



430

EAST AFR. PROT
63546

61
45715

1913

925

1913

6th November

previous Paper

ANNUAL MEDICAL REPORT 1912

Trs

W. Fisher

4 2/2

22/1/13

As I believe that the attached report
be printed by the African Agents I have made
some corrections.

I would request that a copy of H. 959
(Annual Report) be sent to the printers with
the E. A. P. report to aid them in arranging
the headings.

There are 50 ~~pages~~ pages of 2 in

out-patient returns of various districts, which
take up much space. If these were summarised
time & money would be saved. See C. A. as to
the practicability of this.

20 Jan 14
216 # March 14
to C. A. of March 14
C. A. of March 14
C. A. of March 14

11/132
11/14

1914/15

H. Bellamy
H. Reed

June 13 1914 WA
EA

There is no question this time or hereinafter
of giving S.O. the work of printing these
Annual Med. Reports.

as proposed by Dr. Burgess.

AF 3/1/14
was 2/1/14

H. J. R.
5/1/14

Print completed & returned to
Dr. Burgess's office. Copies to
TAMS Ctee with report when
available.

AF 20/1/14

at once
H. J. R.
20/1/14

Report & news circulated to TAMS Ctee 24 Feb 1914

The Fellowship

Extract from minutes of 63rd meeting of the
TAMS Committee 31 March 1914
The Committee considered the Annual

Medical Report on the C.A. for
memorandum by the Medical Secretary. In answer
to an enquiry Professor Simpson said that they were
doing nothing for the treatment of syphilis in the 461
the... the Medical Officers
had too much other work to do. As to the Salmon
infection in the case of anthrax, he had no doubt that
the man had got it through handling hides. It was
decided to recommend that the criticisms in
paragraphs 2 & 3 of Dr Burgess's memorandum
in regard to the preparation of volumes, should be
sent to the Governor.

AF 5/3/14

H. Reed
Then listed for copies suggested
reading the report, & circulating the
balances as follows

Uganda	25	at cost 17	printing 2
Nyasaland	10	Niger (10/11)	M.O.H. 2
Southland	1	Do (5/1/22)	
Zanzibar	3	S. Leone	
		Gambier 3	

C.A. to send out also
with an margin of 1/6 each. Next 1/6 left
by C.A. - thing to be done that about the postage

AF 9/5/14
P.R.E.A. 15 copies recd - holding
J.R. 25/5/14

MEMORANDUM OF THE ANNUAL, MORAL, AND SANITARY REPORT
OF THE EAST INDIA COMPANY FOR THE YEAR 1812.

The plan of last year's report has been followed, and sections I (Administrative) and II (Public Health) have been divided into four parts, each dealing with a different town or region, it being thought that in this way a more just estimation of the conditions of health might be arrived at. Considering the various factors in each of these parts, this system is to be retained.

The Government has not yet decided upon the form to be taken in the Moral, Sanitary and Military reports. It is better to keep the point of view of comparison that all these reports should follow the same plan, and also to the type for many of these forms is kept the same, a certain amount of expense would be saved, if this were done.

The various survey tables in use last year were sent in separately for each of the various districts and divisions. It has been thought desirable to combine these in one return for in-patients, and one for out-patients, after the method followed in the last year's Annual Report, which has been found to be the most convenient for reference but even a great deal of space and also expense in printing. By adopting this method 50 pages have been condensed to 6, making the report far more convenient to handle.

The health of the European officials shows on the whole an improvement over last year, under the headings "Percentage of sick to average number resident", "Average number of days on sick for each patient", "Average sick days to each resident", both the "total number invalids" and the "percentage of invalids to total residents" however show a marked increase. The "percentage of deaths to total number resident" and the "average number per cent" show an improvement over last year.

A disease bearing a marked resemblance to spotted fever has been reported in Sicily.

Similar affairs do not appear to be in a very satisfactory state. However, the person who has recently visited that office, will shortly lay before the secretary of State his recommendations; he thinks that it is unnecessary to comment on the state of things mentioned in the report.

One case of anthrax is recorded at present, there was also a case at this place in fall. It would appear to be the one of them a very grave disease, that inquiries should be made to ascertain if possible where the patient acquired the infection, so if this disease were raised ground the results would be very serious indeed.

In Appendix I is a very interesting account of a small outbreak of enteric fever.

Appendix II is a copy of a circular sent out by the Medical Department.

The outbreak of Mari-beri at Serrali, is described in Appendix III.

Hints on the sanitary career quotations for
the guidance of Administrative Officers, are attached
to the Report as Appendix IV.

18.2.14.

MEMORANDUM ON THE ANNUAL MEDICAL AND SANITARY REPORT
OF THE EAST AFRICA PROTECTORATE FOR THE YEAR 1912.

The plan of last year's report has been followed, and sections I (Administrative) and II (Public Health) have been divided into four parts, each dealing with a different zone or region, it being thought that in this way a more just estimation of the conditions of health might be arrived at. Considering the varying factors in each of these parts, this appears to be a good plan.

The Meteorological tables do not follow the form laid down in the Model Medical and Sanitary Report. It is better from the point of view of comparison that all these returns should follow the same plan, and also as the type for many of these forms is kept standing a certain amount of expense would be saved, if this were done.

The returns under tables VI and VII were sent in separately for each of the various hospitals and dispensaries. It has been thought advisable to combine these in one return for In-patients, and one for Out-patients, after the method followed in the Southern Nigeria Annual Medical and

Sanitary Report for 1912, as this not only tends to make them easier for reference but saves a great deal of space and also expense in printing. By adopting this method 50 pages have been condensed to 8, making the report far more convenient to handle.

The Table of Contents has also been drawn up so as to follow strictly the plan of the 'Model'.

15 and 16 A very severe outbreak of small-pox is recorded at Mombasa. The Health Office staff are to be congratulated on the very large number of vaccinations performed (34,000). This undoubtedly checked the epidemic.

27 cases of plague occurred at Mombasa. In this connection it appears that the Indian Community were very hostile towards measures taken to check the spread of this disease. The whole coloured population of the place also did their best to thwart preventive measures taken by the Medical Department. Legislation is apparently required to deal with this, as though it is noted that a much improved tone prevails at present, this may alter if another outbreak occurs and it is essential that the Administration should have full powers to cope with any obstruction on

the part of the natives to measures designed to check the spread of a highly contagious disease.

Plague also made its appearance at Nairobi and Kisumu

Page 17

It is a matter of concern that Syphilis is on the increase in the Kenia and Nyanza Provinces.

Page 17

A very serious and disastrous outbreak of Bari-beri occurred at Serenli. Out of a total of 289, 112 were attacked and 44 died. Dr. Chevallier who investigated the outbreak has submitted a report which appears as Appendix III (post).

Pages 18 and 19

The health of the European Officials shows on the whole an improvement over last year, under the headings 'Percentage of Sick to average number residents', 'Average number of days on sick for each patient', 'Average sick time to each resident'. Both the 'total number invalided' and the 'Percentage of invalidings to total residents' however show a marked increase. The 'Percentage of deaths to total number resident' and to 'average number resident' show an improvement over last year.

A disease bearing a marked resemblance to Pappataci fever has been reported in Nairobi.

Sanitary affairs do not appear to be in a very satisfactory state. However Professor Simpson, who has recently visited East Africa, will shortly lay before the Secretary of State, his recommendations; so pending this it is unnecessary to comment on the state of things mentioned in the Report.

One case of Anthrax is recorded at Kisumu; there was also a case at this place in 1911. It would appear in the case of such a very grave disease, that enquiries should be made to ascertain if possible where the patient acquired the infection, as if this disease once gained ground the results would be very serious indeed.

In Appendix I. is a very interesting account of a small outbreak of enteric fever.

Appendix II is a copy of a circular sent out by the Medical Department.

The outbreak of Beri-beri at Serenli, is described in Appendix III.

Hints on the sanitary care of Outstations for the guidance of Administrative Officers, is attached to the Report as Appendix IV.

43546

150

GOVERNMENT HOUSE,
NAIROBI,
BRITISH EAST AFRICA.

November 26th 1913.

EAST AFRICA PROTECTORATE.

No. 925


Sir,

With reference to my telegram No. 264 of yesterday's date, I have the honour to transmit herewith a copy of the Annual Report of the Medical Department for 1912.

I have the honour to be,

Sir,

Your humble, obedient servant,


in the absence of the
GOVERNOR.

THE RIGHT HONOURABLE

LEWIS HARCOURT, P.C., M.P.,

SECRETARY OF STATE FOR THE COLONIES,

EDMUND STREET, LONDON.

Gov. E.A.P.
435246
10

See

19

20 Jan 1914

Gentlemen

DRAFT

Crown Agents

I enclose herewith for you that

MINUTE.

Mr. Jewell 12/1/14
Mr. Fiddian 16/1/14

he approves of your arranging for

Sir G. Fiddes.

Sir H. Just.

Sir J. Anderson.

Lord Emmott.

Mr. Harcourt.

3000 copies of the Annual Medical

Report of the E.A.P. for 1912 ^{Ch. 56}

printed at the expense of the

Postoffice

The Report has been left with you by Mr. Burgess

this Dept, as it should be
printed on the lines arranged

with line

(No. 1) H. J. READ

For the Under Secretary of State

Go S.A.P.
43546

MAR 1916 471



11 Mar '16

DRAFT.

C.A.P. No. 216

Go Sir H. Balfour

MINUTE

Mr. Fiddes 9/3

Mr. Read 9

Sr G. Fiddes

Sr H. Just

Sr J. Anderson

Lord Bannock

Mr. Harcourt

Anderson (see minute)

sent to School of Prof Med
at Prof Du Bouché with conf.

25/3/16

for distribution in the country
has been completed to the other District
Depot at

Sir,

I have the honor to acknowledge the receipt of the Bonyon's draft No. 925 of the 24th of March last, forwarding the Annual Report of the Med. Dept. of the S.A.P. for 1912.

2. The report has been printed in this country, and I enclose two copies.

The C.A. for the Colonies forwarding 160 LC copies, of the balance not required for this list or

3. After consulting the Advisory Committee on the subject of the report, I do not think it necessary to return the

report in detail I trust that
the figures speak the truth
& are not caused by the appearance
of flaps, cereb. spinal meningitis
& small pox in a serious form
The report of last year must have been
very great indeed to
~~be~~ against the practice
of this annual report, not
merely before the end of the
following year, but at all, that July¹⁸⁹⁷
the officers of the Med. Dep't
desire all the more credit
and praise for having
been able to produce a report that
is so satisfactory in form
& interesting in substance. There
is an opportunity for conveying
at any rate the sanitary
condition of the work of the
Dep't will occur during the
early part of this year in connection
with the Post. San. Com. following
report of the Ins. to S. A.
to that he suggested

to have that the practical
tables should follow strictly
the form laid down in the
Model Med. & San. Report. No.
472
reference to the standard
form facilitates comparison
with returns from elsewhere
& the type for many of the
forms included in the Model
Report is kept steady,
so that if (as I presume
is the case) it is found
convenient to have the
Annual Report regularly
published in this country in
future, a certain economy will
result to be effected by conforming
with the model in the report.

5. You will notice,
moreover, that the returns
under tables VI & VII, which
were not in general for each of
the various hospitals & Dispensaries
have been combined in an return

63546 EAP
73
S/S

17 March 1914

DRAFT

Colon Agents

Ans'd. 11132

Gallens

With ref. to the letter from
the Dept. of the 20th of Jan, I enc

to inform you that the approval of

your distributing copies of the Annual

Medical Reports of the EAP for 1912

MINUTE.

- Mr. Jewell 13/3/14
- Mr. Fiddian 13
- Sir G. Fiddes.
- Sir H. Just.
- Sir J. Anderson.
- Lord Emmott.
- Mr. Hareourt.

as follows - 180

East Africa Protectorate

- Uganda 25
- Nyasaland 10
- Somaliland 1
- Zanzibar 3
- Gold Coast 17
- Nigeria (N.P.) 11
- Nigeria (S.P.) 22
- Siam 3
- Panama Canal Zone 2
- Philippines 2

for the patients seen to
out patients after the method
followed in the Annual Med. R
See Report of S. Mig for
1912, copies of which have been
sent out to the EAP. The
This condensation has
resulted in a saving of space &
copies of the returns are now
being ~~sent~~ ^{handled} ~~to~~ ^{for}

The remaining copies should
be retained in your office
pending any demands upon them

Fifteen copies should be
sent to the Dept.,
in addition to the above
copies already sent.

THE J. READ

The Incorporated Liverpool School of Tropical Medicine.

474

210, Exchange Buildings,

Liverpool 18th May. 1914.

RECEIVED
1914
COL. OFFICE

The Secretary of the Liverpool School of Tropical
Medicine presents his compliments to the Under Secretary of
State for the Colonies, and would be obliged if a copy of
the latest Medical Report of the East African Protectorate
could be sent for his use.

Copy Report sent - 21/5/14

Truman

send copy 3/4
Curd
1914

... that a copy of ...
... 18th ...

11/20

16/313/2.

P.M.O's Office.

475

Nairobi,

31st October 1913.

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, the Medical Report on the health and sanitary condition of the East Africa Protectorate for the year 1913, together with the Returns, &c. appended thereto.

I have the honour to be

Sir,

Your obedient servant,

as directed.

Principal Medical Officer

Chief Secretary.

Nairobi.

EAST AFRICA PROTECTORATE.

ANNUAL MEDICAL REPORT

FOR THE

YEAR ENDING 31st DECEMBER, 1912.

ADMINISTRATIVE STAFF OF THE PROTECTORATE.

The medical staff of the Protectorate as

mentioned is as follows:-

MEDICAL OFFICERS.

