Annual report of the Medical Department / Colony of the Gambia.

COLONY OF THE GAMBIA.

Annual Report

OF THE

MEDICAL DEPARTMENT

FOR THE YEAR 1913.

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CONTENTS.

MEDICAL OFFICE,

BATHURST,

GAMBIA,

16th May, 1914.

SIR,

I have the honour to submit, for the information of His Excellency the Governor and transmission to the Right Honourable the Secretary of State for the Colonies, the Medical and Sanitary Report for the Colony of the Gambia for the year ended 31st December, 1913.

I have the honour to be,

Sir,

Your obedient servant,

ARTHUR E. HORN,

Senior Medical Officer.

THE HONOURABLE

THE COLONIAL SECRETARY,

BATHURST, GAMBIA.

Annual Medical and Sanitary Report

FOR THE

YEAR ENDING 31ST DECEMBER, 1913.

I. ADMINISTRATIVE.

STAFF.

Dr. E. A. Chartres, Senior Medical Officer (head of the Gambia Medical Staff), proceeded on leave on the 4th February and returned 31st July. He was also granted "sick leave" to Europe on the 4th December.

Dr. T. F. G. Mayer, Medical Officer, was appointed 13th November in the place of Dr. J. C. Franklin, Medical Officer, who has been transferred to Nigeria, Southern Provinces. He arrived and assumed duty on the 27th November, and on the departure of Dr. Chartres on sick leave, acted as Senior Medical Officer up to 31st December.

Dr. A. F. Kennedy, Medical Officer of Health, returned from leave of absence and resumed duty January 31st, and was on duty the rest of the year.

Dr. F. C. V. Thompson, Medical Officer, who was in charge of MacCarthy Island Station since the latter part of 1912, returned to headquarters and was attached to the Victoria Hospital on May 8th. He proceeded on leave on the 11th of June and returned to Bathurst on the 1st of November.

Dr. S. L. Brohier, Medical Officer, was attached to the Victoria Hospital at Bathurst throughout the year.

Dr. R. H. Miller, Medical Officer, was appointed to the Gambia on the 19th November in place of Dr. J. A. Harley, Medical Officer, who was invalided home to Europe. He arrived in the Colony and assumed duty on the 29th November.

Thus it will be seen that the Medical Staff of the Gambia is composed of a Senior Medical Officer and five Medical Officers, one of whom acted as Medical Officer of Health, Bathurst; all were members of the West African Medical Staff.

FINANCIAL.

The total amount raised as revenue for the year was £151 0*s.* 9*d.*; this shows an increase on the previous year of £34 8*s.* 8*d.* The total amount estimated was £100. The increase on the revenue was due to the larger number of European patients treated at the hospital who were paying patients. The estimated expenditure was £8,575, and the actual amount expended during the year was £8,320 0*s.* 3*d.*, shown on page 34 of this report.

II. PUBLIC HEALTH.

(*a*) General Remarks.

The death-rate of the Colony has shown an improvement. In 1912 there were 336 deaths, and in 1913 we have recorded 282. The infantile mortality has also shown a lower number—95 against 114 for 1912.

This fall in the number of native deaths in Bathurst is possibly connected with the late onset of the rains and the exceptionally low rain-fall during the year, which rendered the town free from accumulation of surface water in depressions and low lying places. To some extent, also, the improvement may be ascribed to the sanitary improvements effected.

A class of native women was formed, and a Medical Officer delivered simple lectures with illustrations on elementary dressing and midwifery.

The members, however, failed to attend more than once or twice on the grounds that they had work to do and duties to perform in the Protectorate and other parts which prevented their attendance.

To replace the class, Dr. E. A. Chartres, Senior Medical Officer, published a pamphlet entitled "Precautions to be observed in Confinement Cases," prepared in the English, Jolloff, and Mandingo languages. These pamphlets have been circulated in Bathurst and the Protectorate.

Epidemic disease was not marked during the year, although small-pox was present as usual in parts of the Protectorate.

(*b*) European Officials.

Twenty-one cases among European Officials were entered on the sick list during the year 1913; this is less by six cases than those recorded in 1912.

Three cases were invalided to Europe.

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

	1912.	1913.
Total number officials resident	51	53
Average number resident	24	32
Total number on sick list	27	21
Total number of days on sick list	192	201
Average daily number on sick list	·52	·55
Percentage of sick to average number resident	2·5	1·71
Average number of days on sick list for each patient ...	7·1	9·57
Average sick time to each resident	8	6·28
Total number invalided	5	3
Percentage of invalidings to total residents	2·5	5·66
Total deaths	Nil	1
Percentage of deaths to total residents	Nil	1·88
Percentage of deaths to average number resident	Nil	3·12
Number of cases of sickness contracted away from residence	Nil	Nil

Cause of Invaliding.—Malarial fever, cystitis, and pyrexia.

Cause of Death.—Revolver shot wound.

(*c*) Native Officials.

Out of 135 Native Officials resident, 104 cases have been entered on sick list, which is 42 less than the number reported in 1912. I am therefore justified in stating that the Native Officials kept good health during the year, although two officials were invalided and ultimately placed on the pension list. All other complaints were mostly trivial.

TABLE SHOWING THE SICK, INVALIDING, AND DEATH RATE OF NATIVE OFFICIALS.

	1912.	1913.
Total number of officials resident	131	135
Average number resident	67	109
Total number on sick list	146	104
Total number of days on sick list	504	250
Average daily number on sick list	1·37	·68
Percentage of sick to average number resident	2·04	·62
Average number of days on sick list for each patient ...	3·45	2·40
Average sick time to each resident	7·52	2·29
Total number invalided	Nil	2
Percentage of invalidings to total residents	Nil	1·48
Total deaths	Nil	1
Percentage of deaths to total residents	Nil	·74
Percentage of deaths to average number resident	Nil	·91
Number of cases of sickness contracted away from residence	Nil	Nil

Cause of Invaliding.—Mental debility and chronic congestion of liver.

Cause of Death.—Pneumonia.

(*d*) General European Population.

During the trade season, the European population swells; but at the close of it, most of those employed by the trading firms return to Europe, as their services are not required.

There were 173 Europeans (Official and Non-official) resident during the year under review; 45 appeared on sick list for the undermentioned diseases and two deaths :—

Hæmorrhoids, cystitis, gastrititis, congestion of liver, pyrexia, tuberculous disease of the kidneys, malarial fever, chancre, adenitis, concussion of brain, conjunctivitis, strain, myalgia, congestion of kidney, injury to shoulder, lumbago, alcoholism, cellulitis, sinusitis, sprain of leg, tonsillitis, broncho-pneumonia, ague, hepatitis, strained back, strained ankle, pyorrhoea, sun-stroke, fracture of base of skull, neurasthenia, pleurisy and phthisis.

TABLE SHOWING THE SICK, INVALIDING, AND DEATHS OF NON-OFFICIAL EUROPEANS.

	1912.	1913.
Total number resident	142	120
Total number on sick list	10	45
Total number invalided	1	3
Total deaths of residents	2	1
Total deaths from passing ships	Nil	Nil

Cause of Invaliding.—Tuberculous arthritis and broncho-pneumonia.

Cause of Death.—Fracture, base of skull.

The European Non-officials have kept fairly well during the year. Although a greater number is shown in the above table as having been on the sick list than the year previous, yet it may be explained that most of the complaints have been treated in the hospital, and more accurate records were kept.

(*e*) General Native Population.

The population of the Gambia is about stationary. From the return below it will be seen that 254 births were registered in 1913 against 303 in 1912, and 282 deaths against 336.

COMPARATIVE STATEMENT OF BIRTHS AND DEATHS FOR THE PAST TEN YEARS IN THE COLONY.

Years.	Births.	Deaths.	Births in excess.	Deaths in excess.	Remarks.
1904	371	408	—	37	
1905	331	376	—	45	
1906	338	359	—	21	
1907	326	386	—	60	
1908	351	387	—	36	
1909	339	330	9	—	
1910	363	385	—	22	
1911	306	318	—	12	
1912	303	336	—	33	
1913	254	282	—	28	

NUMBER OF DEATHS AND DEATH RATE PER THOUSAND OF THE POPULATION (CALCULATED ON THE CENSUS OF 1911) FOR THE LAST TEN YEARS IN THE COLONY.

Years.	Estimated Population.	Total Deaths.	Death Rate per 1,000.
1904	13,157	408	31·01
1905	13,157	376	28·58
1906	13,157	359	27·27
1907	13,157	386	29·33
1908	13,157	387	29·41
1909	13,157	330	25·08
1910	13,157	385	29·26
1911	13,157	318	24·16
1912	13,157	336	25·53
1913	13,157	282	21·42

MONTHLY DEATH RATE FOR THE PAST SIX YEARS IN BATHURST.

Years.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908	32	22	33	25	24	33	30	39	35	34	48	32
1909	31	20	24	22	21	30	36	34	28	29	28	37
1910	29	21	20	17	23	30	21	31	35	31	29	25
1911	16	16	19	11	27	12	23	19	32	22	25	36
1912	19	9	12	17	19	28	20	26	32	34	27	25
1913	16	24	17	22	23	21	31	27	30	24	28	18

INFANTILE MORTALITY FOR THE PAST EIGHT YEARS IN THE COLONY.

Years.	Total Births.	Deaths over 1 year and under 5 years.	Deaths over 1 week and under 1 year.	Deaths over 1 day and under 1 week.	Deaths under 24 hours.	Still Births.
1906	338	33	43	12	14	31
1907	326	37	56	22	11	13
1908	351	55	77	23	—	32
1909	339	23	50	11	17	24
1910	363	40	68	34	11	27
1911	306	29	43	15	1	28
1912	203	42	66	6	—	26
1913	254	20	50	22	3	29

III. SANITARY DEPARTMENT.

Board of Health.

Principal Members of the Staff are :—

Dr. E. A. Chartres, Chairman Board of Health (S.M.O.).
Dr. R. H. Kennan, Senior Sanitary Officer (S. Leone also).
Dr A. F. Kennedy, Medical Officer of Health.
Mr. T. J. Gibbs, Town Warden.
Mr. G. B. Morey, Assistant Town Warden.
Mr. J. A. Johnson, Inspector of Nuisances.
Mr. D. D. Peters, Market Clerk.
Mr. G. R. Fowlis, Assistant Inspector of Nuisances.
Mr. J. P. Cardos, ,, ,, ,, ,,
Mr. J. B. Turner, ,, ,, ,, ,,
Mr. T. Brown, ,, ,, ,, ,,
Mr. F. P. Joof, Cemetery Keeper.
1 Groom.
6 Cartmen (average).
4 Lamplighters.
40 Labourers in the Dry Season (average).
60 Labourers in the Rainy Season (average).

Epidemic Disease.

Smallpox.

Two cases of Smallpox were admitted into the Infectious Diseases Hospital in 1913; both were found in Bathurst, but had recently arrived from Kombo, a Village in the Gambia Protectorate, and the other from Dakar, in the neighbouring French Colony. The patients recovered.

The Medical Officer of Health, immediately after the removal of the patients from their respective residence, took the necessary precautions to prevent the spread of the disease at their residence and their surroundings.

