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SIERRA LEONE

Annual Report

ON THE

Medical Services

1938

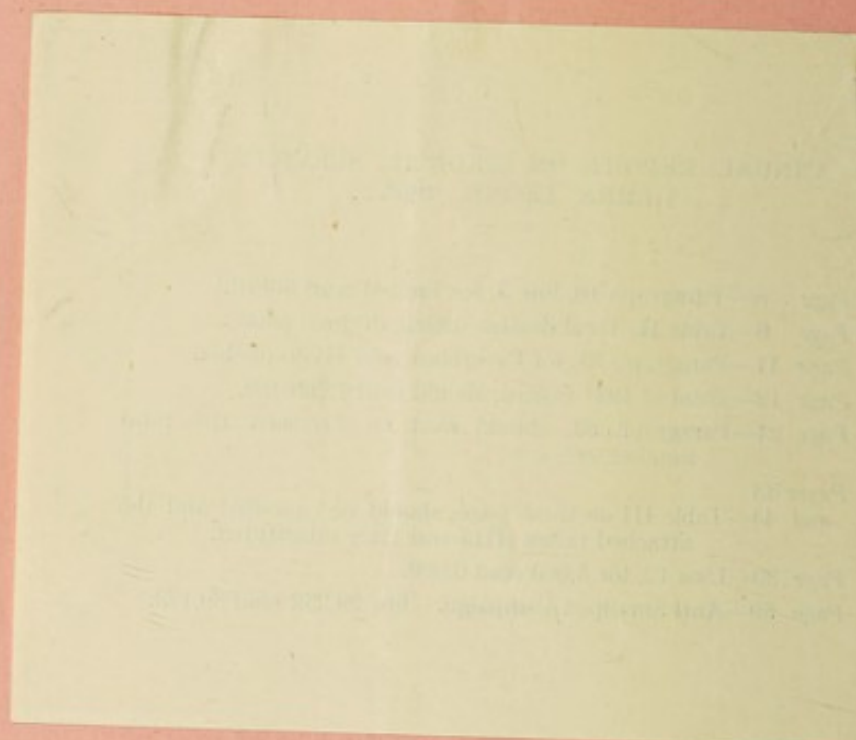


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ANNUAL REPORT ON MEDICAL SERVICES,
SIERRA LEONE, 1938.

- Page vi—Paragraph 10, line 3, for limited read linked. ✓
Page 6—Table II, Total deaths—delete decimal points. ✓
Page 11—Paragraph 33, for Pyorrhoea read Hydrophobia. ✓
Page 12—Total of 1931 Census, should read 1,768,480. ✓
Page 24—Paragraph 83, should read *In Freetown* the total number, etc. ✓
Pages 43
and 44—Table III on these pages should be cancelled and the attached tables (IIIa and IIIb) substituted.
Page 59—Line 12, for 5,000 read 6,000.
Page 59—Anti Smallpox Campaign. For 29,232 read 30,173.





SIERRA LEONE

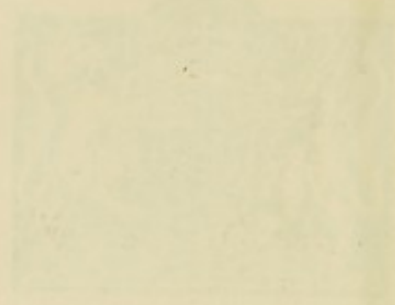
Annual Report

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1938





SIERRA LEONE

Annual Report

OF THE

Medical Services

1938

MEDICAL DEPARTMENT,
FREETOWN, SIERRA LEONE,
31st May, 1939.

ANNUAL MEDICAL AND HEALTH REPORT,
1938.

SIR,

I have the honour to submit, for the information of His Excellency the Governor and for transmission to the Right Honourable the Secretary of State for the Colonies, the Medical Report on the Health and Sanitary conditions of Sierra Leone for the year 1938, together with the Returns, etc., appended thereto.

I have the honour to be,

SIR,

Your obedient servant,

W. P. H. LIGHTBODY,
Director of Medical Services.

THE HONOURABLE
THE COLONIAL SECRETARY,
FREETOWN.

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INTRODUCTION.

There has been no unusual incidence of disease in the Colony or Protectorate during the year although the incidence of malaria and yaws continues to be high. Among all the problems that the Public Health Service is faced with in these parts malaria easily continues to take first place. Yaws is also a great cause of suffering and disablement and much more extensive measures than are at present employed to combat it are called for and to this end proposals have been submitted to Government. The normal revenue of Government however is such that no large and comprehensive campaigns against the major endemic diseases is possible without outside financial assistance and such must ultimately be provided.

2. The country has been fortunate in that no case of Yellow Fever has occurred for several years now, although the disease continues to be notified from surrounding territories.

3. The incidence of Smallpox, considerable in recent years, has during the year under review been restricted to a few small outbreaks which were rapidly circumscribed.

4. Hookworm though a fairly common infection is not severe and does not produce the grave effects so commonly seen in some countries.

5. Schistosomiasis is limited in its distribution and at present does not present a grave problem.

6. Freetown and the Colony continue to absorb an unduly high proportion of the total expenditure on Medical and Health Services but the needs of the Protectorate are now receiving greater consideration. Two new dispensaries were opened this year and two more are planned for next year. The reconstruction of the Bonthe Hospital is also to be undertaken next year and new wards will be built at the hospitals at Bo and Pujehun. That at Bo will be of a temporary nature pending a more extensive reconstruction later. Despite these however the inadequacy of the hospital facilities in the Protectorate are only too obvious and a definite programme of expansion and improvement has been drawn up and agreed to. This programme which is designed to be completed in five years provides for the construction of one additional Protectorate type hospital of 32 beds, sixteen new dispensaries in areas at present unprovided for and the rebuilding and enlargement of the hospitals at Bo and Makeni. It is proposed that these two hospitals, which will be much larger and more fully staffed and equipped than any hitherto existing, will form the main hospital of the Protectorate centres and to them will be cleared cases from the surrounding smaller hospitals and dispensaries. The dispensaries for the most part are to be situated on the road system of the Protectorate to facilitate regular inspection by Medical Officers and to allow of easy evacuation by means of motor transport of cases requiring hospital treatment. It is hoped that in the course of a few years, the Native Administrations which are now being formed will be able to finance to a considerable extent the dispensaries in their areas and to provide others where none now exist.

7. The re-creation of the post of Senior Health Officer, a post abolished some years ago as a measure of economy, is an important step towards laying the foundations of a more satisfactory health service in the Protectorate. The officer appointed to this post arrived in the Colony in October and was posted to the Protectorate with his headquarters at Bo. An important part of his duties will be the closer control and supervision of health conditions of native labourers in mining areas. Hitherto this important aspect of the Health Services in the Protectorate has not received the attention it should have and inspections have been too infrequent. While some companies have shown every disposition to give the housing of their native labour the consideration it deserves, others have not shown the same disposition to co-operate. The worst conditions are found in the Alluvial Gold Area where mining is carried on very largely on a "tributing" basis. The activities of these tributers are very seasonal and camps are frequently shifting thus presenting a difficult problem. The area however is being rapidly exhausted and only the present high price of gold makes any mining worth while. The companies concerned therefore find little justification in making anything other than the most temporary and primitive arrangements for their labourers.

A further matter of concern in mining areas is the overcrowding of small towns in the vicinity as a result of the influx of labourers and the "hangers-on" who are normally to be found following mining enterprises. The situation is definitely aggravated in some cases by the fact that some companies have been so tardy in providing the accommodation necessary for their labour. Pressure is now being brought to bear on those companies whose properties have a reasonable expectation of life.

8. Infant Welfare work has been carried on in Freetown for a number of years but so far little serious attempt has been made to extend it to rural areas in the Colony or to the Protectorate. Unfortunately the tendency of the population is to regard such clinics as being for sick children. Up to the present also visits to the clinic by mothers and children have been the principal feature of the service and home visiting has not been emphasized as it should be. Approval by Government of the employment of additional Health Visitors should however improve considerably this aspect of the matter. The clinics are held by a male Medical Officer and it is felt that this in itself tends to put the emphasis on sickness rather than on health education. There is no reason why these clinics should not be managed by a European Nursing Sister specially trained in this work and cases referred to the Medical Officer, preferably a woman, only when necessary for special advice. This system has been working excellently in other territories.

9. For some years now routine inspection of schools has been in abeyance on account of lack of staff. It was possible however during the year to make an inspection of the sanitary circumstances of all the Freetown schools. Special note was made during this inspection of the incidence of Trachoma and Avitaminosis among the children. Early signs of both conditions were common but advanced cases were rare. It can be said that with few exceptions the sanitary condition of the schools was extremely poor. The buildings are for the most part in bad repair, poorly lighted and badly planned. Overcrowding is common and sanitary conveniences poor in type, insufficient and badly maintained. There is little prospect of teaching the elements of hygiene to children so long as they have to be educated in such deplorable surroundings. Here again almost intolerable conditions have to be accepted because better cannot be afforded from local resources.

10. Overcrowding and slum conditions in Freetown are a grave cause for concern and Government has appointed a committee to report on the matter. Clearance and re-housing in certain areas are urgently called for. Such if it is found possible to undertake must be limited to a general town planning scheme for the whole city in order that piece-meal development may be avoided.

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Report on the Medical Services for the Year 1938.

1—Administration.

(a) ESTABLISHMENT, INCLUDING VACANCIES, ACTING APPOINTMENTS AND PROMOTIONS.

MEDICAL AND HEALTH STAFF.

- 1 Director of Medical Services
- 1 Senior Specialist
- 1 Assistant Director of Medical Services (Health)
- 1 Senior Medical Officer (Health)
- 1 Medical Officer (Health)
- 1 Senior Medical Officer (Colonial Medical Service)
- 10 Medical Officers (Colonial Medical Service)
- 1 Senior Medical Officer (Sierra Leone)
- 1 Pathologist (Sierra Leone)
- 5 Medical Officers (Sierra Leone)
- 1 Junior Medical Officer (Sierra Leone)
- 1 Administrative Secretary
- 1 Chief Sanitary Superintendent
- 4 Sanitary Superintendents.

EUROPEAN NURSING STAFF.

- 2 Senior Nursing Sisters
- 5 Nursing Sisters.

SUBORDINATE MEDICAL AND HEALTH STAFF.

- 1 Chief Dispenser
- 1 Assistant Chief Dispenser
- 1 Chief Storekeeper
- 10 First Class Dispensers
- 10 Second Class Dispensers
- 21 Third Class Dispensers
- 40 Male Nurses and Apprentices
 - 1 Senior Female Nurse
- 29 Female Nurses and Probationers
- 4 Midwives
- 6 Health Visitors
- 51 Sanitary Inspectors and Learners
 - 1 Head Attendant, Lunatic Asylum
 - 1 Assistant Head Attendant, Lunatic Asylum
 - 1 Matron, Lunatic Asylum
 - 3 Female Attendants, Lunatic Asylum
 - 10 Male Attendants, Lunatic Asylum
 - 1 Laboratory Assistant.

There are in addition to the above, Cooks, Stokers, Gate-keepers, Watchmen, Labourers, Hospital Porters, Carpenters, Motor Ambulance Driver, etc.

CLERICAL STAFF.

There are 16 clerks—1 Chief Clerk, 2 Second Grade Clerks and 13 Third Grade Clerks.

NEW APPOINTMENTS.

Dr. W. P. H. Lightbody, Assistant Director of Medical Services (Health), appointed Director of Medical Services on the 2nd July.

Dr. G. R. Waller, appointed Assistant Director of Medical Services (Health) on the 2nd July and arrived Freetown on the 4th November.

Dr. C. B. Jennings, Senior Medical Officer, appointed Assistant Director of Medical Services, Gold Coast, on the 2nd January.

Dr. J. S. Oliphant, appointed Senior Medical Officer (Health) on the 5th October and arrived Freetown on the 16th October.

Dr. W. N. Greer, appointed Senior Medical Officer on the 2nd January and arrived Freetown on 15th September.

Mr. F. E. Levermore, appointed Chief Sanitary Superintendent on the 11th September and arrived Freetown on the 15th September.

Miss I. L. Juchau, appointed Nursing Sister and arrived in the Colony on the 23rd April.

Miss C. E. Taylor, appointed Nursing Sister and arrived Freetown on the 20th August.

Mr. A. B. B. Petrie, appointed Administrative Secretary on the 13th October.

Miss J. M. Zoller, appointed Nursing Sister and arrived Freetown on the 12th November.

Miss P. M. Pigott, appointed Nursing Sister and arrived Freetown on the 17th December.

PRINCIPAL ACTING APPOINTMENTS.

Dr. W. P. H. Lightbody acted as Director of Medical Services from 27th April to 1st July.

Miss N. M. Brown acted as Senior Nursing Sister, European Hospital, from 1st January to 2nd April.

Miss N. M. Brown acted as Senior Nursing Sister, Connaught Hospital, from 25th May to 3rd June.

Miss A. Stewart acted as Senior Nursing Sister, European Hospital, from 4th June to 5th November.

Miss A. Stewart acted as Senior Nursing Sister, Connaught Hospital, from 23rd to 31st December.

RETIREMENTS.

Dr. P. D. Oakley, Director of Medical Services retired on the 1st July.

Dr. E. S. Walls, Senior Medical Officer retired on the 22nd March.

Mr. G. V. Herd, Chief Sanitary Superintendent retired on the 16th February.

Mr. E. S. George, Chief Clerk retired on the 25th November.

Mr. I. B. Doherty, Assistant Chief Dispenser retired on the 9th December.

Mr. D. E. Taylor, Third Grade Clerk retired on the 11th June.

Mr. J. C. Pratt, Fifth Grade Sanitary Inspector retired on the 26th January.

RESIGNATION.

Miss H. F. W. Young resigned on the 28th July.

DEATH.

Mr. N. F. Spencer, Third Class Dispenser died on the 27th April.

TRANSFERS.

Dr. C. B. Jennings, Senior Medical Officer, was transferred to Gold Coast, on promotion.

Miss A. E. Macmaster, Senior Nursing Sister, was transferred to Gold Coast, on promotion.

2. (b) LIST OF ORDERS IN COUNCIL, ETC., AFFECTING PUBLIC HEALTH, ENACTED DURING THE YEAR.

ORDERS IN COUNCIL.

Special Health Authority (Amendment Order in Council, 1938), Order in Council No. 2 of 1938.

Special Health Authority Order in Council, 1938, Order in Council No. 12 of 1938.

Peah Mary Street Cemetery (Discontinuance), Order in Council, Order in Council No. 14 of 1938.

GOVERNOR'S ORDER.

Exemption from House Tax (Leper Settlements House) Order, 1938, Governor's Order No. 1 of 1938.

Exemption from House Tax (Protectorate Midwives Houses) Order, 1938, Governor's Order No. 4 of 1938.

RULES.

Quarantine (Aerial Navigation) Rules, 1938, Rules No. 14 of 1938.

(c) FINANCIAL.

3. The following table gives the revenue and expenditure for the years 1937 and 1938 :—

MEDICAL REVENUE.				1937.			1938.		
				£	s.	d.	£	s.	d.
Hospital Receipts	...	...	...	1,025	3	2	774	2	9
Sundry Receipts (Out-patient fees, etc.)	...	...	...	1,201	18	6	1,065	11	8
Druggist Fees	...	...	...	9	2	0	10	12	0
Maintenance of Lunatics	...	...	...	130	4	8	75	3	11
Departmental Fines	...	...	...	6	15	6	11	2	2
Total	...	...	...	£2,373	3	10	£1,936	12	6

MEDICAL EXPENDITURE.				1937.			1938.		
				£	s.	d.	£	s.	d.
Personal Emoluments	...	...	...	37,614	3	5	37,209	9	10
Other Charges	...	...	...	14,507	2	7	18,296	13	5
Total	...	...	...	£52,121	6	0	£55,506	3	3

SANITARY REVENUE.				1937.			1938.		
Sanitary Services	...	...	...	—			—		
Maintenance of persons in Quarantine	...	...	...	—			—		

SANITARY EXPENDITURE.				1937.			1938.		
				£	s.	d.	£	s.	d.
Personal Emoluments	...	...	...	9,339	4	0	11,087	19	0
Other Charges	...	...	...	11,323	1	10	12,986	5	10
Total	...	...	...	£20,662	5	10	£24,074	4	10

4. Ratios of combined Medical and Sanitary Votes to total estimated revenue for the past five years :—

Year.			£	
1934	...	...	69,875	1 : 9·56
1935	...	...	66,094	1 : 10·29
1936	...	...	66,910	1 : 11·9
1937	...	...	73,813	1 : 10·6
1938	...	...	80,996	1 : 10·58

ANALYSIS OF HOSPITAL EXPENDITURE ON DIETED HOSPITALS FOR THE YEAR 1938.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Institution.	Total Number of Patients.	Daily Average Number of Patients.	Hospital Days.	Provisions from Storekeeper.	Fresh Provisions.	5 and 6 per Patient per Day.	Wines, Spirits, Minerals, Tobacco, Ice.	8 per Patient per Day.	7 and 9 per Patient per Day.	Fuel, Light.	Miscellaneous: Cleaning Materials, Hospital Equipment, Replacements.	Total of 5, 6, 8, 11 and 12.	5, 6, 8, 11 and 12 per Patient per Day.	Total Sum Recoverable from Paying Patients.
Nursing Home ...	127	3.9	1,445	£ s. d. 118 8 8	£ s. d. 293 8 6	£ s. d. 0 5 8½	£ s. d. 15 17 9	£ s. d. 0 0 2½	£ s. d. 0 5 10½	£ s. d. 26 2 2	£ s. d. 8 5 4	£ s. d. 462 2 5	£ s. d. 0 6 4½	£ s. d. 529 6 6
Connaught Hospital	2,761	112.9	41,203	£ s. d. 416 7 11	£ s. d. 996 15 11	£ s. d. 0 0 7½	£ s. d. 12 18 6	—	£ s. d. 0 0 7½	£ s. d. 74 19 3	£ s. d. 76 9 6	£ s. d. 1,487 11 1	£ s. d. 0 0 8½	£ s. d. 244 13 6
Lunatic Asylum ...	1,069	91.27	33,316	£ s. d. 74 19 7½	£ s. d. 656 16 1½	£ s. d. 0 0 5½	£ s. d. 42 3 0	—	£ s. d. 0 0 5½	£ s. d. 18 9 0	£ s. d. 4 10 0	£ s. d. 796 17 9½	£ s. d. 0 0 5½	£ s. d. 113 13 6
Kissy Infirmary ...	986	82.78	30,215	£ s. d. 50 17 3½	£ s. d. 566 15 5½	£ s. d. 0 0 4½	£ s. d. 14 8 0	—	£ s. d. 0 0 4½	£ s. d. 18 9 0	£ s. d. 3 0 0	£ s. d. 653 9 8½	£ s. d. 0 0 5	—
Bonthe Hospital ...	708	26	9,492	£ s. d. 6 16 0	£ s. d. 62 5 11	£ s. d. 0 0 1½	£ s. d. 7 14 0	—	£ s. d. 0 0 1½	£ s. d. 31 11 10	—	£ s. d. 108 7 9	£ s. d. 0 0 2½	£ s. d. 2 1 0

II—Public Health.

(a) GENERAL.

i GENERAL DISEASES.

5. The general health of the population of the Colony and Protectorate has been fairly satisfactory and there have been no major epidemics. A few isolated outbreaks of small pox occurred but these consisted of only a few cases and there was no spread of the disease. The opportunity was taken on each occasion to carry out intensive vaccination in the areas concerned.

6. Out-patient attendances at hospitals and dispensaries show a decline. This reduction is principally in subsequent attendances, however as steps have been taken, more especially in Freetown, to eliminate a great number of unnecessary attendances subsequent to the first, by giving patients more precise instructions as to when they need return for further examination or treatment, this accounts for apparent decline.

7. Avitaminosis continues to be a fairly prominent feature among patients at the various clinics particularly in Freetown.

8. There is a standing Committee on Nutrition in Sierra Leone whose duty it is to co-ordinate effort and advise Government on matters concerning nutrition. During the year the Committee prepared a pamphlet on "The importance of nutrition in relation to Public Health and the aims of Government with regard to it." This pamphlet was distributed to those who were in a position to instruct others. The Medical Department also prepared for this Committee a "Review of the Present Knowledge of Nutrition with remarks on practical measures taken by the Medical Department in the past for its improvement in Sierra Leone." This review was published as Sessional Paper No. 5 of 1938.

The general impression of the nutrition of the people of this country is that in rural areas of the Protectorate it varies from time to time and from place to place but it may be said that in the undisturbed tribal communities the diet is fairly satisfactory and evidence of malnutrition is comparatively rare. On the other hand, in the Colony proper, i.e. Freetown and the adjacent villages there is some evidence of malnutrition, the result of qualitative defects in the diet, which are caused by a combination of ignorance, poverty and an insufficient supply of essential foods. The main qualitative defects in the Colony diet are an insufficiency of protein especially good class protein such as meat and fish coupled with a deficiency of the vitamin B complex, vitamin A and sulphur.

These matters are receiving attention and propaganda is being carried on in schools and clinics. During the year a daily meal was supplied at several of the Government assisted schools in Freetown. Steps are being taken to ascertain more accurately the nutritional state in the Protectorate and questionnaires have been sent to all Medical Officers.

9. *Town Planning.*—The overcrowded slum quarters of Freetown are a matter of considerable concern and Government has appointed a committee to consider the steps to be taken to ameliorate this unsatisfactory position. Attention is now also being given to the proper planning of the extension of the town towards the west. These activities must inevitably lead to consideration of the question of a town plan for the whole of Freetown and its environs. There is at present no "ad hoc" legislation covering either activity and part of the duties of the committees engaged on this work will be to recommend what new legislation will be required. Extensions to towns in the Protectorate are also receiving attention and these are controlled as far as possible by rules governing spacing of buildings and made under the Public Health (Protectorate) Ordinance, 1926. The degree of control provided by these rules is however somewhat limited but despite this several reasonably satisfactory lay-outs have been achieved and haphazard extension has been considerably curtailed.

Departmental instructions regarding hygienic requirements and lay-out for labour lines have been drawn up and will be issued shortly.

TABLE I.
HEALTH OF EUROPEAN OFFICIALS.
Table showing Sick, Invaliding and Death-rates of European Officials.

	1936.	1937.	1938.
Total number of officials resident	211	227	250
Average number resident	145	167	196
Total number on sick list	147	140	147
Total number of days on sick list	1,624	1,612	1,268
Average daily number on sick list	4.43	4.43	3.47
Percentage of daily sick to average number resident	3.05	2.65	1.77
Average number of days on sick list to each patient	11.04	11.51	8.62
Average sick time to each resident	11.20	9.65	6.46
Total number invalided	16	13	3
Percentage of invalidings to total resident	7.58	5.75	1.20
Percentage of invalidings to average resident	11.03	7.78	1.53
Total number of deaths	—	1	—
Percentage of deaths to total resident	—	.45	—
Percentage of deaths to average resident	—	.59	—

Causes of Invalidings and Deaths of European Officials.

