	5	—	·51	—	—	—	—	—	—	—	—	—
Gulu	183	—	9·37	53·26	1	1	2	1	·10	—	74	5	3·79	33·78	—	—	—	—	—	—	—	—
Hoima	194	—	2·03	15·98	—	—	559	1	5·86	3·22	93	—	·97	11·83	—	—	—	—	—	—	—	—
Jinja	232	—	4·07	43·28	8	3	12	1	·21	—	18	1	·31	44·44	—	—	8	1	—	—	2	—
Kakindu	140	—	6·49	82·73	—	—	—	—	—	—	12	—	·55	66·66	—	—	—	—	—	—	1	—
Kampala	794	4	5·52	50·82	7	2	878	8	6·10	58·33	40	1	·27	100·00	—	—	1	—	—	—	36	—
Kumba	13	—	·95	76·92	—	—	14	—	1·02	—	27	1	1·97	100·00	—	—	—	—	1	—	—	—
Kumi	105	—	3·46	—	—	—	—	—	—	—	15	—	·48	—	—	—	—	—	3	2	1	1
Masaka	119	—	2·85	65·40	—	—	101	1	2·40	66·40	4	—	·09	—	1	—	—	—	—	—	—	—
Masindi	171	1	4·41	33·17	—	—	55	—	1·42	37·77	17	—	·43	40·97	—	—	—	—	—	—	—	—
Mbale	295	1	7·69	28·23	1	—	14	—	·37	—	1	1	·03	—	—	—	—	—	23	23	—	—
Mbarara	1,049	1	13·75	14·78	—	—	101	1	1·32	31·68	11	—	·14	9·09	—	—	—	—	—	—	—	—
Nabieso	184	—	9·33	—	—	—	—	—	—	—	19	—	·96	—	—	—	—	—	—	—	—	—
Nimule	168	—	11·61	3·69	1	1	—	—	—	—	16	—	1·10	12·50	—	—	—	—	—	—	—	—
Totals, or Average	6,363	10	6·50	—	32	8	1,809	13	1·84	—	475	9	·48	—	5	—	9	1	27	25	40	1

TABLE B.

The following table shows, by Stations, the total number of cases treated, with deaths, at Government Hospitals and Dispensaries, and also the number treated as In-Patients during the years 1912 and 1911 :—

Station.	1912.				1911.			
	Total Cases.*		In-patients.		Total Cases.*		In-patients.	
	Treated.	Deaths.	Treated.	Deaths.	Treated.	Deaths.	Treated.	Deaths.
Bombo	12,742	24	382	10	10,793	9	180	4
Entebbe—European Hospital	184	3	51	1	209	3	29	2
Entebbe—Civil Hospital ...	7,662	32	382	32	6,162	20	238	18
Entebbe—Military Hospital	585	—	140	—	822	—	189	—
Kakindu	2,155	2	41	2	2,323	17	52	11
Fort Portal	14,646	6	54	4	7,667	2	53	—
Gondokoro	975	4	—	—	1,221	3	1	1
Gulu	1,952	7	—	—	620	1	—	—
Hoima	9,527	22	154	10	5,880	20	90	10
Jinja	5,691	27	195	20	5,091	46	207	42
Kampala—Civil Hospital ...	13,792	27	313	24	11,576	45	423	43
Kampala—Military Hospital	590	1	140	1	588	—	136	—
Kigezi	1,367	2	78	2	362	—	—	—
Nabieso	1,971	2	—	—	—	—	—	—
Masaka	4,165	11	78	9	3,304	13	75	11
Masindi	3,871	8	45	4	907	3	3	1
Mbale	3,835	45	97	9	5,514	50	161	14
Mbarara	7,627	15	135	15	6,064	14	116	10
Nimule	1,446	4	10	1	1,468	5	17	5
Kumi	3,027	5	26	3	—	—	—	—
Totals	97,810	247	2,321	147	70,571	251	1,970	172

*Includes *all* cases whether treated as Indoor or Outdoor cases.

Venereal Diseases.

The total number of cases admitted at the Special Hospitals for Venereal Diseases was 878, as compared with 1,293 in 1911.

These were made up as shown in the following table :—

Class of Case.	Kampala.	Masaka.	Total.
Syphilis	178	148	326
Gonorrhœa	328	19	347
Observation	103	—	103
Unclassified	—	102	102
Totals	609	269	878

The cases returned above include both indoor and outdoor cases.

In addition to the above new cases a considerable number of old cases remained under treatment—the average *daily* attendance of new and old cases at Kampala being 66. The record of attendance of new and old cases at Masaka is incomplete.

Treatment of Syphilis was usually by injection in adults and by inunction in children. Treatment of Gonorrhœa was usually by irrigation.

Sleeping Sickness Camp.

There were 115 new admissions during the year, of which 3 were placed in the "A" Class, 14 in the "B" Class, and 98 in the "C" Class on admission. The total number of cases received at this and other Camps is now 7,477, and there remained at the end of the year 253 patients.

The present condition of cases treated at Chagwe Camp, including those which have been transferred there from other Camps at their closing, is as follows :—

"A" Class, 20; "B" Class, 120; "C" Class, 95; absent or fate unknown, 364; died, 1,377. Total 1,976.

Of the 20 "A" cases, 14 have been from 3 to 6 years under observation, including 4 cases which came under treatment during the first year.

Buildings.

The following improvements and additions to hospital and dispensary buildings were made during 1912 :—

Fort Portal.—Temporary Post-mortem Room.

Butiaba.—Temporary Hospital and quarters for Compounder.

Mbarara.—Outbuildings for Hospital.

The following improvements and additions to hospital and dispensary buildings are required :—

Entebbe—Native Hospital—

(1) An Operation Room.
(2) Dressing Rooms for male and female patients.
(3) Fittings for Microscope Room.
(4) Quarters for Native Attendants.
(5) New Hospital Block.

Kampala.—New Dispensary. * New Venereal Hospital. Asiatic Ward. Completion of outbuildings. Removal of Assistant's quarters to site of New Hospital and Dispensary. Isolation Ward. * Store.

Jinja.—The same requirements and the same provision as at Kampala; also a two-bedded Cottage Hospital for Europeans with quarters for one Nurse—with usual out-houses. (Say one second-class house.)

Mbarara.—New Ward and Post-mortem Room.

Mbale.—An extra Ward.

Hoima.—An extra Ward.

Gulu.—Permanent buildings to replace temporary Hospital, Dispensary and Assistant's quarters. Also a house for the Medical Officer.

Masindi.—Permanent buildings to replace temporary Hospital, Dispensary and Assistant's quarters. Also a house for the Medical Officer.

Fort Portal.—Permanent Hospital and Dispensary to replace temporary one which is in bad repair.

Bombo.—New Ward. * Post-mortem Room and * Attendant's quarters. * Latrine accommodation.

Bukakata Port.—Temporary Dispensary and Assistant's quarters.

Namasagali.—* Hospital. * Dispensary and Assistant's quarters.

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* These buildings are either in hand or to be completed in 1913–1914.

SECTION VI.

SCIENTIFIC.

The following special reports have been submitted direct to the Royal Society :—

By Dr. H. L. Duke, B.A., M.B., &c.

Report on Antelope and their relation to trypanosomiasis.

Report on Antelope as a reservoir for *Trypanosoma gambiense*.

Observations on *Trypanosoma gambiense* and *gallinarum* in fowls and ducks.

Report on investigations of Cattle disease.

Report on "Further investigations on the recovery of *Trypanosoma gambiense* from *Tragelaphus Spekei* on the islands of Victoria Nyanza.

Report on "Some observations on *T. Pecorum* (Bruce) and *T. Uniforme* (Bruce)."

Report on "A camel trypanosome with some remarks on the biometric method of diagnosing trypanosomes."

Report on the Sleeping Sickness Reservoir on the islands of Victoria Nyanza.

By Miss Muriel Robertson, M.A.

Notes on certain aspects of the development of *Trypanosoma Gambiense* in *Glossina Palpalis*.

Notes on some Flagellate Infections found in certain Hemiptera in Uganda.

Notes on the behaviour of a polymorphic trypanosome in the blood stream of the Mammalian host.

Notes on the life cycle of *T. Gambiense*.

By Dr. G. D. H. Carpenter, B.A., M.B., &c.

Various papers have been sent home from time to time, but no record of these has been received.

ENTOMOLOGY.

The Government Entomologist having rejoined the Protectorate from leave of absence, the issue of Entomological Outfits is now dealt with by him.

The entomological specimens sent home amounted to 52,739, of which 28,145 were collected by Mr. S. A. Neave, 8,848 by Medical Officers and 15,746 by other officials, including 14,624 by the Government Entomologist.

The specimens collected by Medical Officers were as follows :—

Culicidæ ...	...	...	174	Brought forward	... 1,227
Culicoides	...	...	24	Cordylobia	 1
Simulium	...	...	16	Hippotoscidæ	 15
Tabanidæ	...	...	172	Other Diptera	 275
Hæmatopota	...	...	282	Ticks	 3,911
Glossina ...	...	...	493	Fleas	 1,009
Stomoxys...	...	...	31	Hymenoptera	 589
Chrysops...	...	...	20	Rhynchota	 624
Lyperosia	...	...	5	Coleoptera	 834
Aucheromyia	...	...	10	Orthoptera	 363
Carried forward	...		1,227	Total	... 8,848

TABLE I.

RETURNS.

RETURN SHOWING THE MEDICAL STAFF AND THE PRINCIPAL MEMBERS OF THE SUBORDINATE STAFF.

Name and Qualifications.	Rank or Appointment.	Where stationed on 31st December, 1912.	Remarks.
A. D. P. Hodges, C.M.G., M.D. (Lond.), M.R.C.S., L.R.C.P.	Principal Medical Officer	Entebbe	
C. A. Wiggins, M.R.C.S., L.R.C.P. ...	Deputy Principal Medical Officer	Do.	
C. J. Baker, M.R.C.S., L.R.C.P. ...	Medical Sanitary Officer	Do.	
Captain G. Lane, R.A.M.C. (S.R.), L.R.C.S. & P. (Edin.), L.F.P.S.(Glas.)	Medical Officer	Mbarara	
G. C. Strathairn, M.B., Ch.B., D.P.H. (Edin.)	Do.	Kampala	
R. A. L. van Someren, M.D., Ch.B., D.P.H. (Edin.)	Do.	Jinja	
J. H. Goodliffe, M.D., C.M. (Aberdeen)	Do.	Masaka	
A. C. Rendle, M.D., B.C., B.A., D.P.H. (Camb.), M.R.C.S., L.R.C.P.	Do.	Hoima	
J. M. Collyns, M.B., D.P.H. (Lond.), M.R.C.S., L.R.C.P.	Do.	On leave	
J. H. Reford, B.A., M.D., B.Ch., B.A.O., L.M. (Dub.)	Do.	Do.	
C. H. Marshall, M.R.C.S., L.R.C.P. ...	Do.	Do.	
H. B. Owen, M.B., B.C., D.T.M. & H. (Camb.)	Do.	Nile Province	Attached to Northern Garrison.
L. Sells, L.R.C.P. (Edin.), L.S.A. ...	Do.	Mbale	
J. A. Taylor, M.B., Ch.B. (Edin.), D.M. (Dub.)	Do.	Entebbe	
J. E. Hailstone, M.A. (Camb.), M.R.C.S., L.R.C.P.	Do.	Kyetume Sleeping Sickness Camp	
G. D. A. Carpenter, B.A., M.B., B.Ch. (Oxf.), M.R.C.S., L.R.C.P.	Do.	Sesse Islands	On special Sleeping Sickness Investigations.
R. E. McConnell, B.A., M.D., C.M. (Montreal), D.T.M. (Liverpool)	Do.	On leave	
H. L. Duke, B.A., M.B., B.C., D.T.M. and H. (Camb.)	Do.	On tour	Special Sleeping Sickness Investigations.
J. C. A. Ridgway, M.D., B.Ch., B.A.O. (Dub.)	Do.	*En route* to England	Invalided.
Capt. G. J. Keane, R.A.M.C.	Temporary Medical Officer	Kampala	Seconded from R.A.M.C. for Special Venereal Diseases Work.
H. R. Neilson, M.B., Ch.B. (Aberdeen)...	Do.	Bombo	
B. Spearman, M.A., M.B., B.C. (Camb.), D.T.M. & H.	Do.	Lango	
A. H. Owen, M.R.C.S., L.R.C.P., D.T.M. and H. (Camb.)	Do.	Kampala	Engaged on Venereal Diseases Work.
Miss M. Robertson, M.A.	Protozoologist	Do.	
G. S. Bateman, L.D.S.,R.C.S. (Eng.), 1902	Government Dentist	On tour	
Miss B. Petherbridge	Nursing Sister	Entebbe	
Miss B. V. Hearsum	Do.	Do.	
Mr. F. E. Westray	Dispenser	Mbale	
Mr. J. D. Buckland, M.P.S.	Do.	On leave	
Mr. B. S. Gledhill	Chief Clerk, P.M.O.'S Office	Do.	
Mr. T. J. Cross	Medical Storekeeper	Entebbe	
Mr. H. Flint	Assistant Clerk, P.M.O.'S Office	Do.	