Vaccinations.

Vaccinations were performed by Medical Officers during the year at Bathurst and the Protectorate.

Dr. J. A. Harley, on tour with His Excellency the Governor and company, vaccinated in all the towns visited, from December, 1912, to May, 1913, when the heat was so great that lymph became inactive.

The lanolinated lymph was principally used in the Protectorate, and at Bathurst the glycerinated lymph was used, and the results were favourable.

COMPARATIVE RETURNS OF VACCINATIONS FOR 1912 AND 1913 AT BATHURST.

Months.	Total Vaccinated, 1912—1913.		Successes, 1912—1913.		Failures, 1912—1913.		Not Seen, 1912—1913.	
January	112	46	82	40	30	—	—	6
February	45	211	32	187	13	—	—	24
March	15	152	10	135	5	—	—	17
April	29	96	—	83	—	1	29	12
May	56	91	41	84	15	—	—	7
June	74	185	52	152	22	13	—	20
July	242	182	186	157	56	10	—	15
August	257	105	209	87	48	10	—	8
September	330	150	273	129	42	14	15	7
October	450	150	392	133	21	4	37	13
November	210	119	165	103	16	2	29	14
December	94	42	84	36	—	5	10	1
TOTAL	1,914	1,529	1,526	1,326	268	59	120	144

THE PROTECTORATE.

1912	867	Vaccinations performed.	
1913	2,480	do.	do.

IV. HOSPITAL AND DISPENSARIES.

THE VICTORIA GENERAL HOSPITAL, BATHURST.

Building and Other Repairs to Hospital.—A new lamp room has been erected in the hospital for securing Kerosene Oil, Lamps, and other appliances for the lighting of the department.

The Tube Pump Well.—The slabs and other suggestions were carried out by the Public Works Department in regard to this experimental Tube Pump in the well sunk last year in the Victoria Hospital compound, but the result is not satisfactory; the soil is always mixed with the water when the pump is operated.

Stable.—A Stable was erected on the south-east side of the Hospital for the use of the Nurses.

Laboratory.—The Laboratory was removed from the ground floor annexe, the Medical Office to the Consulting Room, top storey, and the office extended into the old Laboratory partition for the Clerks' office.

Temporary Female Ward.—This building, which was originally erected to improve the mortality of children at Bathurst, was used as the General Female Ward. It was found, however, that more accommodation was necessary, and the verandah was enclosed and two more beds provided from the month of September.

TABLE I.

VICTORIA HOSPITAL. IN-PATIENTS, 1913.

	Remaining in Hospital, 31st Dec., 1912.	Admitted during 1913.	Died, 1913.	Remaining in Hospital 31st Dec., 1913.
Europeans	—	42	1	2
Natives	13	369	59	14
Syrians	—	8	—	—
W. A. F. F. ...	—	71	1	3
Civil Police	1	50	1	1
TOTAL	14	540	62	20

TABLE II.

RESULT OF TREATMENT.

	Male.	Female.	Total.
Patients remaining in Hospital, 1st January, 1913	8	6	14
Patients admitted during 1913 ...	448	92	540
TOTAL... ...	456	98	554
Cured	291	38	329
Relieved	94	29	123
Not Relieved	11	9	20
Died	43	19	62
Remaining in Hospital on the 31st December, 1913	17	3	20
Average stay in days of patients who were discharged	9	7	—
Average stay of patients who died ...	7	5	—

PREVAILING DISEASES OF IN-PATIENTS DURING THE YEAR 1913.

Malarial Fevers	63
Rheumatism	13
Bronchitis	19
Injuries	56
Ulcers	13
Pneumonia	36
Dysentery	13
Trypanosomiasis (Sleeping Sickness)	7
Conjunctivitis	9
Mitral Disease	15
Tetanus	10
Hernia	9
Enteritis	12

SURGICAL OPERATIONS PERFORMED UNDER CHLOROFORM DURING THE YEAR 1913.

Suppurative Arthritis, opened	2
Hæmorrhoids, excised	1
Villus Papilloma of Urethra, opened and examined	1
Hernia, radical cure	1
Liver Abscess, explored	1
Compound Fracture, set on splints	3
Lymphatic Scrotum, removed	2
Abscess Axilla, opened	3
Infected Knee Joint, opened	2
Lacerated Wound, stitched	4
Paraphimosis, incised	1
Phimosis, Circumcision	1
Extravasation of Urine, incised	1
Pregnancy, Brow presentation, instrumental delivery	1
Crushed Finger, amputation	1
Ruptured Perineum, sutured	1
Foreign Body (fish hook), removed	4
Carbuncle, removal of dead tissue	1
Injury to Great Toes, amputation	3
Incised Wound, sutured	1
TOTAL	35

SURGICAL OPERATIONS PERFORMED WITH A LOCAL ANÆSTHETIC DURING THE YEAR 1913.

Abscesses, opened	9
Whitlow, incised	4
TOTAL	13

CAUSES OF DEATHS AT THE VICTORIA HOSPITAL DURING THE YEAR, 1913.

Tetanus	10
Uræmia, Epilepsy	1
Albuminuria	1
Elephantiasis	1
Pneumonia	14
Septicæmia	2
Cerebral Hæmorrhage	1
Cirrhosis of Liver	2
Abscess of Liver	2
Mitral Regurgitation	1
Burn	1
Nephritis (Acute)	2
Phthisis	4
Sub-Tertian Malaria	1
Oedema of Lungs	1
Extravasation of Urine	1
Capillary Bronchitis	1
Prolapsus Recti	1
Induced Labour (Eclampsia)	1
Peritonitis	3
Mitral and Aortic Disease	1
Meningitis	1
Syphilis-Tertiary	1
Gangrene, Lymph Scrotum	1
Uræmia, Convulsions	1
Marasmus	1
Pertussis	1
Fractured Skull (Concussion)	1
Exhaustion (Debility)	1
Dysentery	1
Trypanosomiasis (Sleeping Sickness)	1
TOTAL	62

HOME FOR DESTITUTE AND AFFLICTED PERSONS.

This Home still serves its purpose in Bathurst. During the year, seven males and one female were admitted. There were also four males and three females who remained in this hospital on the 31st of December, 1912; so that fifteen cases passed through this place. The Home serves also as a hospital, at the discretion of the Senior Medical Officer, for such cases as would be more comfortably attended to in this place than in the General Hospital.

RETURN OF THE INMATES OF THE HOME FOR THE AFFLICTED AND DESTITUTE FOR THE YEAR 1913.

Sex.	Remained, 1912.	Admitted, 1913.	Discharged, 1913.	Died, 1913.	Remaining, 1913.
Male	4	7	5	5	1
Female	3	1	—	2	2

CAUSE OF DEATHS.

Paraplegia	1
Enteritis	1
Phthisis	1
Debility	1
Brights Disease	2
Broncho-Pneumonia	1
TOTAL	7

INFECTIOUS DISEASES HOSPITAL.

	Male.	Female.
Smallpox	1 ...	1

All recovered.

THE PRISON INFIRMARY.

	Male.	Female.
Remained on the 31st December, 1912... ...	—	—
Admitted during 1913	13	—
Total	13	—
Discharged during the year	13	—
Died ,, ,, ,, ...	—*	—
Remaining 31st December, 1913	—	—

*Two prisoners removed to the Victoria Hospital and died there.

	Male.	Female.
Total number of Prisoners	162	14

Daily average number of prisoners, 35·78 (both sexes).

Sanitary arrangements, good.

THE PROTECTORATE.

Dr. J. A. Harley, on the march with His Excellency the Governor and his company in the Protectorate, administered medical relief to the suffering natives. They were grateful to the Governor for this passing visit of a Government Medical Officer, especially for the provision made to check the spread of smallpox by vaccination.

MACCARTHY ISLAND.

MacCarthy Island is the only permanent out-station for medical work in the Protectorate. A small hospital and dispensary is established in this place and they are equipped from the General Hospital at Bathurst.

This hospital is not only used by the inhabitants of this village, but patients from the neighbourhood participate in the benefits.

During the months of January to June and October to December, the population becomes great at MacCarthy Island and other places in the Protectorate of the Gambia; the merchants, traders and farmers are then distributed throughout their respective stations, to transact trade with the natives; and at this period a medical officer is always provided with a dispenser to attend to their complaints; and in the rainy season, when most of those enumerated above return either to Europe or Bathurst, or other places of residence, the dispenser is left in charge of the station.

Dr. F. C. V. Thompson was in charge of MacCarthy Island station from 1st January to the 3rd of May, when he was relieved by Dr. J. A. Harley, who had returned from the march with His Excellency the Governor through parts of the Protectorate.

Dr. Harley was in charge of this hospital from the 4th day of May until the 16th of July, when he returned to Bathurst and joined the medical staff at headquarters.

Assistant Dispensers J. S. Kennedy and J. J. Thomas were alternately attached to the MacCarthy Island Hospital throughout the year.

This hospital was temporarily closed by the Senior Medical Officer, Dr. E. A. Chartres, from September 25th to December 31st, as the native staff at Bathurst was shorthanded, and the engagements of a dispenser at this station were few.

The Annual Report for this station is attached to this Report (page 31).

QUININE.

The usual free distribution of quinine amongst the school children and other inhabitants of Bathurst was continued, as in the past year; the use of this drug is becoming more widely known amongst the natives, and traders take supplies with them to the Protectorate where they carry on their business.

A. E. HORN,
Senior Medical Officer.

MEDICAL OFFICE,
BATHURST, R. GAMBIA,
16th May, 1914.

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Annual Sanitary Report

FOR THE

YEAR ENDING 31ST DECEMBER, 1913.

INTRODUCTORY.

(1) A commencement was made during the year under review on the work of each of the large sanitary matters, upon which decision was arrived at in the year 1912. The more well defined and isolated a scheme, the more steadily continuous to completion is the work it involves likely to be. Of such a nature the water works scheme is judged to be, and no doubt or anxiety, therefore, need be entertained that finality will be reached, probably at a comparatively very early date. Less confidence is felt in regard to the "Dr. Dutton scheme," for segregation and housing of European officials, minor and major swamp filling, etc., because, though the proposals are quite definite, the various works are somewhat less so, and there is interdependence between some of them.

The consideration given in this report to the various matters it deals with is proportionate to the need that exists, or is likely to exist, and the continued guidance that is, or is likely to be, required on their behalf, rather than to their relative ultimate importance.

ADMINISTRATION.

(2) Dr. A. F. Kennedy occupied the position of Medical Officer of Health of Bathurst during the year.

Mr. T. J. Gibbs, the Town Warden, who, besides performing other responsible duties, is the chief executive Sanitary Officer, was on leave from the 11th January till the 31st October. Mr. G. B. Morey, the Assistant Town Warden, was on duty from the 26th March till the end of the year.

LEGISLATION.

(3) The Public Health Amendment Ordinance, No. 13 of 1913, defining the word "yard" in the principal ordinance, and making the senior Sanitary Officer and the Medical Officer of Health *ex officio* members of the Bathurst Board of Health, and adding dysentery and tick fever to the list of notifiable infectious diseases, was passed during the year, as were also Regulations under Section 108 of the Public Health Ordinance specifying where, and where only, latrine pans may be emptied. Under Section 65 the notification of tuberculosis was made compulsory. The making of, and control over, excavations has been regulated under Section 108.