Principal Medical Officer	1
Senior Medical Officers	3
Medical Officers, Permanent	1
-do- Probationary	1

NURSING STAFF.

Nurses, European Hospital, Nairobi.	1
Nursing Sisters, Nairobi and Mombasa.	6
Nurses, Female Lunatic Asylum, Nairobi.	1

OTHER OFFICERS.

Bacteriologist	1
Analyst	1

JUNIOR OFFICIAL STAFF.

Chief Clerk, P.M.O.'s Office	1
Assistant Clerk, -do-	1
Medical Storekeeper	1
Superintendent, Lunatic Asylum	1
Dispensers	2

Carried forward

Brought forward 38

SUBORDINATE MEDICAL ESTABLISHMENT.

Assistant Surgeons	4
Sub-Assistant Surgeons	31
Hospital Compounders	31
Laboratory Assistants	9

SUBORDINATE CLERICAL ESTABLISHMENT.

3rd Grade Clerk, Medical Stores.	1
4th -do- P.M.O.'s Office	1
5th -do- Health Office, Mombasa.	1

GENERAL STAFF.

Asiatics and Africans	181
-----------------------	-----

Total 260

APPOINTMENTS.

The establishment of Medical Officers was increased by two during the year and the two temporary Medical Officers engaged in Sleeping Sickness investigations have been added to the permanent establishment.

The establishment of nursing sisters was increased by one that of Sub Assistant Surgeons by six, and a laboratory Assistant was appointed to the Analytical Laboratory.

One Chief Clerk was appointed to the P.M.O.'s Office to fill a vacancy.

A Superintendent was appointed of the Lunatic Asylum.

to fill a vacancy. A temporary Matron for the Female Lunatic Asylum was appointed and will be confirmed as permanent from the 1st April 1913.

Two Nursing Sisters were appointed to fill vacancies caused by resignations.

RESIGNATIONS.

- | | |
|----------------------------|-----------------------------------|
| (1) During term of service | 2 Sub-Assy. Surgeons. |
| (2) On expiry of agreement | 2 Nursing Sisters. |
| | 1 Superintendent, Lunatic Asylum. |
| | 1 Sub Assistant Surgeon |
| | 2 Hospital Compounders. |

RECALLED TO THE INDIAN MEDICAL SERVICE.

- 1 Sub Assistant Surgeon.

DEATHS.

One Compounder died during the year from beri-beri.

PROMOTIONS.

Dr. L. D. Lowsley promoted Senior Medical Officer 13th December 1912, vice Dr. J. T. C. Johnson transferred to Hong Kong as Principal Civil Medical Officer.

Three probationary Medical Officers on completion of probationary period were promoted to the Permanent Staff.

TRANSFERS.

Dr. J. T. C. Johnson was promoted and transferred to Hong Kong as Principal Civil Medical Officer in December.

Dr. H. Smith was appointed Acting Bacteriologist - January to July, and Acting Medical Officer of Health, Bombay - November - December.

Dr. W. Owen-Frithard was in Medical Charge of Kenia Province from January to May and on his return from six months leave in December was appointed Medical Officer in charge of the European Hospital, Mombasa. Vice Dr. A. Robertson who was shortly due to proceed on leave.

Dr. H.A. Dodder was in Medical Charge of Naivasha Province from January to May and acted as Medical Officer of Health, Nairobi, from June to December.

Dr. G.L. Newallier proceeded from Kisumu to Serengeti in January to investigate and report on an outbreak of Bari-bari amongst the troops quartered there. He returned the end of June and proceeded on seven months' leave in July. He was relieved at Kisumu by Dr. G.J. Wilson who continued in medical charge to the end of the year.

Dr. A. Robertson relieved Dr. W.J. Radford as Medical Officer in charge European Hospital, Mombasa, in July when the latter proceeded on six months' leave of absence.

Dr. T.F. Lamb took over medical charge of the Native Civil Hospital, Nairobi, in March from Dr. L.D. Lovsley who proceeded on six months' leave (April - November).

Dr. L.D. Lovsley was appointed Medical Officer in charge Kenia Province in December vice Dr. H.M. Loys who proceeded on four months' leave at the end of the year.

Dr. A. Spaut relieved Dr. J.E.C. Johnson as Medical Officer in charge European Hospital, Nairobi, in May and remained in charge of that institution till the end of the year.

Dr. J. Pugh relieved Dr. H.A. Dodder as Medical Officer in charge Naivasha Province in June. He afterwards proceeded on six months' leave in August and was relieved by Dr. G.L.

Dr. H. Hamilton proceeded from Kiburu to Lamu in April and assumed medical charge of Lamu and Provincial from Dr. J.L. Gilks who proceeded on six months' leave.

Dr. J.L. Gilks on return from leave in November took over medical charge of the Native Hospital, Lamu, from Dr. A.D.J.B. Williams who had been in temporary charge from September.

Dr. V.C. L. Van Gerssen was on arrival in this Protectorate temporarily posted to the Native Hospital, Kisumu, for duty from June to August when he proceeded to Nakuru to relieve Dr. J. Hugh who was due to proceed on leave.

Last year, instead of considering the salubrity of the Protectorate as a whole, the report was presented in four portions - virtually four separate reports, dividing the country into areas described as (1) the Coast Area, (2) the Mountainous Area, (3) the Desert Area and (4) the Provinces of Kenia and Kavirondo. This was done partly for the sake of clearness in discussing a large number of names of places and diseases and keeping the immediate connection between them more apparent; and, partly in view of the infinite variety of the climatic conditions exhibited. It was felt that, perhaps, a more just estimation of the conditions of health might be arrived at. Though there is a certain obvious discontinuance in this arrangement, the plan is adhered to in the present report.

In adopting these more or less arbitrary divisions it must not be forgotten that the whole Protectorate is situated on the Equator, ranging in extent at its farthest limits from 4° Lat. N. to 5° Lat. S. and between the degrees of Longitude 34° to 35° E. In three of these areas the physical features of the country differ from each other sufficiently markedly to warrant their being so differentiated.

In the Coast Area the Province of Prussia is contiguous with, and resembles in general similarity to the

- 2 -

182

characteristics of the Tanganyika Province. The altitude of these two Provinces varies from sea-level to 5000 ft., while the mean average rainfall for 1911, calculated from the mean of all stations at which a record was kept was 37.56 inches. So far as Europeans are concerned this area is generally regarded as a 'Planters' country', with a small white population mostly connected with the trading interests of the town of Mombasa. The native population on this Coast belt is historically interesting, and consists of large numbers of Swahilis and Arabs with, in the hinterland, several pagan tribes of whom but little is known.

The coconut palm of the Tanganyika Province fades naturally into the arid hilllocks and sandy desert of the Jubaland Province. But, as the outstanding feature of this portion of Africa and the adjoining Northern Rhodesia District is the immense empty waterless wastes, both inhabited by nomadic Somalis and Gallas, it is easy to group them under the one heading, more especially as the link between them is the long line of the River Zambesi, as yet but little exploited by Europeans.

The Mountainous Area taken in the two Provinces of Ukamba and Kaiyasha with the Usambara Plateau - that portion of the country in which has settled the great bulk of the European immigrants. In this is situated Nairobi, the capital of the country, with its estimated population of 1200 Europeans. The rainfall may be taken on an average for 1912 - better than usual, at 56.85 inches, while the

altitude from 81/2 mile 867 on the Railway 5300 ft., runs up to nearly 8000 feet at Kolo.

The two provinces of Kenia and Kavirondo have been placed together but it must be remembered that they are not contiguous. They have so much similarity as to justify their being included under one heading - each contains a mountain - the one Kenia 17140 feet, the other Kilgor 14042 ft. Both support the largest number of native inhabitants in fact the United number of the indigenous inhabitants probably amounts to more than half of the entire native population of the Protectorate. The elevation of Kavirondo varies from the level of the Victoria Nyanza, 5700 feet running up to the slopes of Kilgor and the tableland of Trans Nzoia. Kenia is lower from something more than 1500 ft in the Trans Nzoia (where the land slopes down towards the Indian Ocean and meets the boundaries of the Eastland and Eastland Provinces) up to the snow line on Mount Kenia.

Thus, in fixing these divisions it must not be forgotten that they are entirely for the sake of convenience in comparison.

The stimulating and exhilarating effect of the climate in the Mountainous Zone, which has been entirely responsible for giving the Protectorate its name amongst the Colonies of the Empire, is equally felt in the inland regions of the Kenia and Kavirondo Provinces.

It is a curious fact, and worthy of note that all these regions most sought after by the white and negre immigrants were, with the exception of the Fataga and Nairobi, the least inhabited by a permanent native population.

THE COAST ZONE.

I. Administrative Staff.

The Medical Staff in these two Provinces consisted of Dr. W. J. Radford, M.R.C.S., L.R.C.P., Senior Medical Officer in charge of the European Hospital, Mombasa, and the Seyidie Province from January to July; Dr. A. Robertson, M.B., B.Ch., from July to December (during absence on leave of Dr. Radford); Dr. F. L. Henderson, M.R.C.S., L.R.C.P., in medical charge of the Native Civil Hospital, Mombasa, and Section of Railway Line in Seyidie Province, Dr. B. Small, M.R.C.S., L.R.C.P., D.P.H., Medical Officer of Health, Mombasa, from Oct to Dec, Dr. J. A. Huron, M.D., B.M.B. from April to October, and Dr. N. M. Mayo, M.B., B.Ch. from Jan'y to April. Lamu and the Province of Tawaland were in medical charge of Dr. O. L. Gilks, M.R.C.S., L.R.C.P., M.R.C.S., (Edin) from January to April and Dr. R. Hamilton, M.Ch., M.D., from April to December.

PUBLIC HEALTH.

(a) GENERAL REMARKS.

(i) General Diseases.

The general effect of this year has been to show an improvement over the conditions of the previous year, in some measure attributable to the partial failure of the heavy rains in the greater portion of the year followed by a diminution of such diseases as bronchitis, malarial and diarrhoea, as usual diseases of the digestive system and local injuries rank high as causes for appearing on the sick list. Eye affections also predominate, more especially in the more shady and less humid regions of Langford and Jubaland. In the town of Lasa, an interesting condition of conjunctivitis has been observed due to the effects of gun glare; shading the eyes for a few days effects a cure. Here also the undue amount of insubriary conditions noted in last year's report is still recorded, and the fact that many natives and Swahilis are addicted to the opium habit.

(ii) Communicable Diseases.

The number of cases of Malaria treated during the year was less than in 1911, the greater number of the cases being of a mild type. The lesser rainfall would account for this. Special Mosquito-nettes under the Mosquito Ordinance (which are in force at Nairobi), were made available to the public in July, but the dependency of the inhabitants on a supply from walls, which, in time of scarcity may have to be purchased by the natives in full.

and the peculiar condition of the town, rendered any application of them a matter of extreme caution. The greatest prevalence commences just after the onset of the rains and continues for some time after their cessation. The months chiefly responsible in this respect are November and December and March to June inclusive. Lamu and Kisumu are the towns with the least incidence of malaria, at the former the anopheles is not very much in evidence, while in the latter its presence has, so far, not yet been recorded. Manifestations of malaria in the latter town are due to exposure on the banks of the Jubba.

It is gratifying to record a very great diminution in the number of admissions for dysentery, and that the action towards controlling it has borne fruit.

Only three cases of enteric fever amongst Europeans were reported, all of which proved fatal. Two were landed from north bound ships in harbour, and there is a slight suspicion that undecayed vegetables from Malindi was the cause of the third.

During the year the town of Mombasa was visited by a severe epidemic of small-pox, which came to light in the month of July. The island was declared infected, and the new Compulsory Vaccination Ordinance applied. In all, 296 cases were reported with 65 deaths. It seems likely that the infection was imported from Arabia. In any case the Mombasa focus was the cause of isolated cases being detected at Malindi and Kisumu and without doubt, spread the infection throughout the little coast.

districts in the hinterland. Nearly 34,000 vaccinations were performed by the Health Office staff exclusive of those done by private practitioners, individuals and missionaries, with a free issue of lymph from the Government laboratory. Only one case occurred amongst Europeans, a child, probably infected by the native type.

This was not the only visitation experienced by Bombay, for its "singular irritability" to plague, so often commented upon in previous annual reports, disappeared on the 28th. August when a case of pneumonic plague was detected in the Native Hospital followed by a second case. The first was a Hindu labourer who had been living in the Public Works Department Indian lunch-closet at Bombay Railway Station. It was subsequently discovered that, in all, four persons had succumbed to the disease, and knowledge of their condition and of a mortality amongst the rats in the house successfully concealed from the medical authorities. Though a close outlook was kept for occurrence of further cases it was not till the 4th. October that it was discovered that three more deaths had occurred in another house between the 16th of September and 4th. October. An effort to confirm the diagnosis in this last case, by taking spleen smears, was met by strenuous opposition on the part of a large section of the Indian community, who resolutely banded themselves to frustrate all efforts of the Health and Administrative authorities to deal with the spread of the disease. Out of it came the fact that no less than 13 members of one household who had either lived in the infected house, tended the sick, or visited them had

succumbed to disease up to the end of the year, cases
 only had come to the knowledge of the Health Office.
 There was no doubt that practically the whole coloured
 population of the varied sections of the Island, made
 a most determined - and, it is to be feared unsuccessful -
 effort to suppress the cases, and to thwart every preventive
 measure on the part of the Medical Department and local
 Administration. With a very insufficient staff, and more
 or less singlehanded, it was beyond the power of the
 Medical Officer of Health to take radical measures in the
 face of the chaotic state of legislation in this treaty
 town - a condition which has been commented upon in previous
 reports. It is, however, satisfactory to record, writing
 at this juncture, that a very much improved tone prevails
 in the Island with respect to the resistance of the Islanders

But few cases of venereal diseases were recorded - 27,
 though this number affords no criterion of the extent of
 prevalence. It is certain that gonorrhoea and syphilis do
 not play a prominent part in the sick admission rate at
 the coast; in fact at least syphilis is noted as being rare.