Also the following Indian Medical Assistants :—

2 Assistant Surgeons,
15 Sub-Assistant Surgeons, and
8 Compounders.

TABLE II.

FINANCIAL.

See Section I. (*b*) of Report. (Page 6.)

TABLE III.

POPULATION STATISTICS.

See Section II. Public Health. (*e*) General Native Population. (Page 17.)

TABLE IV.

SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE TOWNS.

1. Name of Town—Kampala.

—	Approximate area. Acres.	Number of Proclaimed Open Spaces.
1910	18,095·62	5
1911	1,416	6
1912	1,404·48	7

The area shows variance owing to the township boundary having been altered twice in three years.

2. Population.

	Number of Natives, including Asiatics.		Number of Europeans.		Total.
	Males.	Females.	Males.	Females.	
1910	No record	No record	No record	No record	—
1911	No record	No record	47	15	—
*1912	3,594	762	87	12	4,455

There is a large floating population of Europeans.

* 1912. Asiatic population—Males, 532; females, 132.

3. Housing.

—	Number occupied by Europeans.	Number occupied by Natives, including Asiatics.
Number of Houses—		
1910	26	137
1911	40	208
1912	56	353

Number of Huts—

1910	No record
1911	No record
1912	308

4. Mosquito Protection of Houses.

—	1910.	1911.	1912.
Number of European houses wholly mosquito-protected ...	26	40	56
Number of European houses with mosquito room	Nil	Nil	Nil
Number rendered during the year wholly mosquito-protected	Nil	Nil	Nil
Number rendered during the year partially mosquito-protected	Nil	Nil	Nil

5. Erection of New Buildings during the Year.

—	1910.	1911.	1912.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings	6	5	3
Number of houses erected with sanction as to site, construction, and relation to other buildings	71	125	58
Number of huts erected with sanction as to site, construction, and relation to other buildings	No record	No record	Nil
Number of houses built without sanction	Nil	Nil	Nil
Number of huts built without sanction	Nil	Nil	Nil

Action Taken.

—	Number of Prosecutions.		Number Demolished.	
	Huts.	Houses.	Huts.	Houses.
1910	Nil	Nil	Nil	Nil
1911	Nil	Nil	Nil	Nil
1912	Nil	Nil	80	Nil

6. Markets.

—	Total Number.	Number Paved and Drained.	Number unpaved.
1910	1	Nil	1
1911	1	Nil	1
1912	1	Nil	1

7. Slaughter-Houses.

—	Total Number.	Number Paved and Drained.	Number Unpaved.
1910	Nil	Nil	Nil
1911	Nil	Nil	Nil
1912	Nil	Nil	Nil

8. Latrines.

—	For Males.		For Females.	
	Number.	Number of Seats.	Number.	Number of Seats.
Number of Public Latrines :—				
1910	11	42	Nil	Nil
1911	11	42	Nil	Nil
1912	11	42	Nil	Nil
Number of new Public Latrines erected during the year :—				
1910	Nil	Nil	Nil	Nil
1911	Nil	Nil	Nil	Nil
1912	Nil	Nil	Nil	Nil
Number of Public Latrines repaired during the year :—				
1910	Nil	Nil	Nil	Nil
1911	Nil	Nil	Nil	Nil
1912	Nil	Nil	Nil	Nil
Number of Public Latrines demolished during the year :—				
1910	Nil	Nil	Nil	Nil
1911	Nil	Nil	Nil	Nil
1912	Nil	Nil	Nil	Nil

—	1910.	1911.	1912.
Number of Private Latrines	163	220	284
Average number of pails of nightsoil removed daily ...	400	505	568
Average number of soiled pails removed and clean pails substituted	45	55	66
Number of nightsoil men employed to clean latrines and remove excreta	20	27	27
Number of cesspools	1	1	1
Number of cesspools cleansed	Nil	Nil	Nil
Number of new cesspools constructed during the year	Nil	Nil	Nil
Number of old cesspools abolished	No record.	No record.	Nil
Number of cesspools oiled regularly by Department ...	Nil	Nil	Nil

"Cesspools" indicate the Privy-cesspool locally known as a "Choo."

9. Removal of Refuse.

—	1910.	1911.	1912.
Number of dustbins	Nil	Nil	Nil
Number of carts at work daily to remove refuse from streets	2	4	4
Amount of refuse removed daily	1 ton	9 cartloads	9 cartloads
Number of carts at work daily to remove refuse from yards and premises	1	3	3
Amount of refuse removed daily from yards and premises ...	—	12 cartloads	12 cartloads
Number of men employed for removing refuse	17	22	22

10. Mode of Disposal of Excreta, Refuse, and Offal.

—	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of Slaughter House and Market Offal.		
	1910.	1911.	1912.	1910.	1911.	1912.	1910.	1911.	1912.
Buried or trenched	Nil	Nil	13	Nil	Nil	Nil	Nil	Nil	Nil
Burnt	400	505	555	14	18	21	—	1	1
Thrown into sea	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Otherwise dealt with... ..	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

11. Average Daily Number of Cartloads of Tin Cans, Bottles, Broken Crockery, and other Incombustible Material Removed from Houses, Huts, and Compounds.

1910.	1911.	1912.
No record	1	1

12. Water Supply.

Nature of Water Supply.	1910.	1911.	1912.
Pipe-borne water :—			
Source (river, lake, or spring) :—			
Number of linear yards	Nil	Nil	Nil
Number of stand-pipes along roads			
Number of stand-pipes in compounds and houses ...			
Wells :—			
Public :—			
Number	2	2	2
Number protected against surface water	2	2	2
Private :—			
Number	Nil	Nil	Nil
Number protected against surface water and mosquito-protected			
Tanks :—			
Public :—			
Number underground	Nil	Nil	Nil
Number mosquito-protected and served by pumps...			
Number above ground			
Number mosquito-protected			
Number of 400 gallons capacity or less			
Number above 400 gallons			

Nature of Water Supply.	1910.	1911.	1912.
Tanks :—			
Private :—			
Number underground	1	1	2
Number mosquito-protected	1	1	2
Number above ground	37	47	62
Number mosquito-protected	37	47	62
Number of 400 gallons capacity or less	10	10	20
Number above 400 gallons	27	37	42
Nature of tank :—			
Wood	Nil	Nil	Nil
Iron	27	47	62
Concrete	1	1	1
Barrels :—			
Number	Nil	Nil	Nil
Number mosquito-protected	Nil	Nil	Nil

The main water supply is from the lake and rainwater tanks.

13. Drainage.

Nature of Drainage.	Public.	Private.
Masonry drains :—		
Lineal yards of masonry drains :—		
1910	Nil	No record
1911	600	„
1912	600	369
Lineal yards reconstructed during the year :—		
1910	Nil	No record
1911	Nil	„
1912	Nil	„
Lineal yards repaired during the year :—		
1910	Nil	No record
1911	Nil	„
1912	100	„
Lineal yards of new drains constructed during the year :—		
1910	Nil	No record
1911	Nil	„
1912	Nil	„
Earth drains or ditches :—		
Number of linear yards of ditches cleaned :—		
1910	No record	No record
1911	14,000	„
1912	17,220	„
Number of linear yards of ditches dug and graded :—		
1910	No record	No record
1911	No record	„
1912	3,000	„
Average frequency of clearing ditches of grass :—		
1910	9	No record
1911	9	„
1912	9	„

14. Clearance of Undergrowth, Long Grass and Jungle.

—	1910.	1911.	1912.
Number of square yards of weeds, grass, and vegetation cut and removed	No record	98,031	98,031
Average frequency of clearance of rank vegetation on same area	9	9	9

The large area of "clearing" shewn includes that for anti-sleeping sickness purposes.

15. Excavations and Low-lying Land.

—	1910.	1911.	1912.
Number of pools and excavations	No record	No record	Nil
Number of excavations filled up	No record	2	1
Amount of low-lying and marsh land raised and drained ...	Nil	Nil	Nil
Number of pools, marshes, streams, &c., fish-stocked	Nil	Nil	Nil
Number of cubic yards of material used for filling up pools and excavations	No record	No record	No record
Number of persons fined for making new excavations ...	Nil	Nil	Nil
Average number of men daily employed in filling up pools, &c.	Nil	Nil	8

No record of small excavations, such as borrow pits for building purposes, has been kept.

16. Oiling.

—	1910.	1911.	1912.
Number of drains oiled...	Nil	Nil	Nil
Number of pools and excavations oiled			
Number of tanks and barrels oiled			
Average number of men daily employed for oiling drains, pools, and watertanks or barrels			

Oiling has been carried out spasmodically and no record has been kept; oil is expensive locally, and no funds have been available to allow the systematic use of it on a large scale.

17. Inspections and Prosecutions.

—	1910.	1911.	1912.
Number of inspectors employed	1	1	1
Number of houses inspected	Nil	All houses	All houses
Number of houses where larvæ were found	No record	No record	No record
Number of notices served to remove conditions causing the breeding of larvæ	Nil	Nil	Nil
Number of persons fined for having mosquito larvæ on premises	Nil	Nil	Nil
Number of notices served to remove insanitary conditions on premises	No record	21	22
Number of persons fined for not removing insanitary conditions after notice	No record	Nil	2
Number of soda and aerated water factories inspected ...	1	2	2

It has been considered advisable to have all small collections of larvæ-containing water removed by the anti-malarial gang, rather than depend on the individual to remove them from fear of fines, hence the small number of "notices" shown.

(Signed) L. E. C. W.,

District Commissioner.

TABLE IV.—*continued.*

SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE TOWN.

1. NAME OF TOWN—JINJA.

—	Approximate area. Acres.	Number of Proclaimed Open Spaces.
1910	2,560	1
1911	2,560	1
1912	2,560	5

2. POPULATION.

—	Number of Natives, including Asiatics.		Number of Europeans.		Total.
	Males.	Females.	Males.	Females.	
1910	500	380	18	5	873
1911, approximate	819	560	23	8	1,410
*1912	1,500	800	62	19	2,381

*1912. Asiatic population, 393.