TOWN WARDEN'S OFFICE.

(4) Considerable improvement has been effected by renting a house in which the Town Warden now has offices and stores, and in which there is an office for the Medical Officer of Health. Part of this building is occupied by the Town Warden as a residence, but it is near the centre of the town. It is understood to be a temporary arrangement only. The old office is now used as an oil store.

SANITARY LABOURERS' COMPOUND.

(5) A sanitary labourers' compound, consisting of four buildings, each containing 15 rooms, with kitchens and latrines, has been provided on the outskirts of the town, and it is expected that it will be ready for occupation soon. A simple form of uniform has been issued to some of the labourers.

The question has been raised as to whether, now that the mangroves have been cleared well back from the neighbourhood of the compound, the stables would not be better placed there, in preference to the vicinity of the Albert Market where they are at present. The move should be watched as an experiment, and if tse-tse flies are found to be attracted to the compound by the horses stabled there, they should be sent back to the present stables. If it can be safely done, it will be advantageous to stable the horses near the compound, but on account of the loose sandy nature of the surfaces of the streets at the back of the town, it will handicap the daily work of the horses if the carts are also kept there. It appears to be quite feasible to remove the horses and allow the carts to remain, and it will be best to do so.

"DR. DUTTON'S SCHEME."

(6) It is not considered necessary to review the details of the scheme for filling low-lying and swamp areas, and providing segregated quarters for European officials, known after its proposer as "Dr. Dutton's Scheme." The approval of the scheme was recorded in the report for 1912, and some work in connection with it was done during 1913. The part of the scheme which deals with minor filling has been supervised and directed by the Town Warden, and good progress made. The policy of dumping sand at convenient sites, to enable persons to raise the level of their compounds, has been adopted, and the public interested has eagerly availed itself of the assistance given to help itself. The object, method and results are similar to those of the scheme adopted in Freetown on the recommendation of Professor W. J. Simpson about five years ago. Such work has been done in Bathurst before, but only in brief spasmodic efforts.

It appears advisable to emphasise the fact that Dr. Dutton's scheme involves a definite sequence of certain works. If logical sequence be not followed to completion, a satisfactory conclusion is less likely to follow. Slightly differently expressed from the form in which it was given in the report for 1912, the scheme is:—First fill sufficient of the Box Bar Basin for the expropriation of natives living in the Clifton-Marine Roads area; secondly, expropriate those persons from that area to the filled portion of the basin; thirdly, after expropriation of the natives, fill the low-lying parts of the Clifton-Marine Roads area; fourthly, build as many quarters as there is room for, on the river front of this area, for officials now living east of MacCarthy Square. This does not appear to represent the course which is being followed. Less involved in the necessary sequence are the other details: filling local depressions, Albion Square, and to some extent, Half Die and Box Bar Swamps, and providing a sanatorium at the Cape.

LAND RECLAMATION AND SWAMP FILLING.

(7) The Town Warden has arranged and supervised minor filling work at Half Die Swamp, Albion Square, etc., with most creditable enthusiasm and intelligence.

A small amount of filling, of part of Box Bar Basin, and filling at the ends of the Clifton-Marine Roads area, was done by the Colonial Engineer's Department during the year.

The swamps at the back of the town were still further cleared of mangrove bush by the Board of Health labourers, and the point has been nearly reached beyond which it will not be necessary to go until, if ever, the cleared areas are filled. It would be well if special provision were made in the Board's Estimates each year for the work of clearing and keeping clear the mangrove bush at the back of the town.

STREETS.

(8) It was noted in the report for 1912, that about half the compounds in Bathurst had been numbered, and that it was important that this work should proceed without interruption. The work was in abeyance during the year 1913.

Four streets have been closed during the year, but as the Board of Health was apparently not consulted, it is presumed the closures were not recommended on sanitary grounds.

STREET DRAINS.

(9) When the scheme for a pipe-borne water supply from Lamin to Bathurst was being discussed, the subject of drainage of waste water from public street stand-pipes was also considered and a decision arrived at. But that decision cannot rule also for the drainage from private supplies. There are fundamental differences, and it is essential that they should be recognised. To ignore them will be to invite disaster. Other sanitary reports which deal specially with drainage in Bathurst indicate clearly that drainage for waste and slop water from private water services must be specially provided for. Under the description " private water services " is here intended to be included all delivery through taps other than those of public street stand-pipes, whether in premises of commercial firms and private persons, or public institutions such as the hospital, jail, market, or Government House and European officials' quarters. One has only to consider the certain results of discharging ten bathfuls of soapy water in one morning, from one premises, into a sluice-gate guarded drain, in the dry season in the tropics, to make one shudder. It is not likely that fish would long continue to live in the drain under such conditions as would exist, though mosquito larvæ probably would. Elsewhere it has been strongly urged that no private services should be allowed for the first few years after the completion of the waterworks, and now this opinion is reiterated with the understanding of the definition of private services given above. When private services are allowed, each should be permitted only after efficient drainage to outfall, independent of any sluice-gate guarded drain, has been provided to the satisfaction of the Board of Health, and power should be given the Board to compel the Water Authority to cut off the supply to any premises, the waste and slop water drainage from which is not efficient from any cause.

Regulation XLII. of the Regulations made by the Governor-in-Council under Section 123 of the Public Health Ordinance 1910 provides that " the owner or occupier of any building or premises shall drain the same in a suitable and efficient manner to the satisfaction of the Colonial Engineer . . . "; but this will not be sufficient when private water supplies are allowed.

It may be said that there has never been water to waste in Bathurst, except during periods of exceptional rainfall, when every part was deluged and the waste mattered little, but when private supplies are given, " waste " will be discharged in bulk all the year round.

SPLEEN AND MOSQUITO INDICES.

(10) The Medical Officer of Health reports as follows regarding spleen and mosquito indices at Bathurst :—

SPLEEN INDEX :—

On the 30th June, *et seq.*, I examined 301 school children from the Anglican, Mohammedan, Wesleyan and Roman Catholic schools between the ages of three and twelve years for enlarged spleens.

In 174 of these no enlargement of the spleen was found, while it was palpable in 127, making the "splenic index" (*i.e.*, enlarged to total number of spleens examined) 42 per cent.

The "Average Spleen" as defined in Ross's "Prevention of Malaria," 1910, p. 225, was as follows: –

Normal Spleens ...	...	...	174
Small enlargements	...	...	106
Medium „	...	...	20
Great „	...	...	2

The "Average Spleen" thus works out at 2·06, the normal size.

(11) MOSQUITO INDICES :—

March—

Yards.		Infected.		Percentage.
100	...	23	...	23
Wells.				
60	...	10	...	16·6
Coolers.				
112	...	14	...	12·5
Miscellaneous.				
26	...	4	...	15·3

September—

Yards.				
107	...	26	...	24·2
Wells.				
32	...	2	...	6·2
Coolers.				
105	...	19	...	18
Miscellaneous.				
27	...	5	...	18·5

FISH IN DRAINS AND SWAMPS IN BATHURST.

(12) The Medical Officer of Health reports as follows :—"Very rarely did pools of water last long in 1913. The main drains swarmed with fish, which for a day or two after some of the heavier downpours ascended tributaries short distances, and were found isolated in the upper reaches of these after they had ceased flowing into the main drain. Spalding and Short Streets, and Rankin Place ends, were most noticeable for this. Half Die Swamp was full of fish all the rains and after, as were the two pools between the Cemetery and the Cape Road, which are tidal. A constant reserve of fish is maintained in Picton Street drain at its sea end even in the dry season, and as occasion demands some are transferred to other drains, private wells, etc. More and more private individuals are having their wells fish stocked, and it proves a more efficient prophylaxis than well covers, which, however thorough in themselves, must of necessity be so frequently removed. Fish from the sea introduced into comparatively fresh water are some time in adapting themselves to it, but after a day or two become brisk again and destroy larvæ with avidity. Whether it is this change that temporarily upsets them, or the pangs of hunger eventually asserting themselves, though some fish would not touch

larvæ on their first day in captivity, all fish ate them greedily from the second day onwards As instances of the quantity of larvæ destroyed by fish I quote the following :—(A) The Buckle Street drain, which had been dry some time, filled up to 90 yards from the sluice gate during high tides in April, the average depth being 4 inches. On April 23rd larvæ, half grown and over, estimated yard by yard, were present to the number of 2,100. Eleven fish, six averaging 4 inches and five averaging 2 inches, which had been kept some time in a bath of fresh water, were introduced at 11 a.m. on the 23rd ; close inspection at 9 a.m. the following morning could not detect a single larva. (B) Three fish from Picton Street drain about 1½ inches long were put in a bath of well water on the 29th October, and on the 30th full grown larvæ were introduced as follows :—

9.15	a.m.	12,	all eaten in	3	minutes ;
9 22	,,	13,	,, ,,	20	seconds ;
9.25	,,	25,	,, ,,	2	minutes ;
9.30	,,	30,	,, ,,	2	minutes ;
9.35	,,	30, 23	,, ,,	10	minutes ;
10.30	,,	—	7 still left ;		
2	p.m.		all larvæ gone.		

31st October, 9 a.m., one fish dead ; 30 larvæ introduced and all gone in 3 minutes. They were fed irregularly with larvæ for the ensuing two days, and on November 3rd another fish was found dead and partly eaten, the tail and most of the thorax being gone ; at 11 a.m. 30 larvæ were introduced to the last fish, and at 1.30 p.m. all larvæ had gone. On November 5th the fish was preserved in Kaiserling's solution. (C) Two fish, about 1½ inches long, caught in the sea off Government Wharf, were put into equal parts sea and fresh water on the 5th November, and 35 larvæ introduced remained untouched till the 7th, when all were eaten. On the 8th one fish was dead and the other was preserved in Kaiserling. (D) Three 'Mudskippers' caught at Lasso Wharf on the 8th October were put in a bath of salt water with an artificial mud-bank, and 50 full grown larvæ introduced ; on the 9th 40 larvæ remained, but on the 10th all larvæ had gone. On the 11th two mudskippers escaped and the third was preserved in Kaiserling."

(13) With regard to stagnant water in the rainy season requiring oiling the Medical Officer of Health reports :—" The diminished rainfall during 1913 gave us few collections of standing water necessitating kerosening. Weekly after the first heavy rain we had only to kerosene Victoria Street, two compounds at corner of Short and Ingram Streets, two compounds at corner of Short and Rankin Streets, the top (westerly) ends of Mantell, Ingram and McDonnell Streets, a large area (about ½ acre) between Lemon, Cotton and Buckle Streets now filled in, and two compounds in Hagan Street at the Half Die end."