Causes.	Invalided.	Died.
Hyperpiesis and Albuminuria ...	1	—
Peptic Ulcer and Hæmatemesis ...	1	—
Psychasthenia ...	1	—
Total ...	3	—

The Invaliding Rate of European Officials for the past ten years.

Year.	Average Number Resident.	Total Number of Invalidings.	Percentage of Invalidings to average Resident.
1929 ...	251	11	4·38
1930 ...	260	3	1·15
1931 ...	177	8	4·51
1932 ...	176	8	3·04
1933 ...	153	7	4·51
1934 ...	144	9	6·25
1935 ...	145	7	4·82
1936 ...	145	16	11·03
1937 ...	167	13	7·78
1938 ...	196	3	1·53

10. There has been a decrease of 70 non-officials resident during the year. The health of the non-officials has been satisfactory. There have been 10 invalidings and 3 deaths. The deaths were due to Aortic Aneurism, Coronary Atheroma and Cirrhosis of the liver, respectively.

TABLE II.

HEALTH OF EUROPEAN NON-OFFICIALS.

Table showing Sick, Invalidings, Death-rates of European Non-Officials.

	1936.	1937.	1938.
Total number non-officials resident ...	504	565	495
Average number resident ...	356	416	372
Total number on sick list ...	95	129	73
Percentage of sick to average number resident ...	26·68	31·01	19·62
Average number of days on sick list to each patient ...	—	—	—
Average sick time to each patient ...	—	—	—
Total number invalided ...	21	19	10
Percentage of invalidings to total number resident ...	4·16	3·36	2·02
Percentage of invalidings to average number resident ...	5·89	4·29	2·68
Total deaths ...	4	1	3
Percentage of deaths to total resident ...	·79	·18	·60
Percentage of deaths to average resident ...	1·12	·24	·80

Causes of Invalidings and Deaths of European Non-Officials.

Causes.	Invalided.	Died.
Anæmia ...	1	—
Aortic Aneurism ...	—	1
Affections of the ear ...	1	—
Abcess of liver ...	1	—
Abdominal trouble ...	1	—
Adenitis ...	1	—
Appendicitis ...	1	—
Blackwater Fever ...	1	—
Coronary Atheroma ...	—	1
Cirrhosis of the liver ...	—	1
Cellulitis ...	1	—
Fractured ankle ...	1	—
Valvular disease of the heart ...	1	—
Total ...	10	3

11. *African Officials.*—The number of African officials resident has increased by forty-eight. Thirteen officials were invalided and six died. The health of the African officials has been fairly satisfactory.

TABLE III.
HEALTH OF AFRICAN OFFICIALS.

Table showing Sick, Invalidings and Death-rates of African Officials.

	1936.	1937.	1938.
Total number of officials resident	960	984	1,032
Average number resident	930	961	1,000
Total number on sick list	442	499	506
Total number of days on sick list	5,829	6,223	6,380
Average daily number of days on sick list	15·92	17·04	17·47
Percentage of daily sick to average number resident	1·71	1·77	1·74
Average number of days on sick list to each patient	13·18	12·47	12·60
Average sick time to each resident	6·26	6·47	6·38
Total number invalided	11	13	13
Percentage of invalidings to total resident	1·14	1·32	1·25
Percentage of invalidings to average number resident... ..	1·18	1·35	1·30
Total deaths	2	4	6
Percentage of deaths to total resident	·2	·41	·58
Percentage of deaths to average number resident	·22	·42	·60

Causes of Invalidings and Deaths of African Officials.

Causes.	Invalided.	Died.
Acute appendicitis and peritonitis	—	1
Bright's disease	—	1
Enlarged liver and diabetes	1	—
Hyperpiesis and Hepatitis	1	—
Myocarditis and Aortic incompetence	1	—
Mental confusion and hallucinations	1	—
Myocarditis, enlarged liver and spleen	1	—
Peripheral neuritis—Hyperpiesis avitan	1	—
Peripheral neuritis and synovitis	—	1
Primary optic atrophy	1	—
Pulmonary tuberculosis	1	1
Optic atrophy	1	—
Septicæmia and cardiac failure	—	1
Tumour of the liver	1	—
Tumour of the tonsil and neck	1	—
Uraemia and stricture with extravasation	—	1
Vitreous opacities and retrobullar neuritis	1	—
V.D.H. cardiac failure and hyperpiesis	1	—
Total	13	6

TABLE SHOWING THE COMPARATIVE FIGURES OF THE HEALTH OF AFRICAN OFFICIALS FOR THE LAST TEN YEARS.

Year.	Average Number of Officials.	Number on Sick List.	Number of Days off Duty through Sickness.	Average Sick Time to each Official.	Number Invalided.	Percentage of Invalidings to Average Number.	Total Deaths.	Percentage of Deaths to Average Number.
1929	969	1,057	7,415	7.72	8	0.83	6	0.61
1930	970	1,048	9,052	9.33	12	1.23	8	0.92
1931	884	959	7,863	8.5	11	1.24	7	0.79
1932	880	686	5,464	6.20	4	0.45	5	0.56
1933	950	861	6,347	6.68	10	1.05	4	0.42
1934	920	530	6,536	7.10	7	0.75	5	0.75
1935	908	497	7,222	7.95	11	1.21	7	0.77
1936	930	442	5,829	6.26	11	1.18	7	0.92
1937	961	499	6,223	6.47	13	1.35	4	0.42
1938	1,000	506	6,380	6.38	13	1.30	6	0.60

TABLE IV.
HEALTH OF AFRICAN TROOPS.

12. The health of the African Troops has been fairly satisfactory. Two deaths occurred. There is a slight increase in the number on the sick list. The high incidence of Gonorrhoea among African Troops gives cause for anxiety and accounts for a considerable amount of disability.

Royal West African Frontier Force (Non-European).

Average Strength of Battalion in 1938.	Total Number of Deaths.	Death-rate per 1,000.	Total Number of Men on Sick List.	Sick Rate per 1,000.
419	2	4.77	217	517.8

TABLE V.
HEALTH OF AFRICAN POLICE.

13. The health of the African Police has been fairly satisfactory. The sick rate per 1,000 was slightly below that of last year.

Total Number of Men.	Total Number of Deaths.	Death-rate per 1,000.	Total Number of Men on Sick List.	Sick-rate per 1,000.
291	3	10.3	180	618.5

TABLE VI.
HEALTH OF PRISONERS AND MENTAL PATIENTS.

14. A special report on these is found in Section III—Prisons and Asylums.

TABLE VII.
INSTITUTIONAL TREATMENT.

15. There has been an increase in the number of patients attending the various hospitals, but subsequent attendances show a decrease. The total number of deaths recorded show an increase of 38.

—					1936.	1937.	1938.
IN-PATIENTS:							
European	Colony	...	...	...	186	174	128
	Protectorate	...	...	...	1	—	—
African	Colony	...	...	...	3,837	3,842	3,806
	Protectorate	...	...	...	1,757	1,431	1,913
OUT-PATIENTS:							
European	Colony	...	...	...	338	289	258
	Protectorate	...	...	...	137	109	114
African	Colony	...	...	...	52,710	55,402	52,339
	Protectorate	...	...	...	57,804	60,315	68,572
Total					116,770	121,562	127,130
DEATHS:							
European	Colony	...	...	...	2	4	—
	Protectorate	...	...	...	—	—	—
African	Colony	...	...	...	255	273	322
	Protectorate	...	...	...	120	92	85
Total					377	369	407
Percentage of deaths to total number treated					.32	.29	.32
Increase or decrease of total number of patients treated					+13,254	+4,792	+5,568
Subsequent attendances					381,158	368,742	283,074

16. The following table gives the principal diseases for which patients attended the various hospitals and dispensaries.

	1937.	1938.
Malaria	10,232	11,132
Yaws	9,312	7,630
Acute Rheumatism	—	7
Chronic Rheumatism	9,497	9,213
Hemiplegia	134	125
Conjunctivitis	951	1,091
Affections of the ear	1,289	1,091
Hæmorrhoids	99	138
Lymphadentis (bubo non-specific)	724	758
Coryza	1,328	1,463
Acute Bronchitis	6,351	7,362
Chronic Bronchitis	7,358	7,420
Asthma	203	235
Caries, Pyorrhœa, etc.	1,826	2,110
Gastritis	395	572
Dyspepsia	4,074	3,380
Diarrhœa and Enteritis	1,793	1,932
Ankylostomiasis	395	555
Hernia	994	1,032
Constipation	8,649	11,112
Acute Nephritis	81	133
Schistosomiasis	72	47
Epididymitis	50	44
Orchitis	246	284
Hydrocele	327	315
Abscess	731	945
Scabies	1,792	1,962
Eczema	393	402
Osteitis	417	502
Arthritis	1,553	2,280
Wounding by cutting or stabbing	1,350	1,457
Fracture	251	250
Other external injuries	6,169	5,385
Asthenia	845	707
Syphilis	566	1,469
Gonorrhœa	3,172	3,708
Avitaminosis	2,186	2,624

(ii) COMMUNICABLE DISEASES.

17. *Malaria*.—The preventive measures against malaria are dealt with in Section IV—Hygiene and Sanitation.

18. The distribution of quinine through political officers and Post Offices has continued on a satisfactory basis. During the year 603,924 grains were used for prophylactic purposes in the hospitals and dispensaries and 277,568 through the political officers and Post Offices, making a total of 881,492 grains.

19. There was no case of Blackwater Fever in Europeans and six cases amongst Africans with one death. One hundred and eleven Europeans were treated for malaria during the year, showing a decrease of eleven as compared with the previous year.

20. The following table shows the relative position of malaria as a cause of lost time in Europeans during the last five years:—

Year.	Average Number Resident.	Total Sick Days.	Total Days spent on Sick List for Malaria.	Total Days spent on Sick List for other Causes.	Percentage of Malaria Days to Total Days.	Number of Days lost through Malaria for year per 100 Residents.
1934	144	1,231	595	636	48·33	413
1935	145	1,696	568	1,128	33·49	391
1936	145	1,624	666	958	41·00	459
1937	167	1,612	386	1,226	23·94	231
1938	196	1,268	492	776	38·80	251

21. *In Africans*.—There has been a considerable increase in the number of cases of malaria and 16 deaths have been reported during the year.

22. The following table gives the figures for the past three years :—

Diseases.	1936.	1937.	1938.
Malaria—Tertian	59	59	33
Malaria—Quartan	106	107	55
Malaria—Aestivo Autumnal	811	831	1,407
Malaria—Unclassified	6,597	9,163	9,515
Cachexia	258	61	116
Black Water	11	11	6
Total cases of malaria (all types) ...	7,842	10,232	11,132

23. *Blackwater Fever*.—There have been six cases with one death against eleven cases with no death in 1937.

24. *Typhoid Fever*.—There have been twenty-two cases with six deaths against twenty-two cases with two deaths in 1937.

25. *Trypanosomiasis*.—There have been six cases with no death during the year against five cases and no death in 1937.

26. *Smallpox*.—There have been eight cases with no death during the year against forty-nine cases and no death in 1937. During the year 49,481 vaccinations were performed.

27. *Dysentery*.—There have been four hundred and seventy-two cases with eight deaths against four hundred and sixty-one with seven deaths in 1937.

28. *Tuberculosis*.—There have been two hundred and seventy-five cases with thirty-four deaths compared with one hundred and eighty-four cases with twenty-six deaths in 1937.

29. *Leprosy*.—There have been one hundred and thirty-nine cases with three deaths against one hundred and twenty-six cases with one death in 1937.

30. *Guinea Worm*.—There has been no case.

31. *Relapsing Fever*.—There has been no case.

32. *Yaws*.—There have been seven thousand, six hundred and thirty cases with four deaths against nine thousand, three hundred and twelve with five deaths in 1937.

33. *Pyorrhæa*.—There have been three cases with one death this year against no case in 1937.

34. *Tetanus*.—There have been thirty-six cases with fourteen deaths against twenty-three cases with twelve deaths in 1937.

35. *Chicken-pox*.—There have been two hundred and sixty-three cases with one death against seventy-one cases and no death in 1937.

36. *Septicæmia*.—There have been eight cases with six deaths against twelve cases with ten deaths in 1937.

37. *Ankylostomiasis*.—There have been five hundred and fifty-five cases with five deaths against three hundred and ninety-five with one death in 1937.

38. *Pneumonia*.—There have been two hundred and sixty-one cases with forty deaths against two hundred and thirty-seven cases with twenty deaths in 1937.

39. *Broncho-Pneumonia*.—There have been one hundred and twenty cases with fourteen deaths compared with one hundred and five cases with fourteen deaths in 1937.

40. *Schistosomiasis*.—There have been forty-seven cases with no death against twenty-two cases with no death in 1937.

41. *Typhus*.—There have been four cases with no death against eleven cases and no death in 1937.

42. *Erysipelas*.—There have been seven cases with no death against one case and no death in 1937.

43. *Influenza*.—There have been thirty-four cases with no death against two hundred and seventy-one with three deaths in 1937.

44. *Beri-beri*.—There have been seven cases with two deaths against one case and no death in 1937.

45. *Diphtheria*.—There have been nine cases with one death against no case for the previous year.

46. *Venereal Diseases.*—There has been an increase in the number of cases of gonorrhoea and syphilis.

Diseases.	1934.	1935.	1936.	1937.	1938.
Gonorrhoea	2,234	2,526	2,756	3,174	3,708
Syphilis	476	566	769	566	1,469
Total	2,710	3,092	3,525	3,740	5,177

(b) VITAL STATISTICS.

GENERAL POPULATION.

REPORT OF THE CHIEF REGISTRAR OF BIRTHS AND DEATHS.

GENERAL.

47. The table hereunder shows the administrative and executive staff of the births and deaths registration machinery which covers the whole Colony, and a few stations in the Protectorate.

The present staff consists of:—

The Chief Registrar
The Deputy Chief Registrar
The Chief Registrar's Clerk

Stationed in Freetown.

Registrar stationed at

Colony.	Protectorate.
Freetown	Pujehun
Regent	Bonthe
Wilberforce	Moyamba
Kissy	Bo
Tassoh Island	Kailahun
Murray Town	Makeni
Wellington	Port Loko
Hastings	
Hamilton	
Sussex	
Kent	
Waterloo	
Russell	
York	
Makomba	
Songo Town	
Bananas Island	
Sherbro Judicial District	

Deputy Registrar stationed at

Freetown	Pujehun, Sulima, Potoru, Sumbuya, Mattru, Moyamba, Sembehun, Bauya, Mabang, Bo, Daru, Bandajuma, Segbwema, Koidu, Kenema, Panguma, Pendembu, Kailahun, Kabala, Makeni, Port Loko, Batkanu and Kambia, Bonthe.
Cline Town	

VITAL STATISTICS.

48. The Births and Deaths Registration Ordinance provides for the compulsory registration of all births and deaths in the Colony. Births certificates are issued free at the time of registering and bodies of deceased persons may not be buried without a burial certificate, which is issued by the Registrar at the time of registration. Registration of both births and deaths is effective in Freetown but this cannot be said for the rest of the Colony and Protectorate districts.

POPULATION.

49. The following table shows the comparative figures of the population for Freetown, Colony and Protectorate:—

	1921 Census	1931 Census	1938 (Mid-year).
Freetown	44,023	55,358	63,572
Colony (excluding Freetown)	41,021	41,064	41,093
Protectorate	1,455,510	1,672,058	1,823,636
Total	1,540,554	1,731,580	1,928,301

50. The estimate of mid-year population for Freetown calculated as in former years, is 65,236. This however cannot be regarded as accurate, no records of immigration into Freetown from the Protectorate being available.

REGISTRATION IN FREETOWN.

51. *Births.*—1,463 births were registered with an increase of 119 from last year. The rate per 1,000 was 23·0.

52. The following table gives the comparative figures and rates for past three years :—

Year.	BIRTHS.			Rate per 1,000 Population.
	Males.	Females.	Total.	
1936	766	671	1,437	23·0
1937	686	658	1,344	21·0
1938	726	737	1,463	23·0

53. *Deaths.*—The number of deaths registered was 1,378 which is 81 less than the number registered in 1937 and gave a crude death-rate of 21·5. The figures for the last three years are as follows :—

Year.	DEATHS.			Rate per 1,000 Population.
	Males.	Females.	Total.	
1936	728	569	1,297	20·8
1937	807	652	1,459	22·8
1938	765	613	1,378	21·5

54. Of the 1,378 deaths registered 468 comprising 33·9 per cent. were certified by a Medical Practitioner. All non-certified deaths are personally investigated by the Medical Officer (Health) who is also Deputy Chief Registrar of Births and Deaths. The investigation is carried out with a view of diagnosing the probable cause of death and on the slightest suspicion of infectious disease a post mortem examination is held. A general list of the causes of death is given in Table I.

55. *Infant Mortality.*—The total number of deaths of infants under one year was 282 (137 males and 145 females) with a rate of 192 per 1,000 live births. This figure is the lowest recorded in Freetown for the last ten years. Further particulars are contained in Tables C, D, E. and F. In Table F. the infant and child mortality figures are given up to five years of age.

56. *Maternal Mortality.*—There were 18 maternal deaths, giving a maternal mortality rate of 12·3 per 1,000 live births and the causes of deaths are given in Table G.

REGISTRATION IN THE COLONY.

57. The registration figures of births and deaths for the rest of the Colony excluding Freetown cannot yet be regarded as representing the number of births and deaths which actually took place. The number of births, deaths and infant mortality rates are shown in Tables A and B, respectively.

PROTECTORATE.

58. As stated above, the number of births and deaths which appears in Table B for the Protectorate are not representative of the births and deaths which occurred.

TABLE A.
Births and Deaths recorded at all Registration Districts in the Colony—1938.

DISTRICTS.	BIRTHS.			DEATHS.			DEATHS UNDER TWELVE MONTHS.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Freetown and Cline Town ...	726	737	1,463	765	613	1,378	137	145	282
Wilberforce ...	49	47	96	62	56	118	16	19	35
Murray Town ...	16	13	29	22	23	45	7	3	10
Regent ...	24	25	49	19	25	44	4	8	12
Kissy ...	27	21	48	84	55	139	15	4	19
Wellington ...	36	39	75	44	44	88	15	10	25
Hastings ...	44	30	74	39	27	66	10	8	18
Waterloo ...	51	44	95	68	60	128	14	7	21
Makomba ...	52	49	101	30	35	65	8	7	15
Songo ...	78	79	157	64	61	125	9	12	21
Russell ...	38	46	84	47	34	81	6	6	12
Kent ...	6	13	19	16	6	22	2	—	2
Bananas Island ...	5	7	12	5	10	15	1	1	2
York ...	19	11	30	19	15	34	5	2	7
Sussex ...	11	10	21	11	10	21	3	4	7
Hamilton ...	22	22	44	26	13	39	7	2	9
Tassoh Island ...	55	42	97	27	37	64	11	14	25
Sherbro Judicial ...	14	28	42	55	56	111	11	19	30
Total ...	1,273	1,263	2,536	1,403	1,180	2,583	281	271	552

TABLE B.
Births and Deaths recorded at all Registration Districts in the Protectorate—1938.

DISTRICTS.	BIRTHS.			DEATHS.			DEATHS UNDER TWELVE MONTHS.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
<i>Northern Province.</i>									
Port Loko ...	73	70	143	32	31	63	7	7	14
Kambia ...	10	5	15	18	12	30	2	3	5
Batkanu ...	28	22	50	7	10	17	1	3	4
Makeni ...	12	14	26	7	1	8	—	—	—
Kabala ...	13	7	20	17	7	24	1	—	1
<i>Southern Province.</i>									
Mabang ...	21	25	46	16	14	30	3	1	4
Bauya ...	16	11	27	6	6	12	—	—	—
Moyamba ...	18	29	47	6	6	12	1	1	2
Sembehun ...	6	8	14	18	15	33	1	2	3
Mano ...	8	4	12	8	10	18	2	1	3
Bo ...	6	5	11	21	12	33	2	—	2
Sumbuya ...	2	1	3	8	9	17	2	2	4
Kenema ...	11	10	21	7	8	15	2	3	5
Panguma ...	41	39	80	70	62	132	12	10	22
Kono (Koidu) ...	9	10	19	11	6	17	—	1	1
Bandajuma ...	222	259	481	128	164	292	42	41	83
Segbwema ...	—	—	—	1	1	2	—	—	—
Daru ...	8	6	14	9	4	13	1	—	1
Pendembu ...	11	4	15	14	13	27	2	3	5
Kailahun ...	8	7	15	6	3	9	—	—	—
Pujehun ...	440	382	822	10	5	15	1	1	2
Potoru ...	295	317	612	53	55	108	10	11	21
Sulima ...	87	80	167	3	3	6	3	2	5
Mattru ...	45	40	85	84	101	185	8	12	20
Shebar ...	—	—	—	—	2	2	—	—	—
Total ...	1,390	1,355	2,745	560	560	1,120	103	104	207

TABLE C.

Births, Deaths and Infant Mortality Rates for the whole Colony of Sierra Leone (including Freetown) for the last five years.

Year.	Estimated Mid-year Population.	Births Registered.	Crude Birth-rate per 1,000 Population.	Deaths Registered.	Crude Death-rate per 1,000 Population.	Number of Deaths under Twelve Months.	Infant Mortality per 1,000 Live Births.
1934	100,587	2,273	22.5	2,384	23.7	530	233
1935	101,967	2,389	23.4	2,424	23.7	552	231
1936	103,378	2,537	24.5	2,490	24.0	584	230
1937	104,822	2,406	22.9	2,568	24.5	593	246
1938	104,665	2,536	24.2	2,583	24.6	552	217

TABLE D.

Births, Deaths and Infant Mortality Rates, Freetown, 1934-1938.

1934	59,523	1,339	22.4	1,361	22.8	312	233
1935	60,903	1,358	22.9	1,375	22.5	308	227
1936	62,314	1,437	23.0	1,297	20.8	303	210
1937	63,758	1,344	21.0	1,459	22.8	327	243
1938	63,572	1,463	23.0	1,378	21.5	282	192

TABLE E.

Births, Deaths and Infant Mortality Rates, Colony (excluding Freetown) for the last five years.

1934	41,064	934	22.7	1,023	24.9	218	233
1935	41,064	1,031	25.0	1,049	25.5	244	236
1936	41,064	1,100	26.7	1,193	29.0	281	255
1937	41,064	1,062	25.8	1,109	27.0	266	250
1938	41,093	1,073	26.1	1,205	29.3	270	251

TABLE F.

*Number of Deaths in certain periods under one year and during the next four years of age,
Freetown, 1938.*

	No. of Deaths.	Percentage of Deaths under One Year.	Death-rate per 1,000 Live Births.
Under 24 hours ...	30	10.6	20.5
1-7 days ...	85	30.1	58.0
1-2 weeks ...	40	14.1	27.3
Total under 2 weeks*	155	54.9	105.9
2-4 weeks ...	18	6.3	12.3
Total under 1 month ...	173	61.3	118.2
1-3 months ...	33	11.7	22.5
Total under 3 months ...	206	75.5	140.8
3-6 months ...	24	8.5	16.4
6-9 months ...	29	10.2	19.8
9-12 months ...	23	8.1	15.7
Total under 1 year ...	282	100	192

	No. of Deaths.	Percentage of Total Deaths.	†Death-rate per 1,000 Living at all Ages.
0-1 year ...	282	20.4	5.0
1-2 years ...	66	4.7	1.1
2-3 „ ...	32	2.3	0.5
3-4 „ ...	17	1.2	0.3
4-5 „ ...	18	1.3	0.3
Total 1-5 years ...	133	9.6	2.4
Total 0-5 years ...	415	30.1	7.5
Deaths at all ages ...	1,378	—	24.9

* This represents the period within which births must be registered.