3. HOUSING.

—	Number occupied by Europeans.	Number occupied by Natives including Asiatics.
Number of Houses :—		
1910	15	97
1911	23	101
1912	27	147

Number of Huts :—

1910	400
1911	550, approximate.
1912	850

4. MOSQUITO PROTECTION OF HOUSES.

—	1910.	1911.	1912.
Number of European houses wholly mosquito-protected ...	15	25	27
Number of European houses with mosquito room	Nil	Nil	Nil
Number rendered during the year wholly mosquito-protected	Nil	Nil	Nil
Number rendered during the year partially mosquito-protected	Nil	Nil	Nil

5. ERECTION OF NEW BUILDINGS DURING THE YEAR.

—	1910.	1911.	1912.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings	1	1	1
Number of houses erected with sanction as to site, construction, and relation to other buildings	No record	No record	50
Number of huts erected with sanction as to site, construction, and relation to other buildings	No record	No record	300
Number of houses built without sanction	Nil	Nil	Nil
Number of huts built without sanction	Nil	Nil	Nil

ACTION TAKEN.

—	Number of Prosecutions.		Number demolished.	
	Huts.	Houses.	Huts.	Houses.
1910	Nil	Nil	Nil	1
1911	Nil	Nil	Nil	Nil
1912	Nil	Nil	Nil	Nil

6. MARKETS.

—	Total number.	Number paved and drained.	Number unpaved.
1910	1	Nil	1
1911	1	Nil	1
1912	1	Nil	1

7. SLAUGHTER-HOUSES.

—	Total number.	Number paved and drained.	Number unpaved.
1910	1	1	Nil
1911	1	1	Nil
1912	1	1	Nil

8. LATRINES.

—	For Males.		For Females.	
	Number.	Number of seats.	Number.	Number of seats.
Number of Public Latrines :—				
1910	No record	No record	No record	No record
1911	,,	,,	,,	,,
1912	3	12		
Number of new Public Latrines erected during the year :—				
1910	No record	No record	No record	No record
1911	,,	,,	,,	,,
1912	3	12		
Number of Public Latrines repaired during the year :—				
1910	No record	No record	No record	No record
1911				
1912				
Number of Public Latrines demolished during the year :—				
1910	Nil	Nil	Nil	Nil
1911				
1912				

—	1910.	1911.	1912.
Number of Private Latrines	No record	No record	123
Average number of pails of nightsoil removed daily	,,	,,	140
Average number of soiled pails removed and clean pails substituted	,,	,,	—
Number of nightsoil men employed to clean latrines and remove excreta	,,	9	14
Number of cesspools	,,	15	4
Number of cesspools cleansed	,,	No record	Nil
Number of new cesspools constructed during the year ...	,,	,,	2
Number of old cesspools abolished	,,	,,	11
Number of cesspools oiled regularly by Department	Nil	Nil	Nil

"Cesspools" indicate the Privy-cesspool locally known as a "Choe."

9. Removal of Refuse.

—	1910.	1911.	1912.
Number of dustbins	Nil	Nil	Nil
Number of carts at work daily to remove refuse from streets	2	2	3
Amount of refuse removed daily	No record	No record	18 cartloads
Number of carts at work daily to remove refuse from yards and premises	,,	,,	3 as above
Amount of refuse removed daily from yards and premises	,,	,,	included in above
Number of men employed for removing refuse ...	,,	,,	9

10. Mode of Disposal of Excreta, Refuse, and Offal.

—	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of Slaughter House and Market Offal.		
	1910.	1911.	1912.	1910.	1911.	1912.	1910.	1911.	1912.
Buried or trenched	Nil	Nil	Nil	No record			No record		½
Burnt	,,	,,	100	No record		18	No record		—
Thrown into Nile	No record		40	No record		—	No record		—
Otherwise dealt with ...	No record		—	No record		—	No record		—

11. Average Daily Number of Cartloads of Tin Cans, Bottles, Broken Crockery, and other Incombustible Material Removed from Houses, Huts, and Compounds.

1910.	1911.	1912.
No record	No record	1

12. Water Supply.

Nature of Water Supply.	1910.	1911.	1912.
Pipe-borne water :—			
Source (river, lake, or spring) :—			
Number of linear yards	Nil	Nil	Nil
Number of stand-pipes along roads...			
Number of stand-pipes in compounds and houses ...			
Wells :—			
Public :—			
Number	Nil	Nil	Nil
Number with pumps protected against surface water and mosquito-protected			
Private :—			
Number	Nil	Nil	Nil
Number protected against surface water and mosquito-protected			
Tanks :—			
Public :—			
Number underground	Nil	Nil	Nil
Number mosquito-protected and served by pumps			
Number above ground			
Number mosquito-protected...			
Number of 400 gallons capacity or less			
Number above 400 gallons			

Nature of Water Supply.	1910.	1911.	1912.
Tanks :—			
Private :—			
Number underground	Nil	Nil	Nil
Number mosquito-protected	Nil	Nil	Nil
Number above ground	No record	No record	23
Number mosquito-protected	"	"	23
Number of 400 gallons capacity or less	"	"	23
Number above 400 gallons	"	"	2
Nature of tank :—			
Wood			
Iron	No record	No record	25
Concrete			
Barrels :—			
Number	No returns		
Number mosquito-protected			

13. Drainage.

Nature of Drainage.	Public.	Private.
Masonry drains :—		
Lineal yards of masonry drains :—		
1910		
1911		
1912		
Lineal yards reconstructed during the year :—		
1910		
1911		
1912	Nil	Nil
Lineal yards repaired during the year :—		
1910		
1911		
1912		
Lineal yards of new drains constructed during the year :—		
1910		
1911		
1912		
Earth drains or ditches :—		
Number of linear yards of ditches cleaned :—		
1910		
1911		
1912	No record	No record
Number of linear yards of ditches dug and graded :—		
1910		
1911		
1912		
Average frequency of clearing ditches of grass :—		
1910	Every month	Every month
1911		
1912		

14. Clearance of Undergrowth, Long Grass and Jungle.

—	1910.	1911.	1912.
Number of square yards of weeds, grass and vegetation cut and removed	1,500,000	1,540,000	1,543,960
Average frequency of clearance of rank vegetation on same area	Every month	Every month	Every month

15. Excavations and Low-Lying Land.

——	1910.	1911.	1912.
Number of pools and excavations	1	—	1
Number of excavations filled up	1	—	—
Amount of low-lying and marsh land raised and drained ...	Nil	—	—
Number of pools, marshes, streams, &c., fish-stocked	Nil	—	—
Number of cubic yards of material used for filling up pools and excavations	Nil	—	—
Number of persons fined for making new excavations ...	Nil	—	—
Average number of men daily employed in filling up pools, &c.	Nil	—	—

[No record of small excavations such as borrow pits for building purposes has been kept.

16. Oiling.

——	1910.	1911.	1912.
Number of drains oiled	Nil	Nil	Nil
Number of pools and excavations oiled	—	—	1
Number of tanks and barrels oiled	—	—	—
Average number of men daily employed for oiling drains, pools, and watertanks or barrels	—	—	—

Oiling has been carried out spasmodically and no record has been kept. Oil is expensive locally, and no funds have been available to allow the systematic use of it on a large scale.

17. Inspections and Prosecutions.

——	1910.	1911.	1912.
Number of inspectors employed	Nil	1	1
Number of houses inspected	No record	No record	174
Number of houses where larvæ were found	,,	,,	42
Number of notices served to remove conditions causing the breeding of larvæ	,,	,,	42
Number of persons fined for having mosquito larvæ on premises	,,	,,	Nil
Number of notices served to remove insanitary conditions on premises	,,	,,	10
Number of persons fined for not removing insanitary conditions after notice	,,	,,	Nil
Number of soda and ærated water factories inspected ...	1	1	1

It has been considered advisable to have all small collections of larvæ containing water removed by the anti-malarial gang, rather than depend on the individual to remove them from fear of fines, hence the small number of "notices" shown.

(Signed) F. M. I.,

District Commissioner.

TABLE IV.—*continued.*

SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE TOWN.

1. NAME OF TOWN—ENTEBBE.

—	Approximate area.	Number of proclaimed open spaces.
1910	12 square miles	10
1911		12
1912		12

The large area shown indicates the whole of the Entebbe Peninsula, which was included in the township boundary in order to exercise stricter control over the inhabitants with regard to the Sleeping Sickness Regulations.

2. POPULATION.

—	Number of Natives.		Number of Europeans.		Total.
	Males.	Females.	Males.	Females.	
1910	No record		No record	No record	
1911	9,922		80	35	10,037
1912	6,104		92	45	6,241

1911.—"Natives" includes Asiatics, 353. 1912.—"Natives" includes Asiatics, males, 293, females, 60.

3. HOUSING.

—	Number occupied by Europeans.	Number occupied by Natives.
Number of Houses :—		
1910	No record	170
1911	71	182
1912	75	*336

* Including Asiatics, 254.

Number of Huts :—	
1910	No record
1911	No record
1912	1,220

4. MOSQUITO PROTECTION OF HOUSES.

—	1910.	1911.	1912.
Number of European houses wholly mosquito-protected ...	52	61	65
Number of European houses with mosquito room	No record	9	9
Number rendered during the year wholly mosquito-protected	7	4	4
Number rendered during the year partially mosquito-protected	Nil	Nil	Nil

5. Erection of New Buildings during the Year.

—	1910.	1911.	1912.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings	11	1	4
Number of houses erected with sanction as to site, construction, and relation to other buildings	7	4	20
Number of huts erected with sanction as to site, construction, and relation to other buildings	No record	No record	82
Number of houses built without sanction	Nil	Nil	Nil
Number of huts built without sanction	Nil	Nil	Nil

Action Taken.

—	Number of Prosecutions.		Number demolished.	
	Huts.	Houses.	Huts.	Houses.
1910	No record	No record	No record	No record
1911	"	"	"	"
1912	Nil	2	18	1

6. Markets.

—	Total number.	Number paved and drained.	Number unpaved.
1910	3	1	2
1911			
1912			

7. Slaughter-houses.

—	Total number.	Number paved and drained.	Number unpaved.
1910	1	1	Nil
1911			
1912			

8. Latrines.

—	For Males.		For Females.	
	Number.	Number of seats.	Number.	Number of seats.
Number of Public Latrines :—				
1910	12	48	Nil	Nil
1911	12	48	Nil	Nil
1912	12	48	Nil	Nil
Number of new Public Latrines erected during the year :—				
1910	Nil	Nil	Nil	Nil
1911				
1912				
Number of Public Latrines repaired during the year :—				
1910	Nil			
1911	1			
1912	1			
Number of Public Latrines demolished during the year :—				
1910	Nil	Nil	Nil	Nil
1911				
1912				

—	1910.	1911.	1912.
Number of Private Latrines	No record	360	390
Average number of pails of nightsoil removed daily...	Nil	Nil	Nil
Average number of soiled pails removed and clean pails substituted	Nil	Nil	Nil
Number of nightsoil men employed to clean latrines and remove excreta	23	23	25
Number of cesspools	No record	No record	950
Number of cesspools cleansed	,,	,,	
Number of new cesspools constructed during the year	,,	,,	
Number of old cesspools abolished	,,	,,	
Number of cesspools oiled regularly by Department...	Nil	Nil	Nil

"Cesspools" indicate the Privy-cesspool locally known as a "Choo."

9. Removal of Refuse.

—	1910.	1911.	1912.
Number of dustbins	1	1	1
Number of carts at work daily to remove refuse from streets	9	9	12
Amount of refuse removed daily	36	36	48
Number of carts at work daily to remove refuse from yards and premises	Included in above		
Amount of refuse removed daily from yards and premises			
Number of men employed for removing refuse	26	28	34

10. Mode of Disposal of Excreta, Refuse and Offal.

—	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of Slaughter House and Market Offal.		
	1910.	1911.	1912.	1910.	1911.	1912.	1910.	1911.	1912.
Buried or trenched	—	309	250	—	34	44	Nil.	1	1
Burnt	—	129	200	—	2	4	—	—	—
Thrown into sea ... } Otherwise dealt with }	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil.	Nil

11. Average Daily Number of Cartloads of Tin Cans, Bottles, Broken Crockery and other Incombustible Material Removed from Houses, Huts and Compounds.