(14) In the report for 1912 the recommendation was made that wells which contain living mosquito-larvæ-eating fish should be put in the same legal position as wells so covered as to prevent the ingress of mosquitos. As it was apparently judged that this would be a hardship on occupiers, the recommendation was not adopted. The measure was suggested to facilitate occupiers and relieve them by giving them an easy alternative to the relatively difficult method of covering so as to prevent ingress of mosquitos. Though, of course, it is possible to influence executive action in accordance with the spirit of the recommendation, it is regretted it was not adopted as a legal measure. There can be no question of closure of wells generally in Bathurst till the pipe-borne water supply is inaugurated, when the wells should be dealt with radically for other sanitary reasons than their being sources of mosquito breeding.

CESSPITS.

(15) The Medical Officer of Health made some observations with regard to the larvæ found in cesspits in Bathurst, and reports as follows :—"Several collections of larvæ from cesspits were bred out before the rains, all produced the same kind of fly, which was identified as *Muscidea Pycnosoma*. The chief fruit in season, practically the only one, was the mango, and these flies were frequently found feeding on the discarded mango stones about the streets. Uncovered dustbins and refuse attracted them, and they were generally to be seen in the Market, commonly on the meat. Systematic treatment with crude carbolic acid largely diminished their numbers."

PIPE-BORNE PUBLIC WATER SUPPLY.

(16) The Resident Engineer (Mr. F. Pickles) of the Bathurst Water Works has kindly furnished for this report a short account of the progress of the work up to the close of the year. The sketch map which accompanies this report is based on an enlargement of a portion of the map of the Colony and Protectorate. The river shown on the map discharging into the sea near Kotu has been omitted as it is not now discoverable. The river which passes near Brufut and discharges near Tanjen is included, as it was examined by Mr. H. Humphreys as a possible alternative to the Lamin source. The sketch indicates why, though Lamin is only about seven miles from Bathurst as the crow flies, a much longer pipe line is necessary. The chief reason for the decision to take the pipe line to the cliffs near Cape Government House was that natural elevation exists there on which a reservoir may be built, to which the water will be pumped from Lamin and from which it will gravitate to Bathurst. After the pipe line leaves the reservoir it will pass near the West African Frontier Force Camp, Cape Government House, several sanatoria, and the villages of Bakau and Waslunga and on the Island of St. Mary, the Smallpox Hospital and the site selected for the proposed Sanitary Station. It is hoped that open-air public laundries placed conveniently for drainage of waste water to the river will be included in the details of the distribution in Bathurst.

Short Report giving the Position of the Works at the end of the Year 1913.

"Scheme inaugurated—

"Resident Engineer appointed and left England March 5th to make the necessary survey in connection with the scheme. Survey completed May 10th. Scheme designed in England during the months June to September. Actual construction work commenced November 1st. Excellent progress has been made in this direction during the two months November and December. The first thing done was the erection of the 'Hercules' fencing around the reservation area enclosing the wet season swamp area, which extended a distance of one mile up the Lamin Valley. The bulk of this fence had been erected by the end of the year. Landing wharves have been constructed at Lamin, Aboku, and Central Sibigge for use in connection with the transport of the water mains and material. The transport forms the most difficult and costly item in this scheme and is well advanced, sufficient pipes having been landed at these depôts to reach between the pumping station at Lamin Water and the reservoir which is to be built 1½ miles south of Cape St. Mary. The clearing of the tram-road and pipe line between the pumping station and the reservoir was begun early in November, and by the end of the month of December the pipe trench had been excavated from point to point. The laying of the 7½-in. rising main has been commenced. It is only intended that the laying of the rising main, gravitating main and the distributing mains shall be carried out this year (1914).

"FRANK PICKLES,

"*29th January, 1914.*" "*Resident Engineer.*

MINOR SANITARY WORKS.

(17) No new public latrines, incinerators or refuse bins were provided in Bathurst during the year. As pointed out in the Annual Sanitary Report for 1912, more are required.

Two tube wells provided in 1912 were found to be only partly successful during 1913. A third has been provided in the yard of the premises rented as Town Warden's Offices. The well was digged and the tube and pump erected under the Town Warden's supervision and so far has given satisfaction. If the Town Warden can undertake to do similar work for private persons, I recommend that more of these tube-wells be obtained and erected for persons asking for them if they undertake to close their present wells and pay the cost of materials and work.

(18) The pumps and elevators of the public wells in Bathurst continue unsatisfactory. At the close of the year no less than one-fourth of them were reported in bad order or repair. Both the pumps and elevators have been too long in use in Bathurst to allow it to be reasonably contended that failure is chiefly due to their unsuitable type or design. No machine of any kind will last indefinitely, and these are in frequent use and in contact with brackish water. It is useless in this connection to blame the public for rough usage or even theft; the result of treatment which cannot be prevented should be mitigated by the storage of the spare parts experience has shown are most liable to damage or loss so that refitting may be done without delay. Attention was drawn to this matter in the Sanitary Report dated 5th December, 1910, and frequently since, but the position is still unsatisfactory.

THE MARKET.

(19) The trees in the Albert Market have been removed and an additional shed provided closely adjoining a previously existing shed, but there is no valley gutter between them, so flooding takes place during rain.

It is not likely that the vultures will return to the treeless market, but, as they reappeared in the neighbourhood, more have been shot. No one wishes the trees cut down merely for the sake of depriving the vultures of roosting places, and where the birds cause nuisance and serve no useful purpose it is better they should be shot. There were other reasons also why it was recommended that the trees in the Market should be removed.

THE SLAUGHTER HOUSE.

(20) Though the slaughter house is placed over the beach below high-tide level, it would be advantageous to have means by which sea water could be readily obtained for cleansing purposes at all states of the tide. The Town Warden has suggested a simple device consisting of a barrel partially sunk in the sand as a well, with a pump mounted above, which if arranged *con amore* would very probably suffice. If he were given the materials he could probably have the work done satisfactorily.

SANITARY STATION.

(21) The subject of providing a Sanitary Station at Bathurst has occupied attention during recent years, and a site was selected and other details considered. The subject seems to have been brought forward in 1869 presumably in consequence of the cholera epidemic in that year, when such a large proportion of the inhabitants are said to have died.

In the Colonial Hospital record of intern patients for the year 1869 there is nothing to suggest the presence of epidemic intestinal disease till the month of May, during which 100 cases diagnosed as cholera were admitted, with 69 deaths before the end of the month; in June only 13 were admitted,

and 15 died. No case is recorded as admitted in July, August, or September, but in the last month three cases of dysentery with two deaths appear, and in September there again appears the entry cholera with 23 admissions (one of which was a European) and 13 deaths; after this there appear to have been no admissions either of cholera patients or fatal cases of diarrhœa, dysentery, or colic. Cholera was believed to have been introduced *via* France and French West Africa.

While looking through the old Colonial Hospital records of 40 years ago one is struck by the frequency with which entries suggesting tuberculosis occur; the diagnosis phthisis, consumption, hæmoptysis appear frequently both for Europeans and natives. Of course it is recognised that a few chronic cases might furnish many such entries, but the same remark would hold good now, at least for natives.

There appears to have been almost constantly in those days a case or cases of "lethargus" in hospital, and when lethargus is not on the list, "softening of the brain" appears.

It may be that cases of tuberculosis and trypanosomiasis were then but little less rare or common than at present.

RAT DESTRUCTION.

(22) Partly to encourage the work of rat destruction being systematised and made continuous, as recommended in the report for 1912. it is now recommended that payment should be made for rats brought to the Town Warden's office. There need be no fear that any West African native will take up rat culture for the sake of the small reward (one penny for each rat).

SMALLPOX.

(23) As there is reason to believe that mistakes in diagnosis of smallpox not infrequently occur in West Africa, and it is probable that many of the sporadic isolated cases reported as smallpox are not so in reality, the Medical Officer of Health was asked to test all persons reported to be suffering from smallpox or to have recently suffered from smallpox in Bathurst, by vaccinating them.

He reports that during the year there were only three cases of mitigated smallpox in Bathurst, each of which had old vaccination marks. As a negative result, even with active lymph, would have been fallacious in such cases, they were not re-vaccinated.

TEACHING OF HYGIENE AND SANITATION.

(24) Dr. A. F. Kennedy (Medical Officer of Health) delivered six lectures on Hygiene in May and June to school teachers and others. There was an average attendance of 20, and 20 presented themselves for the examination held at the end of June, of whom eight passed (four scoring between 60 and 70 per cent., and four between 50 and 60 per cent. of marks).

In the report for 1912 it was recommended that special encouragement should be given by the Government for the teaching and learning of Hygiene and Sanitation in schools in Bathurst. The returns of the pupils' examinations in December are not available at the time of writing this report.

R. H. KENNAN,

Senior Sanitary Officer.

SIERRA LEONE AND GAMBIA.

TABLE IV.

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

1. Name of Town.—Bathurst.

—	Approximate area.	Number of proclaimed open spaces.
1911	400 acres.	One—3 acres.
1912	400 „	One—5·68 acres surveyed, previously under estimated.
1913	400 „	Do.

2. Population.

—	Number of Natives.		Number of Europeans.		Total.
	Males.	Females.	Males.	Females.	
1911	*7,470		230		7,700
1912					
1913					

* 1911 Census.

3. Housing.

—	Number occupied by Europeans.	Number occupied by Natives.
Number of Houses :—		
1911	22	1,980
1912	As estimated in 1911.	Schedule not completed.
1913	34	Do.
Number of Huts :—		
1911	Schedule not completed.	
1912		
1913		

4. Mosquito Protection of Houses.

—	1911.	1912.	1913.
Number of European houses wholly mosquito-protected ...	1	1	5
Number of European houses with mosquito room	21	28	24
Number rendered during the year wholly mosquito-protected	1	1	*5
Number rendered during the year partially mosquito-protected	14	7	2

* = 1 house and 4 quarters.

5. Erection of New Buildings during the Year.

—	1911.	1912.	1913.
Number of public buildings erected with sanction as to site, construction, and relation to other buildings ...	No record in P.W. Dept.		6
Number of houses erected with sanction as to site, construction, and relation to other buildings ...			71
Number of huts erected with sanction as to site, construction, and relation to other buildings...			Nil.
Number of houses built without sanction			No record.
Number of huts built without sanction			Do.

Action Taken.

—	Number of Prosecutions.		Number Demolished.	
	Huts.	Houses.	Huts.	Houses.
1911	Nil.	Nil.	No record in	P.W. Dept.
1912				
1913				

6. Markets.

—	Total number.	Number paved and drained.	Number unpaved.
1911	1	1	Nil.
1912	1	1	Nil.
1913	1	1	Nil.

7. Slaughter-Houses.

—	Total number.	Number paved and drained.	Number unpaved.
1911	2	1	1
1912	2	1	1 built over sea.
1913	2	1	1

8. Latrines.

—	For Males.		For Females.	
	Number.	Number of Seats.	Number.	Number of seats.
Number of Public Latrines :—				
1911	10	40	10	40
1912	10	40	10	40
1913	10	42	10	42
Number of new Public Latrines erected during the year :—				
1911	1	3	1	3
1912	Nil.	Nil.	Nil.	Nil.
1913	Nil.	Nil.	Nil.	Nil.
Number of Public Latrines repaired during the year :—				
1911	9	37	9	37
1912	Nil.	Nil.	Nil.	Nil.
1913	7	29	7	29
Number of Public Latrines demolished during the year :—				
1911	Nil.	Nil.	Nil.	Nil.
1912				
1913				

—	1911.	1912.	1913.
Number of Private Latrines	530	750	550
Average number of pails of nightsoil removed daily	149·3	300	500
Average number of soiled pails removed and clean pails substituted	200	300	188
Number of nightsoil men employed to clean latrines and remove excreta	11	14	16
Number of cesspools	—	200	unknown.
Number of cesspools cleansed	—	—	Nil.
Number of new cesspools constructed during the year... ...	—	—	—
Number of old cesspools abolished	53	3	2
Number of cesspools oiled regularly by Department	Nil.	Nil.	Nil.