† The death-rate per 1,000 living at each age is not available.

TABLE G.

Maternal Deaths associated with Pregnancy and child-bearing, Freetown, 1938.

International List Number.	Cause of Death.	Number of Deaths.			Maternal Mortality Rates per 1,000 Live Births.
		Certified.	Uncertified.	Total.	
146 : 1	Post-partum eclampsia ...	1	—	1	Puerperal albuminuria & convulsions=0·6 :—Puerperal sepsis=1·3 :—Puerperal hæmorrhage=1·3
145a	Puerperal fever ...	—	1	1	
145a	Puerperal sepsis ...	—	1	1	
144b	Retained placenta ...	2	—	2	:—Accident of child-birth=2·0 :—Disease and accident of pregnancy=2·0 :—Other or unspecified condition of the puerperal state=4·7
149	Difficult labour ...	1	—	1	
149	Dystocia ...	2	—	2	
147	Toxæmia of pregnancy ...	1	1	2	
141 : 1	Ante-partum hæmorrhage	1	—	1	
141 : 2	Abortion (unqualified)	1	—	1	
142	Ectopic gestation ...	1	—	1	
150 : 3	Labour (unqualified) ...	1	1	2	
150 : 3	Parturition (unqualified) ...	—	3	3	
	Total ...	11	7	18	

The Maternal Mortality rate was 12·3 per 1,000 Live Births.

TABLE H.

Mortality according to Age and Sex—Freetown, 1938.

—		Under 24 hours.	24 hours to 1 year.	1-5 years.	5-15 years.	15-25 years.	25-45 years.	45-65 years.	65 years and over.	—
Males ...	...	14	125	67	32	35	211	176	104	764
Females ...	...	16	127	66	41	39	109	94	122	614
Persons	...	30	252	133	73	74	320	270	226	1,378

TABLE I.

Causes of Death—Freetown (including Cline Town), 1938.

International List Number.	Causes.	No.	Certified.
1	Enteric fever ...	1	1
1	Typhoid fever ...	7	7
9	Pertussis ...	2	1
10	Diphtheria ...	1	1
13a	Amœbic dysentery ...	2	1
13b	Bacillary dysentery ...	3	3
13c	Dysentery ...	45	1
22	Tetanus ...	8	7
22	Tetanus neonatorum ...	11	4
23	Phthisis ...	35	2
23	Pulmonary tuberculosis ...	63	36
25	Abdominal tuberculosis ...	1	1
26	Psoas abscess ...	1	1
32a	Miliary tuberculosis ...	1	1
32c	Generalised tuberculosis ...	2	2
34a	Congenital syphilis ...	1	—
34b, c	Syphilis ...	2	1
34b, c	Tertiary syphilis ...	6	2
35 : 2	Gonococcal salpingitis ...	1	—
36a	Septicæmia ...	11	8
36b	Pyæmia ...	1	1
38	Malaria ...	119	20
38	Malignant tertian malaria ...	1	1
40	Ankylostomiasis ...	5	4
42	Ascariasis ...	1	—
42	Intestinal parasites ...	1	1
42	Worms ...	1	1
44 : 6	Blackwater fever ...	1	1
46	Cancer of liver ...	3	3
46	Cancer of stomach ...	1	1
48	Cancer of uterus ...	3	1
48	Cancer of cervix ...	2	1
50	Cancer of mamma ...	1	—
52	Rodent ulcer ...	1	1
54	Fibroid Tumour ...	1	—
54a	Cystic ovary ...	1	1
54a	Fibroid of the uterus ...	1	1
55b	Cerebral tumour ...	2	—
56	Rheumatism ...	12	—
57 : 1	Chronic rheumatism ...	7	—
57 : 2	Arthritis ...	1	1
59	Diabetes mellitus ...	2	2
59	Glycosuria ...	1	1
61	Beri-beri ...	1	1
63 : 1	Rickets ...	3	3
69 : 2	Toxæmia ...	5	3
71a	Pernicious anæmia ...	1	1
71b : 2	Anæmia ...	5	4
73 : 2	Rupture of spleen ...	2	2
79	Leptomeningitis ...	1	1
80	Locomotor ataxy ...	1	1
80	Tabes dorsalis ...	1	1
82a : 1	Cerebral hæmorrhage ...	7	7
82b : 2	Cerebral thrombosis ...	9	2
82b : 3	Softening of brain ...	1	1
82c : 1	Hemiplegia ...	22	7
82c : 2	Paraplegia ...	12	—
82c : 2	Paralysis ...	15	—
85	Epilepsy ...	2	—
86	Infantile convulsions ...	5	1
87e	Convulsions ...	6	1
88	Cellulitis of orbit ...	1	1
92 : 1	Aortic incompetency ...	2	2
92 : 2	Mitral incompetency ...	2	2
92 : 5	Valvular disease ...	40	19
93b : 3	Chronic myocarditis ...	2	2
93b : 3	Myocardial degeneration ...	2	2

TABLE I—*continued.*
Causes of Death—continued.

International List Number.	Causes.	No.	Certified.
93c ...	Myocarditis (unqualified) ...	8	5
94 ...	Coronary antheroma ...	1	1
94 ...	Angina pectoris ...	2	2
95b : 1 ...	Cardiac dilatation ...	1	1
95b : 2 ...	Heart disease ...	4	1
95b : 2 ...	Cardiac hypertrophy ...	1	1
96 ...	Dilatation of aorta ...	2	2
96 ...	Aneurysm ...	5	4
97 : 3 ...	Arterio sclerosis ...	1	1
98b ...	Cancerum oris ...	1	—
98b ...	Gangrene of scrotum ...	1	1
99 ...	Rupture of artery ...	1	1
102 ...	Hyperpiesis ...	1	1
103 ...	Internal hæmorrhage ...	2	2
106a ...	Acute bronchitis ...	35	—
106b ...	Chronic bronchitis ...	58	2
106b ...	Bronchiectasis ...	1	1
106c ...	Bronchitis ...	55	2
107 ...	Broncho-pneumonia ...	50	13
108 ...	Lobar pneumonia ...	37	29
108 ...	Apical pneumonia ...	1	1
109 ...	Pneumonia ...	56	6
110 : 1 ...	Empyema ...	1	1
110 : 2 ...	Pleurisy with effusion ...	3	3
110 : 2 ...	Pleurisy ...	18	—
111 : 1 ...	Congestion of lungs ...	1	1
111 : 1 ...	Hypostatic pneumonia ...	2	2
112 ...	Bronchial asthma ...	1	—
114b : 2 ...	Collapse of lungs ...	1	1
114b : 2 ...	Hæmoptysis ...	1	1
115 : 1 ...	Stomatitis ...	1	—
115 : 1 ...	Oral sepsis ...	1	1
115 : 3 ...	Septic sore throat ...	1	1
115 : 4 ...	Abscess of pharynx ...	1	1
117a ...	Gastric ulcer ...	2	2
117b ...	Duodenal ulcer ...	3	3
119 & 120a : 1 ...	Colitis ...	2	2
119 & 120a : 2 ...	Infantile colic ...	1	—
119 & 120a : 2 ...	Enteritis ...	6	3
119 & 120a : 2 ...	Infantile diarrhoea ...	1	—
119 & 120a : 2 ...	Gastro-enteritis ...	1	—
119 & 120a : 2 ...	Intestinal toxæmia ...	4	4
119 & 120a : 2 ...	Diarrhoea ...	54	10
121 ...	Appendicitis ...	3	3
122a ...	Inguinal hernia ...	3	1
122a : 1 ...	Strangulated hernia ...	14	6
122a : 2 ...	Hernia ...	1	1
122b ...	Intestinal obstruction ...	1	1
123 : 1 ...	Intestinal stasis ...	1	1
123 : 3 ...	Perforation of intestine ...	1	1
124b ...	Hepatic cirrhosis ...	1	1
125 : 2 ...	Abscess of liver ...	2	2
124b ...	Cirrhosis of liver ...	5	1
125 : 2 ...	Jaundice ...	1	1
125 : 2 ...	Toxic jaundice ...	1	1
129 ...	Peritonitis ...	6	5
130 ...	Acute nephritis ...	2	2
130 ...	Sub-acute nephritis ...	6	4
131 ...	Chronic nephritis ...	20	13
132 ...	Uræmia ...	5	3
132 ...	Nephritis ...	12	4
133b ...	Cystic degeneration of kidney ...	1	1
133b ...	Cystic disease of kidney ...	1	1
135a ...	Cystitis ...	2	—
135b ...	Retention of urine ...	2	1
136a ...	Stricture of the urethra ...	4	3

TABLE I—continued.

Causes of Death—continued.

International List Number.	Causes.	No.	Certified.
136a ...	Stricture (unqualified) ...	1	1
136b ...	Urethritis ...	1	—
137 ...	Enlargement of prostate ...	1	1
139a : 2 ...	Pyosalpingitis ...	1	1
139c ...	Abscess of breast ...	1	—
141 : 1 ...	Ante-partum hæmorrhage ...	1	1
141 : 2 ...	Abortion (unqualified) ...	1	1
142 ...	Ectopic gestation ...	1	1
144b ...	Retained placenta ...	2	2
145a ...	Puerperal fever ...	1	—
145a ...	Puerperal sepsis ...	1	—
146 : 1 ...	Post-partum eclampsia ...	1	1
147 ...	Toxæmia of pregnancy ...	2	1
149 ...	Difficult labour ...	1	1
149 ...	Dystocia ...	2	2
150 : 3 ...	Labour (unqualified) ...	2	1
150 : 3 ...	Parturition (unqualified) ...	3	—
151 ...	Boils (unqualified) ...	1	—
151 ...	Furunculosis ...	1	—
152 : 2 ...	Multiple abscess ...	5	4
153 ...	Ulcer (unqualified) ...	7	4
154 ...	Osteomyelitis ...	3	3
157e : 4 ...	Megacolon ...	1	1
158 ...	Debility ...	14	—
158 ...	Inanition ...	1	—
158 ...	Marasmus ...	12	4
158 ...	Malnutrition ...	9	4
158 ...	Congenital debility ...	22	12
159 ...	Multiple birth ...	12	—
159 ...	Prematurity ...	53	10
160b ...	Difficult birth ...	2	2
161a ...	Atelectasis ...	6	4
161a ...	Asphyxia pallida ...	3	2
161c : 1 ...	Septic infection of umbilicus ...	9	3
162b ...	Senile debility ...	12	10
162b ...	Senility ...	65	1
181 ...	Accidental burns ...	4	4
194 : 2 ...	Accidental fracture ...	7	6
195 ...	Found drowned ...	1	—
198 ...	Judicial execution ...	5	5
200 : 1 ...	Cardiac failure ...	14	4
200 : 1 ...	Heart failure ...	4	3
200 : 1 ...	Cardiac exhaustion ...	11	—
200 : 2 ...	Marasmus ...	2	—
200 : 2 ...	Pyrexia ...	2	—
200 : 2 ...	Asthenia ...	1	—
200 : 2 ...	Cachexia ...	1	1
200 : 3 ...	Unknown ...	20	12

III—Prisons and Asylums.

KISSY LUNATIC ASYLUM.

Staff.—Medical Officer-in-Charge
 First Class Dispenser
 Chief Attendant
 Assistant Chief Attendant
 11 Male Attendants
 Matron
 3 Female Attendants
 1 First Class Male Nurse
 1 Second Class Female Nurse
 1 Cook
 4 Porters.

59. There has been an increase in the number of deaths during the period under review, a total number of 16 as against 13 in 1937.

The deaths were due to the following :—

- (1) Chronic Dysentery, Hypostatic Pneumonia
- (2) Sub-acute Nephritis
- (3) Lobar Pneumonia, Sub-acute Nephritis
- (4) Acute Gastro Enteritis, Acute Cardiac Dilatation
- (5) Sub-acute Nephritis Enteritis
- (6) Miliary Tuberculosis
- (7) Chronic Nephritis, Asthenia
- (8) Tuberculosis of the Kidneys Hydro Thorax
- (9) Miliary Tuberculosis
- (10) Chronic Nephritis, Lobar Pneumonia, Ascariasis
- (11) Generalized Tuberculosis Ankylostomiasis
- (12) Generalized Tuberculosis
- (13) Lobar Pneumonia Cardiac Failure
- (14) Sub-acute Nephritis
- (15) Acute Pleurisy
- (16) Pleurisy with Effusion Right Cystic Kidney.

60. The general health of the inmates was good. The occupational therapy, consisting of mat, cap and basket making, was continued throughout the year. The amount realized from the sale of baskets is now to be distributed to those patients who were engaged in this branch of work as an encouragement to themselves as well as an inducement to other patients, who showed little or no interest in occupational therapy.

61. The Male Visiting Committee made four visits and the Female Visiting Committee made no visit. Parties from various Religious Associations made eleven visits.

62. The following table gives the statistical details of inpatients during the year :—

		Males.	Females.	Total.
Remaining in Asylum 31st December, 1937	...	55	32	87
Admitted under observation	...	51	7	58
Admitted certified	...	4	1	5
Death amongst Certified Patients	...	8	8	16
Discharged after observation	...	21	4	25
Discharged as cured	...	—	—	—
Discharged on trial (Governor's Order)	...	2	1	3
Re-admitted	...	4	1	5
Absconded	...	2	—	2
Number of patients certified	...	17	2	19
Remaining in Asylum 31st December, 1938	...	70	26	96

ANNUAL MEDICAL REPORT ON THE FREETOWN PRISONS FOR THE YEAR ENDED DECEMBER 31, 1938.

63. Dr. Massally was in charge from 1st to 31st January, when he handed over to Dr. R. S. Easmon. The latter continued in charge until the 25th of June when he handed over to Dr. W. F. O. Taylor who remained in charge till the end of the year.

64. Dispenser Gordon Harris handed over to Dispenser A. C. Nelson-Williams on the 31st May and the latter handed over to Dispenser S. H. Robbin-Coker on the 12th July.

GENERAL HEALTH.

65. *European Staff*.—Good throughout the year. One was treated for ulcer of foot and another for malaria. Both were placed on the sick list.

66. *African Staff*.—Good. Most of the diseases for which they reported were of no serious nature. Ninety-four reported sick and were treated. Of this number fifty-four were placed on the sick list for 165 days. Three who required institutional treatment were admitted in the Connaught Hospital. One was sent to the Surgeon Specialist for treatment. The common ailments were Malaria, Chronic Rheumatism, Bronchitis.

67. (B) *Prisoners*.—The health of the prisoners was satisfactory. There were no epidemics during the year. 1,121 were treated with a subsequent attendance of 17,947. Of these, Avitaminosis claimed 228 new cases with a subsequent attendance of 7,073. Of the 228 new cases, 209 were admitted into prison with the disease in a greater or less degree.

68. All were treated with Marmite, Cod Liver Oil and mixture of Ichthammol. Two showed symptoms of eye affection definitely due to Avitaminosis. They too responded to treatment. The prevalent diseases were Avitaminosis, Gonorrhoea, Malaria, Skin diseases and Chronic Rheumatism. 125 cases were admitted to the Gaol Hospital during the year. There was one death due to Ankylostomiasis and secondary Anaemia. Seven cases were sent to the Connaught Hospital for surgical treatment :—

- 1 Fractured Tibia and Fibula
- 1 Hepatitis and Cystitis
- 1 Urethral Stricture
- 1 Tumour of the Liver
- 1 Iridocyclitis
- 1 Strangulated Hernia.

All returned cured after varying periods.

69. Four prisoners were sent to the Lunatic Asylum under Emergency Certificates and were detained.

70. One case of Leprosy was sent to the Leper Hospital, Kissy.

71. Six condemned prisoners were executed during the year and in every case death was instantaneous.

72. Prisoners under treatment are provided with treatment cards which gives them easy access to the Dispensary and thus their treatment is facilitated.

73. In addition a sick parade is held on Monday and Thursday afternoons in which the inspection of cases and the administration of general prophylactic treatment is carried on.

74. Prisoners were weighed monthly and a record kept. The weights ranged from 98 lbs. to 174 lbs. The weights of prisoners show a rise in most cases. The few exceptions were investigated and the cause ascertained.

75. The specimens of faeces of prisoners with sentences of three months and over were sent to the Pathologist for examination as a matter of routine.

76. The following conditions were found :—

Ascaris	...	...	...	...	...	23
Ankylostomiasis	...	...	...	...	...	37
E. Coli Cysts	...	...	...	...	...	1
Ankylostome ova & Trichuris ova	...	...	...	...	...	1
" & E. Coli Cysts	...	...	...	...	...	6
" & Ascaris	...	...	...	...	...	2
Taenia Ova	...	...	...	...	...	1
Giardia Cysts	...	...	...	...	...	1
Total	...	...	...	...	...	<u>72</u>

The following minor operations were performed :—

Dental Caries—extractions of	...	...	...	...	15
Whitlow—incision of	...	...	...	...	1
Ascitis—tapping of	...	...	...	...	2
Septic Foot—incision of	...	...	...	...	1
Abscess—incision of	...	...	...	...	2
Urethral Structures—dilatation of	...	...	...	...	3
Total	...	...	...	...	<u>24</u>

77. The Prison Compound was maintained in a satisfactory sanitary condition throughout the year.

78. The usual Statistical Return is attached herewith.

FREETOWN PRISON—STATISTICAL RETURN FOR THE YEAR 1938.

Remaining in hospital at the end of December, 1937	...	...	4
Admitted during the year 1938	...	...	125
Remaining in hospital at the end of 1938	...	...	6
Daily average number of prisoners in gaol	...	...	212
Daily average number in gaol hospital	...	...	5.55

OUT-PATIENTS.

	Government Officials.	Subsequent Attendances.	Prisoners.	Subsequent Attendances.
March Quarter ...	16	31	315	3,328
June Quarter ...	22	55	288	4,953
September Quarter ...	34	63	257	4,276
December Quarter ...	22	39	281	5,390
Total ...	94	188	1,141	17,947

IN-PATIENTS.

Admitted.	Cured.	Improved.	Not Relieved.	Died.	Observed.
125	74	39	2	1	2

PRISONERS.

New Admission Examined.	Remands and Trials.	Corporal Punishments.	Ex ^e cutions.	Solitary Confinements.
820	110	nil	6	162

	1934.	1935.	1936.	1937.	1938.
Total number of prisoners admitted ...	788	813	752	1,182	820
Average daily strength ...	260	243	253	232	212
Total deaths excluding executions ...	2	4	2	2	1
Total number of prisoners on sick list ...	78	82	112	175	125
Daily average number on sick list ...	4.5	3.5	3.8	6.5	5.55
Daily sick rate per 1,000 average strength	17	12.34	12	24	23.5
Death-rate per 1,000 average strength ...	7.69	16.46	8.58	8.62	.02

PRISONS.

Prison.	Daily Average Number in Custody in 1938.	Daily Sick Rate per 1,000 of Average Strength.	Death-rate per 1,000 of Average Strength.
Freetown ...	212	23.5	0.2
Kenema ...	52	134.61	—
Moyamba ...	31.6	72.78	—
Pujehun ...	13.05	147.12	—

IV—Hygiene and Sanitation.

1—PREVENTIVE MEASURES.

(a) *Insect-borne Diseases.*

79. *Malaria*.—The ordinary routine minor anti-mosquito measures in the Protectorate have been carried out as heretofore with the staff available. At Bo the Medical Officer continued preliminary work, bush-clearing and surface drainage, on the swampy ground at the head of the two streams in the vicinity of the European Residential Area, these two swamps being a very prolific source of mosquito breeding. It was demonstrated that purely local measures were quite inadequate and that it was necessary to canalize the streams for a considerable distance down, together with the drainage of a larger area. The Director of Public Works is formulating a scheme and it is hoped that the work will be put in hand next year.

80. In Freetown unremitting attention continues to be given to the mosquito control of the town. It is interesting to note that a very large proportion of mosquito breeding found within the boundaries of the town occurs in trees and water-bearing plants such as bananas. Special appeals have been made to the public to assist in suppressing this nuisance. A survey of all the trees in Hill Station was made by the Forestry Department, the dangerous or useless trees being cut down and those requiring trimming properly dealt with.

81. The Congo Valley has received attention and it is proposed to instal an automatic syphon as an experimental control measure in 1939.

82. A mosquito survey of the Congo Valley and of five stations in the Protectorate was started and is being carried out by the Sir Alfred Jones' Laboratory the results of their findings are contained in Appendix D.

83. The total number of collections of larvæ found were :—

	Anophelines.	Culex.	Aedes.
In compounds	11	60	160
In pools and drains	15	41	340
In trees and plants	—	56	344

10,463 trees were inspected, 1,804 felled and 7,796 treated.

84. *Yellow Fever*.—As numerous cases of this disease continue to occur in other Colonies all medical officers have kept a sharp look-out for modified cases among the indigenous population. Two suspected cases occurred in Kailahun District but were proved negative, their sera being sent to Lagos for the protection test.

85. In this connection it is interesting to note that the custom of storing water in clay pots inside houses is not so universal as it is in other parts of West Africa, so that this most prolific source of *Aedes*-breeding is not such a great danger. This is especially so in those villages in the Colony and Protectorate which have been properly laid out and have a communal water supply.

86. The number of Europeans taking advantage of the facilities for immunization given by the Wellcome Research Bureau is increasing but the proportion is still too low. The matter of compulsory inoculation of non-natives is being considered.

87. *Filariasis*.—Is fairly common but no special preventive measures are carried out.

88. *Trypanosomiasis*.—Two cases from near the Western French border were treated at Kailahun Hospital in December and an account of the occurrence of cases was received from the French Chef de Cercle at Guekodou. A survey of the Kissi area of the Kailahun District will be undertaken in January next year.

89. *Tropical Typhus*.—Cases of tropical Typhus continue to be notified, but not in epidemic form.

(b) ENDEMIC DISEASES.

90. *Plague*.—No cases were notified or seen ; 3,203 rats were examined in Freetown during the year. No infected ones were found.

91. *Smallpox*.—Cases occurred as under :—

Place.	No. of Cases.	Vaccination performed.
Freetown	—	30,173
Kailahun	24	4,333
Pujehun	2	596
Other places	29	14,379
Total	55	49,481

92. A small outbreak occurred in Kailahun District which was checked by an intensive vaccination campaign.

93. The schools in Freetown are regularly visited and the children vaccinated; vaccinators are stationed in railway stations and market places to vaccinate obvious non-immunes.

94. Chicken-pox continues prevalent but is mild in type. All cases occurring in Freetown are isolated. Sixty-eight cases occurred in Freetown and 200 in the Protectorate.

(c) OTHER DISEASES.