Such cases of tuberculosis as occurred were chiefly
 confined to Asiatics.

Helminthic diseases are more common, than elsewhere,
 at the coast. Mosambic affords a grand field for the study
 of ankylostomiasis in spite of the fact that only 12 cases
 were recorded during the year. Many of the cattle in
 the inland district are infected with taenia, and the parasite
 is fairly common amongst the natives. Ascaridae and
 Bilharzia are not with from time to time.

Buruli - One case appeared in the Shimen
at Kumbasa. Its origin was not traced, but the district
in force is sufficiently ample and varied to lead one
to suppose that its occurrence was accidental.

Early in the month of February news of a very serious
mortality from this cause amongst the Gubina troops
stationed at the military outpost at Saronli on the River
Juba was brought down the river. Dr. Chevallier's report
on this outbreak accompanies this report as an appendix.

Bilharzia is confined to certain districts on the
Coast. Dracunculiasis is unknown so far.

(a) EUROPEAN OFFICIALS.

General Remarks.

The table below gives the comparative statistics of the sickness, mortality, and invaliding rates amongst European officials for the past 2 years.

The general health of the officials at the Board was an improvement on previous years. There is no doubt that those who are in occupation of the better class of houses exposed to the sea breezes enjoy a more measurable amount of protection than those who are not so favourably situated; having regard to the insalubrious conditions which prevail at Mombasa, and to which attention has been so often directed, it could hardly be otherwise. It is worthy of note that with the prevalence of small-pox and plague during the year no official nor member of his family were attacked by either disease.

Table showing the sick, invaliding and death rates amongst

European officials at the coast zone.

	1911	1912
Total number of officials resident during the year	221	198
Average number resident	56	51
Total number of sick lists	46	124
Total number of days on sick list	771	766
Average daily number on sick list	13.9	15.0
Percentage of sick to average number resident	3.44	2.90
Average number of days on sick list for each patient	12.6	6.20
Average sick time to each resident	12.6	7.09
Total number invalided	1	2
Percentage of invaliding to total residents	0.4	1.01
Total deaths	3	11
Percentage of deaths to total residents	1.3	5.5
Percentage of deaths to average number resident	2.2	11

STATISTICAL TABLES.

The statistical tables under this head which have been collected are still so incomplete that it has been deemed advisable to incorporate the returns in the table for the whole of the Protectorate. Next year it is hoped, now that proper registers have been issued, to make a commencement with more definite information and statistical tables.

(d) GENERAL EUROPEAN POPULATION.

Very little accurate information can be given under this head, as (with the exception of those residing in the island of Mombasa) the planters are scattered and mostly not in touch with any Medical Practitioner. Still, it may be said that, on the whole, their general health has been good. Malaria, as might be supposed, is accountable for a large amount of sickness. From the approximate figures supplied by Dr. Robertson, Medical Officer in charge of the European Hospital, Mombasa, it would appear that they are more exposed to infection than the Official class; he notes that out of an average of 52 Officials resident in Mombasa there were 37 cases of Malaria or 71.15 per cent; approximately there were an average number of 120 resident of the general population and of these 106 contracted Malaria or 88.33 per cent. He attributes this state of matters largely to the congested state of the town and the consequent necessity of finding lodgings in unsuitable houses, or in close proximity to, the native town. The seasonal incidence of malaria was on a par with previous years, being heaviest in the first and second quarters of the year. The type was principally benign tertian but there were three cases of malignant malaria, two of which terminated fatally.

(e) GENERAL NATIVE POPULATION.

Little can be said regarding the general health of the natives in these provinces, beyond such deductions as may be drawn from the appended tables showing the number of the cases admitted to the Government Hospitals and Dispensaries.

There is no doubt that there was a great decrease in the number of cases of dysentery in the up country labourers who were imported to work on the Coast, or who drifted into the districts.

Estimated Population.

No census has, as yet, been attempted of the population in these Provinces, but from his tax returns and such other data as were available, it may be estimated as at least 340,000. The Europeans numbered only 322 souls:

Korbaan 306

Loma 44

Malindi 22

352

Births and Deaths.

The system of Registration of Births and Deaths is still incomplete, except with reference to Europeans. Births are not recorded, and Deaths only in Townships.

There were 785 deaths in Korbaan (316 reported due to "natural causes") out of an estimated population of 24786. In 400 cases the cause of death is given as "unknown" 63 were due to small-pox, 61 to dysentery, and 26 to malaria. The death rate for Korbaan for the past 3 years is as follows:-

1910 20.7

1911 24.3

1912 28.4

The epidemics would account for the increase.

Infantile Mortality: No data is available to give any information under this head.

III- Sanitation.

(a) General Review, etc.

Note- As no particular object is to be gained by contrasting the progress made in sanitation work in the four zones, this and the following sections of the report refer to the Protectorate as a whole.

(i) Administration.

There are only three Medical Officers who are entirely occupied with the care of the Public Health - the Medical Officers of Health in Mombasa, Nairobi and Kisumu. These officers have no executive functions; only at one town - Mombasa - has there been any attempt to provide a small clerical and office staff and a mosquito gang. All the other duties usually associated with a Health Office are under the control of other departments. Thus the progress made in sanitary reform has been but little; is merely a continuation of the old system and has depended largely on individual efforts, the results of which are all too quickly lost sight of.

Laws passed:-

The legislation governing all sanitary matters in the Protectorate consists of the following:-

- (1) "The Infectious Diseases Ordinance of 1903" and Ordinance to prevent the introduction of Infectious or Epidemic Disease.
- (2) "Plague and Cholera Ordinance of 1911", governing overseas introduction of these diseases.
- (3) Rules to prevent the Sleeping Sickness under the Infectious Diseases Ordinance &c. &c.

In addition to these there are the various Rules published under these Ordinances, and those under the Township Ordinance containing the various health provisions relating to townships. All these rules are scattered through the Successive

During the year, the following were added to the Statute List:-

- (4) The Vaccination Ordinance 1912,
- (5) Additional (Mosquito) Rules under the Township and Infectious Diseases Ordinances made applicable to Mombasa as well as Nairobi.
- (6) The Quarantine Ordinance 1912- An Ordinance to prevent the introduction of diseases into the East Africa Protectorate.

The urgency of combining all these regulations in one comprehensive Public Health Ordinance yearly becomes more apparent, and in incorporating such other necessary laws as Notification of Infectious Diseases and Port Quarantine Act. More effective legislation is required also to name but one, for the registration of all Births and Deaths.

(ii) Protective measures.

Malaria.-The collection of bottle refuse, filling of pools and marshes too large for drainage, and the cutting of channels to remove stagnant water was carried out in all three towns. In Nairobi 166 Notices were served on house holders for the existence of nuisances with special reference to the breeding of mosquitoes. It is significant that 130 of these were served in the first 2 quarters of the year during the rains. In this town the filling of large excavations and burrow-pits was done by the Railway and Public Works Departments.

Free distribution of quinine was instituted at Mombasa and, in continuation of last year's system, at Kisumu and Fort Hall, but not many took advantage of it.

Malaria.- *Elephantiasis Arafus* is found in the Nyanza Province, amongst both the Kavirondo and more particularly that section of the Nandi dwelling on the banks of

the Vain River. It is fairly common also in the Coast ¹⁹⁰⁵ regions and is seen in the Kenia Province.

Typhoid fever. Sleeping Sickness is entirely confined to the shores of and islands in the Victoria Nyanza. There has been no Medical Survey of the infested areas since Dr Charrett's and Dr Fuchs' Reports in 1910, but it is fairly evident that the danger of Sleeping Sickness yearly diminishes in importance. It is more for cases to be discovered in the outpatients of the Native Hospital at Ismail; and since the annual emigration of some 25,000 Kavirundu labourers from the Province, there still for an odd case to be picked up from the line, each year shows an increase in the last two returns from the infested districts showing that the repopulation of the debilitated districts is proceeding slowly but surely. East Africa has been more fortunate than her neighbours for the expansion of European activities, has so far imaged but little into the infested zone. Propositions for a Siam concession, the establishment of a boat building yard in a badly infested and uninhabited island, concession for the rearing of papyrus for the manufacture of paper or of "mudidi" have all been refused in this Native Reserve. With the extinction of the Sleeping Sickness Camp the main control has been the inspection of the labour passing through Kisumu.

Endemic diseases. The Protectorate suffered from 2 visitations during the year - small-pox and plague. The former occasioned a serious outbreak in Kabon, a small epidemic in the Fort Hall district, and various isolated cases in other parts of the country. The immunity of Kabon to plague for so many years a cause for blind congratulation, was broken into with the appearance of the pneumonic type in the latter part of the year. Nairobi and Kisumu also furnished their annual quota of cases. The only thing about these two cities is the way the disease

is yearly radiating out to attack fresh centres and form new foci for its spread.

The insufficiency of staff, isolation hospitals, contact camps, disinfecting apparatus, and all the necessary appliances for dealing with infectious and epidemic diseases renders it well nigh impossible to exercise more than a superficial control over the course of epidemics.

Plague. As plague has been present in Nairobi since 1902 and in Kisumu since at least 1905, they may be regarded as endemic centres. There is, I think, little doubt that its appearance in Mombasa was due to importation from one or other of these places. And with the existing sanitary condition of Mombasa it is likely that it has come to stay. That Nairobi may now be regarded as a focus for the spread of plague the following may be quoted. "During the month of October a fatal case of plague occurred on an European farm in the district of Kyambu (situated some 10 miles from Nairobi on the main road into the Kenia and Fort Hall districts). He was an Indian who kept a shop with attached grain store on the farm. Another Indian who lived with deceased also became affected and died in the quarantine camp; plague infected rats were found on the premises. It was also stated that a rat mortality had been noticed in several farms in the neighbourhood, and in one farm three native children died under suspicion of plague as dead rats had been seen in their huts. It was found that all the rat infected huts possessed grain stores in the hands of Indian traders, and, in all probability, the infection was conveyed in empty gunny bags (used for the carrying of grain) from the Indian Nairobi bazaar. It is sufficiently clear that the main means of the spread of plague is the petty Indian trader with his "duka" and grain bags.

The preventive measures adopted were: isolation of sick cases; many contacts as could be seized; the disinfection of the

of the houses and effects in Kisumu and Mombasa by the closing of the house and the burning of sulphur and spraying of floors and walls with a disinfecting fluid; in Nairobi by means of a portable Clayton. In addition at Nairobi, a portion of the goods ahead was converted into a disinfecting chamber and infected grain bags and goods disinfected by means of the largest size Clayton fitted on two trucks. At Kisumu these goods and all Native passengers' effects were disinfected by a smaller sized Clayton fitted on a truck in the Railway yard. Passengers leaving Kilindini and Kisumu by the Railway or Steamers were inspected; at the latter place over 10,000 were so dealt with.

The trapping of rats was persisted in; and the following table records the number of rats caught:-

Mombasa	1,724
Nairobi	870
Kisumu	9,636
	11,230

In Mombasa no infected rats were found even though it was discovered that there had been a rat mortality in certain quarters. In Nairobi 27 rats showed infection. It is significant in Kisumu that 45% of the female rats caught were pregnant. Infected rats were found there on 11 occasions.

Haffkine's prophylactic was undoubtedly the most valuable means at our disposal for preventing plague. The numbers inoculated were:-

Mombasa	8
Nairobi	3,400
Kisumu	6,270

No case of plague occurred in those inoculated with Haffkine's prophylactic; it was put to a severe test in Kisumu. Though rats were known to be dying in

the bazaar there was no evacuation of quarters, and P. Pestis showed a very decided selective preference for the unacculturated Indian, leaving in a household all the members of which had been protected. A trial was made with the Pasteur's Institute vaccine, a preparation which is stated to be valid for only 3 months. Eight of those so treated contracted plague, one within seven days and the other seven, more than three months afterwards.

There being no infectious diseases hospital at Mombasa, one was hastily improvised by utilizing the, as yet, unused new model dairy sheds; Malindi possessed a Quarantine Camp with galvanized iron lands; Kisumu occupied the break-down old Native Hospital.

Small-pox. This broke out in Mombasa in March. It was not controlled until some 34,000 people had been vaccinated. Its long duration was entirely due to there being no means of segregating the sick and contacts. With this disease, as in plague, there was a too successful concealment of cases, and a more than passive resistance by the town inhabitants to the action of the authorities.

Table showing number of cases of small-pox for the last three years, and the number of vaccinations performed.

	1912	1911	1910
Cases of small-pox	323	159	21
Vaccinations	79,252	15,167	14,353

The total quantities of lymph issued during 1912 was sufficient for 140,000 persons but returns from missionaries

and other

and other private persons to whom issued are not to hand.

The lymph used was entirely manufactured at the Bacteriological Laboratory. Where results could be inspected it is estimated that from 80% to 90% were successful.

Cholera: Though the island of Ankober was visited by a severe outbreak of cholera which commenced in July, it is satisfactory in regard that there was no suspicion of a case having reached the mainland or island of Ambasa.

Dysentery: It was not till the middle of the year that there was any amelioration of the unhygienic conditions noted in last year's report as prevailing amongst the up-country labourers in the Coast belt. Not till the Sanitation Department is in working order with inspecting officers continually visiting the working centres where labour is distributed, will there be any improvement under this head.

Enteric: The most important point brought out by the experience of the year's work in typhoid has been to prove what for long has been surmised - the role played by the native as a typhoid "carrier". Enteric, especially the ambulant form, is only too easily overlooked in the black man, and this point is brought out by the report (submitted as an Appendix) drawn up by Dr. Harn C. S. S., and Dr. Robertson, on the case which occurred in Nairobi. A leaflet drawing attention to the causes and prevention of typhoid was circulated during the year.