9. Removal of Refuse.

—	1911.	1912.	1913.
Number of dustbins	500 in yards	500	500
	4 in street	4	4
Number of carts (if employed) at work, etc.	1	1	*6
Amount of refuse removed daily from streets	5 loads	10	5
Number of carts (if employed) at work daily, etc.	6	4	*6
Amount of refuse removed daily, etc.	30 loads	40	68
Number of men employed for moving refuse	13	15	19

* Six carts in all constantly employed removing refuse from yards and cleaning streets as they go.

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

—	Daily average number of pails of excreta.			Daily average number of cartloads of refuse.			Daily average number of cartloads of Slaughter House and Market Offal.		
	1911.	1912.	1913.	1911.	1912.	1913.	1911.	1912.	1913.
Buried or trenched	—	—	—	6	6	3	—	—	—
Burnt	—	—	—	29	44	*52	—	—	1
Thrown into sea	200	300	688	—	—	—	—	2	¼
†Otherwise dealt with ...	—	—	—	—	—	—	—	—	—

* No record of what is thrown into sea by private firms, etc., but amount is considerable.

† State mode of disposal.

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

1911.	1912.	1913.
6	6	3

12. Water Supply.

Nature of Water Supply.	1911.	1912.	1913.
Pipe-borne water :—			
Source (river, lake, or spring) :—	Nil.	Nil.	Nil.
Number of linear yards			
Number of stand-pipes along roads			
Number of stand-pipes in compounds and houses ...			
Wells :—			
Public :—			
Number	24	26	26
Number with pumps protected against surface water and mosquito-protected	24	26	26
Private :—			
Number	Schedule being made.		
Number protected against surface water and mosquito-protected...			
Tanks :—			
Public :—	Nil.	Nil.	Nil.
Number underground			
Number mosquito-protected and served by pumps ...			
Number above ground			
Number mosquito-protected			
Number of 400 gallons capacity or less			
Number above 400 gallons			

Nature of Water Supply.	1911.	1912.	1913.
Tanks :—			
Private :—			
1. Number underground	5	5	6
2. Number mosquito-protected	5	5	6
3. Number above ground	—	—	190
4. Number mosquito-protected	—	—	190
5. Number of 400 gallons capacity or less	110	110	178
6. Number above 400 gallons	12	12	12
Nature of tanks :—			
Wood	—	—	—
Iron	117	117	190
Concrete	—	—	6
Barrels :—			
Number	155	Unknown, number greatly reduced.	Diminishing.
Number mosquito-protected	155		

Nos. 3 and 4 include Nos. 5 and 6.

13. Drainage.

Nature of drainage.	Public.	Private.
Masonry drains :—		
Lineal yards of masonry drains :—		
1911	5,617	
1912	5,617	
1913	5,617	
Lineal yards reconstructed during the year :—		
1911	161	
1912	Nil.	
1913	Nil.	
Lineal yards repaired during the year :—		
1911	Nil.	
1912	Nil.	
1913	1,183	
Lineal yards of new drains constructed during the year :—		
1911	Nil.	
1912	Nil.	
1913	Nil.	
Earth drains or ditches :—		
Number of linear yards of ditches cleaned :—		
1911	9,433	
1912	9,433	
1913	9,433	
Number of linear yards of ditches dug and graded :—		
1911	All earth drains made wider.	
1912	Do.	
1913	Nil.	
Average frequency of clearing ditches of grass :—		
1911	Weekly during rains.	
1912	Do.	
1913	Do.	

14. Clearance of Undergrowth, Long Grass and Jungle.

—	1911.	1912.	1913.
Number of square yards of weeds, grass, and vegetation cut and removed	200,000	200,000	400,000
Average frequency of clearance of rank vegetation on same area	Twice during rains	Three times between May and January.	Monthly

15. Excavations and Low-Lying Land.

——	1911.	1912.	1913.
Number of pools and excavations	large areas in the rains	same	much diminished
Number of excavations filled up	88	154	50
Amount of low-lying and marsh land raised and drained ...	1,800 sq yds.	4,000 sq. yds.	21 acres.
Number of pools, marshes, streams, &c., fish stocked	all standing water	same	same
Number of cubic yards of material used for filling up pools and excavations	500	1,000	1,000
Number of persons fined for making new excavations	Nil.	Nil.	Nil.
Average number of men daily employed in filling up pools, &c.	15	10	10

16. Oiling.

——	1911.	1912.	1913
Number of drains oiled	None, all fish stocked.		
Number of pools and excavations oiled	320	—	150
Number of tanks and barrels oiled	Nil.	Nil.	Nil.
Average number of men daily employed for oiling drains, pools, water-tanks or barrels	15	—	1

17. Inspections and Prosecutions.

——	1911.	1912.	1913.
Number of inspectors employed	3	4	4
Number of houses inspected	3,500	12,521	19,435
Number of houses where larvæ were found	50%	622	957
Number of notices served to remove conditions causing the breeding of larvæ	173	250	98
Number of persons fined for having mosquito larvæ on premises	25	9	164
Number of notices served to remove insanitary conditions on premises	164	52	145
Number of persons fined for not removing insanitary conditions after notice	12	1	Nil.
Number of soda and aerated water factories inspected... ...	1	1	1

LAMIN KOTO,
March, 1914.

SIR,

I have the honour to forward the Report on MacCarthy Island during my tour there from December, 1912, to May, 1913.

1. This station is situated about 150 miles from Bathurst up the Gambia River, and is the only one in the Protectorate at which a Medical Officer is in residence, it being practically the largest trade centre in the Protectorate. In the dry season, from November to June, it is fairly healthy for Europeans, but in the rains, no Europeans reside there at all, and the Island is practically a swamp.

The health of the Europeans during my stay was very good ; and that of the natives, in my opinion, superior to those of Bathurst.

2. The hospital is a modern one, now about three years old, and well designed, but badly patronised by the people. There is a European Ward, but it is not of much value as any one who was ill would be put on the first boat and sent down river. The natives also availed themselves but little of the Out-Patient Department, 75 per cent. of those who did were resident on the Island.

The bush people prefer to stop in their towns if ill, but come freely to a doctor when travelling.

3. During my tour I went on patrol at regular intervals, seeing cases, and vaccinating about 1,600 people.

4. During the dry season there is very little malaria and no yellow fever, neither did I see a case of black water fever or of sleeping sickness.

5. I was able to do one laparotomy and numerous minor operations, but surgical conditions are rare, there being apparently very little or no malignant disease.

I saw only one case of Sarcoma, and in this the clavicle was affected.

6. In the Out-Patient Department most of the cases are of a trivial nature.

7. The Medical Officer now resides across the river as there is no suitable building on the Island.

The Native Dispenser lives in one half of the building used as a dispensary.

I left for Bathurst on the 6th of May, being relieved by Dr. Harley.

I have the honour to be,

Sir,

Your obedient servant,

(Signed) F. C. V. THOMPSON,
Medical Officer.

THE HONOURABLE
THE SENIOR MEDICAL OFFICER,
BATHURST.

RETURNS.

TABLE I.

MEDICAL STAFF.

Dr. E. A. Chartres	Senior Medical Officer.
Dr. T. F. G. Mayer	Medical Officer.
Dr. A. F. Kennedy	Medical Officer of Health.
Dr. F. C. V. Thompson	Medical Officer.
Dr. S. L. Brohier	Medical Officer.

PRINCIPAL MEMBERS OF THE SUBORDINATE STAFF.

Miss A. E. E. Whitton ...	Senior Nursing Sister.
Miss L. E. H. Maulton ...	Nursing Sister.
Miss R. Roddan	Do.
Miss P. R. di Menna	Do.
Mr. C. Shaw	Clerk and Steward.
(Vacant)	Assistant Clerk.
Mr. J. F. Johnson	Chief Dispenser and Storekeeper.
Mr. J. S. Kennedy	Assistant Dispenser.
Mr. J. J. Thomas	Do.
Mr. E. W. Johns	Storekeeper and Dispenser.
Mr. S. B. Palmer	Second Assistant Dispenser.
(Vacant)	Junior Dispenser.
Mr. M. Jobe	Ward Servant.
Mr. M. Harding	Do.
Mr. M. C. Valentine	Do.
(Vacant)	Do.
Miss A. Sutton	Female Attendant.
Miss S. M. Deigh	Do.
Mr. J. F. Jagne	Apprentice in Dispensing.
Mr. J. T. Williams	Do.

APPOINTMENTS.

Date.	Name.	Rank.
April 12 ...	L. E. H Maulton ...	Nursing Sister.
May 1	J. T. Williams ...	Apprentice.
August 1 ...	P. H. Coker ...	Seventh Grade Clerk.
„ 16 ...	A. Sutton	Female Attendant.
September 2 ...	M. C. Valentine ...	Ward Servant.
October 1 ...	M. Harding ...	Do.
„ 23 ...	M. S. Deigh ..	Female Attendant.
November 13 ...	T. F. G. Mayer ...	Medical Officer.
„ 19 ...	R. H. Miller ...	Do.

LEAVE OF ABSENCE.

Date.	Name.	Rank.	Leave.
January 1 ...	W. S. Smart	Chief Dispenser and Storekeeper	2 weeks.
February 4 ...	E. A. Chartres ...	Senior Medical Officer	4 months.
May 6	E. N. Jai ...	Cook	14 days.
„ 20	W. S. Smart	Chief Dispenser, &c.	6 weeks.
June 2	M. Jobe	Ward Servant	14 days.
„ 11	F. C. V. Thompson ...	Medical Officer	4 months and 10 days.
July 1	G. A. Saunders ...	Attendant, Home for Destitutes	14 days.
August 1 ...	J. C. Franklin	Medical Officer	4 months and 10 days.
September 16 ...	J. A. Harley	Do.	90 days.
„ 16 ...	E. C. Banks	Nursing Sister	40 days
October 1 ...	E. W. Johns	Assistant Storekeeper and Dispenser	1 month.
„ 1 ...	S. Ritchie ...	Female Attendant ...	14 days.
November 7 ...	A. E. E. Whitton ...	Senior Nursing Sister	100 days.
„ 12 ...	J. F. Johnson	Chief Dispenser, &c.	1 month.

NOTE.—Mr. Smart was on leave from December 21st, 1912.

EXTENSION OF LEAVE.

Date.	Name.	Rank.	Leave.
July 1	E. A. Chartres ...	Senior Medical Officer	2 weeks.
December 19 ...	J. C. Franklin ...	Medical Officer	1 week.

RESUMPTION OF DUTY.