95. Leprosy exists, but the exact incidence is not known. In Freetown a ward in the hostel for incurables is set aside for Lepers. The building of a new hostel for diseased mendicants in Freetown was begun at Kissy this year, the funds being forthcoming from the Coronation Fund, and should be completed and occupied early next year. This institution will accommodate a number of mendicants who tend to gravitate to the streets of Freetown from all over the colony.

96. *Yaws*.—A special yaws survey was carried out during March, April and May by a Medical Officer especially detailed for the purpose. The survey covered the districts of Tonkolili, Koinadugu and Bombali of the Northern Province. The method adopted was by actual count in seventy-two representative villages of all sufferers from yaws. The total number of yaws cases seen during the course of examination of the 2,475 cases presented in the seventy-two villages was 761. The following table gives an estimate of the incidence per 1,000 population :—

District.				Incidence per 1,000 Population.	Total No. of Yaws Cases.
Koinadugu	...	...	...	15·40	1,325
Tonkolili	...	...	...	36·58	3,316
Bombali	...	...	...	40·01	8,680

97. Bombali District is mostly inhabited by Timnes and is the most thickly populated of the three districts.

98. An attempt was made to ascertain the seasonal prevalence of the disease by examination of the hospital and dispensary records, from which it was seen that the peak of attendances is reached in May and June. Usually patients do not come for treatment until the skin lesions are well established and usually three to four weeks after the primary lesions.

99. The following table shows the age and sex distribution in 719 unselected cases of all types :—

Age period.								Male.	Female.	Persons.
0- 5 years	...	...	...	...	...	...	...	124	105	229
6-10	„	...	...	...	...	...	...	107	51	158
11-20	„	...	...	...	...	...	...	63	42	105
21-30	„	...	...	...	...	...	...	32	67	99
31-40	„	...	...	...	...	...	...	30	52	82
41-50	„	...	...	...	...	...	...	13	25	38
51 and over	...	...	...	...	...	...	...	3	5	8
Total								372	347	719

100. A special Yaws clinic on two afternoons a week is to be started at Makeni Hospital and at Kabala Hospital when opened.

101. At present a fee of 1s. for a course of treatment is charged by Government. Representations have been made to Government that the disease should be treated free and a scheme for a travelling dispensary to include one Medical Officer and four dispensers, is being submitted to Government.

(d) EPIDEMIC DISEASES.

102. There were no major epidemics.

103. A table is subjoined showing the number of cases of Smallpox with deaths and the number of vaccinations performed during the year. The figures in 1937 were 134 and 37,952.

Area.	No. of Cases Discovered.	No. of Deaths.	No. of Vaccinations.
COLONY DISTRICT :			
Freetown	—	—	30,173
Headquarters Judicial	—	—	2,312
Bonthe	1	—	537
PROTECTORATE DISTRICTS :			
NORTHERN PROVINCE :			
Port Loko	—	—	1,342
Karene	—	—	219
Bombali	—	—	1,886
Koinadugu	3	—	360
Tonkolili	7	—	1,901
SOUTHERN PROVINCE :			
Kailahun	24	—	4,333
Kenema	1	—	1,070
Kono	8	—	724
Bo	9	—	1,513
Moyamba	—	—	1,708
Pujehun	2	—	596
Bonthe	—	—	807
Total	55	—	49,481

(e) HELMINTHIC DISEASES.

104. The following table indicates the cases which have come to notice during the year. The corresponding figures for 1937 are also shown.

Disease.	1937.	1938.
Ascariasis	5,889	6,646
Ankylostomiasis	395	555
Schistosomiasis	72	47
Tæniasis	274	269

105. Schistosomiasis is more prevalent in the Northern Province.

2—GENERAL MEASURES OF SANITATION.

106. (a) *Night-soil Disposal*.—In the Protectorate the number of communal latrines has been increased in towns and villages. These are of the fly-trapped trench type, with an iron squatting plate, and are working fairly satisfactorily.

107. In Freetown one new bucket latrine was built and another extended. It has not been possible this year to make any alteration in the system as the inadequacy of the water supply precludes the conversion of the public latrines to the water-borne type.

108. There are 6,000 cesspits in Freetown. A small gang is employed by the Health Department to oil those which contain fluid. 971 were so attended to. 3,241 notices were served for cleansing and repairs to cesspits, and under this control nuisance is kept to a minimum, there being less smell and fly-breeding than might be expected. Considerable nuisance is still caused by the public bucket latrines on the foreshore.

109. (b) *Refuse Disposal*.—The number of bush incinerators and dust-bins has been increased in a number of towns and villages in the Protectorate where there is a Sanitary Inspector to supervise. Some improvement in the cleanliness of these towns and villages has resulted.

110. In Freetown during the year 11,277 tons of refuse were disposed of; the disposal lorries carrying 7,877 loads to the Railway Siding. A gang was employed collecting tins and bottles in the town, 5,951 head loads were collected and disposed of.

111. The number of unbroken bottles decreased as the market price rose to meet the demand of the Soda Water Factory. One new public dust-bin was erected and two old ones replaced. The public unfortunately continue to prefer to dump their refuse outside instead of inside the dust-bins.

112. (c) *Drainage*.—In Freetown the Public Works Department's eight-year programme is well ahead, fifteen more streets have now been provided with concrete drains, and two outfalls have been improved and extended. The annual temporary canalization of the four major streams in Freetown was carried out as usual. No other drainage schemes were begun.

112A. (d) *Clearing of bush and undergrowth* has been carried out as usual. In the Protectorate, communal labour is used where funds are not sufficient to pay permanent gangs. Properly controlled, this is a most useful form of labour and it is hoped that political considerations will not cause the system to be discontinued. It is of value from its educative influence alone. The practice of over-thorough clearing of troops, Police, and Court Messengers' lines and in some villages, leaving the earth bare, often results in scour and soil erosion necessitating unnecessary expense on drainage. Advice has been given for the planting of Bahama grass where possible.

3—FREETOWN WATER SUPPLIES.

113. The finding of true *B. Coli* in the Freetown supply in the latter part of 1937 confirmed what was fairly obvious from an examination of the catchment areas, namely that the supply is subject to considerable pollution at certain seasons of the year. A chloramine plant was therefore ordered this year and is now in course of installation. Pending its operation the public has been advised of the polluted state of the supply and advised to boil all drinking water.

114. The supply to Hill Station has also shown evidence of a similar pollution and the installation of a sterilizing plant is receiving consideration. The Military Authorities are taking action in connection with the Tower Hill supply.

115. The following are extracts from the report of the Water Works Engineer of the Freetown City Council:—

116. *Maintenance*.—The maintenance of the works was carried on as usual during the year and the detection and prevention of waste assiduously attended to.

117. *Consumption*.—The consumption of water for the year 1938 was 207,531,000 gallons an average of 568,579 gallons per *diem*. This is slightly in excess of that for 1937 which was 207,227,000 gallons—an average of 567,745 gallons per *diem*. The maximum daily consumption was 782,000 gallons on the 4th June and the minimum consumption, 216,000 gallons on the 1st of April during the period of restricted supply.

118. *Public Stand-pipes*.—Three public Stand-pipes were erected during the year, bringing the number up to 226.

119. *Private Services*.—Thirty-two new private connections were laid during the year. After deducting those that were discontinued or cut off during the year, the number of private connections was 594.

120. *Water Shortage Pumping*.—The shortage of water lasted this year from the 10th of March to the 27th of May and pumping operations were carried on from the 4th of February to the 1st of June.

121. *New Mains*.—One hundred and fifteen yards of 4" C.I. Main with one fire hydrant were laid during the year along East Brook Street from its junction with Meheux Street to East Brook Lane. The total number of fire hydrants in the city is now four hundred and fourteen.

122. *Freetown Water Works Extension*.—Satisfactory progress was made in the construction of the Freetown Water Works Extension during the year. The works were partially closed down during the heavy rains, from 11th of July to the 11th September.

123. The in-take Weir at the Takuyama has been completed and the mains from the Takuyama and Congo laid up to the Babadori Saddle. The laying of the Supply Main from the Babadori Saddle to Hill Station is nearly completed.

124. At the Babadori Reservoir the embankment has been brought up to its full height but the excavation has been held up by hard rock, the presence of which was not foreseen. This has necessitated a considerable amount of blasting and has retarded the progress of the work. It is hoped however, that the work will be completed by the end of 1939 and that, meanwhile, the supply from the Takuyama will be available during this dry season.

125. *Water Supplies in the Protectorate*.—There is no change to report in connection with water supplies in the Protectorate where most towns depend on a supply which is usually contaminated and frequently insufficient. Consideration is however being given to the improvement of supplies in a number of cases.

4—SCHOOL HYGIENE.

126. No organised school medical service now exists in Sierra Leone. The School Medical Officer has not been replaced since her retrenchment in 1932, as it is considered that under present conditions the services of any new medical officer are more urgently required in other spheres. School children are treated free at all the hospitals and dispensaries.

127. A survey of all assisted schools in Freetown was made at the end of the year. With four notable exceptions the standard of hygiene is poor and cleanliness, lighting, design of buildings, and sanitation are below reasonable standards.

128. The Department was fortunate in obtaining the voluntary co-operation of Major Robertson, R.A.M.C. who examined 2,711 children and found that mild degrees of trachoma were almost universal. There was only one severe case and it would not appear from present evidence that the disease is of paramount importance in this country. It apparently does not usually produce the serious after effects seen further north in Africa. A mild degree of Avitaminosis was also common. It is common for children to be sent to school by their parents having had nothing at all to eat, often with a penny as lunch money, which is too often expended on sweet-meats and not on food.

5—PORT HEALTH WORK.

129. Freetown was not in quarantine during the year.

130. *Anti-Smallpox Measures.*—633 deck passengers and 3,376 deck labourers were vaccinated. 91 deck passengers and 1,246 deck labourers were passed through the Disinfecting Chamber. The number of ships that entered Freetown harbour from the North was 514, from the South 399, giving a total of 913, 45 less than in 1937. The gross tonnage of the 913 ships amounted to 2,734,391.

The number of deck passengers that embarked was	...	...	1,094
The number of deck passengers that disembarked was	...	...	1,762
The number of deck labourers that embarked was	...	...	16,702
The number of deck labourers that disembarked was	...	...	18,824

131. The old boiler at Government Wharf was demolished and a new one erected early in the year.

132. Water supplied to ships was chlorinated in the water barges; the Sierra Leone Coaling Company put into commission a new water boat "Gondolier." The old boat "Alpha" was scrapped.

133. *Air Traffic.*—*Seaplane G—ANEX.*—A regular Air Mail service undertaken by this Seaplane belonging to Elders Airways Limited, was inaugurated in June between Freetown, intermediary ports and Bathurst. For a period of a few weeks in November and December, the service was suspended owing to defect in the Seaplane.

134. The craft is sprayed prior to departure with an insecticide. The crew and passengers are "vetted" immediately before embarkation and disembarkation; there is however no enclosure to carry out detailed medical examination.

135. From June to December, eight passengers embarked and ten passengers disembarked.

6—MATERNITY AND CHILD WELFARE.

136. The maternity work of the Connaught Hospital was carried out, as in recent years, in a fourteen-bed ward of the hospital. A portion of the ward is permanently partitioned off to make a two-bed labour ward and the remainder of the ward has twelve beds. This is the accommodation for all the work, both ante-natal and midwifery. The new Maternity Hospital, which is planned to take forty beds, is nearing completion.

137. During the year, 545 patients were admitted and 441 gave birth in the ward. Of this number 146 were primiparæ and 295 multiparæ. There were 127 abnormal and 314 normal labours.

138. The Medical Officer in charge of this work states that:—

"It is noteworthy, although Avitaminosis shewn by glazed tongue, sore mouth with altered angles, conjunctivitis, various pathological conditions of the external eye, defective vision and altered skin of genitals, etc., is most commonly seen among pregnant women, that the most intractable cases are seen in twin pregnancies; in fact such cases of Avitaminosis that do not appear to respond to the usual therapy should be suspected of a multiple pregnancy."

139. The following Table I, is a list of the abnormal cases. In this list the case is designated by its most important feature and no case is counted twice.

TABLE I.

Twins	...	...	...	...	...	...	...	16
Torn Perineum	...	...	...	...	...	...	...	50
Dead Birth	...	...	...	...	...	...	...	14
Still Birth	...	...	...	...	...	...	...	8
Breech	...	...	...	...	...	...	...	6
Premature	...	...	...	...	...	...	...	6
Occipito Posterior	...	...	...	...	...	...	...	6
Transverse	...	...	...	...	...	...	...	4
Premature rupture of membranes	...	...	...	...	...	...	...	4
Dystocia—perforation	...	...	...	...	...	...	...	3
Forceps	...	...	...	...	...	...	...	2
Retained Placenta	...	...	...	...	...	...	...	1
Prolapsed cord	...	...	...	...	...	...	...	1
Placenta Prævia	...	...	...	...	...	...	...	1
Torn labia	...	...	...	...	...	...	...	1
Albuminuria	...	...	...	...	...	...	...	2
Lobar Pneumonia	...	...	...	...	...	...	...	1
Impacted shoulders	...	...	...	...	...	...	...	1

140. Besides the 441 patients who gave birth in the ward there are 104 others admitted which are set out in the following Table 2.—each designated by its most salient feature and no case counted twice.

TABLE II.

M. T. Malaria	...	...	...	...	...	22
Quartan Malaria	...	...	...	...	...	1
Clinical Malaria	...	...	...	...	...	3
Baby born before arrival	...	...	...	...	...	16
False pains	...	...	...	...	...	13
Observation	...	...	...	...	...	13
Avitaminosis	...	...	...	...	...	10
Miscarriage	...	...	...	...	...	4
Oedema-legs	...	...	...	...	...	3
A. P. Eclampsia	...	...	...	...	...	2
A. P. Haemorrhage	...	...	...	...	...	3
Fibroid uterus	...	...	...	...	...	2
Pyrexia	...	...	...	...	...	2
Mastitis	...	...	...	...	...	3
Threatened abortion	...	...	...	...	...	2
Complete abortion	...	...	...	...	...	1
Syncope	...	...	...	...	...	1
Splenomegaly	...	...	...	...	...	1
Bronchitis	...	...	...	...	...	1
Lobar Pneumonia	...	...	...	...	...	1

104

141. Amongst the 545 women admitted to the ward, there were five deaths :

- (1) Post-partum Eclampsia.
- (2) Collapse following a normal labour
- (3) Peritonitis following dystocia
- (4) Sapræmia due to long neglected dystocia
- (5) Ante-partum hæmorrhage—miscarriage.

ANTE-NATAL CLINIC.

142. This Clinic is held at the Maternity Centre on Tuesdays. It has proved very popular and there were 936 individuals on the register for the year ; this being an increase of 106 over last year.

143. The growth of the Clinic is shewn by the following figures for the last five years :

Year.	No. of Individuals Registered.
1934	622
1935	745
1936	716
1937	830
1938	936

144. The patients attending come from the villages as well as the city and a few come to town from the Protectorate, but these are mostly " Sierra Leoneans."

145. The usual routine examinations are made, cases requiring special attention are kept under careful observation and where accommodation permits, admitted to the ward for necessary treatment.

146. As in former years particular attention is given to diet, and advice written, printed or oral, is given to patients. There is evidence of a great deal of food deficiency disease in this Clinic and besides advice the patients are given vitamin preparations for therapeutic purposes.

147. The following Table I gives the attendances at this Clinic month by month :

TABLE I.

ANTE-NATAL CLINIC—RECORD OF ATTENDANCES: JANUARY—DECEMBER, 1938.

Month.	New Cases.	Subsequent Attendances.	Total.
January	76	486	562
February	70	488	558
March	79	478	557
April	71	449	520
May	79	560	639
June	78	446	524
July	74	480	554
August	84	574	658
September	84	545	629
October	89	584	673
November	94	579	673
December	58	413	471
Total	936	6,082	7,018

148. The Senior Health Visitor who is in charge of the Maternity Centre and has a great deal of her time taken up with the work there, does some Ante-Natal visiting, and the following table summarizes her activities :

TABLE II.
SENIOR HEALTH VISITOR'S RETURN OF ANTE-NATAL VISITS, 1938.

Month.	Number of cases visited found to have delivered at home.	Number of cases visited found to have delivered in Hospital.	Total number of visits.
January	16	14	112
February	23	24	141
March	5	21	137
April	20	24	144
May	13	15	143
June	14	30	246
July	2	4	35
August	4	8	51
September	19	25	110
October	9	29	125
November	15	23	121
December	16	24	128
Total	156	241	1,493

D—POST-NATAL CLINIC.

149. The Post-Natal Clinic is attended by women who have delivered in the ward and been discharged, as well as by women who have delivered at home. The mothers and their babies are supervised for four weeks and treatment given when necessary. At the end of this period the babies are drafted to one or other of the Infant Clinics.

150. There were 534 individuals on the register for the year. This is 75 more than the previous year. The following table gives the number of individuals and subsequent attendances, month by month throughout the year.

Post-Natal Clinic—Record of Attendances—January to December, 1938.

Month.	New cases.	Subsequent attendances.	Total.
January	55	80	135
February	47	93	140
March	56	84	140
April	42	87	129
May	33	51	84
June	58	57	115
July	31	35	66
August	26	43	69
September	40	39	79
October	44	84	115
November	47	59	106
December	55	90	145
Total	534	802	1,323

E—INFANT WELFARE CLINIC.

151. Infant Clinics were held on Mondays, Wednesdays and Fridays at the Maternity Centre.

152. There were 542 individuals on the register—31 more than last year—with 13,648 subsequent attendances.

153. The staff attached to the Centre which serves the Central and West Wards of the City, was increased by two. Four more posts of Health Visitor were created this year and two of the new Health Visitors were allocated to the Maternity Centre and two to the Princess Christian Mission Hospital for work in the East End of the City.

154. The work of the Centre was carried on as in former years. The Health Visitors regularly obtain from the Registrar of Births lists of newly-born babies in their districts and visits are paid to the homes as soon as possible. Children already on the books are visited and supervised until they reach the age of three. Sick children seen during domiciliary visits are directed to attend the Clinic for medical treatment—others apparently well are urged to attend for weighing and general advice.

155. The following Table I records the visits by the Health Visitors during the year:—

TABLE I.
Health Visitors—Record of Visits—January to December, 1938.

Month.	Newly-born.	New cases.	Repeated visits.
January	76	37	1,580
February	85	42	1,655
March	81	14	1,326
April	62	14	1,322
May	59	18	1,596
June	71	12	1,501
July	56	8	1,421
August	45	16	1,395
September	52	31	1,444
October	60	18	1,480
November	58	8	1,537
December	83	12	1,465
Total	788	231	17,722

156. There were 788 newly-born children visited and placed on the Health Visitors' register, as against 782 for the preceding year. 231 other children under three years of age were placed on the register.

157. The following Table II shows the monthly attendance of 542 new cases on the register:—

TABLE II.

Month.	New cases.	Subsequent attendances.	Total.
January	47	1,427	1,474
February	57	1,564	1,621
March	42	1,205	1,247
April	43	981	1,024
May	36	1,001	1,037
June	44	900	944
July	40	1,033	1,073
August	47	1,007	1,054
September	40	1,013	1,053
October	68	1,186	1,254
November	35	1,173	1,208
December	43	1,158	1,201
Total	542	13,648	14,190

158. During the year there were 1,463 births registered in Freetown with 282 deaths under twelve months, which gives an Infant Mortality Rate of 192.

159. The following Table III gives the Infant Mortality Rate for the past six years, for comparison:—

TABLE III.

Year.	Births registered.	Deaths under twelve months.	Infant mortality rate.
1933	1,378	317	230
1934	1,339	312	233
1935	1,358	308	227
1936	1,437	303	210
1937	1,344	327	243
1938	1,463	282	192

160. The increase of Infant Mortality Rate in 1937 over the previous year was explained by the fact of a scarcity of rice and the exceptionally poor quality of staple food that year.

161. This year there has been a satisfactory diminution in the Infant Mortality Rate and it is the lowest ever recorded so far.

V—Hospitals and Dispensaries.

162. *Colony.*—The Government general hospitals in the Colony are situated at Freetown and Bonthe, the latter being in effect a Protectorate hospital both as regards type and the bulk of the population served by it.

163. The Connaught Hospital in Freetown has an establishment of 120 beds of which some twelve have in the past been reserved for maternity cases. The new Maternity Hospital will be opened some time towards the middle of 1939 and will provide forty beds for ante-natal and maternity cases. This will release for general cases those beds hitherto occupied in the Connaught Hospital.

164. The new European hospital is nearing completion and will be opened early in 1939. This hospital provides much needed additional accommodation as well as a complete operation unit, a feature which was lacking in the old hospital.

165. The King George V Memorial Home at Kissy will also be in occupation early next year. This institution provides accommodation for ninety-six cases of chronic and incurable disease. The opening of this home will remove from the streets of Freetown a number of diseased and disabled individuals who exist by begging.

166. Provision will be made for the construction of a new infectious diseases hospital to replace the present one which is in such a state of dilapidation as to be practically unfit for habitation.

167. *Connaught Hospital.*—There has been a slight increase in the number of patients admitted to hospital but out-patients have again decreased somewhat. The principal fall is in the subsequent attendances. The cost per patient per day has decreased from 10*d.* to 8½*d.* Considerable difficulty has been experienced with the X-ray installation owing to the considerable fluctuations which take place in the voltage of the main supply. A stabilizer has been installed but has not overcome the difficulty completely. A much needed item for this hospital is a portable X-ray set which can be used in the wards. The work of the laboratory at the Connaught Hospital is summarized in Section IX and the report of the Sir Alfred Jones Laboratory is given as an appendix at the end of this report.

168. The Ophthalmic Clinic previously conducted by Dr. E. S. Walls was discontinued consequent on that officer's retirement from the service but some time later in the year the department was fortunate in obtaining the voluntary services of Major Robertson, R.A.M.C. who conducted a clinic in the Connaught Hospital during the remainder of the year.

169. *European Hospital.*—At the end of the year the European hospital was still in temporary premises pending the completion of the new building.

170. One hundred and twenty-two patients were admitted compared with 154 in the previous year. Of these forty-seven were officials and seventy-five were non-officials. Two hundred and nine cases were dealt with as out-patients. The cost of maintenance per patient per *diem* was 6*s.* 4½*d.*

171. *Kissy Lunatic Asylum.*—A new mortuary has been provided at this institution and improvements have been effected to the kitchen. This asylum is constantly at full capacity and a time is approaching when a larger one of type more in conformity with modern ideas of mental hospitals will be required. This institution also accommodates mental patients from the Gambia. Occupation Therapy has been instituted but has not met with great success so far.

172. *Protectorate.*—A matter of concern in connection with Protectorate hospitals is the degree to which these institutions are overcrowded. Most of these hospitals, which are all more or less of a standard type, were designed for twelve beds but it is rare to find any one of them with less than eighteen patients and some have accommodated as many as twenty-six. A programme has been submitted to Government providing for a considerable extension of hospital and dispensary accommodation in the Protectorate, including a large central hospital at Bo. Meanwhile, extensions are being effected at Pujehun and Bo, that at the latter hospital being of a temporary nature.

173. The hospital at Bonthe, which as stated above, is in the Colony but functions as a Protectorate hospital, will be almost entirely rebuilt next year.