Malinthalic diseases: Beyond individual efforts in out-patient cases no general measures were promulgated.

(iii)

GENERAL MEASURES.

Sewage Disposal. The single bucket system is in vogue in the three towns, chiefly applicable to Europeans, Goanese, Asiatics and in the public streets. Natives either use the bush or cesspits in their own houses or compounds. In Mombasa the bucket contents are collected in night soil trolleys and are tipped into the sea. In Nairobi they are buried in shallow trenches which so far have given rise to no nuisance; in Kisumu in pits which are foul in the extreme. The conservancy control is not vested in the hands of the Medical Officer of Health.

Disposal of Refuse. The scavenging of the streets is generally performed in a perfunctory manner owing to insufficient staff and lack of proper supervision. In the main streets the droppings are collected, in the side streets mostly brushed to the sides. Municipal dustbins are provided from at certain street corners and localities, and are obligatory in compounds. Their contents are removed by carts. Otherwise the refuse is burnt in pits set aside for the purpose. Only at Mombasa is a two-celled destructor used, and the additional 2 new cells constructed were not put into action.

Water Supply. Mombasa's new water service not yet being within range of completion, the town is still dependant on tanks and polluted wells. It would appear that considerable delay in the construction of the pipe line from the Shimba Hills has been occasioned by difficulty of labour supply, though a large portion of the material has been delivered. The chemical analysis of this and the Nairobi pipe supply has been satisfactory

throughout the year. There are two mains into Nairobi from the Reservoir at Kikuyu some 16 miles away. These deliver, respectively in the 24 hours, 700,000 and 130,000 gallons. The four reception tanks on the town-ship have a total capacity of 52,000 gallons; the overflow from these at midday is calculated at 50,000 gallons. The structural condition of one of the basins at Kikuyu was not all that could be desired. During the year the Analyst reported the presence of zinc in the water, due to its solvent action on the 4" galvanized iron ~~conduits~~ ^{distributing} pipes.

Kikuyu: is still dependant on the lake water pumped up to the town by the Railway. It is high time a gravitation supply was instituted from the neighbouring hills. Streams are available but the water will have to be filtered before being passed as fit for consumption.

Nakuru: supply is totally insufficient for the growing town being little more than enough for the needs of the railway yard. Moreover its quality is bad.

Lake: like Nombasa draws its water from wells and tanks which are polluted and many of the former suspiciously saline.

Drainage: No Kivanda has been made in Nombasa on the condition reported upon in last year's note. In Nairobi lack of proper drains is conspicuous in all new streets where extensive building operations are vigorously proceeding. Practically no cement drains exist in Kisumu though the majority of the main streets are provided with open ragged trenches cut out of the "marham" (iron-stone). This formation is as hard as cement, and the hot sun does not allow the pools to remain long in existence. Such drains as exist are kept indifferently

clean by the conservancy gangs. In Nairobi the labour was supplemented by the use of a convict gang. Their operations covered the filling in of 96 borrow pits

21 excavations

the draining of 60 pools

6 marshes

the weekly ciling of 50 collections of stagnant water

and the cleaning of 56,000 lined yards

of drains. The Railway authorities also did a large amount of useful cleaning in their various quarters.

Sanitary Clearing - A sum of 4500 was spent by the Railway and 2500 by the Public Works Department during the year. Owing to labour difficulties this was less efficiently carried out than in former years. Kibuye point, at Kisumu was also dealt with as a Sleeping Sickness measure.

The question of segregation of races in townships:

Under this heading nothing has been attempted in Mombasa or Nairobi. Though a site was set aside in Nairobi for native location for this purpose as far back as 1906, owing to divided authority and lack of means a commencement has not yet been made. In Kisumu a definite area has been reserved for the African employees of the Railway. There has been but little invasion of the European residential quarter in Mombasa. The problem of the Indian Bazaar in all three towns remains exactly as it did last year. An effort has, however, been made to deal with the small Indian "dukas" springing up in nearly all the new townships and out stations.

(iv) Condition of Trades and Factories.

Public Markets.— Considering their poor construction and unattractive appearance these have generally been kept in a cleanly condition.

Slaughter houses.— These are under the control of the Administrations in all parts of the country except at Nairobi ^{where it} which is under the control of the Town Clerk. Most of the meat slaughtered is inspected by the Veterinary Department or by the Sub Assistant Surgeons of the Medical Department. The latter ^{have} ~~possess~~ little training for this work. Nairobi killed during the year

Oxen 907.
 Pig 1 (illegally)
 Sheep 33,687.

of these 54 oxen and 482 sheep were condemned as unfit for human consumption.

Hot water factories.— Are generally well managed, and mostly owned by Asiatics though the Railway and the European firms have each an up to date plant. The sale of the local production in Mombasa is mostly confined to natives, Europeans generally not caring to risk the chances of contamination, they drink imported aerated waters which adds somewhat to the cost of living. At Kisumu the water for the railway personnel is brought in from the deep water of the Lake in the steamers tanks and pumped ashore. The analysis of the Mombasa supply has been discontinued, but watch has been kept on other factories.

Cotton Ginners.— There is only one in the country situated at Kisumu. This deals with a large amount of loose cotton coming from Malindi in Uganda, a district known to be endemic with plague. The site of the build-

ing is unfortunate; the building is not rat proof, and ~~are these any means for disinfecting the raw material.~~

Laundries- The position of these was probably more satisfactory in Nairobi than elsewhere, as the use of pipe water is insisted on.

Milk: The sale of milk is very largely in the hands of native vendors who are rapidly getting adepts in the art of adulteration. Nairobi is mostly supplied from Europeans on the surrounding farms which are mostly well managed. The condition of the native byres and cattle bomas is best left undescribed. In Nairobi 18 samples were analyzed during the year and 6 were found to be adulterated. An interesting report by the Government Analyst on the quality of milk in East Africa will be found in the Nairobi Laboratory Reports, Vol. III. Part 2, 1912.

Bakeries- Like the milk vendors the bakers of the country are mostly Asiatics with two or three European firms. With the exception of the Mombasa houses most of these are conducted in a shabby fashion.

Shipping: A Bill of Health issued at any port holds good for Kilindini including Mombasa, Lamu and Kisumu. The numbers issued during the year were:-

	1910		1911		1912	
	Steamers	Dhows	Steamers	Dhows	Steamers	Dhows
Kilindini	320	334	381	213	393	110
Lamu	90	3	46	3	18	
Kisumu						

No reason is assigned for a drop in the number of Dhows at Mombasa.

At Kisumu the numbers were:-

	1910	1911	1912
Steamers			178
Dhows			213

(b) Measures taken to spread a knowledge of hygiene.

No concerted action has been taken in this respect. In the absence of so much practical application of sanitation methods, the spreading of theoretical knowledge amongst an unlettered, apathetic and ignorant population is futile. Still, the Director of Education has proposed a course of instruction for the schools under his charge which has since come into force.

(c) Recommendations for future work.

With the sanction of His Majesty's Secretary of State.

the inclusion of a much needed Sanitation Division as a branch of the Medical Department was included in the estimates for 1912-13. And it duly came into being on April 1st 1913.

As, since then, Professor W. S. Simpson, C.M.D., has arrived in the country to organize this department, and report on the sanitation of the country, it is deemed advisable not to submit a long list of recommendations most of which will be more adequately dealt with when his report is published. Apart from the Sanitation Division and its needs, the country will have to force an increase in the Medical staff so as to permit those officers who are in charge of Hospitals or stations to be so in deed and not merely in name. This many of them cannot be owing to the multiplicity of duties assigned them and the lack of facilities for seeing about a consultant with this will be an increase in the subordinate and Clerical staff.

of buildings the following will be required

(1) Alterations and additions to

The European Hospital, Nairobi.

The Government Laboratory, Nairobi.

The Lunatic Asylum, Nairobi.

Civil Hospital Nairobi include wards for higher cast Indians and Kenyan - these two classes, official or unofficial, have literally no semblance of hospital accommodation open to them in Nairobi - Coble wards and African wards.

Several smaller hospitals and dispensaries throughout the country.

(2) New buildings

European Hospital, Bombay.

European Hospital, Kisumu.

There are two points bearing directly on the health of officials on which I should like to touch. The first is the housing question. Whatever be the reason it is notorious that there is an insufficiency of either Government quarters which can be allotted to officers on arrival or of - in the bigger centres - houses which can be rented on behalf of the Government. Generally speaking the price demanded for the accommodation offered is such as to preclude its acceptance except through sheer necessity of obtaining roof-shelter. This shortage of supply sends the arrangement and endless re-arrangement of houses already occupied; the dovetailing up of new comers with older residents; or the placing of newly arrived officers in the atmosphere of Clubs or Hotels. To the friction of a tropical climate and the responsibility of such work is added, the extreme discomfort of unwholesome home surroundings. Thus it sometimes happens that, consciously or unconsciously, the mental attitude of the officer towards the service he has joined is soured from the commencement.

I would recommend that an adequate provision of houses be made for officials of all ranks; that in Bombay and Nairobi fully equipped chambers be built to absorb the bachelors, and available for those coming or going on leave. If one are compelled to visit these towns on short spells of temporary duty.

The other point is the working hours. Government offices close at 4 p.m. (except of course such as from the nature of their work must be open at all hours). With the amazing

development

development of the country it is inevitable that certain departments, in order to overtake the stress of work, should have to work overtime. ⁿ I think that I have nothing to say; but when that overtime becomes almost a matter of ceaseless routine up to the hours of darkness, I think it should be a subject for enquiry. It is not fair on the clerical staff. The habit of physical exercise and recreation is a very valuable asset towards keeping a man fit and sane - so some absolutely essential. For lack of it to regain his tone, alcohol is indulged in. Now in this tropical country the only hours in which it is possible to exercise one's muscles and relax the mind by healthful recreation are those between 4.30 and 6 p.m. So far as it can be done, I consider that no office should be kept open after 4.30 p.m.

IV. ENTOMOLOGY.

Tables are appended for stations where observations have been taken.

V EUROPEAN HOSPITALS.

Staff.

Dr. W.J. Radford, M.R.C.S., L.R.C.P., was in medical charge of the European Hospital at Mombasa from January to July when he proceeded on leave.

Dr. A. Robertson, M.B., B.Ch., took over from Dr. Radford and remained in charge till the end of the year.

The Nursing Staff at Mombasa consisted of two Nursing Sisters.

At Nairobi Dr. J.T.C. Johnson M.B., Ch.B., F.R.C.S., was in medical charge from January to June when he proceeded on leave and Dr. A. Mount M.B., B.Ch., D.F.P.L.D., assumed charge.

The Nursing Staff consisted of a Matron and three Nursing Sisters.

The work of the staff at Nairobi Hospital was very heavy on occasions owing to the number of sick and casualties among the Nursing Sisters.

There is great need of a third European Hospital at Kisumu. Much good work was accomplished in the European Hospitals, and the need of them in the country is made very apparent by the increasing use made of them.

Table showing Admissions, and Death rate of patients in the two European Hospitals.

	1911	1912.
Total number of admissions	250	276
Total number of deaths	14	11
Percentage of deaths to admissions	5.60	3.99
Average number of beds daily occupied	8	11.5
Number remaining on 31st December 1912.	11	14.

The principal diseases treated in Hospital were:-

Malaria: 93 cases or 35.35 per cent of admissions with in only one case, fatal termination. The tertian, sub tertian and noctive autumnal varieties of the parasite were the prevalent causal agents of the disease. The main incidence of malaria occurred in the 2nd quarter of the year and in July.

Enteric: This caused 25 admissions or 9.95 per cent of the admissions with four deaths. The cases varied in severity from those of a few days duration which, without the agglutination test, might easily have been overlooked, to cases showing the usual symptoms and complications of a severe infection.

Table showing Admissions, and Death rate of patients in the two European Hospitals.

	1911	1912
Total number of admissions	250	276
Total number of deaths	14	11
Percentage of Deaths to admissions	5.60	3.99
Average number of beds daily occupied	8	11.5
Number remaining on 31st December 1912.	12	14

The principal diseases treated in Hospital were:-

Malaria: 23 cases or 9.20 per cent of admissions with in only one case, a fatal termination. The tertian, sub tertian and aestivo autumnal varieties of the parasite were the prevalent causal agents of the disease. The main incidence of malaria occurred in the 2nd quarter of the year and in July.

Enteric: This caused 23 admissions or 9.20 per cent of the admissions with four deaths. The cases varied in severity from those of a few days duration which, without the agglutination test, might easily have been overlooked, to cases showing the usual symptoms and complications of a severe infection.

The incidence of this disease is fairly evenly distributed throughout the year.

The greatest number of cases come, as might be expected, from Nairobi with its large European population. (For further information on this subject see Appendix No. 1)

Diseases of Respiratory System:- 15 cases, an increase of 3 cases compared with 10 for last year.

Dysentery:- 10 cases. In this country this disease invariably depends on the amoebias. Treatment by emetine hypodermically gives good results though at the site of the injections considerable redness, irritation and swelling were noticed.

Operations. 6 major and 14 minor operations were performed during the year and these including the setting of fractures. The principal operations performed were for liver abscess, peritoneal cyst, haemorrhoids, separation of gastric adhesions, intestinal obstructions and appendicitis.

VI GOVERNMENT LABORATORY, NAIROBI.

Dr. F.H. Ross, M.R.C.S., L.R.C.P., D.F.H., Government Bacteriologist, proceeded on leave on the 1st January and returned on the 2nd August. Dr. R. Small, M.R.C.S., L.R.C.P., D.F.H., acted as Bacteriologist during the greater period of Dr. Ross' absence.