Date.	Name.	Rank.
January 4 ...	W. S. Smart	Chief Dispenser, &c.
„ 31 ...	A. F. Kennedy ...	Medical Officer of Health.
May 20	E. N. Jai	Cook.
June 16	M. Jobe ...	Ward Servant.
July 15	G. A. Saunders ...	Attendant, Home for Destitutes.
„ 31	E. A. Chartres ...	Senior Medical Officer.
October 16 ...	S. Ritchie ...	Female Attendant.
November 1 ...	F. C. V. Thompson ...	Medical Officer.
December 12 ...	J. F. Johnson	Chief Dispenser and Storekeeper.

TRANSFER.

Date.	Name.	Rank.	Remarks.
December 27 ...	J. C. Franklin	Medical Officer	To be Medical Officer in Nigeria.
„ 31 ...	E. A. Chartres ...	Senior Medical Officer ...	To be S.M.O. (Grade I.) in Nigeria.

PROMOTIONS.

Date.	Name.	Rank.	Remarks.
January 1	A. C. Briggsman ...	Ward Servant	To be Second Assistant Dispenser.
July 1	J. F. Johnson ...	Assistant Dispenser ...	To be Chief Dispenser and Storekeeper.

TERMINATION OF APPOINTMENTS.

Date.	Name.	Rank.	Remarks.
March 10 ...	B. J. Tebbs	Ward Servant	Dismissed.
April 30... ...	A. Cole	,, ,, ...	Terminated.
June 16... ...	U. R. Crown	,, ,, ...	Dismissed.
,, 16... ...	B. E. Nicol	Junior Clerk	Resigned
July 1	W. S. Smart	Chief Dispenser and Storekeeper	,,
August 31 ...	F. A. Buckle	Ward Servant	Terminated.
September 16 ...	A. Goddard	Messenger	Resigned.
October 1 ...	S. C. Gillen	Ward Servant	,,
,, 3 ...	H. Williams	,, ,, ...	,,
,, 23 ...	S. Ritchie	Female Attendant... ...	Dismissed.
November 7 ...	E. C. Banks	Nursing Sister	Terminated.
,, 15 ...	A. C. Briggsman ...	Second Assistant Dispenser	Resigned.
,, 21 ...	P. H. Coker	Seventh Grade Clerk ...	,,

TABLE II.

FINANCIAL.

MEDICAL DEPARTMENT.

EXPENDITURE.

Details.	Estimated.	Actual.
	£ s. d.	£ s. d.
Personal Emoluments	5,992 0 0	5,620 10 3
OTHER CHARGES.		
Travelling allowance to Medical Officer in the Protectorate at 10*s.* a day for 8 months	120 0 0	26 17 6
Travelling Expenses in England for one Nurse	2 0 0	2 17 6
Maintenance of Sick	513 0 0	549 14 2
Washing	115 0 0	101 17 10
Fuel	34 0 0	52 3 9
Equipment and Sundries	100 0 0	116 17 5
Medicines, Dressings and Medical Comforts	300 0 0	279 2 4
Expenses of Burials	20 0 0	13 13 2
Vaccinations	150 0 0	236 9 1
Infectious Diseases Hospital	23 0 0	19 18 6
Maintenance of Lunatics at Sierra Leone	342 0 0	339 7 5
Purchase of, and Repairs to, Instruments	40 0 0	36 18 7
Medical Library	10 0 0	8 17 3
Horse Allowances to Senior Medical Officer, Senior Sanitary Officer, 4 Medical Officers and Nursing Sisters	206 0 0	131 1 3
Uniforms for Attendants	30 0 0	32 12 1
Sea Passages for Officers and Sisters ...	352 0 0	474 0 2
Fees for Special Courses of Instruction to Medical Officers in England	50 0 0	129 11 7
Maintenance of Home for Destitute ...	164 0 0	57 18 11
Uniform for one Nurse	12 0 0	48 0 0
Special Services rendered	—	41 11 6
TOTAL .	£8,875 0 0	£8,320 0 3

RECEIPTS.

Details.	Estimated.	Actual.
	£ s. d.	£ s. d.
Maintenance of Sick and Sale of Medicines	100 0 0	151 0 9

TABLE IIA.

FINANCIAL.

BOARD OF HEALTH.

Dr.	£	s.	d.	Cr.	£	s.	d.
Balance on 31st December, 1912...	316	16	5	By Salaries to Town Warden, Assistant Town Warden, Inspectors and others on Management	2,778	6	7
Grant in Aid	2,228	0	0				
Town Fund	1,306	13	0				
Slaughter-house Fees	93	19	6				
Miscellaneous Receipts	121	14	10	Balance on 31st December, 1913...	1,297	3	1
Fines	8	5	11				
Total ...	£4,075	9	8	Total ...	£4,075	9	8

TABLE III.

RETURN OF STATISTICS OF POPULATION FOR THE YEAR 1913.

BATHURST, GAMBIA.

—	Europeans and Whites.	Africans and other Races.	Mixed and Coloured.
Number of Inhabitants, 1913 (Census 1911)	230*	7,470	—
,, Births during 1913	—	254	—
,, Deaths ,, 1913	2	279	—
,, Immigrants during 1913	—	—	—
,, Emigrants ,, 1913	—	—	—
Number of Inhabitants, 1912	230	7,470	—
Increase or	—	—	—
Decrease	2	25	—

* 40 in ships.

TABLE IV.

METEOROLOGICAL RETURN FOR THE YEAR 1913.—BATHURST.

Months.	Temperatures.					Rainfall.	Wind.
	Minimum on grass.	Shade maximum.	Shade minimum.	Range.	Mean.	Amount in inches.	General Direction.
January	50	100	59	41	79·5	0·13	North.
February	53	98	60	38	79·0	—	,,
March	52	100	63	37	81·5	—	Variable.
April	52	104	62	42	83·0	—	,,
May	53	93	57	36	75·0	—	,,
June	60	98	68	30	83·0	2·23	North West.
July	66	90	68	22	80·0	3·00	East.
August	67	90	69	21	79·5	10·69	Variable.
September	66	95	69	26	82·0	6·08	,,
October	60	94	69	25	81·5	1·55	,,
November	60	98	67	31	82·5	—	,,
December	60	95	64	31	79·5	—	,,
TOTAL	999	1,155	775	380	966·0	23·68	—
AVERAGE	83·2	96·2	64·6	31·6	80·5	—	—

TABLE V.

METEOROLOGICAL RETURN FOR THE YEAR 1913.—MACCARTHY ISLAND.

Months.	Temperatures.					Rainfall.	Wind.
	Minimum on grass.	Shade maximum.	Shade minimum	Range.	Mean.	Amount in inches.	General Direction.
January	—	106	59	47	82·5	0·06	North West.
February	—	110	60	50	85·0	—	,,
March	—	110	60	50	85·0	—	,,
April	—	112	67	45	89·5	—	Variable.
May	—	112	65	47	88·5	1·31	,,
June	—	114	73	41	93·5	4·49	,,
July	—	112	65	47	88·5	6·25	,,
August	—	103	72	31	88·5	9·46	,,
September ...	—	Station closed. No record.					—
October	—	,,	,,	,,	,,	,,	—
November	—	104	64	40	84·0	—	Variable.
December	—	103	60	43	81·5	0·43	,,
TOTAL	—	1,086	645	441	865·5	22·00	—
AVERAGE FOR 10 MONTHS ...	—	108·6	64·5	44·1	86·5	—	—

TABLE VI.

VICTORIA HOSPITAL, BATHURST.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1913.

Diseases.	Remaining in Hospital at end of 1912.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1913.	Remarks.
		Admissions.	Deaths.			
INFECTIVE DISEASES.						
Beri-Beri	—	—	—	—	—	
Cerebro-Spinal Fever	—	—	—	—	—	
Chicken-Pox	—	—	—	—	—	
Cholera	—	—	—	—	—	
Dengue	—	—	—	—	—	
Diphtheria	—	—	—	—	—	
Dysentery	—	13	1	13	—	
Endocarditis—infective	—	—	—	—	—	
Enteric	—	—	—	—	—	
Erysipelas	—	2	—	2	—	
Gonorrhœa	—	5	—	5	—	
Influenza	—	—	—	—	—	
Kala Azar	—	—	—	—	—	
Leprosy (*a*) Nodular	—	—	—	—	—	
(*b*) Anæsthetic	—	—	—	—	—	
Malaria (*a*) Tertian	—	22	1	22	—	
(*b*) Quartan	—	2	—	2	—	
(*c*) Aestivo-autumnal	—	—	—	—	—	
(*d*) Chronic Malaria	—	2	—	2	—	
(*e*) Black-water	—	—	—	—	—	
(*f*) Quotidian	—	63	—	63	2	
Measles	—	—	—	—	—	
Malta Fever	—	—	—	—	—	
Plague	—	—	—	—	—	
Pneumonia	1	36	14	37	—	
Rabies	—	—	—	—	—	
Relapsing Fever	—	1	—	1	—	
Rheumatism	—	13	—	13	2	
Rheumatic Fever	—	—	—	—	—	
Septicæmia	—	2	2	2	—	
Trypanosomiasis (Sleeping Sickness)	—	7	1	7	2	
Small-Pox	—	—	—	—	—	
Syphilis (*a*) Primary	—	2	1	2	—	
(*b*) Secondary	—	2	—	2	—	
(*c*) Inherited	—	—	—	—	—	
Tetanus	—	10	10	10	—	
Tuberculosis (Phthisis)	—	12	4	12	1	
Whooping Cough	—	3	1	3	—	
Yaws	—	—	—	—	—	
Yellow Fever	—	—	—	—	—	
INTOXICATIONS.						
Alcoholism	—	1	—	1	—	
Morphinism	—	—	—	—	—	
Others	—	—	—	—	—	
GENERAL DISEASES.						
Anæmia	—	2	—	2	—	
Anæmia—Pernicious	—	—	—	—	—	
Diabetes	—	—	—	—	—	
Exophthalmic Goitre	—	—	—	—	—	
Gout	—	—	—	—	—	
Leucocythæmia	—	—	—	—	—	
Hodgkin's Disease	—	—	—	—	—	
Myxœdema	—	—	—	—	—	
Purpura	—	—	—	—	—	
Carried forward	1	200	35	201	7	

VICTORIA HOSPITAL, BATHURST—*continued.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1913—*continued.*