174. Two new dispensaries were opened in the Southern Province during the year. These are situated at Blama and Panguma.

175. Dr. Walls, who has retired (for the present) is living near Pujehun in the Protectorate, has very kindly offered his services voluntarily and an Ophthalmic Clinic has been opened at Pujehun Hospital. At both this clinic and the one in Freetown, very excellent work has been done and the numbers of cases attending emphasize the need for this type of clinic in Sierra Leone. Trachoma is very prevalent but acute cases do not appear in such numbers as they do further north in Africa nor do the sequelæ appear to be so severe or so frequent.

176. The following tables show the figures of in-patients and maternity cases admitted to the Connaught Hospital during the past ten years:—

Year.	Total In-patients.	Maternity In-patients.	Remarks.
1929	2,228	353	New Surgical Block—two wards of fourteen beds and four cubicles.
1930	2,383	363	
1931	2,335	357	New Children's Ward—ten beds and cubicles.
1932	2,628	344	
1933	2,268	382	
1934	2,464	501	
1935	2,672	554	
1936	2,549	607	
1937	2,512	537	
1938	2,760	545	

The following table gives the comparative figures of out-patients attendances at the Connaught Hospital during the past ten years:—

—		1929.	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.	1938.
New cases	...	14,265	14,276	10,583	12,019	17,313	17,155	18,635	18,193	17,676 *	15,840
Subsequent attendances	...	59,441	41,722	50,059	55,198	50,147	105,511	135,094	136,896	108,832	80,421
Total	...	73,706	55,998	60,642	67,217	67,460	122,666	153,729	155,089	126,508	96,261

(C) OTHER HOSPITALS.

	Port Loko.	Makeni.	Bo.	Moyamba	Kailahun.
In-patients	182	281	400	150	182
Out-patients :					
New cases	2,108	4,641	4,288	3,322	2,108
Subsequent attendances ...	9,899	9,893	17,863	5,321	9,899

177. This table refers to the new type of hospitals.

178. *Mission Hospitals subsidised by Government.*—There are four mission hospitals subsidised by Government—one operating in the Colony (the Princess Christian Mission Hospital) and three in the Protectorate, namely the American Wesleyan Mission, the United Brethren in Christ Mission, and the Methodist Mission. These are stationed respectively at Kamakwie, in the Northern Province, and Jaama and Segbwema in the Southern Province.

179. The work of these missions is still progressing in a very satisfactory manner as the figures in the subjoined table will show. The maternity and child welfare work of these missions has been extended. In addition to the subsidised missions there is one mission at Gbangbaia which is doing excellent work.

Hospital.	In-patients.	Out-patients.	
		New cases.	Subsequent attendances.
Princess Christian Mission	382	8,086	3,170
Methodist Mission	634	6,891	17,000
American Wesleyan Mission	23	13,342	12,457
United Brethren in Christ	26	5,636	11,219

180. There are three hospitals maintained by mining companies—one at Marampa, maintained by the Sierra Leone Development Company, Limited, with a dispensary at Pepel, one at Yengema, maintained by the Sierra Leone Selection Trust, Limited and one at Sendu maintained by Messrs. Maroc, Limited, with a dispensary at Baomahun. All these mining companies employ qualified medical officers.

181. *Government Dispensaries.*—There are eight dispensaries established in the Colony and sixteen in the Protectorate. Two new dispensaries, one at Blama and one at Panguma were opened during the year. The work carried out by these dispensaries continues to be very satisfactory and a great many of them have already started infant clinics. This work is much appreciated by the people and it is hoped to extend these activities in the future.

VI—Meteorology.

182. *Rainfall.*—The rainfall for the year 1938 at Freetown (Tower Hill) was 128·62 inches as compared with 149·87 inches in 1937.

183. August was the heaviest month with 33·11 inches and the highest rainfall in any one day was 6·65 inches on the 24th of August.

184. The lowest temperature recorded at Tower Hill was 68° F. on the 16th June.

185. The highest temperature recorded at Tower Hill was 92° F. on the 7th March, 22nd March and 16th April, 1938.

186. The highest minimum temperature recorded at Tower Hill was 74° F. on the 12th, 14th and 21st August to 19th September, 1938.

187. The rainfall *per mensem* was as follows :—

January	nil
February	nil
March	0·09
April	0·77
May	9·58
June	13·33
July	28·91
August	33·11
September	24·88
October	12·83
November	5·10
December	0·02

188. Hill Station reported a rainfall of 154·86 inches as compared with 175·29. The heaviest month was July. The maximum precipitation in any one day was 8·12 inches on the 7th July and the total rainfall during the month of July was 43·98 inches.

VII—Scientific.

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189. During the year owing to the increase of routine work a dresser was seconded to give part-time assistance in the Laboratory. The Staff of the Sir Alfred Jones Research Laboratory, as in past years, have given valuable assistance as consultant Pathologists.

190. The work for the year is enumerated under different headings.

TABLE I.
EXAMINATION OF BLOOD FILMS FOR PARASITES.

					No. of Examinations.	Sub-tertian.	Benign tertian.	Quartan.	Mixed Infection.	Crescents.	Microfilaria.
Europeans	...	...	...	...	245	45	—	2	1	—	1
Africans	...	...	...	...	3,014	908	—	123	45	13	7
Total	...	...	...	...	3,259	953	—	125	46	13	8

TABLE II.
EXAMINATION OF FAECES.

					No. of Examinations.	Tenia.	Ankylostomes.	Ascaris.	T. trichuris.	E. histolytica free.	E. histolytica cysts.	E. coli free.	E. coli cysts.	Giaedia cysts.	E. nana cysts.
Europeans	...	...	...	...	44	—	—	—	1	—	—	—	—	—	—
Africans	...	...	...	...	1,367	10	370	169	76	24	4	3	79	35	2
Total	...	...	...	...	1,411	10	370	169	77	24	4	3	79	35	2

TABLE III.
EXAMINATION OF URINE.

Europeans	...	...	...	...	105
Africans	...	...	...	...	975
Total	...	...	...	...	1,080

TABLE IV.
BLOOD EXAMINATIONS.

					No. of Examinations.	Total red cell count.	Total white cell count.	Differential leucocyte count.	Haemoglobin percentage.	Grouping of blood.
Europeans	...	...	...	...	30	9	5	8	8	11
Africans	...	...	...	...	218	48	57	47	57	25
Total	...	...	...	...	248	57	62	55	65	36

TABLE IX.
DACK GROUND EXAMINATIONS.

					Number Examined.	Positive for <i>S. pallida</i> .
Europeans	...	...	...	...	9	3
Africans	...	...	...	...	33	6
Total					42	9

TABLE X.
ANTI RABIC EXAMINATION OF DOGS.

Number Examined.	Number of Autopsy.	Negri Bodies Found.	Number Vaccinated.
26	3	—	11

TABLE XI.
POST-MORTEM EXAMINATIONS.

81 autopsies were performed during the year.

Miliary tuberculosis	...	...	...	...	...	...	...	7
Pulmonary tuberculosis	...	...	...	...	...	...	...	6
Myocardial degeneration	...	...	...	...	...	...	...	4
Tropical abscess of liver	...	...	...	...	...	...	...	2
Chronic dysentery	...	...	...	...	...	...	...	2
Rupture of spleen...	...	...	...	...	...	...	...	3
Broncho-pneumonia	...	...	...	...	...	...	...	1
Lobar pneumonia	...	...	...	...	...	...	...	6
Cirrhosis of liver	...	...	...	...	...	...	...	1
Typhoid fever	...	...	...	...	...	...	...	3
Acute appendicitis	...	...	...	...	...	...	...	1
Acute nephritis	...	...	...	...	...	...	...	2
Subacute nephritis	...	...	...	...	...	...	...	3
Chronic nephritis	...	...	...	...	...	...	...	3
Cerebral malaria	...	...	...	...	...	...	...	1
Aneurism of aorta	...	...	...	...	...	...	...	5
Rupture of ectopic gestation	...	...	...	...	...	...	...	1
Coronary atheroma	...	...	...	...	...	...	...	1
Acute gastro enteritis	...	...	...	...	...	...	...	2
Strangulated hernia	...	...	...	...	...	...	...	1
Acute peritonitis	...	...	...	...	...	...	...	2
Pott's diseases	...	...	...	...	...	...	...	1
Diphtheria	...	...	...	...	...	...	...	1
Pyelitis	...	...	...	...	...	...	...	1
Cystic degeneration of kidneys	...	...	...	...	...	...	...	2
Aortic regurgitation	...	...	...	...	...	...	...	2
Chronic endocarditis	...	...	...	...	...	...	...	2
Carcinoma of liver	...	...	...	...	...	...	...	1
Softening of brain	...	...	...	...	...	...	...	1
Pyonephrosis	...	...	...	...	...	...	...	1
Cerebral hæmorrhage	...	...	...	...	...	...	...	1
Duodenal ulcer	...	...	...	...	...	...	...	1
Pyæmia	...	...	...	...	...	...	...	1
Acute pleurisy	...	...	...	...	...	...	...	1
Depressed fracture of skull	...	...	...	...	...	...	...	1
Fracture of base of skull	...	...	...	...	...	...	...	4
Shock	...	...	...	...	...	...	...	2
Unknown	...	...	...	...	...	...	...	1

Tables.

I—STAFF.
MEDICAL STAFF.

Office.	Name.	Absent on Leave.		Remarks.
		From	To	
Director of Medical Services ...	P. D. Oakley ...	27 4 38	30 6 38	Retired on pension.
" ...	W. P. H. Lightbody ...	—	—	
Senior Specialist ...	Q. Stewart ...	—	—	
Senior Medical Officer	E. S. Walls ...	—	21 3 38	Retired on pension.
" ...	C. B. Jennings ...	10 5 38	—	Transferred to Gold Coast.
" ...	W. N. Greer ...	—	—	
Medical Officer	A. W. Lewis ...	7 9 38	—	
" ...	H. R. F. Tweedy ...	—	—	
" ...	H. Peaston ...	—	—	
" ...	A. J. Johnson ...	—	4 2 38	
" ...	W. J. Laird ...	—	8 4 38	
" ...	W. M. Quin ...	—	19 3 38	
" ...	W. R. Williams ...	21 11 38	—	
" ...	C. A. MacComiskey ...	—	18 2 38	
" ...	J. C. Busby ...	—	—	
" ...	G. T. Allen ...	—	—	
Administrative Secretary ...	A. B. B. Petrie ...	—	—	
Senior Medical Officer (Sierra Leone) ...	E. J. Wright ...	27 4 38	24 9 38	
Pathologist (Sierra Leone) ...	E. A. Renner ...	—	—	
Medical Officer (Sierra Leone) ...	M. C. F. Easmon ...	—	6 3 38	
" ...	W. B. Hughes ...	—	—	
" ...	W. F. O. Taylor ...	16 3 38	15 6 38	
" ...	M. A. S. Margai ...	—	—	
" ...	J. C. Massally ...	—	—	
Junior Medical Officer (Sierra Leone) ...	R. S. Easmon ...	—	—	

HEALTH STAFF.

Assistant Director of Medical Services (Health) ...	W. P. H. Lightbody	—	—	Promoted Director of Medical Services
" ...	G. R. Waller ...	—	—	
Senior Medical Officer (Health) ...	J. S. Oliphant ...	—	—	
Medical Officer (Health)	E. H. T. Cummings	16 6 38	15 11 38	
Chief Sanitary Superintendent ...	G. V. Herd ...	—	15 2 38	Retired 16/2/38.
" ...	F. E. Levermore ...	—	—	
Sanitary Superintendent ...	A. E. Wilkinson ...	30 6 38	11 11 38	
" ...	P. Osment ...	—	29 3 38	
" ...	W. C. Seers ...	—	18 3 38	
" ...	J. B. Henderson ...	1 12 38	—	

NURSING STAFF.

Senior Nursing Sister	Miss A. E. Macmaster	—	27 3 38	Transferred to Gold Coast. 9/4/38.
" ...	Miss R. Baldock ...	26 5 38	7 10 38	
" ...	Miss L. D. S. McPetrie	—	8 4 38	
Nursing Sister	Miss N. M. Brown ...	8 6 38	4 12 38	
" ...	Miss A. Stewart ...	19 1 38	27 5 38	
" ...	Miss J. A. Marwick	27 10 38	—	
" ...	Miss I. L. Juchau ...	—	—	
" ...	Miss C. E. Taylor ...	—	—	
" ...	Miss J. M. Zoller ...	—	—	
" ...	Miss P. M. Pegott ...	—	—	

AFRICAN MEDICAL SUBORDINATE STAFF.

Office.	Name.	Absent on Leave.		Remarks.
		From	To	
Chief Dispenser ...	K. A. King ...	7 2 38	6 5 38	
Assistant Chief Dispenser ...	I. B. Doherty ...	9 5 38	8 7 38	Retired 9/12/38.
Chief Store-keeper ...	P. Q. A John ...	—	—	
First Class Dispenser	M. P. Neville ...	5 11 38	—	
" "	T. M. Taylor-Scott	—	7 1 38	
" "	J. C. May ...	—	—	
" "	S. B. Williams ...	—	—	
" "	E. W. B. Cole ...	21 2 38	20 4 38	
" "	G. C. Heroe ...	—	20 2 38	
" "	E. F. Smith ...	14 12 38	—	
" "	W. D. Hedd ...	—	—	
" "	S. H. I. Faulkner ...	29 4 38	28 6 38	
" "	J. E. Lewis ...	22 4 38	21 6 38	
Second Class Dispensers	Ten	—	—	
Third Class Dispensers	Twenty-one	—	—	
Laboratory Assistant	C. H. R. Greene ...	—	—	
Male Nurses and Apprentices ...	Forty	—	—	
Female Nurses and Probationers ...	Thirty	—	—	
Midwives ...	Four	—	—	

AFRICAN HEALTH SUBORDINATE STAFF.

Senior Health Visitor	Mrs O. T. King ...	1 2 38	31 3 38	
Health Visitor ...	Mrs. V. S. Macfoy	—	—	
" "	Miss A. Macauley	—	—	
First Grade Sanitary Inspector ...	E. J. Corkson ...	—	—	
Second Grade Sanitary Inspector ...	D. H. Raschid ...	—	—	
" " " "	Z. T. Grey Coker ...	—	—	
Third Grade Sanitary Inspector ...	M. A. Mammah ...	1 3 38	31 3 38	
" " " "	M. R. Wilson ...	—	—	
" " " "	J. A. Doherty ...	—	—	
" " " "	St. D. Macrae ...	—	—	
Fourth Grade Sanitary Inspectors ...	Eight	—	—	
Fifth Grade Sanitary Inspectors and Learners	Thirty-six	—	—	

MEDICAL AND HEALTH CLERICAL STAFF.

Chief Clerk ...	E. S. George ...	29 9 38	25 11 38	Retired on pension.
Second Grade Clerk ...	J. A. Williams ...	21 11 38	—	
" " " "	S. L. Hedd-Williams	—	31 1 38	
Third Grade Clerks ...	Thirteen	—	—	

II. FINANCE.

1938. ESTIMATES—EXPENDITURE.

<i>Personal Emoluments :</i>								£
European ..	...	...	...	...	...	...	...	17,166
African ...	...	...	...	...	...	...	...	19,667
Allowances	...	...	...	...	...	...	...	376
								<u>37,209</u>

Other Charges :	
Medicines, surgical instruments, etc.	5 719

Medicines, surgical instruments, etc.	...	...	...	...	...	5,719
Medical supplies and hospital equipment	...	...	...	...	...	2,973
Diets, provisions, etc.	...	...	...	...	...	4,027
Contributions to various associations and subsidised institutions	...	...	...	...	...	3,325
Travelling	...	...	...	...	...	1,229
Other items	...	...	...	...	...	1,024
Purchase of new ambulance	...	...	...	...	...	—
						<u>18,297</u>

HEALTH.

<i>Personal Emoluments :</i>								
European ...	...	...	...	...	...	...	...	3,640
African ...	...	...	...	...	...	...	...	7,448
Labour ...	...	...	...	...	...	...	...	8,937
								<u>20,025</u>

Other Charges :		
Refuse disposal	885	

Refuse disposal	...	...	...	...	...	...	885
Preventive measures	...	...	...	...	...	...	567
Travelling	...	...	...	...	...	...	700
Other items	...	...	...	...	...	...	149
Purchase of two lorries	...	...	...	...	...	...	389
							2,690

Hospital fees	...	...	...	...	...	...	...	774
Lunatic hospital fees	...	...	...	...	...	...	...	75
Sale of medicines	...	...	...	...	...	...	...	1,066
								1,915

TABLE III—RETURN OF DISEASES AND DEATHS.

No.	Corresponding number in International list.	Title.	Number of Deaths.		
			M.	F.	Total.
1	1	(a) Typhoid fever			6
	2	(b) Paratyphoid fever			
2	3	Typhus			
3	4	Relapsing fever			
4	5	Undulant fever			
5	6	Smallpox			
6	7	Measles			
7	8	Scarlet fever			
8	9	Whooping cough			
9	10	Diphtheria			1
10	11	Influenza			
	11a	(a) with respiratory complication			
	11b	(b) without respiratory complication			
11	12	Cholera			
12	13	Dysentery:			
		(a) Amœbic			6
		(b) Bacillary			2
		(c) Unclassified			
13	14	Plague:			
	14a	(a) Bubonic			
	14b	(b) Pneumonic			
	14c	(c) Septicæmic			
14	16	Acute Poliomyelitis			
15	17	Encephalitis lethargica			
16	18	Cerebro-spinal fever			
17	21	Rabies			1
18	22	Tetanus			14
19	23	Tuberculosis of the respiratory system			28
20	24-32	Other tuberculosis diseases			6
21	33	Leprosy			3
22	34-35	Venereal Diseases:			
	34a, 34b	(a) Syphilis			5
	35	(b) Gonorrhœa			1
	35	(c) Other V.D.			
23	37	Yellow fever			
24	38	Malaria:			
		(a) Benign tertian			
		(b) Subtertian			
		(c) Quartan			15
25	44-46	Blackwater fever			1
26	39	Kala-azar			
27	39	Trypanosomiasis			
28	39	Yaws			4
29	39	Other protozoal diseases			
30	40	Ankylostomiasis			5
31	42	Schistosomiasis			
32	41, 42	Other helminthic diseases			7
33	15, 19, 20, 36, 43, 44	Other infection and/or parasitic diseases			
34	45-55	Cancer and other tumours			
	45-53	(a) Malignant			6
	54	(b) Non-malignant			4
	55	(c) Undetermined			
35	56-57	Rheumatic conditions			6
36	59	Diabetes			1
37	60	Scurvy			
38	61	Beri-beri			2
39	62	Pellagra			
40	58, 63, 64	Other diseases			
		(a) Nutritional			
	65-69	(b) Endocrine glands and general			
41	70-74	Diseases of the blood and blood-forming organs			3
42	75-77	Acute and chronic poisoning			1
43	82	Cerebral hæmorrhage			20
44	78-81, 83, 87	Other diseases of the nervous system			5
45	88	Trachoma			
46	88	Other diseases of the eye and annexe			1
47	89	Diseases of the ear and mastoid sinus			
48	90-103	Diseases of the Circulatory system			5

TABLE III—RETURN OF DISEASES AND DEATHS—*continued.*

No.	Corresponding number in International list.	Title.	Number of Deaths.		
			M.	F.	Total.
49	90-95	(a) Heart diseases			21
		(b) Other circulatory			1
	106	Bronchitis			2
50	107-109	Pneumonia			
	107	(a) Broncho-pneumonia			14
		(b) Lobar-pneumonia			28
		(c) Otherwise defined			12
51	104, 105, 110, 114	Other diseases of the Respiratory system			3
52	119-120	Diarrhoea and enteritis			
		(a) Under 2 years of age			8
		(b) Over 2 years of age			1
53	121	Appendicitis			16
54	122	Hernia, intestinal obstruction			7
55	124	Cirrhosis of the liver			2
56	125-127	Other diseases of the liver and biliary passages			
57	115-118	Other diseases of the Digestive system			12
58	130-132	Nephritis (all forms)			
	130	(a) Acute			7
	131	(b) Chronic			
59	133-139	Other non-venereal diseases of the genito-urinary system			16
60	140-150	Diseases of pregnancy, child birth and puerperal state			
61	140, 141	(a) Abortion			2
	142	Ectopic gestation			4
	145-147	Toxæmia of pregnancy			9
	143, 144	Other conditions of the puerperal state			
	148, 150				
61	151-156	Diseases of the skin, cellular tissue, bones and organs of locomotion			35
62	157-161	Congenital malformations and diseases of early infancy			2
	158	(a) congenital debility (children under 1 year)			1
	159	(b) Premature birth			
	160	(c) Injury at birth			
63	162	Senility			2
64	163-198	External causes :			
		(a) Suicide			32
		(b) other forms of violence			11
65	199-200	Ill-defined causes			
		Total deaths of causes			407

TABLE IV.

10 20 30 40 50 60 70 80 90 100

THE PROPORTION OF EPIDEMIC, ENDEMIC, INFECTIOUS, SYSTEMIC AND OTHER DISEASES SHOWN AS PERCENTAGES OF TOTAL CASES TREATED.

Total Hospital Cases 127,130.

Epidemic, endemic and infectious diseases	20.28
General diseases not mentioned above	10.44
Affections of the nervous system	2.94
Affections of the circulatory system	1.17
Affections of the respiratory system	14.07
Affections of the digestive system	23.94
Affections of the genito-urinary system and puerperal state	4.78
Affections of the skin and cellular tissues and diseases of the bones and joints	13.35
Affections produced by external causes	7.85
Other diseases	1.12

Total Hospital Deaths 407.

Epidemic, endemic and infectious diseases	24.57
General diseases not mentioned above	5.40
Affections of the nervous system	6.38
Affections of the circulatory system	6.63
Affections of the respiratory system	14.49
Affections of the digestive system	12.53
Affections of the genito-urinary system and puerperal state	10.31
Affections of the skin and cellular tissues and diseases of the bones and joints	8.59
Affections produced by external causes	7.61
Other diseases	3.43

THE PROPORTION OF ENDEMIC AND INFECTIOUS DISEASES.

Total Hospital Cases 25,789.

Malaria	43.16
Yaws	29.58
Leprosy	.53
Tuberculosis	1.07
Dysentery	1.83
Syphilis and soft chancre	6.28
Gonorrhœa	14.37
Chicken pox	1.01
Whooping cough	1.15
Other infectious diseases	.97

Total Hospital Deaths 100.