Mr. V.H. Kirkham, B.Sc., F.I.C., Dip.Agric. (Camb.) was in charge of the analytical branch of the Laboratory throughout the year.

The Bacteriological Department performed a large number of routine examinations - 2287 in all - work which is annually becoming a heavier task on our time. This included:-

<u>Blood</u>		1505
Widal reaction	negative	152
	positive	32
<u>Fluque</u>		
Human	positive	22
	negative	27
Rats.	positive	100
	discomposed	103
	negative	77
Urines		116
Cattle		792

The output of glycerinated vaccine lymph for the year was 140,770 doses and dried vaccine for 400 persons.

The standard of successful results obtained was as high and as satisfactory as in previous years. Particulars of the research work carried out in the Laboratory will be found in the Laboratory Reports Vol. III., Parts I & II., 1912. In this volume will also be found the Report of the first year's working of the Government Analyst. Of the many interesting investigations carried out the following is a summary of those more particularly affecting

the Medical Department.

Milk	356
Water	85
Food	27
Toxicological	13
Semen & Blood stains	4
Miscellaneous	9

Samples of milk submitted officially:-

Received	48.
Adulterated	19
Percentage adulterated	37.5

VII Institutions

LUNATIC ASYLUM.

STAFF.

Dr. A. Robertson M.B., B.Ch., from January to June, Dr. H. A. Bedeker M.B., C.M., from June to December; Superintendent, Mr. W. Henfrey; Matron Mrs. L. Henfrey.

There was a total of 32 males and 4 females admitted during the year, making, with 36 remaining from last year, a total of 72 under treatment as compared with 60 for 1911. During the year there was a mortality of 22, giving the very high death-rate of 30.55 per cent as contrasted with 18.33 per cent for 1911. Fully half of these deaths occurred in the first quarter of the year, and was due to an outbreak of dysentery. Owing to the shortage of water in the tanks the supply is skad out by the patients being taken down to one of the two streams which flow either side of the grounds for ablutionary purposes. Being Africans they of course drank this highly polluted water, with the above result. Bathing in these streams being put a stop to, no further cases occurred. The high mortality is further explained by the fact that eight deaths occurred in inmates who had been confined in the Asylum for 3 years and four in those for

two years. The cases are sent in from all over the Protectorate and are generally of a very violent nature. They soon quieten down on arrival, and as soon as fit, are occupied in the growing of maize and beans for their own food, and in the upkeep of the grounds. During the year a new wing was added to take in the females, and an European Matron appointed. The accommodation was taxed during the year. One padded cell is reserved for Europeans but there are no wards for milder or convalescing cases. The water supply is from rain-water tanks which run short in the dry weather. Proper drainage and electric lighting have yet to be installed.

THE GAOLS. The two chief ones are at Nairobi and Mombasa with 634 prisoners remaining from the past year and with 1700 admitted during 1922 there were in all 2334 incarcerations. The sickness rate was 37.76 per cent and the death rate 1.67 per cent. The accommodation in both Gaols was insufficient. The Mombasa Fort is an unsuitable building it being extremely difficult to adapt a mediaeval fortress on sanitary lines. Nairobi gaol was overcrowded.

CIVIL (NATIVE) HOSPITALS. Mombasa and Kisumu both possess stone buildings of reasonable design and construction. The management of the former reflects credit on the staff. The Civil Hospital at Nairobi has been condemned since 1904, and is situated on a wrong site and is most unsuitable. Most of the other stations in the Protectorate are provided with small dispensaries and usually a six bedded ward under the charge of a member of the subordinate medical staff. Tables showing the indoor and outdoor cases treated are appended. The work of these hospitals is greatly impaired by the lack of a trained nursing staff.

THE HOSPITALOUS AREA.

This comprises the two provinces of Uganda and Nyanza, including the plain high plateau with an altitude varying up to 8,000 feet. The greater part of these areas is generally regarded as being admirably adapted for settlement by Europeans. The capital of the Protectorate and the terminus of the main, spacing, section of the Uganda Railway, Kampala, respectively situated in the

1. Uganda Province.

Salisbury: European Hospital, Dr. F. F. G. Johnson M.B., Ch.B., F.R.C.S., from January to June; Dr. A. Mount M.B., B.Ch., from June to December. Native Civil Hospital: Dr. F. F. G. Johnson M.B., Ch.B., F.R.C.S., from April to December. Dr. L. Dilworth M.B., Ch.B., F.R.C.S., from January to April. Senior Officers: Dr. A. Mount M.B., Ch.B., from January to June and Dr. H. A. F. Baker M.B., Ch.B., from July to December. The Medical Officer in charge at the Native Civil Hospital was also in charge of the Civil, Military and Police and the Public Health Office in charge of the District.

Nyanza Province: Dr. H. A. F. Baker M.B., Ch.B., from January to June. Dr. J. P. G. M.B., Ch.B., F.R.C.S., July to August. Dr. V. G. J. van der Merwe M.B., Ch.B., from August to December, and Dr. W. H. Beard M.B., Ch.B., as District Surgeon, Uasin Gishu from November.

THE PUBLIC HEALTH.

(a) General Remarks.

The effect of an increased rainfall is always reflected in an increase in the number of cases of sickness, and this was no exception in this area. There was an increase in the number of malarial cases amongst the white population, due, in some measure to the greater influx of people.

(i) General Diseases.

Digestive and respiratory troubles particularly pneumonia and local injuries were as prominent as in other parts of the Protectorate. Of minor ailments, influenza at Nakuru, and tonsillitis, generally ascribed to dust infections during the dry seasons of the year and known locally as "kikumu", "okuma", or "kikumu" throat were common, particularly in the first mentioned town, as well as valde cases and ligerr.

(ii) Communicable Diseases.

Malaria:- This prevailed to a greater degree than last year throughout the Province, Nakuru showing the least incidence, anopheles being ^{rarely} ~~usually~~ found there. The bulk of the cases appear ^{ed} during the 2nd. and 3rd. quarters of the year.

(iii) Epidemic Diseases.

[iii] Epidemic Diseases.

Plague:- After the lapse of a year plague again made its appearance in the Indian sector, Nairobi, on the 5th. of September. There were 8 cases in all. In October a fatal case occurred at Nyambu, and seven cases at Machakos with six deaths. In 1931 there were a total of 10 cases, 22 of which were fatal, giving a death ratio of 55.3 per cent of cases admitted. In 1932 there was a total of 17 admissions and 11 deaths - a mortality rate of 64.71 per cent of admissions.

Dysentery:- Accounted for 612 cases, outside under treatment as indoor and outdoor patients, of these 59 died. Fifteen Europeans are included in the total number of cases treated with no deaths. Taking into consideration the ever-increasing migratory habits of the natives, and the thereby ever increasing pollution of the roadside water, holes and rivers, the speed of its spread is not to be wondered at.

Enteritis:- The total number of admissions was 22, with 13 fatalities giving a death rate of 59.09 per cent of admissions. This subject is discussed under the section devoted to urban hospitals and in more detail in the report submitted as an appendix.

(3)

(5) European Officials.

Kularia, as usual, is responsible for the largest number of admissions, British and American being fairly frequent. There was an increase in the number of admissions compared with last year.

Table showing the Sick, Invalids, and Deaths of the ...
 European ...

	1911	1912
Number of Officers resident during the year	280	280
Number of sick list	212	289
Number of days on sick list	1,140	1,150
Average daily number on sick list	3.13	4.01
Percentage of sick to average number resident	1.12	1.43
Average number of days on sick list for each patient	5.38	4.33
Average sick time to each resident	11.8	15.11
Number Invalids	115	75
Percentage of Invalids to total residents	41	27
Number Deaths	1	2
Percentage of Deaths to total residents	.36	.71
Percentage of Deaths to average number resident	.11	.25

(c) Native officers.

Accurate separate statistics are not available and these are included under General Native Population.

(d) General European Population.

It is a little difficult to glean accurate information regarding the general white population; but it may be said that they suffered equally with the rest of the country in an increased number of cases of malaria, dysentery, typhoid and pneumonia. Dr. Hutch reports the out-break in Nairobi, of a curious disease which excited a certain amount of concern. The symptoms are described as being somewhat as follows:- Onset sudden with pain in limbs and head especially in neighbourhood of mouth and jaw, accompanied by vomiting, high temperature, and a general feeling of malaise. In the course of the next 24 hours the patient breaks out in a rash peculiar in its character and not characteristic of anything definite, covering the whole body and persisting for about 5 days, when all symptoms

disappear.

(12)

"disappear and patients recover. From literature gleaned from the Tropical Journal this disease would appear to be analogous with what is described there as "Pappataci Fever".

In the light of subsequent events, the symptoms described bear a resemblance to the anaplastic forms of epidemic Cerebro-spinal Meningitis.

The death-rate per 1,000 for Nairobi was 16.8 as against 11.0 for the preceding twelve months.

(g) General native population.

The estimated native population of the two provinces is 240,000 as calculated on the hut-tax returns.

Births are not registered, and only those deaths which occur in townships. The death-rate in Nairobi for Asiatics and Africans was: 1911 - 18.2 per 1,000; 1912 - 21.0 per 1,000. Public showing numbers treated as indoor and outdoor patients in the various hospitals and dispensaries are appended.

THE KENYA AND NYANZA PROVINCES.I. Administrative Staff.

Kenia Province:- Dr. W. Owen-Richard M.R.C.S.,
L.R.C.P., in charge from January to May. Dr. N. Milroy
M.B., B.Ch., from May to December.

Nyanza Province:- Dr. Cherrett M.R.C.S., L.R.C.P.,
D.P.H., January to September, Dr. J. Pugh M.R.C.S.,
L.R.C.P., January to June. Dr. A. D. J. Williams
M.R.C.S., L.R.C.P., B.A. from September to December.

II- Public Health.

(a) General Remarks - general diseases.

On the whole a better standard of health was maintained during the year, and beyond the usual amount of respiratory and digestive diseases and local injuries, there is no particular incidence of disease to record.

(ii) Communicable Diseases.

Malaria- 1154 cases came under treatment as indoor and outdoor cases. Malaria showed a notable increase during the rainy months, though the incidence varied slightly at the different stations - at Laikipia the first six months; Ruakis the middle six months; the Nandi plateau the third quarter; Fort Hall and Meru the second quarter of the year. At Kitui, from May to October, a total of 1.22 inches of rain fell out of a total of 62.77 inches recorded for the 12 months.

The increase of malaria in the Kenya Provinces

is in part due to the return of large numbers of labourers from infected coast-districts, and the mosquito-breeding possibilities of their native water supplies, and the increased returns from the fact that the unthinking savage is beginning to realize that in quinine the white man possesses a valuable cure.

Filariasis and Leprosy. Both these diseases are recorded as fairly common. Cases of elephantiasis abound more particularly on the Vale River in the northern portion of the Kavirondo Province, affecting a certain section of Wandi.

Plague. Mombasa, as usual, responded with its annual visitation. 79 cases occurred between March and the end of the year, as contrasted with 64 in 1911. The death rate was 69.37 per cent in 1912 and 76.37 per cent in 1911.

Tick Fever. Further cases of illness caused by the Spirochaeta Duttoni were observed in the Port Bell district, though, so far, none have been recorded amongst the Kavirondis.

Venereal diseases. I think that there is little doubt that syphilis is on the increase in these two Provinces - to what extent in the Kenia Province I am unable to say - but certainly in the Lumbwa and Wandi districts where prostitution is ingrained.

(b) European officials.

Officers in outstations probably enjoy a better standard of health than those whose duties keep them immersed at headquarters. On the whole there has been

an improvement

an improvement on previous years.

Table showing the Sick, Invaliding, and Death Rates amongst
 European Officials in the Nyanza and Kenia Provinces

	1911	1912
Total number resident	59	123
Average number resident	66	60
Total number on sick list	93	87
Total number of days on sick list	339	587
Average daily number on sick list	3.56	4.80
Percentage of sick to average number resident	3.47	2.35
Average number of days on sick list to each patient	9.23	6.75
Average sick time to each resident	12.63	4.77
Total number invalided	3	1
Percentage of invaliding to total residents	3.32	.81
Total deaths	1	2
Percentage of deaths to total residents ...	1.07	1.62
Percentage of deaths to average number resident	1.57	3.33

(c) Native Officials.

As the returns are not sufficiently complete they are incorporated under subheading (g).

(d) General European Population.

In the two Provinces there are about 400 Europeans. There is very little information to show what are the prevailing diseases, beyond malaria, or to give the statistics of sickness.

(e) General Native Population.

The combined population of the two Provinces is approximately the same as last year, 1,665,800. No Census is available, nor are births and deaths registered, nor can anything be stated regarding infantile mortality.

THE DESERT ZONE:I. Administrative Staff.

The headquarters of the Northern Frontier District is Marsabit and has been under the charge of Dr. G.H.H. Chell, M.R.S.S., L.R.C.P.,

Kismayu is the centre of the Jubaland Administration at the mouth of the River Juba. Dr. G.L. Chevalier, M.R.C.S., L.R.C.P., was in charge from January to June, Dr. C.S. Wilson, M.B.B.Ch., from June to December.

II. Public Health.(A) General Remarks(1) General Diseases.

Phneonia is surprisingly common in the hot arid wastes of Jubaland; eye affections and local injuries are not infrequent.

(2) Communicable Diseases.

Malaria: The Gosha district (on the banks of the River Juba) is heavily infected. Observations would show that such cases as occur in Kismayu are imported ones.

Small-pox: This was imported from Mombasa into Jubaland by sea, on three occasions, only one contact case resulted though it was reported to have also appeared around Deshek Wama. Two of the four cases were fatal.

Dysentery

Presently:- Like malaria is prevalent on the banks of the river.