Diseases.	Remaining in Hospital at end of 1912.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1913.	Remarks.
		Admissions	Deaths.			
Brought forward	1	200	35	201	7	
GENERAL DISEASES—*continued.*						
Rickets	—	—	—	—	—	
Scurvy	—	—	—	—	—	
Debility	—	3	1	3	—	
LOCAL DISEASES.						
DISEASES OF THE NERVOUS SYSTEM.						
Sub-section 1.						
Neurasthenia	—	3	—	3	—	
Neuritis	—	1	—	1	—	
Meningitis	—	2	2	2	—	
Myelitis	—	—	—	—	—	
Hydrocephalus	—	—	—	—	—	
Encephalitis	—	—	—	—	—	
Abscess of Brain	—	—	—	—	—	
Congestion of Brain	—	—	—	—	—	
Concussion of Brain	—	1	1	1	—	
Sub-section 2.						
Apoplexy	—	1	—	1	—	
Paralysis	—	1	—	1	—	
Chorea	—	—	—	—	—	
Epilepsy	—	2	1	2	—	
Neuralgia	—	—	—	—	—	
Hysteria	—	—	—	—	—	
Sciatica	—	2	—	2	1	
Mental Diseases—Sub-section 3.						
Idiocy	—	—	—	—	—	
Mania	—	—	—	—	—	
Melancholia	—	—	—	—	—	
Dementia	—	—	—	—	—	
Delusional Insanity	—	—	—	—	—	
Diseases of the Eye—						
Conjunctivitis	—	9	—	9	—	
Keratitis	—	—	—	—	—	
Ulceration of Cornea	—	2	—	2	—	
Iritis	—	—	—	—	—	
Optic Neuritis	—	—	—	—	—	
Cataract	—	3	—	3	—	
Staphyloma	—	1	—	1	—	
Diseases of the Ear—						
Inflammation	—	—	—	—	—	
Other Diseases	—	—	—	—	—	
Diseases of the Nose—						
Diseases of the Circulatory System—						
Pericarditis	—	2	—	2	—	
Endocarditis	—	1	—	1	—	
Valvular Mitral	—	15	1	15	—	
Aortic	—	1	1	1	—	
Tricuspid	—	1	—	1	—	
Pulmonary	—	—	—	—	—	
Arterial Sclerosis	—	—	—	—	—	
Aneurism	—	—	—	—	—	
Diseases of the Respiratory System—						
Laryngitis	—	—	—	—	—	
Bronchitis	—	19	1	19	—	
Carried forward	1	270	43	271	8	

VICTORIA HOSPITAL, BATHURST—*continued.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1913—*continued.*

Diseases.	Remaining in Hospital at end of 1912.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1913.	Remarks.
		Admissions	Deaths.			
Brought forward	1	270	43	271	8	
LOCAL DISEASES—*continued.*						
Diseases of the Respiratory System—*cont.*						
Broncho-pneumonia	—	2	—	2	1	
Abscess of Lung	—	2	1	2	—	
Gangrene of Lung	—	—	—	—	—	
Emphysema	—	—	—	—	—	
Pleurisy	—	4	—	4	—	
Empyema	—	2	—	2	—	
Diseases of the Digestive System—						
Stomatitis	—	—	—	—	—	
Caries of Teeth...	1	—	—	1	—	
Glossitis	—	—	—	—	—	
Sore Throat	—	—	—	—	—	
Inflammation of Tonsils	—	2	—	2	—	
Gastritis	—	4	—	4	—	
Ulceration of Stomach...	—	—	—	—	—	
Hæmatemesis	—	—	—	—	—	
Dilatation of Stomach...	—	—	—	—	—	
Stricture of Stomach	—	—	—	—	—	
Dyspepsia	1	6	—	7	—	
Enteritis	—	12	—	12	—	
Appendicitis	—	1	—	1	—	
Colitis	—	—	—	—	—	
Ulceration of Intestines	—	—	—	—	—	
Sprue	—	—	—	—	—	
Hernia	—	9	—	9	1	
Diarrhœa	—	3	—	3	—	
Constipation	—	6	—	6	—	
Colic	—	4	—	4	—	
Hæmorrhoids	—	5	1	5	—	
Pancreatitis	—	—	—	—	—	
Hepatitis – Acute	—	4	—	4	—	
Abscess...	—	3	2	3	—	
Cirrhosis	—	4	2	4	—	
Jaundice	—	—	—	—	—	
Peritonitis	—	4	3	4	—	
Ascites	—	1	—	1	1	
Marasmus	—	1	1	1	—	
Diseases of the Lymphatic System—						
Splenitis	—	4	—	4	—	
Inflammation of Lymphatic Gland	—	5	—	5	1	
Suppuration of Lymphatic Gland	—	3	—	3	—	
Lymphangitis	—	1	—	1	—	
Elephantiasis	—	4	1	4	—	
Gangrene, Lymph Scrotum	—	1	1	1	—	
Diseases of the Urinary System—						
Acute Nephritis	—	2	2	2	—	
Bright's Disease	—	2	—	2	—	
Pyelitis	—	—	—	—	—	
Calculus	—	—	—	—	—	
Renal Colic	—	—	—	—	—	
Cystitis	—	4	—	4	—	
Vesical Calculus	—	—	—	—	—	
Suppression	—	—	—	—	—	
Hæmaturia	—	1	—	1	—	
Chyluria	—	—	—	—	—	
Albuminuria	—	3	1	3	—	
Uræmic Convulsions	—	1	1	1	—	
Carried forward	3	380	59	383	12	

VICTORIA HOSPITAL, BATHURST—*continued.*

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1913—*continued.*

Diseases.	Remaining in Hospital at end of 1912.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1913.	Remarks.
		Admissions	Deaths.			
Brought forward	3	380	59	383	12	
LOCAL DISEASES—*continued.*						
Diseases of the Generative System—						
Male Organs :—						
Urethritis	—	—	—	—	—	
Gleet	—	1	—	1	—	
Stricture	—	6	—	6	—	
Prostatitis	—	—	—	—	—	
Soft Chancre	—	4	—	4	—	
Condyloma	—	—	—	—	—	
Inflammation of Scrotum	—	—	—	—	—	
Hydrocele	—	3	—	3	—	
Orchitis...	—	4	—	4	—	
Epididymitis	—	2	—	2	—	
Abscess of Testicle	—	1	—	1	—	
Retention of Urine	—	4	—	4	—	
Extravasation of Urine	—	3	1	3	—	
Female Organs :—						
Ovaritis...	—	2	—	2	—	
Ovarian Cyst	—	—	—	—	—	
Endometritis	—	—	—	—	—	
Displacement of Uterus	—	—	—	—	—	
Vaginitis	—	—	—	—	—	
Amenorrhœa	—	—	—	—	—	
Dysmenorrhœa...	—	1	—	1	—	
Menorrhagia	—	—	—	—	—	
Leucorrhœa	—	—	—	—	—	
Abortion (Threatened)...	1	1	—	2	—	
Delayed Labour	—	1	—	1	1	
Postpartum Hæmorrhage	—	—	—	—	—	
Retained Placenta	—	—	—	—	—	
Premature Birth	—	—	—	—	—	
Puerperal Septicæmia	—	—	—	—	—	
Mastitis	—	—	—	—	—	
Abscess of Breast	—	—	—	—	—	
Affections connected with Pregnancy ...	—	10	1	10	—	
Diseases of Organs of Locomotion—						
Osteitis	—	—	—	—	—	
Arthritis	—	7	—	7	2	
Spondylitis	—	1	—	1	—	
Bursitis	—	—	—	—	—	
Periostitis	1	1	—	2	—	
Synovitis	—	2	—	2	—	
Diseases of Connective Tissue—						
Cellulitis	—	4	—	4	—	
Abscess...	—	10	—	10	—	
Elephantiasis	—	—	—	—	—	
Carbuncle	—	1	—	1	—	
Diseases of the Skin—						
Urticaria	—	—	—	—	—	
Eczema...	—	—	—	—	—	
Boil	—	—	—	—	—	
Carbuncle	—	—	—	—	—	
Herpes	—	—	—	—	—	
Psoriasis	—	—	—	—	—	
Carried forward	5	449	61	454	15	

VICTORIA HOSPITAL, BATHURST—*continued*

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

Diseases.	Remaining in Hospital at end of 1911.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1912.	Remarks.
		Admissions	Deaths.			
Brought forward	5	449	61	454	15	
LOCAL DISEASES—*continued.*						
Diseases of the Skin—*continued.*						
Oriental Sore	—	—	—	—	—	
Tinea	—	—	—	—	—	
Scabies	—	—	—	—	—	
Acne	—	—	—	—	—	
Prickly Heat	—	—	—	—	—	
Ulcer	2	13	—	15	—	
Whitlow	—	2	—	2	—	
Injuries—General	—	10	1	10	4	
Local	5	56	—	61	—	
Surgical Operations	—	[48]	—	[48]	—	Shown under operation lists.
Tumours	—	2	—	2	1	
Malformations	—	—	—	—	—	
Poisons	—	—	—	—	—	
Parasites—Animal	—	1	—	1	—	
Protozoa	—	—	—	—	—	
Trematoda (Flukes)	—	—	—	—	—	
Cestoda—						
Tænia Solium	—	—	—	—	—	
Tænia Saginata	—	—	—	—	—	
Nematoda—						
Ascaris	—	—	—	—	—	
Tricocephalus Dispar.	—	—	—	—	—	
Trichina	—	—	—	—	—	
Dracunculus	—	—	—	—	—	
Filariasis	—	2	—	2	—	
Strongylus	—	—	—	—	—	
Ankylostomiasis...	—	—	—	—	—	
Oxyuris	—	—	—	—	—	
Insecta—						
Myiasis	—	—	—	—	—	
No Appreciable Disease	2	5	—	7	—	
TOTAL	14	540	62	554	20	

TABLE VII.

VICTORIA HOSPITAL, BATHURST.

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1913.

(Diseases as in Table VI.)

Diseases.	Male.	Female.
Malarial Fevers	377	346
Gonorrhœa	43	2
Anæmia	12	19
Debility	44	71
Dysentery	11	3
Malarial Cachexia	13	14
Measles	1	—
Rheumatism	243	199
Syphilis	4	2
Trypanosomiasis (Sleeping Sickness)	3	2
Elephantiasis	3	—
Tetanus	—	2
Parasitic Diseases	266	261
Diseases of the Nervous System	103	86
„ „ Eye	243	205
„ „ Ear	54	25
„ „ Nose	15	8
„ „ Circulatory System	49	35
„ „ Respiratory „	1,013	733
„ „ Digestive „	1,108	936
„ „ Lymphatic „	104	117
„ „ Urinary „	27	10
„ „ Generative „	13	9
Affections connected with Pregnancy	—	12
Diseases of the Female Breast	—	31
„ „ Organs of Locomotion	30	16
„ „ Connective Tissues	50	64
„ „ Skin	435	181
Injuries	300	181
TOTAL	4,564	3,570

Old cases ... ... 3,896 males.
New cases ... ... 1,605 females.

TABLE VIII.

THE PRISON INFIRMARY.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1913.

Diseases.	Remaining in Hospital at end of 1912.	Admissions.	Deaths.	Total cases treated.	Remaining in Hospital at end of 1913.
Myalgia	—	1	—	1	—
Tetanus...	—	1	—	1	—
Beri-Beri	—	1	—	1	—
Pleurodynia	—	1	—	1	—
Filariasis	—	1	—	1	—
Syphilis	—	1	—	1	—
Mitral Regurgitation	—	1	—	1	—
Orchitis...	—	1	—	1	—
Albuminuria	—	1	—	1	—
Fracture	—	1	—	1	—
Contusion	—	1	—	1	—
Ulcer of Leg	—	1	—	1	—
Tumour	—	1	—	1	—

TABLE VIII.—*continued.*

THE PRISON INFIRMARY.

RETURN OF DISEASES (OUT-PATIENTS) FOR THE YEAR 1913.