Malaria	16.00
Leprosy	3.00
Tuberculosis	34.00
Dysentery	8.00
Tetanus	14.00
Septicaemia	6.00
Syphilis	5.00
Typhoid fever	6.00
Other infectious diseases	8.00

TABLE IV

PERCENTAGE OF TOTAL CASES TREATED

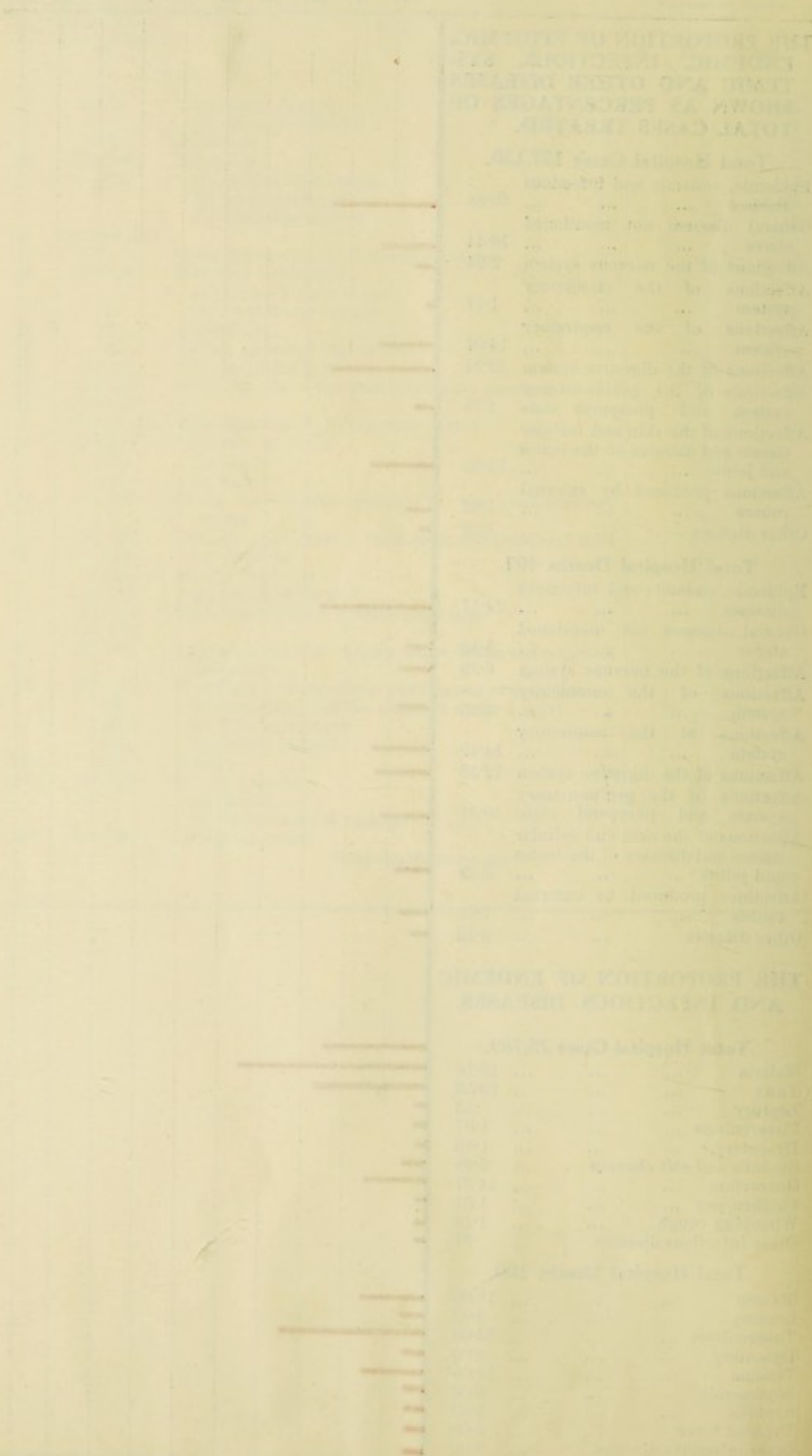


TABLE V—FREETOWN—METEOROLOGICAL OBSERVATIONS FOR THE YEAR 1938 (TOWER HILL OBSERVATORY)

Station.	Month.	Mean pres- sure M.S.L. 1,000 G.M.T.	Air temperature °F				Relative humidity 1,000.	Rainfall Inches.			Number of days of rain.	
			1,000 G.M.T.	Means of Absolute.				Total.	Maximum.	Date.		
				Mean.	Minimum.	Maximum.						
												Minimum.
Latitude 8° 29' 30" N. Longitude 13° 13' 55" W. Height above M.S.L. 171 ft. Height of Thermometer above ground 4½ feet Height of Rain Gauge above Ground 15 inches Height of Barometer above M.S.L. 180½ feet	January	29.852	79.4	80.3	73.6	86.9	71	90	Nil	Nil	—	Nil
	February	29.877	81.1	81.5	74.9	88.0	73	91	Trace	Trace	25th	Nil
	March	29.864	81.5	81.5	74.7	88.4	72	92	0.09	0.07	18th	2
	April	29.866	81.7	82.1	76.1	88.2	74	92	0.77	0.66	12th	4
	May	29.894	80.6	80.3	74.4	86.3	71	90	9.58	2.21	19th	17
	June	29.952	79.1	78.8	72.9	84.7	68	87	13.33	2.14	22nd	24
	July	29.963	77.2	77.1	72.8	81.5	69	86	28.91	5.08	4th	27
	August	29.924	74.5	76.3	72.6	80.0	70	83	33.11	6.65	24th	27
	September	29.926	74.5	77.3	73.0	81.7	70	86	24.88	3.85	4th	27
	October	29.909	75.4	79.7	73.5	85.8	71	91	12.83	2.68	24th	23
	November	29.891	75.6	80.3	74.4	86.3	72	90	5.10	1.02	16th	18
	December	29.861	76.3	81.2	75.1	87.3	72	90	0.02	0.02	11th	1
	Year	—	—	79.7	74.0	85.4	92	68	92	128.62	6.65	24th Aug.

Observational hours January to July inclusive 1,000 and 1,800 G.M.T.

Observational hours August to December inclusive 0800 and 1,400 G.M.T.

TABLE VI—GOVERNMENT HOSPITAL BED ACCOMMODATION.

	HOSPITAL.		EUROPEAN.				AFRICAN.				Dispen- saries.	Medical Staff.	Remarks.
	European.	African.	Total Beds at present.		Number of Beds possible.		Total Beds at present.		Number of Beds possible.				
			M.	F.	M.	F.	M.	F.	M.	F.			
European Hospital	1	—	17 both	sexes	17 both	sexes	—	—	—	—	—	1	For European Hospital and Wilberforce Barracks.
Connaught Hospital	—	1	—	—	—	—	70 & 5 cots	40 & 5 cots	70 & 5 cots	40 & 5 cots	1	5	
Cape Quarantine Wilberforce Barracks	—	1	—	—	—	—	28 both sexes	—	28 both sexes	—	—	—	
Pujehun Hospital	—	1	—	—	—	—	10	—	10	—	—	—	
Daru Hospital	—	1	—	—	—	—	17	15	17	15	1	1	
Kailahun Hospital	—	1	—	—	—	—	14 both sexes	—	14 both sexes	—	—	—	
Bonthe Hospital	—	1	—	—	—	—	12	6	12	6	1	1	
Bo Hospital	—	1	—	—	—	—	19	16	19	16	1	1	
Makeni Hospital	—	1	—	—	—	—	20	7	20	7	1	1	
Port Loko Hospital	—	1	—	—	—	—	18	5	18	5	1	1	
Moyamba Hospital	—	1	—	—	—	—	12	6	12	6	1	1	
Kissy—(a) Lunatic Asylum	—	1	—	—	—	—	12	6	12	6	1	1	
(b) Infirmaryes	—	1	—	—	—	—	52	38	52	38	1	1	
(c) Leper Asylum	—	1	—	—	—	—	38	35	38	35	—	—	
(d) Infectious Diseases	—	1	—	—	—	—	17	—	17	—	—	—	
	—	—	—	—	—	—	27	4	27	4	—	—	3 Emergency.

TABLE VII.—SUBSIDISED MISSION HOSPITAL BED ACCOMMODATION.

	HOSPITAL.		EUROPEAN.				AFRICAN.				Dispensaries.	Medical Staff.	
	European.	African.	Total Beds at present.		Number of Beds possible.		Total Beds at present.		Number of Beds possible.				
			Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.			
Princess Christian Mission Hospital	—	1	—	2	—	2	—	—	32	—	32	—	1 (qualified)
<i>Kamakwie Hospital</i> (American Wesleyan Mission)	—	1	—	—	—	—	—	18 beds (both sexes)	18 beds (both sexes)	—	—	—	1 (qualified)
<i>Tiama Hospital</i> (United Brethren in Christ Mission)	—	1	—	—	—	—	—	12 beds (both sexes)	12 beds (both sexes)	—	—	—	1 (qualified)
<i>Segbaema Hospital</i> (Wesleyan Methodist Mission)	—	1	—	—	—	—	—	24 beds (both sexes)	24 beds (both sexes)	—	—	—	1 (qualified)
<i>Jaiama Hospital</i> (United Brethren in Christ Mission)	—	1	—	—	—	—	—	10 beds (both sexes)	10 beds (both sexes)	—	—	—	1 (qualified)

APPENDIX A—REPORT OF THE SENIOR SPECIALIST FOR THE YEAR 1938.

The year under review has been chiefly notable for an increase in the number of fracture cases and owing to the intermittent functioning of the X-ray Department and the absence of a Mobile X-ray unit these have not been easy to treat.

Although additional work and responsibility has fallen on the Surgical Clinic with the return of the Imperial Garrison and the influx of a large number of labourers on construction work, it has not yet been found possible to effect the necessary improvements.

Urgent requirements apart from the radiological department include a new theatre block and offices, a genito-urinary table, and, after these have been provided for an increase in the number of beds.

Number of Operations performed :—

1937	...	...	...	...	...	...	...	2,128
1938	...	...	...	...	...	...	...	2,526

OPERATIONS AT THE CONNAUGHT HOSPITAL IN 1938.

				Cured.	Relieved.	Unrelieved	Died.
(1) <i>Abdominal :</i>							
Herniotomy-inguinal	...	...	...	240	—	—	—
Herniotomy-femoral	...	...	...	2	—	—	—
Herniotomy-umbilical	...	...	...	1	—	—	—
Herniotomy-ventral	...	...	...	1	—	—	—
Herniotomy-strangulated	...	...	...	11	—	—	4
Cholecystectomy...	...	...	...	—	—	—	1
Gastrectomy	...	...	...	1	—	—	—
Gastro-enterostomy	...	...	...	2	—	—	1
Enterectomy	...	...	...	6	—	—	—
Appendicectomy	...	...	...	12	—	—	—
Cacostomy	...	...	...	—	1	—	—
Exploratory laparotomy	...	...	...	12	—	—	6
Intestinal obstruction	...	...	...	1	—	—	—
Aspiration of liver abscess	...	...	...	11	—	—	—
Aspiration of ascites	...	...	...	—	11	—	—
Retro-peritoneal cyst	...	...	...	—	—	—	1
(2) <i>Ano-Rectal :</i>							
Hæmorrhoidectomy	...	...	...	3	—	—	—
Injection of hæmorrhoids	...	...	...	13	—	—	—
Anal fissure	...	...	...	2	—	—	—
Anal fistula	...	...	...	9	—	—	—
Dilatation of rectal stricture	...	...	...	—	3	—	—
Imperforate anus	...	...	...	1	—	—	—
Sigmoidoscopy	...	...	...	—	—	9	—
Prolapse of rectum	...	...	...	1	—	—	—
(3) <i>Ear, Nose and Throat :</i>							
Excision of nasal polypus	...	...	...	3	—	—	—
Enucleation of tonsils and adenoids	...	...	...	5	—	—	—
Irrigation of antrum	...	...	...	2	—	—	—
Mastoidectomy	...	...	...	1	—	—	—
Laryngoscopy	...	...	...	—	—	2	—
Oesophagoscopy	...	...	...	—	—	2	—
Bronchoscopy	...	...	...	—	—	1	—
(4) <i>Eyes :</i>							
Enucleation	...	...	...	5	—	—	—
Cataract	...	...	...	2	—	—	—
(5) <i>Genito-Urinary :</i>							
Cystoscopy	...	...	...	—	—	12	—
Nephrostomy	...	...	...	—	—	—	1
Nephrectomy	...	...	...	1	—	—	—
Transplantation of ureters	...	...	...	1	—	—	—
Excision of scrotum for elephantiasis	...	...	...	21	—	—	1
Excision of hypertrophied scrotum	...	...	...	29	—	—	—
Excision of dilated lymphatics of cord	...	...	...	1	—	—	—
Radical cure of hydrocele	...	...	...	95	—	—	—
Suprapubic puncture	...	...	...	—	1	—	—
Suprapubic cystostomy	...	...	...	2	—	—	1
Tapping of hydrocele	...	...	...	—	10	—	—
Dilatation of stricture	...	...	...	—	323	—	1
Hypospadias	...	...	...	—	1	—	—
Circumcision	...	...	...	12	—	—	—
Orchidectomy	...	...	...	21	—	—	—

	Cured.	Relieved.	Unrelieved.	Died.
(6) <i>Gynaecological :</i>				
Hysterectomy	8	—	—	1
Myomectomy	3	—	—	1
Curetage	11	—	—	—
For extra uterine pregnancy	1	—	—	—
Vesico-vaginal fistula	1	—	1	—
Salpingo-oophorectomy	5	—	—	—
Gilliams operation	3	—	—	—
Excision of ovarian cyst	2	—	—	—
Excision of broad ligament cyst	1	—	—	—
Cauterisation of cervix	28	—	—	—
Vaginal atresia	—	2	—	—
Imperforate hymen	1	—	—	—
Colporrhaphy	4	—	—	—
Perineorrhaphy	3	—	—	—
Excision of elephantiasis vulva	1	—	—	—
Excision of elephantiasis of breast	2	—	—	—
Excision of breast for carcinoma	1	—	—	—
Retained placenta	1	—	—	1
Craniotomy	—	—	—	1
(7) <i>Head and Neck :</i>				
Sarcoma of mandible	—	—	—	1
Aneurysm of carotid	—	—	—	1
Thyroidectomy for goitre	2	—	—	—
Injection of trigemal nerve	—	1	—	—
(8) <i>Miscellaneous :</i>				
Drainage of septic conditions	396	—	—	5
Excision of glands	3	—	—	—
Excision of sinuses	3	—	—	—
Wiring of aneurysm of aorta	—	1	—	—
Suture of wounds	411	—	—	1
Lumbar ganglionectomy	—	—	—	1
Sympathectomy	—	1	—	—
Excision of rib for empyema	1	—	—	1
Aspiration of pleura	3	—	—	—
Aspiration of spleen	—	—	1	—
Extraction of teeth	312	—	—	—
Excision of cysts	15	—	—	—
Excision of epithelioma lip	1	—	—	—
Removal of foreign bodies	40	—	—	—
Examination under anæsthesia	—	—	8	—
Injection of varicose veins	6	—	—	—
Injection of novocaine	—	4	—	—
Biopsy	—	—	5	—
Transfusion of blood	—	4	—	—
(9) <i>Orthopedics :</i>				
Reduction of fractures and separated epiphyses	53	—	—	—
Open operation for fracture	9	—	—	—
Reduction of dislocations	13	—	—	—
Extension of fracture by means of pins	22	—	—	—
Osteotomy	6	—	—	1
Excision of fractured patella	3	—	—	—
Drainage and sequestrectomy for osteomyelitis	15	—	—	—
Recurrent dislocation patella	1	—	—	—
Aspiration of joints	7	—	—	—
Arthrodesis of hip	1	—	—	—
Excision of semi-lunar cartilage	4	—	—	—
Breaking down of adhesions in joints	—	12	—	—
Spinal bone graft	1	—	—	—
Amputation of toe	8	—	—	—
Amputation of arm	4	—	—	—
Amputation of hand	1	—	—	—
Amputation of finger	19	—	—	—
Amputation of leg	4	—	—	1
Plaster cases	—	61	—	—
(10) <i>Skin and Subcutaneous Tissues :</i>				
Debridement of burns	4	—	—	2
Excision of ulcer	3	—	—	—
Skin grafting	13	—	—	—
Elephantiasis leg	—	6	—	—
Excision of non-malignant tumours	27	—	—	—
Total	2,017	442	41	35

NOTE.—(a) Dilatations of stricture of the urethra and rectum are placed under the heading "Relieved" in all cases.

(b) Diagnostic procedures such as cystoscopy and sigmoidoscopy are placed under the heading "Unrelieved."

Percentage of deaths.....}..... 1.38.

Q. S. STEWART,
Senior Specialist.

APPENDIX B—ANNUAL REPORT ON EYE CLINIC, 1938.

The clinic was re-opened in early May and two sessions a week have been held since.
The following attendances were registered :—

New cases	...	...	...	...	404
Subsequent attendances	...	...	...	...	555
Refractions	...	...	...	...	119
Prescriptions for glasses	...	...	...	...	70

(Of these, most were to be dispensed locally).

Eye Room.

A room has been set aside on the upper storey which is much more suitable for eye work than the present room. Plans have been made and equipment obtained and it is hoped that the room will be in use soon.

The following is an analysis of cases and a list of operations performed :—

Affections of lids :

Blepharitis	...	...	...	...	1
Chalazion	...	...	...	...	18
Ectropion	...	...	...	...	1
Hordelum	...	...	...	...	1
					21

Affections of Conjunctivæ:

Conjunctivitis	...	...	...	...	15
Phlyctenular Conjunctivitis	...	...	...	...	2
Acute Purulent	..	...	...	...	8
Angular	..	...	...	...	2
Sub-acute	..	...	...	...	3
Chronic	..	...	...	...	7
Chemosis of	..	...	...	...	1
Trachoma	...	...	...	...	70
Pterygium	...	...	...	...	1
					109

Affections of Cornea :

Foreign body in Cornea	...	...	...	...	10
Ulcer	...	...	...	...	13
Leucoma	...	...	...	...	1
Opacity Cornea	...	...	...	...	1
Staphyloma of Cornea	...	...	...	...	3
Keratitis	...	...	...	...	4
Cyst	...	...	...	...	1
					33

Affections of Iris and Ciliary Body :

Irido-cyclitis	...	...	...	...	9
Iritis	...	...	...	...	9
Mydriasis	...	...	...	...	2
					20

Affections of the Choroid and Retina :

Detached retina	...	...	...	...	2
Retinitis (arterio-sclerotic)	...	...	...	...	1
Choroiditis	...	...	...	...	5
					8

Affections of the Optic Nerve :

Optic atrophy	...	...	...	...	5
Retrobular Neuritis	...	...	...	...	2
					7

Affections of lens :

Cataract	...	...	...	...	26
Lamellar Cataract	...	...	...	...	2
					28

Errors of Refraction :

Hypermetropic astigmatism ...	...	...	...	43
Myopic astigmatism ...	...	...	...	10
Mixed astigmatism ...	...	...	...	4
Myopia ...	...	...	...	7

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Errors of Accommodation :

Presbyopia ...	...	...	...	13
----------------	-----	-----	-----	----

Miscellaneous :

Amblyopia ...	...	...	...	5
Ametropia ...	...	...	...	5
Orbital Abscess ...	...	...	...	1
Chronic Glaucoma ...	...	...	...	4
Avitaminosis ...	...	...	...	36
Contusion eye ...	...	...	...	3
Old injury to eye ...	...	...	...	4
Alternative squint B.E. ...	...	...	...	1
Dislocation lens R. ...	...	...	...	1
Eye strain ...	...	...	...	2
Defective vision ...	...	...	...	22
N.A.D. ...	...	...	...	17

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Operations Performed:

Cataract extraction ...	...	...	...	5
Chalazion ...	...	...	...	12
Suture of conjunctiva ...	...	...	...	1
Glaucoma ...	...	...	...	2
Puncture wound cornea ...	...	...	...	1
Optical iridectomy ...	...	...	...	1

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W. ROBERTSON, MAJOR,
R.A.M.C.

APPENDIX C—VENEREAL DISEASE.

The venereal disease clinic has, as usual, been well attended during the year.

The clinic meets in the Surgical Out-Patients Department which accommodation is neither adequate nor suitable.

During the year the Director of Medical Services approved of plans and suggestions for separate housing and re-organisation of the clinic.

It will be a great boon to the public when the new premises are ready for occupation next year.

The following is the return for the year :—

	NEW CASES.				SUBSEQUENT ATTENDANCES.		
	Government.	Non-Government.	Female.	Total.	Government.	Non-Government.	Total.
Gonorrhœa ...	63	369	25	457	186	1,773	1,959
Gonorrhœal Arthritis ...	8	34	—	42	16	80	96
„ Epididymitis ...	2	12	—	14	4	28	32
„ Orchitis ...	1	18	—	19	—	63	63
„ Fibrositis ...	—	1	—	1	—	9	9
„ Conjunctivitis ...	3	1	—	4	3	5	8
„ Cervicitis ...	—	—	3	3	—	43	43
Bubo ...	2	18	—	20	18	53	71
Simple Urethritis ...	—	10	—	10	—	8	8
Chancre ...	3	6	—	9	—	102	102
Penile Ulcer ...	7	93	—	100	86	644	730
Ulcer Vulva ...	—	—	1	1	—	6	6
Secondary Syphilis ...	3	9	4	16	52	128	180
Urinary Fistula ...	1	—	—	1	—	—	—
Lympho Inguinal ...	2	5	1	8	12	42	54
Perineal Abscess ...	—	1	—	1	—	4	4
Stricture ...	—	2	—	2	—	5	5
	95	579	34	708	377	2,993	3,370

Connaught Hospital,
Freetown,
9th February, 1939.

E. A. RENNER,
Medical Officer-in-Charge,
Venereal Disease Clinic.

APPENDIX D—REPORT OF THE SIR ALFRED JONES LABORATORY, FREETOWN.

Mosquito Surveys.—At the request of the Director of Medical Services, a survey of the mosquitoes in the Protectorate was commenced in February, 1938, and will be continued during 1939. The investigation is being conducted on the following lines; the medical officer in each Government medical station has selected in and around his station six or more mosquito breeding places of different types, and six or more houses to be examined at regular intervals for adult mosquitoes. Every week or ten days these adult larval catching stations are examined and the resulting catches sent to Freetown for identification and report. In the tables below are summarised, by periods, of a month, the results of examination of the adult and larval stations throughout the Protectorate since the inception of the survey, together with some miscellaneous identifications from other districts in the Colony and Protectorate. It will be seen that amongst 8,653 larvæ and 1,280 adults examined, forty-six species have been encountered of which nine were anophelines.

TABLE I.

Showing the species and numbers of mosquito larvæ obtained from selected breeding places in the Protectorate throughout the year.