Early-Report:- Early in the year a disastrous outbreak occurred amongst the troops stationed at the Military outpost, Sereni, some 400 miles up the river. This outbreak served to accentuate the extreme isolation of such parts as Sereni, Moyale, Marsabit, Liongolani on Lake Rudolf, and Ngabotok near by Mount Elgon, and the absence of transport commented upon in last year's report. Out of a total number of 289 troops, women and followers stationed at Sereni 112 were attacked and 44 died, an admission rate of 38.75 per cent of strength and a death rate of 39.28 per cent of admissions. Dr. Chevallier who investigated the outbreak, and whose report is submitted as Appendix No. 3 ^{Annex 10} attributed the cause to faulty rice rations.

(b) European Officials.

General Remarks.

The health of officials in these desert zones was on the whole remarkably good, even though in the very hot and dry air, most of them have an inconceivable amount of hard trekking and exposure to undergo and exhibit such endurance. No accurate statistics are as yet available of the odd 50 or so European Officials and others, in the Province.

Table showing the Sick, Invaliding, and death rates amongst
European officials in the East Africa Protectorate.

	1910	1911	1912.
Total number of officials resident ...	424	470	467
Average number resident ...	365	383	433
Total number on sick list ...	307	413	449
Total number of days on sick list ...	2,904	3,410	3,405
Average daily number on sick list ...	8	9	9.30
Percentage of sick to average number resident ...	2.19	2.32	2.19
Average number of days on sick list for each patient ...	10	9	7.88
Average sick time to each resident ...	8	7	6.01
Total number invalided ...	2	4	3
Percentage of invaliding to total residents ...	.47	.85	1.41
Total deaths ...	4	4	4
Percentage of deaths to total residents ...	.71	.85	.71
Percentage of deaths to average number resident ...	.53	1.05	.85
Number of cases of sickness contracted away from residence.			

Table showing the sick, invaliding and death rates amongst
Native Officials in the East Africa Protectorate.

1.	Total number resident during year	1288
2.	Average number resident	1202
3.	Total number on sick list	1268
4.	Total number of days on sick list	7800
5.	Average daily number on sick list	21.34
6.	Percentage of sick to average number resident	1.77
7.	Average number of days on sick list to each patient	6.18
8.	Average sick time to each resident	5.02
9.	Total number invalided	18
10.	Percentage of invalidings to total resident	1.40
11.	Total Deaths	1
12.	Percentage of deaths to total residents	.08
13.	Percentage of deaths to average number resident	.08

ANNEX.

PART I.

Medical Officers.

Dr. A. B. Wilks	Principal Medical Officer.
Dr. J. A. Moran, D.M.D.	Senior Medical Officer.
Dr. F. J. Radford	-do-
Dr. L. B. Lewisley	-do-
Dr. H. A. Spacher	Medical Officer.
Dr. C. L. Chevalier	-do-
Dr. F. S. S. Fitchard	-do-
Dr. H. A. Lays	-do-
Dr. F. L. Henderson	-do-
Dr. J. Small	-do-
Dr. A. Robertson	-do-
Dr. W. R. H. Groll	-do-
Dr. J. F. Luab	-do-
Dr. A. Mount	-do-
Dr. J. L. Gilks	-do-
Dr. J. Rugh	-do-
Dr. B. V. Cherritt	-do-
Dr. B. Hamilton	Probationary Medical Officer
Dr. C. J. Wilson	-do-
Dr. V. O. L. Van Ameren	-do-
Dr. A. D. J. B. Williams	-do-
Dr. T. H. Hasey	-do-

Other Officers

Dr. F.H. Ross

Bacteriologist.

Dr. V.H. Kirkman

Analyst.

Nursing Staff

Miss K.R. Stollard,

Matron, European Hospital, Cairo

Miss R.B. Brown

Nursing Sister.

Miss A.M. Marston

-do-

Miss M. Macmillan

-do-

Miss P. Turner

-do-

Miss H. M. Whitburn

-do-

Miss E. R. Lumsden.

-do-

Junior Official Staff

Mr. R. Stanley

Chief Clerk, F.H.C.'s Office.

Mr. T. Preston

Assistant Clerk -do-

Mr. J.H. Robertson

Medical Storekeeper.

Mr. G. Gilchrist

Dispenser.

Mr. J. Knoll

-do-

Lunatic Asylum

Mr. W. Henfrey.

Superintendent Lunatic Asylum.

Mrs. L.A. Henfrey

Matron, Lunatic Asylum, Cairo.

Appointments.

No.	Appointment.	Date.
1. V. G. L. Van Buren	Probationary Med. Officer	30th April 1912.
2. A. D. J. Williams	-do-	15th Aug. 1912.
3. A. Stanley	Chief Clerk	22nd Feb. 1912.
4. F. Heafrey	Superintendent Lunatic Asylum	1st November 1912
5. D. Turner	Nursing Sister	5th Jan. 1912.
6. H. M. Whitburn	" "	29th Feb. 1912.
7. G. E. Lumsden	" "	22nd June 1912.
8. L. A. Henfrey	Temporary Matron Lunatic Asylum	5th Dec. 1912.
9. H. L. Braganza	Assistant Surgeon	22nd Jan. 1912.
10. D. Das	Sub Asst. Surgeon	17th March 1912.
11. Abdul Kadir	-do-	11th May 1912.
12. J. Thappa	-do-	4th Aug. 1912.
13. S. Saund	-do-	24th Aug. 1912.
14. Nishan Das	-do-	17th Oct. 1912.
15. S. Karim	-do-	26th Oct. 1912.
16. S. Harvekar	-do-	12nd Nov. 1912.
17. M. K. K. K. K.	Hospital Dispensary	2nd July 1912.
18. S. S. S. S.	-do-	1st Dec. 1912.

Resignations.

(1) During term of service:-

Name	Appointment.	Date.
Fernand Din	Sub Asst. Surgeon	28th Sept. 1912
Brinda Sen	"	28th Sept. 1912

(2) On expiry of agreement:-

Miss A. Crawford	Nursing Sister	2nd Jan. 1912
Miss F. Marshall	"	4th March 1912
Mr. N.H. Kellan	Supdt. Lanchester Hospital	20th Aug. 1912
H.A. Lewis	Sub Asst. Surgeon	27th Dec. 1912
G.F. Field	Compounder	23rd Feb. 1912
H.E. Chatterjee	"	20th Nov. 1912

Recalled to the Indian Army.

Kesar Singh	Sub Asst. Surgeon	18th Feb. 1912
A.A.C. Fernandes	Hospital Compounder	20th April 1912

Transferred to Hong Kong.

Dr. J.E.C. Johnson	Senior Med. Officer	12th Dec. 1912
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Leaves of Absence.

Name	Rank.	Period Absence	
		From	To
E. S. Johnson	S. M. O.	13th June '12	11th Dec. '12
J. Ruffard		7th July '12	28th Aug. '12
A. Ross	Barry	1st Jan. '12	2nd Aug. '12
A. Mervillier	M. O.	15th July '12	23rd Aug. '12
A. Lowley	M. O.	22nd April '12	17th Nov. '12
A. Richard	M. O.	20th May '12	20th Dec. '12
Fisk	M. O.	12th Aug. '12	18th March '13
M. Clarke	M. O.	4th Oct. '12	16th May '13
W. Blake	M. O.	11th April '12	27th Nov. '12
G. Sullivan	Supdt. A.	22nd April '12	20th Aug. '12
A. Hartman	Sup. Storekeeper	22nd April '12	20th Oct. '12
A. Stollard	Matron, N. H.	22nd April '12	20th Oct. '12
A. Brown	Nursing Sister	2nd Dec. '12	30th June '13

Resumption of Duty

Name	Rank	Date
F.H. Roen	Bacteriologist	22nd Aug. 1912
H. Small	Medical Officer	26th Jan. 1912
L.F. Lowley	"	27th Nov. 1912
W.O. Richardson	"	28th Dec. 1912
E.P. Lamb	"	19th March 1912
J.L. Gilke	"	27th Nov. 1912
A. Ward	"	18th May 1912
J.S. Newcomb	Med. Storerkeeper	29th Oct. 1912
K.W. Stigallard	Watson, E.S. Harvill	21st Oct. 1912

- 4 -

Table II

FINANCIAL.

The sanctioned Medical Budget for the year 1911 - 12 was a total of Rs. 844 as compared with Rs. 29,175 for the previous year. Of this was expended Rs. 55,436.

EXPENDITURE.

The headings under which the vote is sanctioned are as follows:-

Schedule XIV. Medical Department.

Personal Emoluments Rs. 13,861.

This includes the salaries of the Medical Staff, Analyst, Storekeeper and Clerical Establishments.

Other Charges. Rs. 4,248.

This covers Conservancy rates, the vote for combating epidemic diseases, the proportion of cost of the Zanzibar Quarantine Station, Transport and Contingencies.

Schedule XIVa. Medical Department.

Special Expenditure Sleeping Sickness.

Personal Emoluments: XIVa Allowances.
Salaries of Subordinates and staff. Rs. 467.

Other Charges. Rs. 770.

This is to meet the cost of medicines, bush clearing operations, travelling etc.

Schedule XV. Hospital and Dispensaries.

Personal Expenditures

£ 8,908.

This provides for the cost of the staffs for the ^{Hospital} European Nursing Sisters, Lunatic Asylum, Dispensary, Dispensaries, Indian Subordinate Medical Establishments, and Native Medical Attendants.

Other Charges.

£ 5,509.

Under this come the charges for the upkeep of the two European Hospitals, the Laboratory, Asylums, such infectious diseases establishments as exist, medical and surgical stores and equipment, transport, etc.

Receipts

The gross revenue accruing to the Medical Department amounted to £ 1687.16.3 contracted with £ 1306.7.6 for the previous year. The details of this are as follows:-

Fees from European Hospitals for subsistence and lodging.	£ 1455.16.3
Expended from Upkeep Vote	976.16.11

(Note: An excess of £ 376.16.4 over the sanctioned allowance of £ 700.)

Thus the net profit under this Head is £ 468.17.4

Sales of bills of Indian

	1912	1913
Bombay	₹ 194	₹ 194.10.0
Kinnowa	" 22	" 22.0.0
Madra	" 2	" 22.0.0
Total	₹ 218	₹ 238.10.0

Sales of medicines ^{etc} from variousdispensaries in districts where
no recognised chemist ^{is established} exists

₹ 190

Registration Fees

" 18

The net Revenue is, therefore

₹ 210.10.4.

TABLE III.

Return of Statistics of Population for the Year 1912.

	Europeans and Whites	Africans	Asians
Number of Inhabitants in 1912	5,151	xx 3,000,000	14,644
Number of Births during 1912	85	39	25
Number of Deaths during 1912	45	1,446	584
Number of Immigrants during 1912	3,106	1,990	6,113
Number of Emigrants in 1912	1,280	1,446	3,016
Number of Inhabitants in 1911	5,176	xx 3,000,000	x 11,860
Increase of	1,974	-	2,786
Decrease			

x Vide Census 1911.

xx Approximately.

TABLE III (A)

Giving the Number of Europeans in the Different Districts.

District.	Males.	Females.	Total.
Mashonaland	82	36	118
Nyanga	212	127	339
Highveld	5	3	8
Nairobi	622	369	1,011
Umtata	106	69	227
Salisbury	14	1	15
Deloraine	16	12	28
North Kavirondo	2	—	2
Umtata	60	36	116
Deloraine	2	2	4
Deloraine	12	2	14
Salisbury	60	13	63
Umtata	319	184	603
Deloraine	272	163	446
Umtata	3	—	3
Deloraine	15	6	21
Deloraine	13	3	22
Deloraine	56	43	133
Deloraine	3	—	3
Deloraine	6	2	8
Deloraine	21	20	41
Deloraine	26	2	28
Deloraine	7	—	7
Deloraine	5	5	10
Deloraine	5	1	6
Deloraine	4	—	4
Total	3,422	1,183	4,605

TABLE III (A)

Giving the Number of Europeans in the Different Districts.

District.	Males.	Females.	Total.
Machakos	83	36	119
Wajir	218	137	355
Mombasa	5	3	8
Nairobi	622	369	1,011
Meru	196	69	265
Malindi	14	1	15
Isiolo	16	12	28
North Kavirondo	2	—	2
Kenya	60	36	116
Isiolo	2	2	4
Isiolo	12	2	14
Isiolo	60	13	73
Isiolo	313	154	467
North Nyanza	262	165	427
Isiolo	3	—	3
Isiolo	15	6	21
Isiolo	15	—	15
Isiolo	66	48	114
Isiolo	3	—	3
Isiolo	6	—	6
Isiolo	31	20	51
Isiolo	26	—	26
Isiolo	7	—	7
Isiolo	5	—	5
Isiolo	3	1	4
Isiolo	4	—	4
Total	3,422	1,153	4,575

Table 124 (3)

European Population according to Ages.

Ages.	No.
Under 1 year	60
1 - 5 years	232
5 - 10 "	204
10 - 20 "	252
20 - 30 "	756
30 - 40 "	652
40 - 50 "	382
50 - 60 "	156
60 - 70 "	28
70 - 80 "	0

Total

2,072

In 205 instances the age is not stated.

TABLE III (C).

Total number of Asiatics in the East African Protectorate for the year 1911.

Adults.		Children		Total
Males	Females.	Males.	Females.	
6,282	2,231	1,117	1,586	11,206

Classification of Asiatic population.

Class.	No.
Goan	1,136
Murshid	99
Parsi	97
Hindu	3,205
Mohomedan	5,939
Others	1,410
Total	11,206

TABLE IV.

SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE

TOWN OF

1. Nairobi.

Approximate area

Number of proclaimed
open spaces.

1910	8½ sq. miles	... ..
1911	8½ sq. miles	... ..
1912	8½ sq. miles	... ..