1910.	1911.	1912.
No record	1	1½

12. Water Supply.

Nature of Water Supply.	1910.	1911.	1912.
Pipe-borne water :—			
Source (river, lake or spring) :—			
Number of linear yards ... ... } Number of stand-pipes along roads... ... } Number of stand-pipes in compounds and houses }	Nil	Nil	Nil
Wells :—			
Public :—			
Number	1	1	1
Number with pumps protected against surface water and mosquito-protected...	Nil	Nil	Nil
Private :—			
Number ... ... } Number protected against surface water and mosquito-protected ... ... }	Nil	Nil	Nil
Tanks :—			
Public :—			
Number underground ... ... } Number mosquito-protected and served by pumps } Number above ground ... ... } Number mosquito-protected ... ... } Number of 400 gallons capacity or less ... } Number above 400 gallons ... ... }	Nil	Nil	Nil

Nature of Water Supply.	1910.	1911.	1912.
Tanks :—			
Private :—			
Number underground	1	1	1
Number mosquito-protected	1	1	1
Number above ground	108	116	155
Number mosquito-protected ... ... } Number of 400 gallons capacity or less ... ... }	Nil	Nil	Nil
Number above 400 gallons	108	116	155
Nature of tank :—			
Wood	—	—	—
Iron	107	115	152
Concrete	1	1	3
Barrels :—			
Number	—	—	—
Number mosquito-protected	No record	No record	27

The main water supply is from the lake and rainwater tanks.

13. Drainage.

Nature of Drainage.	Public.	Private.
Masonry drains :—		
Lineal yards of masonry drains :—		
1910	No record	No record
1911		
1912	1,327	259
Lineal yards reconstructed during the year :—		
1910		
1911		
1912		
Lineal yards repaired during the year :—		
1910		
1911	No record	No record
1912		
Lineal yards of new drains constructed during the year :—		
1910		
1911		
1912	400	
Earth drains or ditches :—		
Number of linear yards of ditches cleaned :—		
1910	No record	No record
1911		
1912	30,600	
Number of linear yards of ditches dug and graded :—		
1910		
1911		
1912	No record	No record
Average frequency of clearing ditches of grass :—		
1910		
1911		
1912	2 monthly	2 monthly

14. Clearance of Undergrowth, Long Grass and Jungle.

—	1910.	1911.	1912.
Number of square yards of weeds, grass and vegetation cut and removed	Approximately 3 square miles		
Average frequency of clearance of rank vegetation on same area	Approximately 2 monthly		

The large area of "clearing" shown includes that for anti-sleeping sickness purposes.

15. Excavations and Low-lying Land.

—	1910.	1911.	1912.
Number of pools and excavations			
Number of excavations filled up	No record	No record	
Amount of low-lying and marsh land raised and drained ...	No record	No record	3 acres
Number of pools, marshes, streams, &c., fish-stocked	—	Nil	—
Number of cubic yards of material used for filling up pools and excavations	—	No record	—
Number of persons fined for making new excavations ...	Nil	Nil	Nil
Average number of men daily employed in filling up pools, &c.	Nil	8	12

No record of small excavations, such as borrow pits for building purposes, has been kept.

16. Oiling.

—	1910.	1911.	1912.
Number of drains oiled...			
Number of pools and excavations oiled	No record	No record	
Number of tanks and barrels oiled			
Average number of men daily employed for oiling drains, pools, and watertanks or barrels	No record	No record	1

Oiling has been carried out spasmodically and no record has been kept. Oil is expensive locally, and no funds have been available to allow the systematic use of it on a large scale.

17. Inspections and Prosecutions.

—	1910.	1911.	1912.
Number of inspectors employed	1	1	1
Number of houses inspected	—	—	512
Number of houses where larvæ were found	No record	No record	
Number of notices served to remove conditions causing the breeding of larvæ	Nil	Nil	4
Number of persons fined for having mosquito larvæ on premises	Nil	Nil	Nil
Number of notices served to remove insanitary conditions on premises	—	—	32
Number of persons fined for not removing insanitary conditions after notice	No record	No record	2
Number of soda and aerated water factories inspected ...	1	1	1

It has been considered advisable to have all small collections of larvæ-containing water removed by the anti-malarial gang, rather than depend on the individual to remove them from fear of fines, hence the small number of "notices" shown.

(Signed) H. A. M.,

Assistant District Commissioner.

TABLE V.

COMPARATIVE RAINFALL STATEMENT SHOWING THE MONTHLY RAINFALL FOR THE YEAR 1912 OF FORTY-ONE LOCALITIES OF UGANDA PROTECTORATE.

Month.	Entebbe.		Nimule.		Jinja.		Maarara.		Masaka.		Gondokoro.		Fort Portal.		Butiaba.		Masindi.		Gulu.		Kampala.		Mbale.		Mubendi.		Budo.	
	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In	No. of days.	In.	No. of days.	In.	No. of days.
January ...	3·55	8	0·02	1	1·66	6	3·33	9	0·62	5	Nil		0·25	1	1·81	4	0·95	4	0·33	2	3·12	11	0·26	5	1·16	5	2·46	7
February ...	3·59	10	3·20	3	4·24	11	2·26	11	2·09	11	0·75	1	1·03	3	2·13	4	4·09	5	3·15	6	2·57	12	7·10	10	8·68	12	1·22	5
March ...	8·61	18	1·37	7	5·64	13	1·19	7	3·51	16	1·22	10	3·95	9	2·36	4	1·13	2	3·16	4	8·39	26	4·66	12	6·53	10	5·17	13
April ...	7·55	18	1·10	5	7·03	21	8·26	19	6·96	20	1·97	8	8·35	10	3·90	9	3·76	9	5·97	12	5·73	27	8·65	16	7·93	14	5·68	12
May ...	12·03	18	2·66	7	3·65	13	0·34	4	2·34	14	3·79	11	8·82	10	5·26	5	5·14	7	8·68	11	4·54	24	—	—	1·39	4	4·46	10
June ...	9·81	15	1·26	10	2·98	11	Nil		1·12	4	2·70	7	1·21	4	4·88	5	8·50	7	9·10	15	3·00	20	4·14	15	0·34	1	7·98	12
July ...	2·61	9	3·55	14	2·89	5	1·16	4	0·20	3	6·12	12	1·51	4	3·09	6	4·00	5	6·17	14	2·65	15	6·86	18	1·76	7	1·35	7
August ...	6·75	17	2·57	11	4·60	13	2·81	7	2·91	14	4·02	9	6·07	11	4·47	4	4·40	8	9·57	16	10·39	18	5·74	24	3·22	8	5·93	12
September ...	2·08	7	2·63	8	1·04	6	6·41	13	1·64	9	3·45	7	3·67	7	8·33	7	3·74	5	5·03	8	1·96	13	9·06	20	5·40	8	4·77	10
October ...	0·96	14	1·86	5	4·98	14	4·75	14	2·49	14	3·63	6	6·35	17	1·92	5	5·20	6	6·16	10	6·21	21	3 63	17	2·94	6	4·12	8
November ...	8·22	18	7·07	7	3·99	14	3·44	16	3·90	17	0·86	3	8·63	14	5·00	7	7·43	8	7·35	11	3·07	23	4·10	17	4·51	11	2·75	11
December ...	9·95	20	Nil		4·62	12	1·21	6	2·65	14	0·15	1	3·29	7	Nil		Nil		0·40	4	5·13	21	0·47	7	2·42	5	4·21	12
Total ...	75·71	172	27·29	78	47·32	139	35·16	110	30·43	141	28·66	75	53·13	97	43·15	60	48·34	66	65·07	113	56·76	231	54·67	161	46·28	91	50·10	119

COMPARATIVE RAINFALL STATEMENT, SHOWING THE MONTHLY RAINFALL FOR THE YEAR 1912 OF FORTY-ONE LOCALITIES OF THE UGANDA PROTECTORATE—*continued.*

MONTH.	BUKONA.		NAMENAGE.		NABIESO.		KUMI.		HOIMA.		NAMU-KEKERA.		NABUMALI.		IGANGA.		BUTITI.		BUKUMI.		MITALA MARIYA.		RUBAGA.		NGORA.		KISUBI.		KIYUVU.	
	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No of days.	In.	No. of days.
JANUARY ...	1·40	4	1·71	6	0·28	2	Nil		1·61	5	2·08	5	0·17	5	1·37	1	1·36	3	1·81	6	1·35	5	4·04	9	1·28	5	1·36	5	3·33	6
FEBRUARY ...	6·96	10	4·11	4	4·20	9	4·69	6	2·62	14	7·81	9	—	—	4·97	5	2·59	7	5·71	8	2·62	5	1·44	8	9·63	11	2·55	9	2·32	10
MARCH ...	4·00	16	3·17	11	2·87	9	4·12	11	3·55	14	4·66	8	2·79	15	4·65	7	4·05	8	4·055	17	5·10	12	7·72	17	3·60	8	12·77	17	5·51	17
APRIL ...	14·87	19	9·86	19	4·56	16	12·84	19	6·81	17	5·93	16	10·23	26	—	—	3·74	8	6·22	13	7·60	17	6·28	12	8·09	17	6·79	19	6·90	20
MAY ...	3·87	13	3·69	15	3·64	12	6·50	14	7·88	16	3·72	13	4·94	19	2·85	10	3·79	8	2·61	11	6·63	10	4·275	11	8·51	16	10·64	15	5·13	13
JUNE ...	1·30	10	3·01	14	3·03	14	3·33	8	1·33	7	1·33	9	4·30	18	2·32	7	0·92	4	1·23	4	2·87	11	2·47	12	2·65	9	5·80	17	4·39	12
JULY ...	3·68	17	3·54	10	2·22	13	6·43	11	6·99	12	1·19	3	5·53	22	2·77	4	4·14	9	4·49	11	1·61	9	3·60	9	5·24	13	2·34	10	2·39	11
AUGUST ...	6·01	14	3·59	14	3·27	14	6·28	13	6·72	16	7·27	13	7·24	27	8·78	14	4·48	12	6·57	16	5·90	17	7·71	12	6·90	—	9·69	13	3·11	13
SEPTEMBER...	6·65	12	6·21	9	9·50	13	3·13	8	5·25	12	4·99	10	3·19	16	2·97	7	4·71	9	4·30	11	—	—	1·52	4	2·73	8	2·16	7	5·32	12
OCTOBER ...	4·76	14	4·88	11	7·37	18	4·27	12	6·56	15	4·44	12	2·53	25	7·18	11	5·51	14	4·97	9	—	—	6·31	16	3·83	14	1·00	11	5·99	14
NOVEMBER ...	5·06	17	5·34	10	2·63	11	1·45	8	5·09	17	6·69	17	1·98	17	6·58	16	5·88	17	6·14	10	—	—	4·10	10	2·23	8	3·94	13	3·71	15
DECEMBER ...	2·88	11	2·18	6	0·25	1	0·42	2	1·48	3	1·99	7	1·85	13	1·14	5	0·74	7	3·76	4	—	—	6·02	13	0·75	4	7·33	17	2·05	12
TOTAL ...	61·44	157	51·29	129	43·82	132	53·46	112	55·89	148	52·10	122	44·75	203	45·58	87	41·91	106	51·865	120	33·68	86	55·485	133	55·44	113	66·37	153	50·15	155

COMPARATIVE RAINFALL STATEMENT, SHOWING THE MONTHLY RAINFALL FOR THE YEAR 1912 OF FORTY-ONE LOCALITIES OF THE UGANDA PROTECTORATE—*continued.*