Diseases.	Male.	Female.
Malarial Fevers	16	1
Dysentery	1	—
Anæmia	10	1
Parasitic Disease	13	—
Gonorrhœa	1	—
Rheumatism	72	1
Tetanus...	1	—
Syphilis...	7	—
Debility	8	—
Diseases of the Nervous System	17	—
„ „ Eye	12	—
„ „ Ear	6	—
„ „ Nose	5	—
„ „ Circulatory System	14	—
„ „ Respiratory „	42	—
„ „ Digestive „	106	1
„ „ Generative „	26	—
„ „ Lymphatic „	9	—
„ „ Urinary „	5	—
„ „ Connective Tissue	4	—
„ „ Skin	18	—
„ „ Injuries	27	—
TOTAL	420	4

TABLE IX.

MACCARTHY ISLAND HOSPITAL.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1913.

Diseases.	Remaining in Hospital at end of 1912.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1913.	Remarks.
		Admissions	Deaths.			
Malarial Fever (Tertian)	1	1	—	2	—	
Pneumonia	1	5	1	6	1	
Syphilis (Secondary)	—	2	—	2	—	
Tuberculosis	—	1	1	1	—	
Bilious Remittent Fever	—	1	1	1	—	
Rheumatism	1	3	1	4	—	
Ophthalmia	—	1	—	1	—	
Epistaxis	—	1	—	1	—	
Bronchitis	—	1	—	1	—	
Inflammation of Tonsil	—	1	—	1	—	
Abscess of Liver	—	1	—	1	—	
Calculus	1	—	—	1	—	
Hæmaturia	—	1	—	1	—	
Ulcers	—	6	—	6	—	
Injuries (General)	1	3	—	4	1	
Tumours	—	1	1	1	—	
TOTAL	5	29	5	34	2	

TABLE X.

MacCARTHY ISLAND DISPENSARY.

Return of Diseases (Out-Patient) for the Year 1913.

Diseases.	Male.	Female.
Malarial Fever—Quotidian	10	4
,, ,, —Irregular	1	—
,, ,, —Type undiagnosed ...	17	18
Gonorrhœa	17	—
Parasitic Disease	9	7
Rheumatism	60	31
Anæmia	—	3
Leprosy	3	1
Debility	3	—
Syphilis	16	9
Tuberculous Glands	—	1
Diseases of the Nervous System	44	24
,, ,, Eye	27	18
,, ,, Ear	8	19
,, ,, Nose	10	13
,, ,, Circulatory System ...	2	—
,, ,, Respiratory ,, ...	83	48
,, ,, Digestive ,, ...	315	161
,, ,, Lymphatic ,, ...	2	1
,, ,, Urinary ,, ...	5	3
,, ,, Generative ,, ...	2	2
,, ,, Female Breast	—	2
,, ,, Connective Tissue ...	4	2
,, ,, Cellular Tissue	1	—
,, ,, Skin	179	66
Injuries	60	31
Undefined	—	2
Total	878	436

Old Cases	195 Males
,, ,, ...	97 Females
Total	292

IDENTIFICATION OF BLOOD-SUCKING DIPTERA COLLECTED IN THE GAMBIA BY Dr. HOPKINSON, D.S.O.

Culicidæ.

Anopheles funesta, Giles—4 ♀, Cape St. Mary, 11.11.11.

Culex fatigans, Wied.—3 ♀, no data.

Mansonia africana, Theo.— 1 ♀, no data.

Stegomyia fasciata, F.—1 ♂, Bathurst, 17.4.13; 1 ♂, 2 ♀, no data.

Tabanidæ.

Chrysops longicornis, Macq.—9 ♀, no data.

Tabanus biguttatus, Wied., var. *croceus*, Surc.—1 ♀, Tenning Fara, 1.3.13.

T. ditæniatus, Macq.—20 ♀, Ida, 22.2.13; 66 ♀, Tenning Fara, 27 2.13; 1 ♀, Tewabe, 25.3.13; 13 ♀, Mandina Kiang, 30.3.13; 8 ♀, Kolui, 31.3.13; 4 ♀, Kaiaf, 1.4.13.

T. par.—3 ♀, Tuba Kuta, 29.5.13.

T. sticticollis, Surc.—1 ♀, Ida, 22.2.13.

T. tæniola, P. de B.—var. *variatus*, Walk.—1 ♀, Soma, 9.2.12; 4 ♀, Jappini, 12.2.13; 6 ♀, Tenning Fara, 27.2.13; 1 ♀, Mandina Kiang, 30.3.13; 1 ♀, Kolui, 31.3.13.

Tabanus sp. (No. 14)—1 ♀, no data.

Tabanus sp. (No. 15)—1 ♀, no data.

IDENTIFICATION OF BLOOD-SUCKING DIPTERA COLLECTED IN THE GAMBIA BY Dr. A. F. KENNEDY.

Culicidæ.

Culex fatigans, Wied.—1 ♀, in bungalow, Bathurst, 1.5.12.

Tabanidæ.

Tabanus laverani, Sure—1 ♀, Boraba, 29.3.12.

T. tæniola. P. de B., var. *variatus*, Walk.—1 ♀, Kunting, 21.3.12.

Tabanus sp. (No. 13)—1 ♀, MacCarthy Island, 22.3.12.

Muscidæ.

Glossina morsitans, Westw. 3 ♂, 1 ♀, Kunting, 21.3.12; 1 ♀, Boraba, 29.3.12.

G. palpalis, R.D.—1 ♂, MacCarthy Island, 26.3.12.

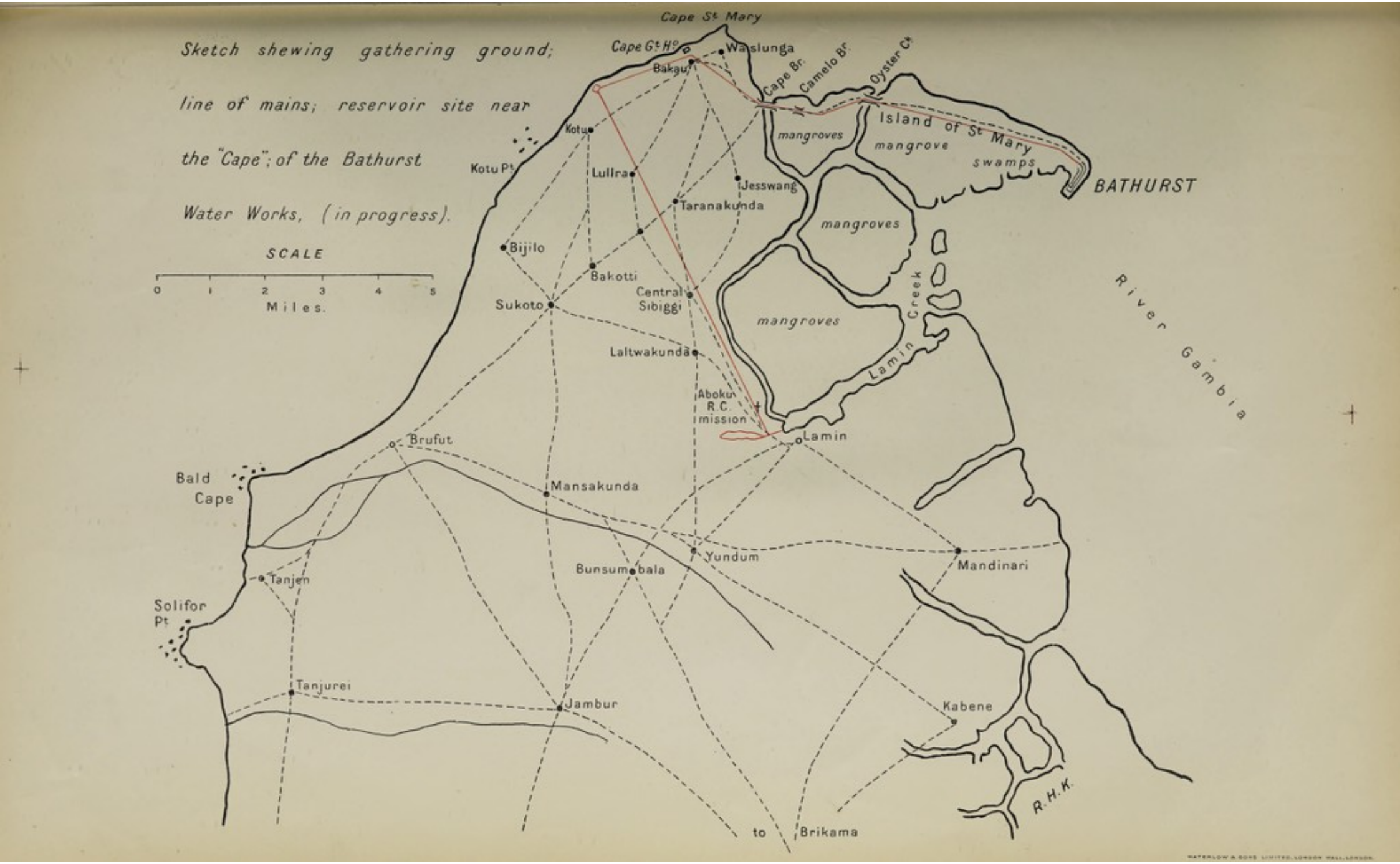
Hippoboscidæ.

Lynchia maura, Bigot—1 ♀, Kunting, 21.3,12.

Muscidæ.

Glossina morsitans, Westw.—1 ♀, Soma, 4.1.13; 2 ♂, 1 ♀, Badumi, 4.2.13; 4 ♂, 1 ♀, Jabisa, 4.2.13; 10 ♂, 5 ♀, Soma, 6.2.13; 1 ♂, Ida, 24.2.13; 1 ♂, Tenning Fara, 27.2.13; 1 ♂, 3 ♀, Soma, 4–5 4.13; 1 ♂, Jappini, 9.4.13; 1 ♂, Badumi, 14.4.13.

G. palpalis, R.D.—1 ♀, Jabisa, 4.2.13; 3 ♂, 1 ♀, Soma, 6.2.13; 1 ♂. Sutukang Creek, 17.4.13; 1 ♀, Sotynyamo Creek, below Pakeli, 17.4.13; 1 ♂, 1 ♀, Dunkunku Creek, 25.4.13.


Sketch shewing gathering ground; line of mains; reservoir site near the "Cape"; of the Bathurst Water Works, (in progress).
SCALE
0 1 2 3 4 5
Miles.
Cape St Mary
Cape Gt Ho
Waslunga
Bakau
Cape Br.
Camelo Br.
Oyster Ck
Island of St Mary
mangroves
mangrove swamps
BATHURST
Kotu
Kotu Pt
Lullra
Jesswang
Taranakunda
mangroves
Bijilo
Bakotti
Central Sibiggi
Sukoto
Creek
Lamin
River Gambia
mangroves
Laltwakunda
Aboku R.C. mission
Lamin
Brufut
Bald Cape
Mansakunda
Yundum
Mandinari
Bunsumbala
Tanjen
Solifor Pt
Tanjurei
Jambur
Kabene
R.H.K.
to Brikama