1

	Number of Asiatics and Natives.		Number of Europeans		Total
	Males	Females	Males	Females	
1910	6,686	8,351	752	202	15,998
1911	7,018	8,645	814	230	16,707
1912	8,686	9,314	935	245	19,280

3. Housing.

Number of Houses:	Number occupied by Europeans	Number occupied by Natives and Asiatics.
1910	256	340
1911	254	362
1912	319	423

Number of Huts:	
1910	1420
1911	1500
1912	1549

4. Mosquito Protection of Houses.

	1910	1911.	1912.
Number of European houses wholly mosquito-protected	Nil	Nil	Nil
Number of European houses with mosquito	"	"	"
Number rendered during the year wholly mosquito-protected	"	"	"
Number rendered during the year partially mosquito-protected	"	"	"

5. Erection of New Buildings during the year.

	1910	1911.	1912
Number of public buildings erected with sanction as to site, construction, and relation to other buildings.	3	-	3
Number of houses erected with sanction as to site, construction, and relation to other buildings	47	63	100
Number of huts erected with sanction as to site, construction, and relation to other buildings	65	57	46
Number of houses built without sanction	"	-	5
Number of huts built without sanction	"	-	-

Action Taken.

Number of Prosecutions		Number Demolished	
Huts.	Houses.	Huts.	Houses.
-	4	12	4
-	4	12	10
-	1	-	0

6. Markets.

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

7. Slaughter-Houses.

	Total Number	Number paved and drained	Number unpaved
1910	1	1	0
1911	1	1	0
1912	1	1	0

8. Latrines.

	For Males		For Females	
	Number.	Number of Seats	Number.	Number of Seats
Number of Public Latrines:-				
1910	11	56		
1911	17	52		
1912	6	48		
Number of new Public Latrines created during the year:-				
1910	3	8		
1911	4	22		
1912	3	22		
Number of Public Latrines repaired during the year:-				
1910	4			
1911	4			
1912	2			
Number of Public Latrines demolished during the year:-				
1910	1			
1911	1			
1912	1			

Public latrines are only provided for natives and Africans and are used in common by males and females.

There is only one toilet latrine for Europeans at the railway Station.

	1910.	1911.	1912.
Number of Private Latrines	829	855	1490
Average number of pails of nightsoil removed daily	1450	1481	1381
Average number of soiled pails removed and clean pails substituted	nil	nil	nil
Number of nightsoil men employed to clean latrines and remove excreta	39	39	43
Number of cesspools	64	61	107
Number of cesspools cleansed daily	64	61	107
Number of new cesspools constructed during the year	-	17	9
Number of old cesspools abolished	nil	nil	1
Number of cesspools oiled regularly by Department	nil	nil	nil

5. Removal of refuse.

	1910	1911	1912
Number of dustbins	230	245	29
Number of carts at work daily to remove refuse from streets	6	7	10
Amount of refuse removed daily	9 tons	10 tons	20 tons
Number of carts at work daily to remove refuse from yards and premises	7	9	12
Amount of refuse removed daily from yards and premises	4 1/2 tons	5 tons	1 ton
Number of men employed for removing refuse	13	14	17

10. Mode of Disposal of Excreta, Refuse and Offal

	Daily average number of barrels of excreta			Daily average number of cart-loads of refuse			Daily average No. of cartloads of slaughter house & market offal.		
	1910	1911	1912	1910	1911	1912	1910	1911	1912
dumped or trenched	1450	1381	1000	-	-	-	1	1	27
.....	-	-	-	13	14	50	-	-	-
run into sea ..	-	-	-	-	-	-	2	-	-
otherwise dealt with	-	-	-	-	-	-	1	1	-

11. Average daily number of cartloads of tin cans, bottles, broken crockery, and other incombustible material removed from houses, huts and compounds.

	1910.	1911.	1912.
	2	2	36

12. Water Supply.

Nature of Water Supply.	1910	1911.	1912
Pipe-borne water:-			
Source (river, lake, or spring):-	River & Spring	River & Spring	River & Spring
Number of linear yards	116,140	116,140	165,500
Number of standpipes along roads.	14	12	22
Number of standpipes in compounds & houses.	356	406	474
Wells:-			
Public:-			
Number	Nil	Nil	Nil
Number with pumps protected against surface water and mosquito-protected.	-	-	-
Private:-			
Number	0	0	0
Number protected against surface water and mosquito-protected ...	-	-	-
Lakes:-			
Public:-			
Number underground	Nil	Nil	Nil
Number mosquito-protected and served by pumps	-	-	-
Number above ground	-	-	-
Number mosquito-protected	-	-	-
Number of 400 gallons capacity or less	-	-	-
Number above 400 gallons	-	-	-
Private:-			
Number underground	Nil	Nil	Nil
Number mosquito-protected	147	229	255
Number above ground	247	229	235
Number mosquito-protected	102	90	102
Number of 400 gallons capacity or less	145	139	155
Number above 400 gallons	-	-	-

Water Supply contd.

Nature of Water Supply.	1910.	1911.	1912.
Nature of tanks:-			
Wood	nil	nil	nil
Iron Galvanised	247	222	225
Concrete	-	-	-
Barrels:-			
Number	nil	nil	180
Number mosquito-protected	"	"	100

13. Drainage.

Nature of Drainage.	Public	Private.
Masonry drains:-		
Linear yards of masonry drains		
1910	4853	-
1911	5504	-
1912	5504	-
Linear yards reconstructed during the year		
1910	nil	-
1911	"	-
1912	"	-
Linear yards repaired during the year		
1910	nil	-
1911	"	-
1912	"	-
Linear yards of new drains constructed during the year:-		
1910	554	-
1911	547	-
1912	300	-

Drainage contd.

Nature of Drainage.	Public	Private
Earth drains or ditches:-		
Number of linear yards of ditches cleared:-		
1910	1667	-
1911	3980	-
1912	3980	-
Number of linear yards of ditches dug and graded:-		
1910	nil	-
1911	450	-
1912	369	-
Average frequency of clearing ditches of grass:-		
1910	Twice a year	-
1911	Monthly	-
1912	Monthly	-

14. Clearance of undergrowth, long grass and Jungle.

	Public	Private
Number of square yards of weeds, grass and vegetation cut and removed	Information not procurable	About 70,000
Average frequency of clearance of rank vegetation on same area	Twice a year	Twice a year Monthly

15. Excavations and low-lying land.

	1910	1911	1912
Number of pools and excavations	80	25	27
Number of excavations filled	5	30	21
Number of low-lying and marshy land raised and graded	nil	10 acres	6 acres
Number of pools, marshes, etc. with streams, fish stocked	nil	nil	nil
Number of cubic yards of material used for filling up pools and excavations	Information not procurable		
Number of persons fined for making new excavations	451	nil	nil
Maximum number of men daily employed in filling up pools etc.	25	60	60

16. Oiling.

	1910	1911	1912
Number of ditches oiled	nil	nil	nil
Number of pools and excavations oiled	19	36	50
Number of tanks and barrels oiled	nil	nil	nil
Maximum number of men employed for oiling ditches, and water-tanks or barrels	2	3	2

17. Inspections and Prosecutions.

	1910	1911	1912
Number of inspectors employed	2	2	2
Number of houses inspected	25 per day	26 per day	30 per day
Number of houses where larvae were found	16	22	20
Number of notices served to remove conditions causing the breeding of larvae	40	60	195
Number of persons fined for having mosquito larvae on premises	nil	nil	nil
Number of notices served to remove insanitary conditions on premises	280	402	95
Number of persons fined for not removing insanitary conditions after notice	3	5	nil
Number of soda and aerated water factories inspected	3	5	4

TABLE IV. (A).

SUMMARY OF ROUTINE SANITARY WORK DONE DURING THE YEAR IN THE

1. TOWN OF BOMBAY.

	Approximate area.	Number of proclaimed open spaces.
1910 ...	Island 3470 acres Native Town 270 "	1 Public Garden Area, 1.6 Acres.
1911 ...		
1912 ...		

2. POPULATION.

	Number of Natives.		Number of Europeans.		Total
	Males.	Females.	Males.	Females.	
	Approx. 25,750		167	51	Approx. 26,000
	" 26,000		213	55	26,500
	" 26,500		284	62	26,786

3. HOUSING.

	Number occupied by Europeans.	Number occupied by Natives.
Number of Houses:-		
1910 ...	90	910
1911 ...	90	927
1912 ...	92	954

Number of Huts:-

1910 ...	3,100
1911 ...	3,122
1912 ...	3,244

4. Mosquito Protection of Houses.

	1910	1911	1912
Number of European houses wholly mosquito-protected.			
Number of European houses with mosquito rooms.	None.		
Number rendered during the year wholly mosquito-protected.			
Number rendered during the year partially mosquito-protected.			

5. Erection of New Buildings during the year.

	1910	1911	1912
Number of public buildings erected with sanction as to site construction, and relation to other buildings.			
Number of houses erected with sanction as to site construction, and relation to other buildings.	15	17	20
Number of huts erected with sanction as to site construction, and relation to other buildings.	127	127	162
Number of houses built without sanction	1	0	0
Number of huts built without sanction	0	0	0
N.B. Sanction granted is without reference to any sanitary standard which is required.			

Action taken.

	Number of Prosecutions		Number Completed	
	Huts	Houses	Huts	Houses
1910			14	
1911				
1912				

	Total number	Number paved and drained.	Number unpaved.
1910	3	2	1
1911	5	3	2
1912	3	3	0

7. Slaughter - Houses.

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

8. Latrines.

	For Males		For Females	
	Number	Number of seats	Number	Number of seats
Number of Public Latrines:-				
1910	0	-	-	-
1911	1	2	-	-
1912	4	5	-	-
Number of new Public Latrines erected during the year:-				
1910	1	-	-	-
1911	1	2	-	-
1912	3	3	-	3
Number of Public Latrines repaired during the year:-				
1910	-	-	-	-
1911	None	-	-	-
1912	None	-	-	-
Number of Public Latrines demolished during the year:-				
1910	-	-	-	-
1911	None	-	-	-
1912	None	-	-	-

Latrines.

	1910	1911	1912
Number of Private Latrines	180	189	190
Average number of pails of nightsoil removed daily	216	305	316
Average number of soiled pails removed and clean pails substituted	None	-	-
Number of nightsoil men employed to clean latrines and remove excreta	14	16	16
Number of cesspools	About 2000	About 2000	About 2000
Number of cesspools cleaned	None	None	None
Number of new cesspools constructed during the year	About 100	About 125	About 125
Number of old cesspools abolished	About 10	About 40	About 40
Number of cesspools ciled regularly by Dept.	None	None	None

Removal of Refuse.

	1910	1911	1912
Number of dustbins	9	9	9
Number of carts at work daily to remove refuse from streets	12	15	13
Amount of refuse removed daily	10 tons	11 tons	12 tons
Number of carts at work daily to remove refuse from yards and premises	1	1	1
Amount of refuse removed daily from yards and premises	1 ton	1 ton	1 ton
Number of men employed for moving refuse	96	102	104

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

	Daily average number of pails of excreta			Daily average number of cart-loads of refuse			Daily average number of cart-loads of slaughter-house and market offal		
	1910	1911	1912	1910	1911	1912	1910	1911	1912
buried or trenched	-	-	-	-	-	-	-	-	-
burnt	-	-	-	17	20	24	-	-	-
thrown into sea	216	303	310	2	4	2	166	14	225
otherwise dealt with	-	-	-	217	13	14	-	-	-

State mode of disposal.

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

	1910	1911	1912
Thrown into sea	1	14	14

12. WATER SUPPLY.

Nature of water supply.	1910	1911	1912
Surface water:-			
from (river, lake, or spring):-			
Number of stand-pipes	none	none	none
Number of stand-pipes along roads	none	none	none
Number of stand-pipes in compounds & houses.	none	none	none

WATER SUPPLY contd.

Nature of Water Supply.	1910.	1911.	1912.
Wells:-			
Public:-			
Number	28	26	18
Number with pumps protected against surface water and mosquito-protected	none	none	none
Private:-			
Number	25	20	23
Number protected against surface water and mosquito-protected	none	none	none
Tanks:-			
Public:-			
Number underground	-	-	-
Number mosquito-protected and served by pumps	-	-	4
Number above ground	2	2	2
Number mosquito-protected	-	-	-
Number of 400 gallons capacity or less	2	0	2
Number above 400 gallons	-	-	-
Private:-			
Tanks:-			
Number underground	65	70	75
Number mosquito-protected	unknown		
Number above ground	20	22	20
Number mosquito-protected	unknown		
Number of 400 gallons capacity or less	-	-	-
Number above 400 gallons	-	-	-

WATER SUPPLY contd.