MONTH.	KAWALO-NGOJO.		MAGIGYE.		NANDERE.		MONIKO.		KIRITIA.		BOMBO.		BWAVU.		BUGALLA ISLAND (*Sesse.*)		SANGO BAY.		MYUBA.		KAKUMIRO.		BUNYARU-GURU.	
	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.	In.	No. of days.
JANUARY	2·65	10	4 48	4	2 80	6	2·60	5	—	—	4·97	9	0·80	4	—	—	—	—	—	—	—	—	—	—
FEBRUARY	2·58	10	2·63	6	3·00	6	3·94	9	—	—	4·35	9	5·32	8	—	—	—	—	—	—	—	—	—	—
MARCH	4·99	18	5·14	11	7·98	15	6·44	17	—	—	8·44	15	9·42	18	6·175	20	6·38	12	—	—	—	—	—	—
APRIL	5·74	17	5·83	14	5·49	21	6·84	19	7·69	11	8·81	24	5·65	14	10·94	18	9·80	17	—	—	—	—	—	—
MAY	8·22	17	2·54	8	6·17	16	6·00	17	4·60	12	5·30	17	5·39	18	11·00	19	—	—	—	—	—	—	—	—
JUNE	1·25	8	2·40	5	3·54	9	4·59	14	4·22	8	1·87	14	2·94	12	13·42	18	—	—	—	—	—	—	—	—
JULY	5·08	4	3·40	5	2·83	13	2·82	12	1·87	4	2·21	12	2·91	8	4·45	18	—	—	2·35	6	—	—	—	—
AUGUST	—	—	7·85	15	8·78	21	3·82	13	2·74	7	3·90	25	1·94	11	5·03	11	—	—	6·28	11	—	—	—	—
SEPTEMBER	3·45	12	3·56	3	4·12	13	3·51	13	1·89	9	2·27	13	4·73	13	2·10	12	—	—	5·57	12	—	—	—	—
OCTOBER	5·32	14	2·36	6	5·34	17	6·04	12	6·48	11	2·97	16	4·97	15	4·47	12	—	—	0·75	4	3·01	16	—	—
NOVEMBER	3·13	15	2 68	10	3·87	16	4·42	12	3·97	12	5·94	13	3·57	16	8·57	21	—	—	3·48	9	6 06	14	7·95	11
DECEMBER	4·57	15	5·00	12	3·38	10	2·59	9	2·44	9	1·42	11	3·91	13	12·72	27	—	—	—	—	1·10	7	5·28	19
TOTAL ...	46·98	141	47·87	99	57·30	163	53·61	152	35·90	83	52·45	178	51·55	150	78·875	176	16·18	29	18·43	42	10·17	37	13·23	30

TABLE VI.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1912.

Diseases.	Remaining in Hospital at end of 1911.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1912.	Remarks.
		Admissions	Deaths.			
INFECTIVE DISEASES.						
Beri-Beri	—	—	—	—	—	
Cerebro-Spinal Fever	1	3	3	4	—	
Chicken-Pox	—	10	—	10	1	
Cholera	—	—	—	—	—	
Dengue	—	—	—	—	—	
Diphtheria	—	—	—	—	—	
Dysentery	1	40	4	41	—	
Endocarditis—infective	—	—	—	—	—	
Enteric	—	5	1	5	—	
Erysipelas	—	—	—	—	—	
Gonorrhœa	5	58	1	63	2	
Influenza	—	1	—	1	—	
Kala Azar	—	1	1	1	—	
Leprosy—(*a*) Nodular	—	—	—	—	—	
(*b*) Anæsthetic	1	4	—	5	—	
Malaria—(*a*) Tertian	1	1	—	2	—	
(*b*) Quartan	1	1	—	2	—	
(*c*) Aestivo-autumnal	4	318	6	322	1	
(*d*) Chronic Malaria	—	12	2	12	—	
(*e*) Black-water	1	11	2	12	1	
Measles	—	7	—	7	—	
Malta Fever	—	—	—	—	—	
Plague	—	2	2	2	—	
Pneumonia	4	63	23	67	1	
Rabies	—	—	—	—	—	
Relapsing Fever	7	197	9	204	6	
Rheumatic Fever	1	1	—	2	—	
Septicæmia	—	1	1	1	—	
Trypanosomiasis (Sleeping Sickness)	1	61	9	62	—	
Small-Pox	1	4	1	5	—	
Syphilis (*a*) Primary	—	31	1	31	—	
(*b*) Secondary	7	44	1	51	6	
(*c*) Tertiary	1	24	1	25	2	
(*d*) Inherited	—	1	—	1	—	
Tetanus	1	—	1	1	—	
Tuberculosis	—	2	2	2	—	
Whooping Cough	—	2	—	2	1	
Yaws	—	1	—	1	—	
Yellow Fever	—	—	—	—	—	
Pyrexia	—	67	1	67	—	
Other Diseases	1	13	2	14	—	
INTOXICATIONS.						
Alcoholism	—	2	—	2	—	
Morphinism	—	—	—	—	—	
Others	—	—	—	—	—	
GENERAL DISEASES.						
Anæmia	—	3	1	3	1	
Anæmia—Pernicious	—	—	—	—	—	
Diabetes	—	—	—	—	—	
Exophthalmic Goitre	—	—	—	—	—	
Gout	—	—	—	—	—	
Leucocythæmia	—	—	—	—	—	
Hodgkin's Disease	—	—	—	—	—	
Myxœdema	—	—	—	—	—	
Carried forward	39	991	75	1,030	22	

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1912—*continued.*

Diseases.	Remaining in Hospital at end of 1911.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1912.	Remarks.
		Admissions	Deaths.			
Brought forward	39	991	75	1,030	22	
GENERAL DISEASES—*continued.*						
Purpura...	—	—	—	—	—	
Rickets	1	—	—	1	—	
Scurvy	—	—	—	—	—	
Debility	1	25	4	26	—	
Other Diseases	—	1	—	1	—	
LOCAL DISEASES.						
DISEASES OF THE NERVOUS SYSTEM.						
Sub-section 1.						
Neuritis	—	1	—	1	—	
Meningitis	—	5	4	5	—	
Myelitis	—	—	—	—	—	
Hydrocephalus	—	—	—	—	—	
Encephalitis	—	—	—	—	—	
Abscess of Brain	—	—	—	—	—	
Congestion of Brain	—	1	—	1	—	
Other Diseases	—	1	—	1	1	
Sub-section 2.						
Apoplexy	—	1	1	1	—	
Paralysis	—	8	—	8	1	
Chorea	—	—	—	—	—	
Epilepsy	—	7	1	7	—	
Neuralgia	2	17	—	19	—	
Hysteria	—	—	—	—	—	
Other Diseases	—	7	—	7	—	
Sub-section 3.						
Mental Diseases—						
Idiocy	—	—	—	—	—	
Mania	—	1	—	1	—	
Melancholia	—	1	1	1	—	
Dementia	—	—	—	—	—	
Delusional Insanity	—	1	—	1	—	
Diseases of the Eye—						
Conjunctivitis	—	33	—	33	1	
Keratitis	—	1	—	1	—	
Ulceration of Cornea	—	1	—	1	—	
Iritis	1	6	—	7	—	
Optic Neuritis	—	—	—	—	—	
Cataract	1	3	—	4	1	
Diseases of the Ear—						
Inflammation	1	3	1	4	—	
Other Diseases	—	—	—	—	—	
Diseases of the Nose—						
Coryza	—	6	—	6	—	
Other Diseases	—	1	—	1	—	
Diseases of the Circulatory System—						
Pericarditis	—	2	2	2	—	
Endocarditis	—	—	—	—	—	
Valvular Mitral	1	2	1	3	—	
Aortic	—	—	—	—	—	
Tricuspid	—	—	—	—	—	
Pulmonary	—	—	—	—	—	
Arterial Sclerosis	—	—	—	—	—	
Aneurism	—	—	—	—	—	
Other Diseases	2	4	1	6	—	
Carried forward	49	1,130	91	1,179	26	

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1912—*continued.*

Diseases.	Remaining in Hospital at end of 1911.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1912.	Remarks.
		Admissions	Deaths.			
Brought forward	49	1,130	91	1,179	26	
LOCAL DISEASES—*continued.*						
Diseases of the Respiratory System—						
Laryngitis	—	—	—	—	—	
Bronchitis	—	79	1	79	—	
Broncho-pneumonia	1	43	12	44	—	
Abscess of Lung	—	—	—	—	—	
Gangrene of Lung	—	—	—	—	—	
Emphysema	—	1	—	1	—	
Pleurisy	—	39	1	39	2	
Empyema	—	—	—	—	—	
Other Diseases	—	5	2	5	—	
Diseases of the Digestive System—						
Stomatitis	—	4	—	4	—	
Caries of teeth	—	1	—	1	—	
Glossitis	1	—	—	1	—	
Sore Throat	—	2	—	2	—	
Inflammation of Tonsils	1	12	—	13	—	
Gastritis	—	3	—	3	—	
Ulceration of Stomach...	—	—	—	—	—	
Hæmatemesis	—	—	—	—	—	
Dilatation of Stomach	—	—	—	—	—	
Stricture of Stomach	—	—	—	—	—	
Dyspepsia	—	17	—	17	—	
Enteritis	—	3	3	3	—	
Appendicitis	—	1	—	1	—	
Colitis	—	—	—	—	—	
Ulceration of Intestines	—	—	—	—	—	
Sprue	—	—	—	—	—	
Hernia	—	10	2	10	1	
Diarrhœa	1	34	3	35	—	
Constipation	—	11	—	11	—	
Colic	—	32	—	32	—	
Hæmorrhoids	—	2	—	2	—	
Pancreatitis	—	—	—	—	—	
Hepatitis—Acute	—	3	—	3	—	
Abscess	—	3	—	3	—	
Cirrhosis	—	—	—	—	—	
Jaundice	—	5	—	5	—	
Peritonitis	—	3	2	3	—	
Ascites	—	3	—	3	—	
Other Diseases	—	3	—	3	—	
Diseases of the Lymphatic System—						
Splenitis	—	1	—	1	1	
Inflammation of Lymphatic Gland	—	21	—	21	—	
Suppuration of Lymphatic Gland	1	13	—	14	—	
Lymphangitis	—	2	—	2	—	
Elephantiasis	—	—	—	—	—	
Diseases of the Urinary System—						
Acute Nephritis	—	2	2	2	—	
Bright's Disease	1	1	—	2	—	
Pyelitis	—	—	—	—	—	
Calculus	—	—	—	—	—	
Renal Colic	—	—	—	—	—	
Cystitis	—	6	1	6	—	
Vesical Calculus	—	—	—	—	—	
Suppression	—	—	—	—	—	
Hæmaturia	1	—	—	1	—	
Chyluria	—	—	—	—	—	
Other Diseases	—	1	—	1	1	
Carried forward	56	1,496	120	1,552	31	

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1912—*continued.*

Diseases.	Remaining in Hospital at end of 1911.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1912.	Remarks.
		Admissions	Deaths.			
Brought forward	56	1,496	120	1,552	31	
LOCAL DISEASES—*continued.*						
Diseases of the Generative System—						
Male Organs—						
Urethritis	—	1	—	1	—	
Gleet	—	1	—	1	—	
Stricture	2	6	1	8	—	
Prostatitis	—	1	—	1	—	
Soft chancre	1	11	—	12	—	
Condyloma	—	—	—	—	—	
Inflammation of Scrotum	—	—	—	—	—	
Hydrocele	—	8	—	8	—	
Orchitis	—	11	—	11	—	
Epididymitis	—	—	—	—	—	
Abscess of Testicle	1	—	—	1	—	
Other Diseases	2	11	1	13	2	
Female Organs—						
Ovaritis	—	—	—	—	—	
Ovarian Cyst	—	1	—	1	—	
Endometritis	—	4	—	4	—	
Displacement of Uterus	—	—	—	—	—	
Vaginitis	—	—	—	—	—	
Amenorrhœa	—	—	—	—	—	
Dysmenorrhœa	—	—	—	—	—	
Menorrhagia	—	1	—	1	—	
Leucorrhœa	—	—	—	—	—	
Abortion	—	5	—	5	—	
Delayed Labour	—	5	3	5	—	
Postpartem Hæmorrhage	—	—	—	—	—	
Retained Placenta	—	2	1	2	—	
Premature Birth	—	—	—	—	—	
Puerperal Septicæmia	—	—	—	—	—	
Mastitis	—	—	—	—	—	
Abscess of Breast	—	—	—	—	—	
Other Diseases	1	18	1	19	—	
Diseases of Organs of Locomotion—						
Osteitis	—	1	—	1	—	
Arthritis	2	9	—	11	—	
Spondylitis	—	—	—	—	—	
Bursitis	—	—	—	—	—	
Myalgia...	—	47	—	47	—	
Lumbago	—	17	—	17	—	
Other Diseases	1	7	—	8	—	
Diseases of Connective Tissue—						
Cellulitis	1	41	1	42	3	
Abscess	2	88	1	90	8	
Elephantiasis	—	4	—	4	—	
Other Diseases	—	2	1	2	—	
Diseases of the Skin—						
Urticaria	—	—	—	—	—	
Eczema	—	4	1	4	—	
Boil	—	14	—	14	—	
Carbuncle	—	1	—	1	—	
Herpes	—	1	—	1	—	
Psoriasis	—	—	—	—	—	
Oriental Sore	—	7	—	7	—	
Tinea	—	2	—	2	—	
Carried forward	69	1,827	131	1,896	44	