SPECIES.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
<i>A. gambia</i> ...	81	56	121	323	99	12	29	10	170	152	121	1,174
<i>A. funestus</i> ...	—	1	—	—	1	—	3	93	25	27	8	158
<i>A. rhodesiensis</i> ...	—	—	—	—	—	—	—	6	25	21	—	52
<i>A. coustani or paludis</i> ...	—	10	14	31	17	—	—	—	24	49	105	250
<i>A. hargreavesi</i> ...	—	—	6	2	4	—	—	—	7	33	38	90
<i>A. squamosus</i> ...	4	4	—	—	—	—	4	—	2	6	229	249
<i>A. hancocki</i> ...	—	—	—	—	—	—	—	—	6	12	28	46
<i>A. obscurus</i> ...	—	—	—	—	1	—	—	1	19	9	—	30
<i>A. nili</i> ...	—	—	—	—	1	1	—	—	—	—	—	2
<i>M. brevipalpis</i> ...	—	—	—	—	—	2	—	1	—	1	—	4
<i>U. balfouri</i> ...	—	—	—	—	—	—	22	5	—	1	1	29
<i>U. fusca</i> ...	—	—	—	—	8	2	—	1	—	1	—	4
<i>U. mashonensis</i> ...	—	—	—	—	—	—	—	—	1	—	—	1
<i>H. nigeriæ</i> ...	—	—	—	—	—	—	—	—	1	—	—	1
<i>F. (M) splendens</i> ...	—	—	—	—	—	—	—	—	1	1	—	2
<i>F. (M) hispida</i> ...	—	—	—	—	—	—	12	8	—	6	—	26
<i>F. (M) plumosa</i> ...	—	—	—	—	—	—	—	—	—	—	1	1
<i>A. (F) longipalpis</i> ...	—	—	—	—	—	—	—	7	2	5	—	14
<i>A. (S) simpsoni</i> ...	—	—	1	1	7	7	—	1	—	—	—	17
<i>A. (S) luteocephalus</i> ...	—	—	—	—	16	11	58	106	81	—	3	275
<i>A. (S) africanus</i> ...	—	—	—	—	—	—	—	5	3	5	3	16
<i>A. (S) ægypti</i> ...	3	—	—	51	65	184	74	37	49	36	16	515
<i>A. (S) vittatus</i> ...	—	—	13	71	38	63	7	—	49	6	6	253
<i>A. (A) simulans</i> ...	—	—	—	—	—	—	—	—	5	—	5	—
<i>A. (A) simulans</i> ...	—	—	—	—	—	—	—	—	5	—	—	5
<i>A. (A) haworthi</i> ...	—	—	—	—	—	—	—	—	1	—	—	1
<i>A. (A) punctothoracis</i> ...	—	1	—	—	—	—	—	—	—	—	—	1
<i>A. (A) filicis</i> ...	—	—	—	—	—	—	—	—	—	3	—	3
<i>E. chrysogaster</i> ...	—	—	—	—	—	—	—	1	5	—	—	6
<i>L. tigripes</i> ...	5	16	10	11	16	27	5	3	5	13	36	147
<i>C. decens</i> ...	36	300	98	165	81	18	26	212	190	161	252	1,639
<i>C. duttoni</i> ...	1	441	292	196	494	976	93	24	11	14	2	2,544
<i>C. annulioris</i> ...	1	6	4	—	56	35	48	100	100	72	74	496
<i>C. nebulosus</i> ...	—	4	6	11	23	29	58	152	85	27	45	440
<i>C. rima</i> ...	—	—	—	—	1	1	—	—	—	—	—	2
<i>C. cinereus</i> ...	—	—	—	—	1	6	4	—	—	—	—	11
<i>C. moucheti</i> ...	—	—	—	—	—	—	—	3	—	—	—	3
<i>C. albiventris</i> ...	—	—	—	—	—	9	—	33	—	—	—	42
<i>C. inconspicuus</i> ...	—	—	16	13	5	2	—	—	2	5	6	49
<i>C. macfiei</i> ...	—	—	—	—	—	—	—	—	—	14	7	21
<i>C. weschei</i> ...	—	—	—	—	—	—	—	—	3	—	—	3
<i>C. guarti</i> ...	—	—	—	—	—	—	—	—	—	—	22	22
Total ...	131	839	581	875	934	1,385	443	809	872	680	1,003	7,564

TABLE II.

Showing the species and numbers of adult mosquitoes obtained from selected adult catching stations in the Protectorate throughout the year.

SPECIES.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
<i>A. gambiae</i> ...	3	23	42	21	84	135	110	44	76	118	89	745
<i>A. gambiae</i> var <i>melas</i> ...	—	4	21	2	7	—	1	—	—	—	2	37
<i>A. funestus</i> ...	—	—	16	16	19	23	17	4	4	7	46	152
<i>A. coustani</i> var <i>ziemani</i> ...	—	—	—	—	1	3	3	1	11	22	3	44
<i>A. hargreavesi</i> ...	—	—	—	—	—	1	—	—	—	—	—	1
<i>A. squamosus</i> ...	—	—	—	—	—	—	—	—	—	2	2	4
<i>A. hancocki</i> ...	—	—	—	—	—	1	—	—	1	2	1	5
<i>A. marshalli</i> group ...	—	—	—	—	—	—	2	—	—	—	—	2
<i>T. (M) Buniformis</i> ...	—	2	—	—	1	3	1	3	—	3	11	24
<i>T. (M) africanus</i> ...	—	—	—	4	12	3	1	—	1	—	6	27
<i>A. (S) aegypti</i> ...	—	—	—	—	—	1	—	—	1	—	1	3
<i>A. (S) apicoargenteus</i> ...	—	—	—	—	—	—	—	—	—	2	—	2
<i>A. (S) luteocephalus</i> ...	—	—	—	—	—	—	—	1	1	—	—	2
<i>A. (S) vittatus</i> ...	—	—	—	1	—	—	—	—	—	—	—	1
<i>A. (A) nigricephalus</i> ...	—	—	—	—	—	—	—	1	—	—	—	1
<i>A. (A) punctothoracis</i> ...	—	—	1	—	1	—	4	—	2	—	—	9
<i>E. chrysogaster</i> ...	—	—	—	—	1	—	—	—	—	—	—	1
<i>L. tigris</i> ...	—	—	—	—	1	—	—	—	—	—	—	1
<i>C. rima</i> ...	—	—	1	1	1	2	—	—	—	—	—	5
<i>C. nebulosus</i> ...	—	—	—	1	—	4	—	2	4	8	6	25
<i>C. cinereus</i> ...	—	2	1	—	2	3	6	4	4	2	37	61
<i>C. annulioris</i> ...	—	—	—	—	—	1	—	—	—	4	1	6
<i>C. duttoni</i> ...	—	—	—	—	1	—	8	6	—	1	—	16
<i>C. decens</i> ...	—	26	8	11	2	—	10	20	5	16	16	106
Total ...	3	57	90	54	142	182	154	76	125	176	221	1,280

In addition to the mosquito survey of the Protectorate, an investigation has been carried out in the Congo Valley since February. Weekly examinations have been made of selected larval catching stations in that portion of the stream flowing below the slopes of Wilberforce, and during the last five months of the year some catching stations below the Hill Cot slopes, in addition, have been studied. Few houses exist in the Congo Valley, but to supplement the information obtained from the examinations of the larval breeding places, a search of two of the houses for adult mosquitoes has been made weekly. In Tables 3, 4 and 5 below are recorded the results of these examinations.

TABLE III.

Showing the species and numbers of mosquito larvæ obtained from selected breeding places in the Congo stream below Wilberforce.

SPECIES.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Rainfall in Freetown in inches. ...	—	0.09	0.77	0.31	13.3	28.9	33.1	24.9	12.8	5.1	0.02	119.29
<i>A. gambiae</i> ...	55	102	180	211	16	21	15	1	—	93	52	746
<i>A. funestus</i> ...	38	17	92	193	60	—	20	—	—	1	62	483
<i>A. rhodesiensis</i> ...	5	16	21	62	10	25	20	30	69	105	28	391
<i>A. freetownensis</i> ...	—	—	—	—	1	—	—	—	—	—	—	1
<i>A. smithii</i> ...	—	—	—	—	—	2	11	—	—	—	—	13
<i>A. hancocki</i> ...	—	—	—	—	—	—	—	—	—	16	2	18
<i>A. coustani</i> ...	—	—	—	—	—	—	—	—	—	3	14	17
<i>A. hargreavesi</i> ...	—	—	—	—	—	—	—	—	—	23	12	35
<i>U. fusca</i> ...	—	—	—	—	—	—	2	—	13	—	—	15
<i>A. (S) vittatus</i> ...	—	4	—	—	1	—	—	—	—	10	—	15
<i>A. (S) aegypti</i> ...	—	2	—	—	—	—	—	—	—	—	—	2
<i>C. decens</i> ...	37	63	27	35	1	—	—	—	1	3	6	173
<i>C. annulioris</i> ...	39	32	—	—	—	1	4	—	—	—	—	76
<i>C. duttoni</i> ...	1	2	—	—	—	—	—	—	—	—	—	3
<i>C. inconspicuus</i> ...	—	—	—	—	—	—	—	—	—	—	1	1
<i>L. tigris</i> ...	—	1	1	2	—	—	—	—	—	—	2	6
Total ...	175	239	321	503	89	49	72	31	83	254	179	1,995

TABLE IV.

Showing the species and numbers of mosquito larvæ obtained from selected breeding places in the Congo stream below Hill Cot.

SPECIES.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
<i>A. gambiae</i> ...	14	3	12	1	—	—	5	—	35
<i>A. funestus</i> ...	—	—	—	6	—	—	—	—	6
<i>A. rhodesiensis</i> ...	11	2	7	3	—	—	1	4	28
<i>A. coustani</i> ...	—	—	—	—	—	—	1	2	3
<i>A. smithii</i> ...	—	109	21	—	—	—	—	3	133
<i>A. freetownensis</i> ...	—	18	1	—	—	—	—	—	19
<i>A. hargreavesi</i> ...	—	—	—	—	—	—	—	3	3
<i>U. nigripes</i> ...	6	9	—	—	—	—	—	—	15
<i>U. fusca</i> ...	21	2	—	—	—	—	—	—	23
<i>A. (S) vittatus</i> ...	52	4	—	—	—	—	—	—	56
<i>A. (S) aegypti</i> ...	28	—	—	—	—	—	—	—	28
<i>A. (A) punctothoracis</i> ...	2	1	—	—	—	—	—	—	3
<i>A. (A) filicis</i> ...	3	4	—	—	—	—	—	—	7
Total ...	137	152	41	10	—	—	7	12	359

TABLE V.

Showing the species and numbers of adult mosquitoes obtained from two selected houses in the Congo Valley, together with the room index of anophelines in these houses.

SPECIES.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
<i>A. gambiae</i> ...	44	107	300	100	62	5	—	—	15	36	669
<i>A. funestus</i> ...	101	41	169	16	6	—	—	—	—	40	373
<i>A. hancocki</i> ...	1	—	—	—	—	—	—	—	—	1	2
<i>C. decens</i> ...	1	—	—	—	—	—	—	—	—	—	1
<i>C. nebulosus</i> ...	1	—	—	—	—	—	—	—	—	—	1
Total ...	148	148	469	116	68	5	—	—	15	77	1,046
Anopheline room index ...	16.2	18.5	29.3	8.3	3.4	0.3	—	—	0.9	3.7	6.9

It will be seen from Tables III, IV and V that in the Congo Valley, the main source of anopheline breeding is in the stream, that during the months of heavy rain, July, August, September and October, the turbulence of the stream is sufficient almost entirely to inhibit anopheline breeding, and that conditions most suitable for anopheline breeding in the Congo stream exist only during the dry season, especially at the beginning and end. As this stream is a probable source of supply of anopheline to the outskirts of Freetown on the west side and to Hill Station, and to the proposed building reservation in the Congo Valley, it has been suggested that mosquito breeding in the stream should be controlled. The most efficient and economical method would probably be to simulate the condition of the stream during the heavy rains by flushing it intermittently.

It will be noted that Table 1 corroborates the findings in the Congo Valley; in the larval collecting stations selected throughout the Protectorate the number of anopheline larvæ was reduced during the heavy rains. This is explained by the fact that the collecting stations were selected during the dry season, and were therefore permanent collections of water, i.e., largely streams or pools in the bed of dried-up streams; during the rains these become unsuitable for anopheline breeding owing to acceleration of the flow. When the streams, however, become unsuitable, the heavy rains from numerous temporary pools which are ideal breeding places for *A. gambiae*. In the Congo Valley conditions in the stream were unsuitable for this species during August, September and October, but at this time innumerable pools formed in the Brookfields area which on examination were found to contain numerous anopheline larvæ, including many *A. gambiae*. These temporary breeding places are so numerous and are so suitable for the breeding of *A. gambiae* that the period of heavy rains is associated with the highest incidence of adults of this species in houses; this is shown to some extent in Table 2 where the August figures for *A. gambiae* are the highest throughout the year. The high incidence of *A. gambiae* in houses at the height of the rains was demonstrated very clearly in the mosquito survey of Freetown carried out by this Laboratory in 1931-32.

Tests on wire mosquito gauze.—During the year an extensive series of tests on wire mosquito screening was concluded, and the results published. As a result of experiments with some 16,000 adult mosquitoes, it has been found that certain very common West African malaria-carrying anophelines can pass through wire screening of larger mesh than 18 squares to the inch with wire of 30 S.W.G., of 16 squares to the inch of 28 S.W.G. wire. Mosquito screening of larger mesh than these will permit the entry of malaria and yellow fever vectors.

Fungal disease of mosquitoes.—Work was continued during 1938 on the study of mycelial infections in *A. gambiae*, and a preliminary note was published. During this year a number of additional species of anophelines and culicines have been found infected in nature, and further experiments in the transmission of this condition have been made. The disease produced by this mycelium causes a very high mortality amongst the larvæ infected. The investigation is being continued.

Typhus fevers.—The study of the murine form of this group of diseases has been carried on for some two years. During the present year the examination of the sera of more than 500 wild rats has been completed and their agglutinations of *Proteus* strains titrated out. Numerous attempts have been made to isolate a fresh murine strain from single rats or from the mixed brains of six wild rats, but unsuccessfully.

Two attempts to isolate from collections of the dog tick, *Rhipicephalus sanguineus*, a strain of *fièvre boutonneuse* have failed. This disease is probably present in this Colony as judged by the existence of a small number of patients with fevers of the typhus type and whose sera agglutinate *Proteus* OX₂ in high dilution.

During 1938 three patients suffering from fevers of the typhus group have been encountered, whose sera agglutinated *Proteus* OX₁₉ to a diagnostic titre and showed the characteristic rise and fall of titre.

Malaria infection in late pregnancy.—Early in 1937, in order to obtain material for demonstrations, an examination was made of thick blood films from placentas delivered during the early hours of the morning. Malaria parasites were found in five of the seventeen placentas examined. Beginning on 1st July, 1937, routine examinations were made of all placentas delivered in the Connaught Hospital, and in six months 195 were examined. Of these seventeen showed heavy malaria infections, seventeen light infections and ten showed scanty parasites; four showed malaria pigment only. The percentage of placentas thus shown to be infected during the latter half of 1937 was 22·5 per cent.

During 1938 examinations were made of 440 placental films, of which seven were excluded as being unsuitable for examination. Of the remaining 433, heavy infections were encountered thirty times, light infections thirty-four times, scanty parasites sixteen times and pigment alone five times. The percentage found infected during 1938 was, then, 18·5 per cent.

Blood counts in normal Europeans and Africans.—The normal hæmatological standards for Europeans in Sierra Leone and for Africans on the West Coast have not so far been ascertained. During this year a number of estimations of hæmoglobin, red and white cell counts, differential and Arneht counts, have been made on Europeans in good health and freshly arrived in the Colony, and on normal Africans. It is hoped to continue this work until a sufficient number of cases has been examined to establish normal standards. This investigation will form a basis for future work on other subjects, such as the anæmias.

Trachoma.—Material from trachoma cases has very generously been supplied by Major W. J. Robertson, R.A.M.C., who has been conducting the Ophthalmic Clinic. Stained conjunctival scrapings from 53 cases at various stages of the disease have been examined, and the characteristic inclusion bodies have been found in 49.

T. H. DAVEY,
Director, Sir A. J. Laboratory.

APPENDIX E—REPORT OF THE MEDICAL OFFICER (HEALTH) FREETOWN.

The Medical Officer (Health), Dr. E. H. Taylor Cummings proceeded on vacation leave and study leave on the 16th of June and was relieved by Dr. W. R. Williams who performed the duties of Medical Officer (Health) till Dr. Taylor Cummings resumed his duties on 16th November.

Chief Sanitary Superintendent, Mr. F. E. Levermore was appointed on the 11th of September and assumed duties on the 15th September.

Sanitary Superintendent Mr. P. Osment resumed duties from vacation leave on the 26th March.

Sanitary Superintendent J. R. Henderson was transferred to Bo on the 4th of April.

There are 36 Sanitary Inspectors graded thus:

First Grade	...	...	...	...	1
Second Grade	...	...	...	...	2
Third Grade	...	...	...	...	4
Fourth Grade	...	...	...	...	8
Fifth Grade	...	...	...	...	21

During the year the following promotions were made:

Mr. W. E. J. Corkson	was promoted to First Grade
" Z. Grey-Coker	was promoted to Second Grade
" S. D. Macrae	was promoted to Third Grade
" A. S. Adams	was promoted to Fifth Grade.

There are 15 Sanitary Learners.

Of the 36 Sanitary Inspectors 13 were stationed in Freetown, 23 in other parts of the Colony and the Protectorate. Fifth Grade Sanitary Inspectors and Learners, during the second half of the year, received systematic training in Hygiene. Owing to the September crisis, all the Inspectorial Staff in Freetown received training in First Aid and Stretcher drill. Two Senior Inspectors sat to the Royal Sanitary Institute Examination; the results are not yet to hand.

Mr. Archer-Davies, clerk to the Medical Officer (Health) was on duty throughout the year.

Three junior clerks from the Town Clerk's Office, City Council, were seconded, one at a time to this office, for training in clerical health routine work.

DAILY WORK IN FREETOWN AND NEIGHBOURING VILLAGES.

The Inspectors, with a few exceptions, performed their work efficiently.

The Health of Freetown has been good; there has been an epidemic of Infective Parotitis chiefly among school children; 109 cases were notified.

Sporadic cases of Typhoid fever occurred. There were six deaths from the nine cases which were notified. Despite careful investigations, it was found impossible to trace the sources of infection.

DISEASES OF THE RESPIRATORY SYSTEM.

There were 121 notified cases of Pneumonia with a fatality rate of 16.5 per cent.

77 cases of Pulmonary Tuberculosis were notified; there were 17 deaths; these deaths did not all occur among the 77 cases.

ANTI MALARIAL AND ANTI YELLOW FEVER MEASURES.

Compounds, houses, trees, and drains are inspected daily. The Congo stream on the western boundary of Freetown came in for special observation; from fixed stations specimens of anophelene mosquito larvæ were collected once a week and forwarded to the Sir A. L. Jones Research Laboratory; reports on these are submitted regularly. Paris green was used during the latter end of the year.

Mosquito control with special relation to Malaria still continues to be our major problem. Householders appear not to realise in the majority of cases that by being less careless they can help materially in lessening the mosquito population in Freetown.

It has not been found possible to inspect every compound as frequently as could be desired. Sanitary Inspectors and Learners spend four hours daily in actual compound inspection.

Trees, domestic and economic plants, cesspits, defective drains, rock pools, excavation from quarries, seepage areas, brooks, streams, all come in for special attention.

The European Sanitary Superintendents and two supervising Inspectors check the efficiency and accuracy of the work of these sectional Inspectors. The Medical Officer (Health) pays many surprise visits to compounds.

A new method of better control on the daily movements of Sanitary Inspectors has been instituted. A programme of each Sanitary Inspector's route is left in the office before he leaves for his section, in addition, he places a small pennon on a metal staff on the ground adjacent to the compound that he is engaged in inspecting, thus his movements can be easily traced.

During the year under review, 90,753 compounds were inspected, 231 samples of mosquito larvæ were detected, 231 occupiers of compounds were prosecuted; of these, 215 were convicted, eight were withdrawn, three were adjourned and five were dismissed.

Fines imposed by the Police Magistrate were as follows:

	£	s.	d.
Mosquito Larvæ 215	43	19	6
Cesspits—failure to repair and clean 70	10	11	10
Insanitary Compounds 30	3	9	6
Other offences under the P. H. Ordinance 6	6	10	6
For obstructing Sanitary Inspectors and Learners during the execution of their duties 4	1	16	0
Total	66	6	6

In 1937, fines totalled 93 5 0

Larvæ found in compounds were classified as follows:

Anopheles	11
Culex	60
Aedes	160

Owing to heavy pressure of work and shortage of staff at the Sir A. L. Jones Research Laboratory, the practice of sending each specimens, after Police Court proceeding, for detailed classification, had to be abandoned.

Oiling.—Shell Malarial Oil was used.

Two gangs of one headman and two labourers were employed to oil drains, pools, watery cesspits to the number of 971, disused quarries and the immediate vicinity of the temporary canalised streams; the work is so planned that oiling is done once a week. Number of pools and drains oiled was 21,423.

The following samples of mosquito larvæ were discovered:

Anopheles	15
Culex	41
Aedes	344

The Public Works Department's eight-year programme for the canalisation of Freetown is now well ahead; much was accomplished in 1938; the drains in Gloucester Street, Trelawney Street, Rokell Road, Wellington Street, Waterloo Street and Bombay Street were improved. George Street Central was reconstructed. Outfalls at Lower Savage Square and Magazine Cut were improved and extended to low water level.

As the number of concrete drains increase so does the task of keeping them in good repair; this was carried as well as could be expected by the department responsible for this work.

7,561 boats and canoes were inspected; only one sample of *Aedes* larvæ was found.

The tree gang was kept very actively engaged during the year.

There is a waiting list of applications from occupiers and owners requesting that trees in their compounds should receive attention.

10,463 trees were inspected, 1,804 were felled and 7,796 were treated.

There were 400 samples of larvæ discovered in trees and plants, classified as follows:

<i>Culex</i>	...	...	...	...	...	56
<i>Aedes</i>	...	...	...	...	...	344

Old oil-palm trees and cotton trees were dealt with; these are no doubt potential breeding places of the yellow fever mosquito. There are just over 5,000 cesspits, 3,241 notices were served for cleaning and for repairing cesspits. The permanent canalisation of Sanders Brook is a great boon but there is a recurring annual expenditure in the money utilised for the temporary canalisation of the four major streams in Freetown; this work was again done during the fall of the year. It is estimated that during the last twenty years, £4,000 was spent under this item.

Tins and Bottles.—The gangs responsible for this work were actively engaged during the rainy season; lack of forethought accounted for the indiscriminate way in which these receptacles especially tins are dumped in odd places; there is a growing market for empty bottles, indirectly the Freetown Mineral Factories are helping our anti-malarial pursuits.

Bushing and Weeding.—This section of our work came in for unusual notice by the Freetown City Council and other departments subsequent on a motion tabled by a City Councillor:

"That in view of the general dissatisfaction caused among citizens by the notice served by the Health Department demanding the cutting of all grass and weeds adjacent to premises, Which duty had hitherto been performed by Government, that Government be requested by the City Council to amend the Ordinance (Cap 171, section 22 (a)) owing to the anomalies created therein by the present condition of a large number of streets in the city and to alleviate the hardship complained of."

The subject is still under consideration.

Since the re-occupation of Tower Hill by the the Military Authorities, the Health Branch has acted as their Sanitary Contractors in all sanitary routine work, the re-imbursement for labour goes back into general revenue.

MOSQUITO LARVÆ INDEX.

	Weekly Average.				
1st Quarter	...	...	...	...	0.69
2nd "	...	...	...	...	1.21
3rd "	...	...	...	...	1.61
4th "	...	...	...	...	0.63

INFECTIOUS DISEASES.

All infectious cases are now notified direct to the Medical Officer (Health).