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1912—*continued.*

Diseases.	Remaining in Hospital at end of 1911.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1912.	Remarks.
		Admissions	Deaths.			
Brought forward	69	1,827	131	1,896	44	
LOCAL DISEASES—*continued.*						
Diseases of the Skin—*continued.*						
Scabies	1	10	—	11	—	
Acne	—	—	—	—	—	
Prickly Heat	—	—	—	—	—	
Ulcers	1	44	—	45	3	
Other Diseases	1	4	—	5	—	
Injuries—General	—	5	2	5	1	
Local...	25	302	13	327	21	
Surgical Operations	—	240	—	—	—	
Tumours	—	3	—	3	—	
Other Diseases	1	2	—	3	1	
Malformations	—	—	—	—	—	
Poisons	—	—	—	—	—	
Snake bite	1	8	—	9	—	
Parasites—Animal	—	—	—	—	—	
Protozoa	—	—	—	—	—	
Trematoda (Flukes)	—	—	—	—	—	
Other Diseases	1	1	—	2	—	
Cestoda—						
Tænia Solium	—	—	—	—	—	
Tænia Saginata...	—	—	—	—	—	
Nematoda—						
Ascaris	—	1	—	1	—	
Tricocephalus Dispar.	—	—	—	—	—	
Trichina	1	—	—	1	—	
Dracunculus	—	—	—	—	—	
Filariasis	—	1	—	1	—	
Strongylus	—	—	—	—	—	
Ankylostomiasis	—	—	—	—	—	
Oxyuris	—	—	—	—	—	
Other diseases	—	1	—	1	—	
Insecta—						
Myiasis	—	—	—	—	—	
Other Diseases	—	11	1	11	1	
Total	101	2,460	147	2,321	71	

TABLE VII.

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1912.

Diseases.	Total Cases Treated.	Deaths.
INFECTIVE DISEASES.		
Beri-Beri	—	—
Cerebro-Spinal Fever	3	3
Chicken-Pox	29	—
Cholera	—	—
Dengue	5	—
Diphtheria	2	—
Dysentery	475	9
Endocarditis—infective	—	—
Enteric	9	1
Erysipelas	3	—
Gonorrhœa	1,961	1
Influenza	27	—
Kala Azar	1	1
Leprosy (*a*) Nodular	17	—
(*b*) Anæsthetic	16	—
Malaria (*a*) Tertian	604	—
(*b*) Quartan	36	1
(*c*) Aestivo-autumnal	5,335	7
(*d*) Chronic Malaria	388	2
(*e*) Black-water	32	8
Measles	35	2
Malta Fever	5	—
Plague	27	25
Pneumonia	105	32
Rabies	—	—
Relapsing Fever	1,809	13
Rheumatic Fever	2	—
Septicæmia	1	1
Trypanosomiasis (Sleeping Sickness)	86	15
Small-Pox	40	1
Syphilis (*a*) Primary	706	1
„ (*b*) Secondary	2,350	1
„ (*c*) Inherited	1,205	1
„ (*d*) Tertiary	1,572	1
Tuberculosis	26	3
Whooping Cough	87	4
Yaws	508	—
Tetanus	2	2
Mumps	236	—
Fever, Undefined	1,819	5
Others	4	—
INTOXICATIONS.		
Alcoholism	2	—
Morphinism	—	—
Others	—	—
GENERAL DISEASES.		
Debility	630	4
Anæmia	104	1
Anæmia—Pernicious	1	—
Diabetes	—	—
Exophthalmic Goitre	—	—
Gout	1	—
Carried forward	20,306	145

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1912—*continued.*

Diseases.	Total Cases Treated.	Deaths.
Brought forward	20,306	145
GENERAL DISEASES—*continued.*		
Leucocythæmia	—	—
Hodgkin's Disease	1	—
Myxœdema	—	—
Purpura	—	—
Rickets	2	—
Scurvy	24	—
Others	2	2
LOCAL DISEASES.		
DISEASES OF THE NERVOUS SYSTEM.		
Sub-section 1.		
Neuritis	24	—
Meningitis	4	4
Myelitis	1	—
Hydrocephalus	—	—
Encephalitis	34	—
Abscess of Brain	1	—
Congestion of Brain	1	—
Others	3	—
Sub-section 2.		
Hysteria	14	—
Apoplexy	3	2
Paralysis	22	—
Chorea	1	—
Epilepsy	53	1
Neuralgia	1,007	—
Vertigo	2	—
Others	875	—
Sub-section 3.		
Mental Diseases—		
Idiocy	4	—
Mania	8	1
Melancholia	1	—
Dementia	4	1
Delusional Insanity	1	—
Diseases of the Eye—		
Conjunctivitis	5,575	—
Keratitis	78	—
Ulceration of Cornea	80	—
Iritis	137	—
Optic Neuritis	6	—
Cataract	19	—
Others	128	—
Diseases of the Ear—		
Inflammation	1,466	1
Other Diseases	419	—
Diseases of the Nose	1,345	—
Diseases of the Circulatory System—		
Pericarditis	2	2
Endocarditis	4	—
Valvular Mitral	44	2
Aortic	4	—
Tricuspid	3	—
Pulmonary	—	—
Arterial Sclerosis	2	—
Aneurism	—	—
Others	40	1
Carried forward	31,750	162

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1912—*continued.*

Diseases.	Total Cases Treated.	Deaths.
Brought forward	31,750	162
LOCAL DISEASES—*continued.*		
Diseases of the Respiratory System—		
Laryngitis	115	1
Bronchitis	12,523	3
Broncho-pneumonia	201	14
Abscess of Lung	—	—
Gangrene of Lung	—	—
Emphysema	5	—
Pleurisy...	554	2
Empyema	1	—
Others	67	2
Diseases of the Digestive System—		
Stomatitis	910	—
Caries of teeth	843	—
Glossitis...	43	—
Sore Throat	562	—
Inflammation of Tonsils	571	—
Gastritis	87	—
Ulceration of Stomach...	3	—
Hæmatemesis	3	—
Dilatation of Stomach	—	—
Stricture of Stomach	—	—
Dyspepsia	3,556	—
Enteritis	9	4
Appendicitis	4	—
Colitis	10	—
Ulceration of Intestines	—	—
Sprue	—	—
Hernia	50	2
Diarrhœa	1,822	4
Constipation	4,362	1
Colic	1,342	—
Hæmorrhoids	33	—
Pancreatitis	—	—
Hepatitis—Acute	41	—
Abscess	—	—
Cirrhosis	—	—
Jaundice	48	—
Peritonitis	6	3
Ascites	11	1
Other diseases	183	—
Diseases of the Lymphatic System—		
Splenitis	95	—
Inflammation of Lymphatic Gland	656	—
Suppuration of Lymphatic Gland	281	—
Lymphangitis	51	—
Elephantiasis	7	—
Others	1	—
Diseases of the Urinary System—		
Acute Nephritis	5	2
Bright's Disease	9	2
Pyelitis	1	—
Calculus	—	—
Renal Colic	9	—
Cystitis	14	1
Vesical Calculus	—	—
Suppression	1	—
Hæmaturia	3	—
Chyluria	—	—
Others	16	2
Carried forward	60,864	206

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1912—*continued.*

Diseases.	Total Cases Treated.	Deaths.
Brought forward	60,864	206
LOCAL DISEASES—*continued.*		
Diseases of the Generative System—		
Male Organs—		
Urethritis	14	—
Gleet	30	—
Stricture	30	1
Prostatitis	3	—
Soft chancre	200	—
Condyloma	45	—
Inflammation of Scrotum	2	—
Hydrocele	32	—
Orchitis	166	—
Epididymitis	28	—
Abscess of Testicle	—	—
Other diseases	54	1
Female Organs—		
Ovaritis	2	—
Ovarian Cyst	—	—
Endometritis	14	—
Displacement of Uterus	4	—
Vaginitis	7	—
Amenorrhœa	14	—
Dysmenorrhœa	26	—
Menorrhagia	64	1
Leucorrhœa	115	—
Abortion	30	—
Delayed Labour	15	4
Postpartem Hæmorrhage	2	—
Retained Placenta	4	1
Premature Birth	4	—
Puerperal Septicæmia	3	3
Mastitis...	24	—
Abscess of Breast	22	—
Others	96	1
Diseases of Organs of Locomotion—		
Osteitis	27	—
Arthritis	664	1
Spondylitis	1	—
Bursitis	42	—
Myalgia...	4,134	—
Other diseases	640	—
Diseases of Connective Tissue—		
Cellulitis	772	2
Abscess	1,073	1
Elephantiasis	19	—
Other diseases	8	—
Diseases of the Skin—		
Urticaria	80	—
Eczema	518	1
Boil	555	—
Carbuncle	8	—
Herpes	113	—
Psoriasis	136	—
Oriental Sore	149	—
Tinea	512	—
Scabies	8,233	—
Acne	31	—
Prickly Heat	18	—
Ulcers	6,492	—
Other diseases	245	—
Carried forward	86,384	223

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1912—*continued.*

Diseases.	Total Cases Treated.	Deaths.
Brought forward	86,384	223
Injuries—General	54	7
Local	9,335	14
Surgical Operations	—	—
Tumours	97	—
Malformations	1	—
Poisons	69	2
Parasites—Animal (unclassified)	11	—
Protozoa	—	—
Trematoda (Flukes)	—	—
Cestoda	3	—
Tænia Solium	211	—
Tænia Saginata...	3	—
Nematoda—		
Ascaris	983	—
Tricocephalus Dispar	—	—
Trichina	—	—
Dracunculus	113	—
Filariasis	6	—
Strongylus	—	—
Ankylostomiasis	1	—
Oxyuris	193	—
Insecta—		
Myiasis	—	—
Others	329	1
Total	97,793	247

(Sgd.) A. D. P. HODGES,

Principal Medical Officer,

Uganda Protectorate.

ENTEBBE,

10th May, 1913.

APPENDIX A.

Circular No. 14 of 1912.

CHIEF SECRETARY'S OFFICE,
ENTEBBE, UGANDA,
18th June, 1912.

LOCAL SANITARY COMMITTEES.

1. The Governor has been pleased to appoint the following officers, *ex officio*, to form Local Sanitary Committees for the Townships of Entebbe, Kampala, Jinja, Hoima, Mbale and Mbarara. Other townships and stations will be included from time to time as necessary.

The District Officer, or person acting for him... ... ... *President.*
The Medical Officer
The District Engineer } ... ... *Members.*

2. The duties of the Local Sanitary Committee are to inspect and advise upon the general sanitation of the township which they represent, including drainage, water-supply, siting and sanitation of streets, plots and buildings, the disposal of sewage and refuse, anti-malarial measures and measures for the control of infectious disease. Specific action required to be taken by any specific authority under existing Ordinances, Rules or Regulations, will however continue to be taken by that authority.

3. The Committee will superintend the carrying out of such sanitary measures as are approved for the township by the Central Administrative and Sanitary Authorities, and will control the expenditure of such funds as are entrusted to them for carrying out such measures.

4. The engagement, control and payment of labour employed for the carrying out of anti-malarial and general sanitary measures, except such measures as may be undertaken by the Public Works, will be in the hands of the President of the Committee, provided that the nature of the work done shall be regulated by the advice of the Committee and that each labour gang shall work in touch with that member of the Committee who from his office and training is best qualified to judge of the practical effect of the work on which the gang is engaged.

5. The Committee will report to the Principal Medical Officer, or to such Central Sanitary Authority as may be appointed for the purpose, all new sanitary measures, or alterations or improvements in existing measures, which in their opinion should be undertaken in the township.

6. They will also keep such records and make such reports as are required for the sanitary section of the Medical Annual Reports to the Secretary of State.

7. All reports and recommendations made by the Committee shall be made through the President, except in cases of urgency during his absence from the township.

8. All correspondence on sanitary matters connected with the township should, as far as possible, be conducted by the Committee, provided that the ordinary correspondence of any member of the Committee with his Department shall not be thereby restricted, and that members shall supply to the Committee copies of any correspondence with their Department which affects the duties or action of the Committee.

9. A meeting of the Committee may be held with the concurrence of any two members and shall consist of not less than two members.

10. The Committee will hold meetings at such times as are necessary and convenient for the carrying out of their duties. They may also be called upon to hold meetings by the Principal Medical Officer, or such Central Sanitary Authority as may be appointed, and by the Medical Sanitary Officer during his inspection of the township.

11. The Medical Sanitary Officer when on tour shall have access to all books, correspondence and minutes of meetings of the Committee, and he shall have the right to attend any meeting specially called by him.

H. R. WALLIS,
Chief Secretary to the Government.

APPENDIX B.

SOME OBSERVATIONS BY THE PRINCIPAL MEDICAL OFFICER, UGANDA PROTECTORATE, ON THE REPORT ON BLACKWATER FEVER IN SOUTHERN NIGERIA, 1899–1911, BY W. M. GRAHAM, M.B.

1. The report is a very interesting one, but the arguments in favour of the specific nature of Blackwater Fever are not convincing, whether they are considered as based on the carefully collected and valuable records given in the report or in the light of experience elsewhere, since they do not appear to remove satisfactorily any of the difficulties with which they deal.

2. The case-rate of Blackwater Fever is shown in the second table of Appendix B of the report to have decreased progressively from 48·3 to 14·4 during the years 1907 to 1911.

3. The case-rate of a specific disease would not be expected to decrease with an increase of susceptible population, and especially with the concentration of such population in towns, unless there were some special cause for it.

4. The decrease has been concurrent with the increased use of anti-malarial measures, of systematic treatment by quinine and of quinine prophylaxis, which, in the absence of any other cause, may reasonably be regarded as accounting for the improvement.

5. If this explanation is accepted there is no need to expect any close correspondence between the case-rate and death-rate of malaria and those of Blackwater Fever. It may be supposed that Blackwater Fever has been prevented in a considerable number of cases in which it would formerly have occurred as a result of malarial infection.

6. Rightly or wrongly, it is believed by Medical men of tropical experience that the conditions under which Blackwater Fever is likely to occur can sometimes be recognised in the patient, and that in a certain number of cases in which the danger is foreseen it can be averted by suitable precautions and treatment.

7. Under Hypothesis No. 3 of the report an increased case-rate of malaria would not necessarily entail an increased case-rate of Blackwater Fever, unless there were a proportionate increase of untreated, insufficiently treated and chronic malarial infections. Such an increase would often depend on local or personal conditions affecting the individuals attacked rather than on general conditions affecting the community.

8. Neither is it necessary to suppose, on this hypothesis, that a dose of quinine should produce hæmoglobinuria in a given malarial cachectic patient, or that, if it does so, a repetition of the dose should produce a recurrence of hæmoglobinuria. The action of quinine on apparently similar attacks of malaria, even in the same patient, is so far from constant, apart from the question of hæmoglobinuria, that there seems to be no reason for surprise that its action in relation to the production of a particular symptom or syndrome should be inconstant also.

9. I have not found in my experience that the administration of quinine to hæmoglobinuric patients, under certain conditions, either increases hæmoglobinuria or causes its recurrence or has other than beneficial effects on the course of the disease, even though the hæmoglobinuria may have apparently been brought on by quinine in the first instance.

10. The seasonal incidence of a disease with a hypothetical six to ten months' incubation period cannot well be compared with that of a disease such as Malaria, having a comparatively short incubation period, unless the difference between the incubation periods be taken into account.

11. If it is supposed that Blackwater Fever is induced under conditions which arise most frequently in the course of neglected malarial attacks and of chronic malaria, cases might be expected to occur chiefly during the height of seasons of greatest malarial incidence, towards the end of them and during the following months, and also intermittently throughout the year; but the relation would be well marked only where the seasons of greatest malarial incidence were well marked.

12. Such a relation of incidence appears to be shown in the Station Schedule for Lagos (Appendix A), in which the season of greatest malarial incidence is well marked, and it does not appear to be contradicted by the figures given in the other station schedules. Also where the season of greatest malarial incidence is not well marked, a similar relation of incidence may often be traced to the season of greatest rainfall, which usually bears a close relation to that of malarial incidence.

13. Apart from any conditions favourable to the disease which may exist in the patient himself, such as syphilis, alcoholism or renal inadequacy, the death rate in Blackwater Fever appears to depend chiefly on the conditions of environment in which individual cases occur, such as the presence or absence of medical attendance, skilled nursing, proper housing, feeding, etc., and to bear no constant relation to seasonal conditions or to the case-rate at any given time.

14. The predisposing causes which are believed to bring on Blackwater Fever are, with the exception of quinine, similar to those which bring on an attack of malaria in a person in whom the infection is latent. External conditions which appear to favour the occurrence of Blackwater Fever, such as badly built quarters, constant association or personal contact with natives, residence in or near native settlements, are all also favourable to infection, and to constant re-infection, with malaria.

15. Those who associate recklessly with natives, either by cohabitation or otherwise, are likely to be reckless in neglecting anti-malarial precautions.

16. If a specific infection of Blackwater Fever be conveyed by personal contact with natives, cohabitation, which is almost the only source of intimate personal contact, should entail by far the greatest incidence of the disease, and the next greatest incidence should fall on those who come into close personal contact with natives in the course of their calling, such as medical men, nurses, sailors, and missionaries. But, even if there were complete evidence that this is so, there must still be borne in mind the increased risk of malarial infection which is run in the conditions mentioned, remembering always that this is greatest between sunset and sunrise.

17. If the practice of cohabitation with native women were shewn to be decreasing in Southern Nigeria concurrently with the case-rate of Blackwater Fever, this would be very suggestive from Dr. Graham's point of view, and also most satisfactory for other reasons, but unfortunately the contrary is implied in the report.

18. The immunity of negroes to malaria is only partial. It varies considerably in different localities, and in Uganda adult natives suffer from the disease and quite a considerable number die of it.

If Blackwater Fever is of malarial origin there is no reason why negroes susceptible to malaria should not sometimes contract it or why it should not be severe or fatal; and no doubt mild or modified and even severe cases, especially in children, would be more likely to be overlooked in the case of negroes than in the case of Europeans.

19. But Blackwater Fever is known to occur sometimes among negroes in a form indistinguishable from that in which it is seen in Europeans, and whether its origin be malarial or specific, it would be contrary to experience if its most prominent phenomenon, hæmolysis, on which its severity appears to depend, were absent in severe and even fatal cases, and that among the former class only.

20. If, on the other hand, Blackwater Fever is regarded as a specific disease infectious both to Europeans and negroes, it is reasonable to suppose that the latter would be the chief source of infection in the community, that the disease would exist among them in all grades of severity between a mild or modified form and those fatal hæmoglobinuric cases which are on record, and that in the less severe forms it would be of comparatively frequent occurrence.

21. Under these circumstances we should expect that, although the milder modified forms might pass unnoticed, intermediate forms would be recognisable, and also that modified forms would occur sometimes among Europeans, in whom their occurrence would probably be recognised, and that they would occur especially in Europeans who had had one or more previous attacks.

22. But no mild or modified form of disease is known among natives from which Blackwater Fever is likely to be derived, if we except malaria; no modified form in which hæmoglobinuria is absent is known among Europeans; and the tendency of repeated attacks, instead of conferring immunity or leading to modification of one or more phenomena, appears to be towards a greater severity of all the more prominent symptoms and eventually towards a fatal issue.

23. If we suppose that the relative immunity to malaria possessed by negroes is wholly acquired during the period from infancy to the age of 16, we must surely suppose that a corresponding degree of immunity could be acquired by European children during the same period under similar conditions; and if we cannot admit such a supposition we must suppose that a proportion of the immunity of negroes is inherited, and such an inheritance might well include a relative immunity to Blackwater Fever.

24. The history of Blackwater Fever cases which have occurred in cold climates, outside the geographical area of the disease, appears, so far as can be seen at present, to point to its being a manifestation of a latent disease, rather than a specific disease having a prolonged incubation period.

A. D. P. HODGES,
Principal Medical Officer, Uganda Protectorate.

ENTEBBE,
7th May, 1913.

APPENDIX C.

ANNUAL REPORT ON ADMINISTRATIVE MEASURES TAKEN AGAINST SLEEPING SICKNESS.

ENTEBBE,
26th April, 1913.

THE PRINCIPAL MEDICAL OFFICER,
Uganda Protectorate,
Entebbe.

SIR,

I have the honour to submit my report for the Financial year ended 31st March, 1913. For convenience of reference I have dealt with each of the infected areas separately, showing what has been done in each area, rather than a general report of the work done in the Protectorate as a whole.

2. On the 1st April, 1912, I took over charge from Mr. Paske Smith and with the exception of nearly six weeks in July and August, when my services were temporarily required by the Administration, have held the office throughout the year. Two European overseers of clearings have been employed during the greater part of the year.

3. A new Ordinance with its attendant rules, proclamations and notices was drawn up and enacted in February. The rules are drafted in two main divisions, *i.e.*, (1) those applied to all infected areas, and (2) special rules applied to any particular infected area to suit local conditions. Up to the present each infected area had its own particular set of rules, an arrangement which was rather cumbersome and bewildering, the more so as certain of the rules applied to the Victoria Nyanza were quite out of date. It is to be hoped that these new rules, based on past experience, will prove effective and complete, and that all contingencies in the infected areas now declared can, in the future, be met by notices and proclamations in the Gazette rather than by particular rules. Occasions must arise when particular rules will be necessary, but legislation should now be lessened and consequently less complicated.

4. VICTORIA NYANZA INFECTED AREA.

(*a*) The permanent clearings at Entebbe, Port Bell and Jinja have been satisfactorily maintained.

(*b*) At Entebbe further clearing has been started along the shore in the Manyago forest by a fuel contractor to the Uganda Railway Marine, and towards the end of the year Sebugwawo commenced clearing the shore of the Nkumba peninsula, with a view to clearing the whole peninsula and repatriating his people who were moved from the lake shore.

(*c*) The Algerian White Fathers have done extensive and thorough clearing on their land at Kisubi, the cleared land being put under the cultivation of coffee.

(*d*) Further clearing has been undertaken at Port Bell, including an island opposite the port and a headland close to the port where fly was numerous and where a breeding place was found. The clearings are now completed and are being planted with lemon grass. These clearings it is hoped will rid the neighbourhood of the port from fly, and lessen the danger of fly being brought into the port by dhows, &c.

(*e*) The new port at Mjanji, near the Sio River, has been cleared, only very few fly were found here, but as a precautionary measure all possible cover has been removed.