Anti Smallpox Campaign.—No cases of smallpox was notified. Intensive vaccination was pursued throughout the year. 29,232 vaccinations as compared with 21,622 in 1937, were performed. At schools, barracks, market places and railway stations, all non-immunes were vaccinated. The quality of the calf lymph used is potent and the percentage of successes was high.

The Infectious Diseases Ambulance has been found to be of great help in conveying infectious diseases cases, usually chicken-pox patients, to Kissy. The Chassis is an old one and much more useful service cannot naturally be expected from it.

Expensive repairs and alterations were done at the Cape Quarantine Station.

The resident staff consists of a caretaker and one labourer.

Chicken-pox.—There were 22 cases one of which was imported.

Infective Parotitis.—Throughout the year there has been a mild epidemic of mumps among school children and young adults; 109 cases were reported; it is safe to imply that several more cases occurred.

Pulmonary Tuberculosis.—Although fewer cases were notified this year, yet still it is felt that this disease may be prevented to a great extent if the habits of the people were changed; the prevailing practice of sleeping in almost hermetically sealed bedrooms is much to be deprecated. During the 1938 Health and Baby Week Celebrations useful propaganda work was done under this aspect. Patients usually report late for treatment, this no doubt, accounts for the apparent rapidity of the closing course of this disease; people still fail in most instances to appreciate the early signs and symptoms of Pulmonary Tuberculosis.

Overcrowding in Freetown is another large contributory cause to this disease.

Typhoid Fever.—Only nine cases were notified, 66 per cent. of which were fatal. It may be noted that in 1937, 13 cases were notified, in 1936, 16 cases were notified. However reassuring this may be it must be borne in mind that without compulsory certification of the cause of death, it is impossible to get a very accurate and true incidence of this disease.

The Public Health Ordinance is not very helpful when a compulsory post-mortem examination is thought necessary.

Plague.—Again Freetown has been free from this disease.

Anti Plague Work.—Cage and snap traps were in constant use. The routine examination of rats was carried out at the Connaught Hospital and the Sir A. L. Jones Laboratory. Total number of rats caught in 1938 was 5,966.

No. of <i>Rattus rattus</i> was	...	...	4,487
No. of <i>Rattus Norvegicus</i> was	...	...	975
No. of rats belonging to other species	...	...	504

Trapping on the foreshore, in warehouses and in lighters was undertaken.

No. of dead rats examined was	...	...	1,487
No. of live rats examined was	...	...	1,716
Total number of dead rats caught was	...	...	4,089
Total number of live rats caught was	...	...	1,877
No. of male rats caught was	...	...	3,864
No. of female rats caught was	...	...	2,102

No *Bacilli Pestis* were found during post-mortem bacteriological examination.

The report on the survey of the Rodent population of Freetown in 1937 has not been submitted yet, as Mr. D. H. S. Davies' findings have not been published.

Yellow Fever.—No cases were notified; like the immediate preceding years, 1938 was free from this disease.

There is always the same alertness in taking every precaution to see that the disease does not not filter into Freetown from neighbouring ports. Non immunes residing in the Colony are being inoculated against Yellow Fever.

One suspected case of Yellow Fever was reported at Kailahun on the 6th of May, 1938. On serological examination the protection was negative.

The following infectious diseases were notified :—

Chicken-pox	...	...	...	22 cases	1 imported	
Pulmonary Tuberculosis	...	...	...	77	1	17 deaths
Pneumonia	...	...	...	121	4	20
Typhoid Fever	...	...	...	9	1	6
Erysipelas	...	...	...	2		
Mumps (Infective Parotitis)	...	...	...	109		
Leprosy	...	...	...	8	2	
Influenza	...	...	...	7		
Dysentery	...	...	...	22		4
Beriberi	...	...	...	2		2
Typhus	...	...	...	2		
Diphtheria	...	...	...	1 case		1 death
Blackwater fever	...	...	...	1		

Infectious Diseases notified from neighbouring Colonies :—

Yellow Fever.

	Cases.	Suspected.	Deaths.
GOLD COAST :			
Africans	18	8	9
Syrian	1	—	—
Europeans	7	4	3
NIGERIA :			
Africans	10	4	3
Syrians	2	1	1
Europeans	8	4	3
SENEGAL :			
African	1	1	—
Syrian	1	1	—
Europeans	5	2	1
BATHURST :			
Syrian	1	—	—
ABIDJAN :			
African	1	—	—
Europeans	5	2	1

One case of plague was notified from St. Louis.

Two cases of Dysentery were notified from the Gambia.

REFUSE COLLECTION AND DISPOSAL.

During the year, 7,877 lorry loads of dry refuse were tipped either at Allen Town Refuse Siding or at Solomon's Farm in Kennedy Street. 1,611 waggon loads were conveyed by rail to the Allen Town final disposal refuse tipping site; the tonnage being 11,277. The number of head loads of tins and bottles was 5,951.

The number of notices served to clean insanitary compounds was 4,409.

The present extension both at Cline Town Siding and the Decauville track at Allen Town are now proving to be inadequate; the two chutes now in use are insufficient, as it is not an infrequent occurrence to have three lorries simultaneously at the Cline Town Siding.

For several months in the year, owing to shortage in our refuse collection fleet of motor vehicles, the drivers have to work in two shifts with the limited lorries at our disposal. It may be stated here that all lorry drivers in rotation do a spell of emergency duties at the Connaught Hospital as ambulance drivers between the hours of 6 p.m. and 7 a.m.

Health lorries are still being used for the transport of coal, firewood and stores; for these secondary services they have to be taken off their major legitimate work with some inconvenience.

A new public dust-bin was erected at Lombard Street. The dust-bin at Savage Square was demolished, it was replaced by a better situated one, at the extreme south-eastern boundary of Bishop's Court. His Lordship the Bishop of Sierra Leone was kind enough to allow the erection of this structure on this site free of ground rent or any charges.

The dust-bin at the junction of Bathurst Street and Pademba Road which was once an eyesore and an obstruction to vehicular and other traffic has been demolished. Government acquired an empty piece of land near by; a larger and more modern public dust-bin has been erected on this site.

A small old type dust-bin at the lower end of Bathurst Street has been demolished but not replaced; it has been thought that the one at the top of the same street was adequate for serving the needs of the neighbourhood.

It is rather a difficult task to educate users to the proper method of depositing refuse into these dust-bins; the present careless promiscuous dumps in the neighbourhood of these dust-bins add to the onerous task of the Health Branch and increase the inconvenience to neighbours who are in the immediate proximity.

4,409 notices were served to clean dirty and insanitary compounds.

SEWAGE DISPOSAL.

The public latrine at Fisher Street was extended to contain four more cubicles.

A new latrine was erected at Cline Town dispensary.

Cesspits still continue to be common depositories for sewage, they are always in need of attention, either the pit requires emptying or the superstructure, renovation.

The Health Branch has had more work to do under this section at Tower Hill, since the Military population has been increased.

The contents of latrine buckets from H. M. Prisons, P. W. D. compounds, Government bungalows in the vicinity and a public latrine are trenched in land near by.

Waste water from compounds coursing into street surface drains, particularly earth drains, cause a nuisance if not attended to frequently; this is naturally more intensified in the dry season when the copious flushing from rain water is absent.

INSPECTION OF MARKETS AND SLAUGHTERHOUSE.

All markets are inspected daily and endeavours are made to keep them clean; the market keepers who are employees of the City Council do not appear to have a keen sense of duty; there is usually some obvious unsatisfactory condition that has to be pointed out whenever a Sanitary Inspector visits a public market. Regent Road market, the least revenue producing market, has had a fly proof meat stall constructed. A portion of Bombay Street market is also receiving a similar improvement. Street trading in streets adjacent these markets has been prohibited.

A new market south of the present King Jimmy market is very near completion. The site was occupied by the dog pound which has now been removed to King Tom near the European cemetery and at a reasonable distance from the Police Barracks. The area around Fisher Street market was tarretted.

Slaughterhouse.—There have been minor improvements. Each of the six compartments in which animals are stunned and slaughtered have now a concrete slab and a tap above the slab; the former is used for the examination of internal organs, the latter for easier and quicker means of cleansing each compartment before a fresh animal is led in.

All cattle are examined on landing; the grazing grounds at Kissy and Allen Town were inspected regularly. All animals for slaughtering were examined immediately before and after slaughtering.

The following animals were slaughtered:—

Bullocks	...	...	...	...	3,316
Goats	...	...	...	...	658
Sheep	...	...	...	...	483
Pigs	...	...	...	...	178

The following carcases, livers, spleen and internal organs were destroyed:—

Anthrax: One whole carcase and internal organs.				
Heavy infection of Trypanosomiasis; one whole carcase.				
Pyæmia: One whole carcase and internal organs.				
Cysticercus Bovis	...	...	...	4 carcases
Flukes	...	...	...	50 livers
Abscess	...	...	...	38 "
Angioma	...	...	...	32 "
Injury	...	...	...	2 spleens

FOODSTUFFS.

The following articles of food were condemned as being unfit for human consumption :—

5	Cases cauliflower (half full)
1	Case Brussels sprouts (half full)
3	Bottles sherry
1	Cwt. dried peas
2	Cwt. moist sugar (dirty)
11	Tins grape fruit
10	Packets jelly crystals
4	Bottles minced meat
2	Bottles French plums
18	lbs. biscuits
10	Tins apples
10	Tins cauliflower
23	Tins herrings
32	Small tins worm capsules
6	Bottles candied peel
10	Bottles crystalised angelica
18	Tins black currant jam
8	Tins butter
14	Tins Brussels sprouts
143	Tins milk food
1	Tin village margarine
3	Tins kraft cheese
4	Tins sausages
1	Tin charleston sardines
1	Case cheese
16	Tins salmon
4	Tins banquet sardines
4	Tins parseley salmon
1	Large tin sardines
1	Small tin sardines
1	Lady lobster
1	Large tin salmon
1	Tin chiver parsnips
1	Tin my lady apricots
2	Tins dairy maid butter
2	Small parseley salmon
16	Tins pabe ac tois truffle
3	Cases smoked ham
1	Cream defois bras (large)
11	Cream defois gras (small)
37	Tins rotary pilchards
27	Tins tomato puree
3	Large steffansens ham
3	Desert guava
5	Libby's milk 6 oz.
3	Tins parseley salmon
28	„ Pate gloria
5	„ Mushrooms
4	„ Marie thumas
7	„ Leeks
8	„ Sardines
27	„ Anchories
13	„ Kraft cheese
3	„ Tomatoes
5	„ Salmon
2	„ Tomatoes
3	„ Gem biscuits
6	„ Victoria plums
15	„ Van camp pilchards
1	Tin Ham roll
1	„ Tinapa pilchards
2	Tins Tailor's sardines
2	„ Nice sardines
10	„ Little beauty tomatoes
23	„ Star salmon
1	Tin T. T. pears
1	„ Peterkin peas
1	„ Raspberries
1	„ Redgate carrots
2	Tins Trade sardines
1	Tin Grants sausage
1	Jar or marmalade
1	Tin chivers celery
1	„ brown flour
2	Tins pork sausages.

Hotels, restaurants, bakeries, public cook houses, mineral factories, tanneries, dye works, were regularly inspected.

Schools.—The buildings with a few exception are far from being modern; the sanitary conveniences are in some cases inadequate. Avitaminosis is common among school children, especially those of poor parents or guardians.

HEALTH WEEK.

The 1938 celebrations were by far the most successful since this feature was inaugurated several years ago. New ground was broken, a Handbook was published and a display of physical training by 3,000 school children was held at the Recreation Ground. Freetown again completed for the Imperial Baby Week Challenge Shield and on this occasion was awarded it.

Rabies.—The last case of canine rabies was reported on the 18th of November, 1937. During 1938, this department caught 449 dogs. The dog catching gang was dissolved on the 13th of July. The Police caught 622 dogs. 441 dogs were destroyed.

Post-mortem examinations on two dogs and one cat were performed; no negri bodies were found.

INFANT MORTALITY.

The Infant Mortality Rate for 1938 was 192 per thousand live births, a pleasant decrease, for in 1937 the figure was 243 per thousand live births.

The New Maternity and Welfare Centre buildings are nearing completion. Ill balanced diets during pregnancy due to poverty account for a large proportion of deaths among infants during their first month of separate existence; there are other contributory causes which are being slowly eradicated. There were 1,461 births, 1,378 deaths during the year.

HILL STATION.

Mosquito Larvæ found at Hill Station during the year:

In compounds	...	...	15 cases Culex	1	Aedes	14
In drains outside compounds	...	...	46	"	"	41
In trees	...	...	123	"	"	104
Total	...	184	Culex	25	Aedes	159

2,265 trees were inspected

11 trees were felled

1,970 trees were treated.

The attention to trees and grass cutting has been taken over by the Hill Station Reservation Improvement and Upkeep Committee, the present Assistant Conservator of Forests who resides at Hill Station is the officer-in-charge. The Sanitary Inspector on duty at Hill Station reports to him any trees which are or likely to become potential breeding places for mosquitoes, these are marked and either felled, pruned or otherwise treated. The permanent gang of one headman and eight labourers are still responsible for the cleaning of streets, drains and outfalls, the emptying of the contents of latrine buckets and dust-bins, weeding of unoccupied compounds and the disposal of refuse by incineration. Tins and bottles were removed by lorry once a week to Cline Town Refuse Siding.

Otway Pit.—A new Otway pit was completed during the year; it is of a more substantial structure than the former one; this method of disposal of night soil is very satisfactory.

WILBERFORCE BARRACKS.

Number of mosquito larvæ found in compounds	3
Number of mosquito larvæ found in drains	17
Number of mosquito larvæ found in trees	51

All of these were Aedes except one sample of Culex.

Building operations were in progress in the Cantonement throughout the year. Ablution centres are being constructed; the barracks are now lit by electricity. The drains are in a bad state of disrepair. Two steel monster water storage tanks have been constructed at the entrance to Wilberforce Village for the use of the Military.

The Royal Artillery Barracks at Murray Town are now in occupation, the Health Branch supervised the sanitary arrangements prior to the arrival of the R.A.M.C. Cadre.

Regular periodic visits were paid to the villages of Wilberforce, Congo Town, Murray Town, Goderich and Aberdeen, but the lethargy amongst most villagers in matters pertaining to public health is very depressing; persons have to be compelled to perform the ordinary rudiments of sanitation.

Police Barracks, King Tom.—Barracks accommodation is not satisfactory; there is definite overcrowding; the living rooms are much too small for the number of persons occupying them.

A Chloramine Plant which was indented for during 1938 is being installed at Tower Hill.

The progress of the new extension water supply works at Regent is well ahead. The Health Branch was responsible for the sanitary arrangements of the large number of labourers employed in these works.

Freetown Municipality Building Scheme.—Only three houses were erected during the year at a cost of £1,372.

Street Trading.—This menace is increasing, both from a health point and as an obstruction to vehicular traffic; street trading in the principal streets of Freetown is undesirable. The Ordinance to regulate trading in the streets of the Municipal City of Freetown cannot be applied in its entirety as the market accommodation is still inadequate.

Litter Baskets.—Twenty-four of these with fittings are to hand and were to be installed on electric light standards, but the Honourable Director of Public Works has objected to their installation on account of the overhead electric wires.

E. H. TAYLOR-CUMMINGS,
Medical Officer (Health).

APPENDIX F.

CONDITIONS OF LABOUR IN MINING AREAS.

The chief employers of labour in mining areas in Sierra Leone are as under :—

	Mine.	Number of Labourers.
EUROPEAN AND AFRICAN.		
Messrs. Sierra Leone Development Company, Marampa and Pepel ...	Iron-ore	3,860
Messrs. Sierra Leone Selection Trust, Yengema ...	Diamond	1,700
Messrs. Sierra Leone Goldfields, Ltd., Hangha ...	Chromite	130
Messrs. Maroc Ltd., Sende and Pujehun ...	Gold	2,228
Messrs. Gold and Base Metals of Nigeria, Ltd., Pampana River ...	"	105
Messrs. Axenfeldt, Bumbuna ...	"	20
Messrs. Crowley Syndicate, Sunkoni and Konantorkoye ...	"	250
Messrs. Conteh, Sunkoni ...	"	50
SYRIAN.		
Shamel Bros. ...	"	983
Bahsali Bros. ...	"	443
Amel Company ...	"	241
A. Shamel ...	"	204
Absie ...	"	214
H. Shamel ...	"	314
Jaward ...	"	339
Kalil ...	"	247
Morowah ...	"	153
Aboud ...	"	10
Total Labour ...	...	11,491

2. *Housing.*—In mining areas, labour is housed entirely by the employers at Yengema, Pampana River and Sunkoni. At Marampa, Pepel, Sende and Hangha, it is partially housed by employers, and practically all labour working in Syrian concerns finds its own housing. In cases in which the latter course is adopted, accommodation is obtained in villages adjacent to the mines, or failing this, labour provides its own housing on the spot; this usually occurs in tribute camps.

Where labour is housed in one central camp, control and supervision can be exercised; but when camps are scattered as at alluvial mines, control is less easy and conditions therefore not entirely satisfactory as is seen on inspection. This is especially so with regard to Syrian camps where little or no provision is made for sanitation and housing, and where conditions are bad. A great many of these camps however, are either seasonal or do not last longer than one or two years, and the only possible method of obtaining satisfactory conditions is to declare areas where such camps exist Labour Health Areas; this would enable action to be taken under the Employers and Employed Ordinance against owners of concessions.

In the chromite area where prospecting work has been carried on for about two years, some 50 to 100 labourers have been housed under wretched conditions. Recently improvements have been effected in sanitation and housing as the Company's prospects are now more definite and with the advent of the dry season, it is hoped that satisfactory accommodation will eventually be provided.

Legal provision for the housing of labour is found in the Employers and Employed Ordinance, 1934, Sierra Leone, which applies to Colony and Protectorate. Amongst other matters this Ordinance empowers the Governor in Council to declare Labour Health Areas, to fix minimum wage rates and to make Rules (Employers and Employed Rules, 1934) concerning medical provision for labourers, the provision of housing, rations and food in Labour Health Areas or where these are included in a contract of service, and the planning and layout of accommodation in Labour Health Areas, and to impose penalties for the infringement of such rules.

Part III of the Schedule of this Ordinance contains the special regulations for Labour Health Areas and empowers the Governor to order persons employing labour to furnish housing, sanitation, water supplies and drugs, dressings and medical attendance under the direction and to the satisfaction of, the Director of Medical Services, whether such provision is ordered or voluntary.

With the exception of medical provision these requirements have been defined by the Director of Medical Services and all companies provided with a copy.

3. *Food*.—No proper diet as such is provided to labour by employers. At Marampa two cups of rice per labourer per diem is provided as part of the remuneration of such. In the Maroc area rice is provided from store at a reasonable price for labourers but that seen at one camp was quite unfit for consumption owing to the admixture of dirt and weevils. Rice is also provided from store at Yengema.

Otherwise labour provides its own food which is the ordinary native diet of the district.

No attempt has been made to correlate wages paid and current local food prices and before this is done no accurate estimation of the adequacy of the former can be arrived at.

General observations on the nutrition of such labourers would proclaim them as fair, but incapacity to do a hard day's work from serious defects of malnutrition would probably preclude them from employment.

4. *Health*.—There are well equipped hospitals with a Medical Officer in charge at Marampa and Yengema and there is a hospital and Medical Officer in the Maroc Area. These are provided by the companies concerned and besides attending to employees, these hospitals do a certain amount of work for neighbouring villages. There are dispensaries equipped with dressings and simple drugs at Hangha, Pepel, Pampana River and Pujehun. Syrian and other camps provide no facilities of this kind.

Accurate statistics of health are not available from all mining areas but the returns from the hospitals at Marampa, Pepel, Sende, Pujehun and Yengema show the following figures :—

1938.	Marampa and Pepel.	Yengema.	Sende and Pujehun.
Average daily labour	3,860	1,700	2,228
Total sick attendances	9,079	5,049	—
Average daily sick rate	24·8	13·8	—
Total attended hospital	199	222	—
Average stay in hospital	16·5	—	—
Total cases Malaria	514	—	26(?)
Deaths	?	9	18
Total cases treated	?	?	1,335

The total cases treated include—

Alimentary	256
Accidents	183
Miscellaneous	164
Respiratory	154
Bones and joints	139
Surgical	134
Worms	78
Nervous	65
Venereal	53
Yaws	39
Infectious diseases	28
Genito-urinary	28
Fevers	26
Avitaminosis	9
Circulatory	6

Taken as a whole the above figures for Marampa, Pepel and Yengema compare favourably with those of African officials for 1937—the most recent available—who presumably live under much better circumstances, while the case figures for Sende and Pujehun taken as a percentage of total treated are below those found in general hospitals in 1937, throughout the country, as regards alimentary, respiratory, bones and joints, nervous, venereal, endemic, epidemic and infectious, and genito-urinary cases.

The following remarks may also be made on these cases.

Alimentary diseases are attributed to the type of food, irregular hours and bad habits, resulting in constipation which accounts for the bulk of these cases.

Respiratory diseases are stated to be “commonest during the very hot weather due to sudden change from hot days to cold nights, in the cold rainy season, and the harmattan season with its drying effect on the atmosphere predisposing to respiratory disorders”.

The first two are merely indirect causes, the main reasons for these conditions being lack of ventilation and overcrowding. In fairness however it must be stated that the type of house provided is not always to blame for this, but the habits of the occupants, windows for instance are certainly not commonly used as such.

Worms are more prevalent during the rains when the eggs have a better chance to thrive. Inspection of meat has partially controlled the incidence of tape worms but round worms have yet to be dealt with.

Nervous conditions chiefly consist of neuralgias stated to be due to climatic conditions.

Venereal disease is stated to be gradually gaining a foothold incamps and is a difficult problem in view of the itinerant nature of camp women, it is however engaging serious attention. The sudden recruiting of labour at camps far apart precludes examination before engagement. It is further deplorable to note, to quote the Medical Officer, Maroc, that these dangerous conditions are now being spread about the neighbouring villages which formerly were practically free from such pollution.

5. *Swamps*.—While a great deal of swamp clearance and canalisation has been carried out by companies at Marampa and Yengema with undoubtedly beneficial results both to Europeans and Africans, on the other hand, considerable tracts of the Seli and Sendé and other rivers have been, and are being converted to potential swamps by the Maroc and Syrian concerns.

The process followed consists of washing soil from the river bed over "riffle" plates where the gold being much the heaviest of the particles, sinks and is retained. This process of washing and the amount of water available determines whether a camp is seasonal or not. The rains may bring too much water to cope with, and there may be little or none in the dry season.

To get at the bed, the river itself or part of it must be removed and this is often done by a dam and side-tracking it down its own banks in what is termed a "leet". The leet may be tapped at convenient distances for riffling purposes.

Meanwhile to provide material for riffling the stream bed has been dug up into a series of pits some of which may be of considerable size and depth.

The original channel is often entirely obliterated and is not restored when a concession closes down. The result resembles a battlefield and consists of disconnected or partially connected holes containing water and over which vegetation will soon grow.

It is claimed that in the wet season the increased flood will naturally restore the river bed. This has yet to be seen and was not evident in old workings, which breed mosquitoes in large numbers.

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