(*f*) An inspection was made from Jinja to Mpumu along the coast line in November, and the state of affairs found to be satisfactory.

(*g*) The Assistant District Commissioner, Entebbe, visited some of the Sesse islands to try to discover the origin of bush fires seen on the islands, but did not find any natives.

(*h*) A few convictions are reported in various parts of the area of natives returning to the shore of the mainland for fishing expeditions, but these are infrequent, and rules appear to be well kept.

(*i*) There are still a few natives living on Buvuma who have not been removed These are reported to have no settled homes, and the physical conditions of this large island make it impossible for the native inspectors to find them. It is intended at an early date to try to persuade these people to move on to the mainland.

(*j*) Of the natives removed from the various islands off the Busoga coast some have settled in East Africa and are reported to visit some of the Uganda Islands for the purpose of making canoes. Owing to the distance from an Administrative centre attempts to catch these people have up to the present been in vain.

(*k*) The necessity for a launch or some vessel on the lake at the disposal of this department is still apparent, and no guarantee can be given of absolute control or maintenance of quarantine of the islands under the existing limited means at my disposal. The native inspectors have done and are doing good work, but are handicapped by only having canoes for the coast and island inspection.

5. Bunyoro Infected Areas.

(*a*) The removal of the Bachopi in Bunyoro, reported last year, was practically finished at the end of the year. In April a patrol completed the work, and since then another patrol has been over the depleted area. The total number of people moved amounted to 6,217 souls, and reports indicate that they are happily settled and do not show a marked desire to return to their old homes.

(*b*) The clearings on either side of the Nile between Masindi Port and Atura were completed early in the year, and were inspected by Dr. Reford and myself in October. A few of the clearings were found to harbour an occasional fly, usually taken at the edge of the clearing, and further clearing was undertaken. The work was under an European overseer, and consisted of deepening the clearings where necessary and extending the clearings along the banks for a greater distance behind the belts of papyrus. The original clearings were estimated at about 17 miles in all, of which about 15 miles were completed in April, 1912. The other 2 miles of light clearing were completed in February, 1913, together with about 2 miles of additional light clearing near Kibuzi and the extensions of the existing clearings mentioned above totalling about 20 miles. It is hardly to be expected that fly will be eradicated at once, but with close supervision and clearing I think it will be possible to free the river from fly in time; our efforts have already made an enormous difference, and fly, when found, were never numerous even in places where formerly they swarmed. Many of the clearings are now being partially kept up by the local natives, and low-growing foodstuffs planted on the rich soil.

(*c*) In the region of Bugungu natives from the Congo occasionally cross Lake Albert to fish on our shores, and a few convictions have been obtained. The Belgian Authorities prohibit canoe traffic on the lake and break up canoes when they find them. This surreptitious traffic is difficult to stop, but is not extensive and must come to an end as time goes on.

(*d*) The shores of Lake Albert have been inspected throughout this area, and, with a few exceptions, the rules appear to be well kept. Traces of natives occasionally visiting the lake shore for fishing expeditions were noticed, but arrangements for more careful supervision and a few recent convictions should speedily stop these illicit incursions.

6. Nile Infected Area.

(*a*) The state of affairs in this area has not materially altered during the year under review; no outbreak in any hitherto uninfected area, or alarming epidemic in a known infected area having been reported. A large portion of the country on the north bank of the Victoria Nile has been depleted of its population, who were removed into fly-free areas. Some 1,264 families, representing about 4,000 souls, were moved. Of these families, 532 were Bachopi, 528 Lango and 204 Acholi. The move was effected by the Administrative Officer with the help of Lieutenant Lilley and a section of K.A.R., whilst the southern bank was patrolled by a police officer. In spite of the difficult country the move was carried out with little trouble.

(*b*) It has been impossible to spare a Medical Officer during the year to map fly areas in this district, and as my predecessor pointed out in his annual report, effective measures cannot be introduced until this is done. However, one step in advance has been accomplished by introducing a rule giving Administrative Officers full and legal power to move natives from fly infested places to other places where fly is known to be absent or at least less numerous, and also giving power to punish offenders who disregard such orders. Under this rule small communities can be placed in safety, and the work of removal quietly proceed until the whole area is surveyed for fly, and more complete and effective measures are possible.

(*c*) By arrangement with the Sudan Government an attempt was made early in the year to clear several points on the West bank of the Nile between Koba and Nimule, where the steamer and launch pass close to the bank, and where fly sometimes came on board. Half this work was done, but owing to the ill-health of the European overseer, and the difficulties

at the time of food and labour supply the work was stopped. It is hoped these clearings can be completed during this financial year, but the task of maintenance will always be difficult, as it is doubtful whether the local natives will be able to undertake it, and Bantu natives find the climatic conditions trying and almost invariably fall sick.

7. Lango Infected Area.

(*a*) This area was declared this year and consists of a strip of land two miles deep on the East bank of the Nile between Atura and the Toshi River. The bank of the Nile opposite this area is included within the Bunyoro infected areas and is infested with fly, and since no natives live on the East bank, it was advisable to prohibit anyone from entering or settling there.

8. Buganda Lake Albert Infected Area.

(*a*) This area was visited and inspected. Traces of clandestine visits by natives were observed, and arrangements made to effect a more efficient control in the future. A fuel station and harbour are required here by the Marine Department, and suitable clearings will be made for this purpose.

9. Victoria Nile Jinja Kakindu Infected Area.

(*a*) The Bugonja Ferry has been cleared on both sides and has been open for traffic since October. No breach of the rules in this area has been reported.

(*b*) On the river to the north of the infected area are other clearings at the Kasata and Kibuye fuel stations and at Namasagali. The two former are old clearings which have been maintained, and the last a new clearing at the port and terminus of the Busoga Railway. The clearing was heavy and fly numerous, but the work has been satisfactory and fly has disappeared, and the high banks have now been planted with lemon grass.

10. Katwe Infected Area.

(*a*) This area has been increased southwards down to the Anglo-Congolese Boundary on Lake Edward. This was necessary owing to the investigations of Dr. McConnell who found fly on nearly all the rivers below the escarpment. Much valuable work has been done by Dr. McConnell in mapping the distribution of the fly, and his reports, read in conjunction with Dr. van Someren's investigations, give an accurate and complete record over the greater part of this area.

(*b*) The removal of the people concerned in the salt traffic and residing in fly infested places took place early in February, 1913. The Mugabe of Ankole and the Mukama of Toro assisted personally, as it was desirable the natives should realise that their chiefs agreed and were party to the decision of the Government, and the removal to their new homes therefore was easily and quickly accomplished with little, if any, loss to property. No figures are yet available of the actual number of people moved, but Mr. Paske Smith's estimate of 4,000 souls will probably be found to be fairly accurate. The natives were compensated in salt, and were also given Poll Tax exemption for 1913–14. All canoes, except a few large canoes to be employed on the Katunguru Ferry, were destroyed. It is interesting to note that the Belgian Government have also been moving natives away from possible infection on the Lake shores and on the Semliki River, and in March were about to destroy all canoes found in Belgian waters on Lake Edward. Co-operation is therefore possible, and the danger of infection to canoemen engaged in the salt traffic on the Lake should now be a matter of the past.

(*c*) This area has twice been visited during the year, the first time in order to obtain a better idea regarding the local conditions, the second to help in and supervise the removal of the natives. By the terms of the lease for the Katwe Salt Lake the Mukama Kasagama is bound to maintain certain clearings, and these were found to be satisfactorily cleared. Other clearings on various rivers were also satisfactory.

11. Other Fly Areas.

(*a*) A considerable amount of clearing was undertaken at Bululu and on three islands in the neighbourhood. The fly found here is an isolated patch far distant from other fly resorts. Two clearings were made during the year and in the second clearing no fly was seen by the European overseer. It is hoped that fly is now exterminated, and it is difficult to see how the place will become reinfected.

(*b*) On the advice of the Medical Authorities, a main route to Mjanji Port through Busoga is to be cleared on account of fly, and this work is being put in hand this month.

(*c*) The fly area reported by Dr. Sells in the Siroko River valley has been mapped and the area will shortly be declared an infected area.

(*d*) Dr. McConnell made a tour of investigation in the Bwamba country near and on the Semliki River, and consequent to his recommendations a large area below the escarpment at the South end of Lake Albert, and an area on the Semliki River will be declared infected and rules applied.

12. General.

(*a*) In conclusion I wish to acknowledge the valuable work done by Dr. McConnell and other Medical Officers in mapping out the distribution of fly, and their technical advice and help. Also I would record my appreciation of the help afforded by Administrative Officers in assisting in the control, &c., in infected areas, and the interest taken by them in this work. Without their loyal help and co-operation my work of inspection would be well nigh impossible, owing to the distance and number of the various infected areas. During the year the time actually occupied in inspecting the infected areas was about seven months. Next financial year, now that most of the clearings are finished and only require supervision, much of the inspection work can be done by one or other of the two overseers.

I have the honour to be,

Sir,

Your most obedient Servant,

ERNEST A. HADDON,

Officer in Charge, Sleeping Sickness, Administrative Measures.

NOTES BY THE PRINCIPAL MEDICAL OFFICER ON THE ANNUAL REPORT OF THE OFFICER IN CHARGE OF SLEEPING SICKNESS ADMINISTRATIVE MEASURES FOR 1912.

This report gives a résumé of what has been done during the year.

2. As heretofore, all measures taken were based upon medical investigations and carried out under advice from the Medical Department.

3. With regard to paragraph 3 of the report concerning the amendment of the Sleeping Sickness Ordinance and the codification of the Rules, I would say that this was much needed. But I would explain that the Rules were always as far as possible identical, though they were separately proclaimed for each area.

In the Victoria Nyanza infected area many of the rules relating to fishing, canoe-traffic, etc., were out of date owing to the depopulation of the islands. The rules that still applied have been retained with certain minor amendments.

4. Paragraph 4 (*i*). The new inhabitants remaining on Buvuma have, so far as is known, no communication with the mainland or other islands.

5. Paragraph 4 (*k*). I understand that the S.S. William Mackinnon will still be available for patrol duties. Failing this, I have already recommended, as stated in my Annual Report for 1911, that a launch should be provided.

6. Paragraph 6 (*a*). I think there is every reason to suppose that, owing to measures already taken, conditions are improving, except in the Wadelai district bordering on the White Nile, where there is no apparent change. Owing to the fact that the tribes there belong to both sides of the river, they are difficult to control, but this difficulty may be expected to be overcome to a great extent when both banks come under one Administration.

7. Paragraph 6 (*b*). The general distribution of fly in the Nile District is known. It is characterised chiefly by small patches on the many inland rivers and streams, and by a considerable seasonal variation in the presence of fly. The conditions appear to be similar to those existing in many parts of the Congo basin. It is extremely doubtful whether wholesale removals of populations would be beneficial. The knowledge of each small patch of fly and its seasonal duration will no doubt in time help us, but I cannot agree that effective measures

cannot be introduced until this is so. The "step in advance" mentioned in this paragraph is a rule introduced at the last revision at my instigation, and I hope that it will prove very beneficial in dealing with villages and small settlements.

8. Paragraph 10 (*a*). The work done by Dr. van Someren and Dr. McConnell in this region has been very good and thorough, and I should like to mention that valuable information was also obtained by us on the presence of fly and Sleeping Sickness, the salt traffic routes and the distribution of Natives, from two reports made by Lieut. Reed, of the 4th King's African Rifles.

9. Paragraph 10 (*b*). The measures for control of this area are based on a modification of one of Dr. van Someren's recommendations and at present promise well. It is gratifying to observe that we are to have the co-operation of the Congo authorities, without which, as I pointed out in last year's report, our control could not be thoroughly effective.

A. D. P. HODGES,

Principal Medical Officer, Uganda Protectorate.

ENTEBBE,
25th April, 1913.

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