Nature of Water Supply.	1910	1911	1912
Nature of tanks:-			
Wood	-	-	-
Iron	-	30	30
Concrete	-	70	70
Barrels:-			
Number	About 1000	About 1000	
Number mosquito-protected . . .	None	None	

15. Drainage.

Nature of drainage.	Public	Private
Masonry drains:-		
Length yards of masonry drains:-		
1910	320	-
1911	360	-
1912	360	-
Length yards reconstructed during the year:-		
1910	-	-
1911	-	-
1912	-	-
Length yards repaired during the year:-		
1910	-	-
1911	-	-
1912	-	-

13. Drainage contd.

Nature of Drainage.	Public.	Private.
Necessary Drains:-		
Linear yards of new drains constructed during the year:-		
1910	approx. 40	-
1911	-	-
1912	30	-
Earth drains or ditches cleaned:-		
Number of Linear yards of ditches cleaned		
1910	-	-
1911	None	-
1912	None	-
Number of linear yards of ditches dug and graded:-		
1910	-	-
1911	None	-
1912	None	-
Average frequency of clearing ditches of growth:-		
1910	None	-
1911	-	-
1912	None	-

14. Clearance of Undergrowth, Long Grass, and
Jungle.

	1910.	1911.	1912.
Number of square yards of weeds, grass, and vegetation cut and removed	approx. 100 acres	approx. 150 acres	approx. 150 acres
Average frequency of clearance of rank vege- tation on same area	6 months	6 months	6 months

15. Excavations and Low-lying land.

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

None

16. Oiling.

	1910	1911	1912.
Number of drains oiled	<i>a few hundred</i>	<i>a few hundred</i>	<i>a few hundred</i>
Number of pools and excavations oiled	-	-	-
Number of tanks and barrels oiled . . .	-	-	<i>many barrels</i>
Average number of men daily employed for oiling drains, pools, and watertanks or barrels	8	6	8

17. Inspections and prosecutions.

	1910	1911	1912.
Number of inspectors employed.	2	2	2
Number of houses inspected	-	-	173
Number of houses where larvae were found	-	-	<i>accounted</i>
Number of notices served to remove conditions causing the breeding of larvae	-	-	70
Number of persons fined for having mosquito larvae on premises	-	-	70
Number of notices served to remove insanitary conditions on premises	103	75	166
Number of persons fined for not removing insanitary conditions after notice	-	-	1
Number of soda and aerated water factories inspected	4	3	3

564

STATION *Wichita Falls*

Observer *W. H. ...*

Height above ground of *...*

Longitude *99° 42'* Latitude *34° 4'*

Height above Sea Level *613*

Gravity Correction *...*

Barometer *...* Thermometer *...*

Reference *...*

Year	Mean Pressure at 32° At Station Level	AIR TEMPERATURE				WIND VELOCITY	WIND DIRECTION	WIND FORCE	WIND NO. OF OBSERVATIONS
		Max	Min	Abs. Min.	Abs. Max.				
1912									
January	30.1	48	28	10	62	78			
February	30.2	48	28	10	62	78			
March	30.3	48	28	10	62	78			
April	30.4	48	28	10	62	78			
May	30.5	48	28	10	62	78			
June	30.6	48	28	10	62	78			
July	30.7	48	28	10	62	78			
August	30.8	48	28	10	62	78			
September	30.9	48	28	10	62	78			
October	31.0	48	28	10	62	78			
November	31.1	48	28	10	62	78			
December	31.2	48	28	10	62	78			
Year	31.3	48	28	10	62	78			

Table VI.

Hospital or Institution

European Hospital, Bombay.

537

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

Diseases.	Remaining in Hospital at end of 19 11	Yearly Total.		Total Cases Treated.	Remain- ing in Hospital at end of 19 12	Remarks.
		Admissions	Deaths			
INFECTIVE DISEASES.						
Dysentery		3		3		
Bacterial		3	3	3		
Malaria (Tertian)	1	47		48	1	
" (Acute-summer)		1	1	1		
" (Black-water)		1		1		
LOCAL DISEASES						
DISEASES OF THE NERVOUS SYSTEM						
Neuritis		2		2		
DISEASES OF THE EYE						
Conjunctivitis		2		2		
DISEASES OF THE EAR						
Abscess		1		1		
DISEASES OF THE RESPIRATORY SYSTEM						
Catarrhal		1		1		
Broncho-pneumonia		1		1		
Pneumothorax		1		1		
Pleurisy		1		1		
DISEASES OF THE DIGESTIVE SYSTEM						
Colitis		2		2		
Arrhythmia				2		
Total	1	68	4	69		

Hospital or Institution: **European Hospital, Bombay.**

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

Disease	Remaining	Year's Total		Total Cases Treated	Remain-	Remarks
	in Hospital at end of 1911	Admissions	Deaths		ing in Hospital at end of 1912	
Brought forward	1	68	4	69	3	
DISEASES OF THE DIGESTIVE SYSTEM Contd.						
Colic		2		2		
Fissure of anus		1		1		
Fistula in ano		1		1		
HAEMORRAGES OF ORGANS OF LOCOMOTION						
Proctitis		1		1		
DISEASES OF CONNECTIVE TISSUE						
Cellulitis		2		2		
Scabs		1		1		
DISEASES OF THE SKIN						
Scabs		1		1		
Truncle		2		2		
Wallow		1		1		
Wax		1		1		
TUMORS:						
Sal		3		3		
POWERS:						
Carcinoma		1		1		
Cancer Uteri		1		1		
BONE (Pneumonia)	1			1		
Total	2	66	5	69	3	

Hospital or Institution **European Hospital, Nairobi.**

RETURN OF DISEASES AND DEATHS IN PATIENTS FOR THE YEAR 1912

Diseases	Remaining in Hospital at end of 1912	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of 1912	Remarks
		Admissions	Deaths			
INFECTIVE DISEASES.						
Bysentery			7	7	1	
Bacterial	3	17	1	20	2	
Malaria (Tertian)		1		1		
" (Asstivo-summer)	1	35		36		
" (Chronic Malaria)		7		7		
Cholera		1		1		
Pneumonia		11	1	11	1	
Rheumatic Fever		6		6	1	
Syphilis (Tertiary)		2		2		
" (Inherited)		1		1		
Paratyphoid		3		3	1	
POISONINGS:						
Alcoholism			2	2		
LOCAL DISEASES						
DISEASES OF THE NERVOUS SYSTEM						
Paralysis		1		1		
Myelitis		2		2		
Mania		1		1		
DISEASES OF THE EYE:						
Conjunctivitis		1		1		
DISEASES OF THE EAR:						
Otitis		1		1		
DISEASES OF THE CIRCULATORY SYSTEM						
Valvular Mitral		1		1	1	
Total	4	99	2	103	7	

Hospital or Institution

European Hospital, Nairobi.

579

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1942

Disease	Remaining	Yearly Total		Total Cases Treated	Remaining in Hospital at end of Year	Remarks
	at end of Year	Admissions	Deaths			
Brought forward	4	99	2	103	7	
DISEASES OF THE CIRCULATORY SYSTEM Contd.						
Aortic		2		2		
Suppurative Phlebitis	1			1		
DISEASES OF THE RESPIRATORY SYSTEM.						
Asthma		2		2		
Tracheitis		8		8		
Pneumonia		2		2	1	
DISEASES OF THE DIGESTIVE SYSTEM.						
Caries of teeth		1		1		
Inflammation of Tonsils		3		3	1	
Gastritis		5		5		
Irritation of Stomach		1		1		
Enteritis		1		1		
Appendicitis		5		5	1	
Enterorrhoea		1		1		
Colic - Biliary	1			1		
Hemorrhoids		3		3		
Hepatitis - Acute		2		2		
Obstruction of Liver	1	1		2		
Enterorrhoea		1	1	1		
Peritonitis		1	1	1		
Abdominal abscess	1			1		
Gleucystitis (suppurative)		1		1	1	
Total	8	139	41	149	11	

Table VI. (B.)

Hospital of Institution European Hospital, Nairobi.

571

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

Diseases	Remaining in Hospital at end of 1911	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of 1912	Remarks
		Admissions	Deaths			
Brought forward	8	139	4	147	11	
DISEASES OF THE LYMPHATIC SYSTEM.						
Inflammation of Lymphatic Gland		2		2		
DISEASES OF THE URINARY SYSTEM						
Bright's Disease		3	1	3		
Cystitis		1	1	1		
vesical Calculus		1	-	1		
DISEASES OF THE GENERATIVE SYSTEM						
Male Organs:-						
Brethritis		1		1		
Stricture		4	9	4	1	
Female Organs:-						
Displacement of Uterus		2		2		
Ascata Praevia		1	1	1		
Swelling of Breast		1		1		
DISEASES OF ORGANS OF LOCOMOTION						
Arthritis		1		1		
Gonorrhoea		1		1		
DISEASES OF CONNECTIVE TISSUE						
Gonorrhoea		8		8		
Gonorrhoea		2		2		
DERMATITIS OF THE SKIN						
Gonorrhoea		2		2		
Total	8	169	7	177	12	

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

Diseases	Remaining in Hospital at end of 1911	Yearly Total.		Total Cases Treated	Remain- ing in Hospital at end of 1912	Remarks
		Admissions	Deaths			
Brought forward	8	169	7	177	12	
DISEASES OF THE SKIN						
Contd.						
Veldt Spres		2		2		
INJURIES:						
Local	1	16		17		
TUMOURS:						
Carcinoma (stomach)		1	1	1		
Peritoneal Cyst		1		1		
PARASITES-ANIMAL						
Cestoda:-						
Taenia Saginata		1		1		
Total	9	196	8	199	12	

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

Disease	Remaining in Hospital at end of 1912	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of 1912	Remarks
		Admissions	Deaths			
INFECTIVE DISEASES						
Beri-Beri		1		1	1	
Dysentery	1	2	2	5		
Enteric	1			1		
Gonorrhoea		4		4		
Malaria (Tertian)		147		147		
Measles	2	4		6		
Rheumatic Fever		4		4		
Syphilis (Primary)		1		1		
(Secondary)	2	2		4		
Tuberculosis		3	2	5	1	
LOCAL DISEASES						
DISEASES OF THE NERVOUS SYSTEM						
Mania	2	10	3	12*		* Transferred to the Lunatic Asylum, Norwich.
Melancholia		1		1*		
Dementia		2		2*		
Delusional Insanity		1		1*		
DISEASES OF THE EYE.						
Conjunctivitis	1	25		26		
Inflammation	1	1		2		
Total	20	206	7	216	2	

Table VI. (C)

Hospital or Institution *St. Joseph, Kansas.*

574

RETURN OF DISEASES AND DEATHS IN PATIENTS FOR THE YEAR 1919

Diseases	Remaining	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of	Remarks
	in Hospital at end of 19 11	Admissions	Deaths		19 19	
Brought forward	10	206	7	210	2	
DISEASES OF THE CIRCULATORY SYSTEM						
Valvular Mitral		3		3		
DISEASES OF THE RESPIRATORY SYSTEM						
Bronchitis		11		11		
Broncho-pneumonia		5		5		
Pleurisy		1		1		
Other Diseases		3		2		
DISEASES OF THE DIGESTIVE SYSTEM						
Inflammation of Tonsils		2		2		
Diarrhoea	2	24		26		
Constipation		1		1		
Colic		3		3		
Ascites		1		1	1	
DISEASES OF THE LYMPHATIC SYSTEM						
Splenitis		1		1		
Inflammation of Lymphatic Gland		3		3		
DISEASES OF THE URINARY SYSTEM						
Suppression		3		3	1	
Other Diseases		1		1		
Total	12	269	7	263	4	

Table VI. (C)

Hospital or Institution

H.M. PITCH, BOMBAY.

575

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

Disease	Remain- ing in Hospital at end of 1913	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of 1913	Remarks
		Admissions	Deaths			
Brought forward	12	269	7	261	6	
DISEASES OF THE GENERATIVE SYSTEM						
Male Organs:-						
Orchitis		4		4	1	
Epididymitis		3		3		
DISEASES OF ORGANS OF LOCOMOTION						
Arthritis	1			1		
Myalgia		5		5		
DISEASES OF CONNECTIVE TISSUE						
Cellulitis	1	13		14		
Abscess	2	29		31		
Other Diseases		1		1		
DISEASES OF THE SKIN						
Scabies		5		5		
Wet	1	4		5		
Tinea		2		2		
Psoriasis	1	1		2		
Other Diseases		15		15		
LEISHMANIASIS						
Local	4	45		49	1	
PARASITES-ANIMAL						
Scabies		1		1		
Scabies		4		4		
Scabies		1		1		
Total	33	400	7	423	6	

Hospital or Institution **Honolulu Native Civil Hospital.**

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR **1920**

Diseases	Remaining in Hospital at end of 19 19	Yearly Total		Total Cases Treated	Remaining in Hospital at end of 19 19	Remarks
		Admissions	Deaths			
INFECTIVE DISEASES						
Beri-Beri		2	2	2		
Chicken-Pox		6		6		
Cow-Pox		2		2		
Dysentery	1	100	44	102	6	
Gonorrhoea		23		23		
Malaria (Active-summer)	5	407	6	412	5	
" (Black-water)		2	2	2		
Measles		3		3		
Scarlet		3	3	3		
Smallpox	1	32	6	32		
Typhoid Fever		7		7	1	
Scarlet		6		6		
Scarlet (Primary)		11		11		
" (Secondary)		4		4		
Tetanus	1	6	3	6		
Tuberculosis		10	4	10	1	
Whooping Cough		4		4		
NON-INFECTIVE DISEASES						
DISEASES OF THE NERVOUS SYSTEM						
Epilepsy		2	1	2		
Paralysis	1	6	3	6	3	
Alcoholism	1	2		2		
Mania	0	2		2		
Total	9	636	71	645	15	

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1922

Disease	Remaining in Hospital at end of 1922	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of 1922	Remarks
		Admissions	Deaths			
Brought forward	9	636	71	645	10	
DISEASES OF THE NERVOUS SYSTEM						
Contd.						
Dementia		2		2		
DISEASES OF THE EYE.						
Conjunctivitis		0		0	1	
Opacity of Cornea		1		1		
Other Diseases		2		2		
DISEASES OF THE EAR						
Inflammation		1		1		
DISEASES OF THE CIRCULATORY SYSTEM						
Myocarditis		1	1	1		
DISEASES OF THE RESPIRATORY SYSTEM						
Asthma		0		0		
Bronchitis		11		11	1	
Pleurisy	1	9	2	10		
Pneumonia		1	1	1		
DISEASES OF THE DIGESTIVE SYSTEM						
Gonorrhoea		1		1		
Ulcers of teeth		1		1		
Glossitis (acute)		1	1	1		
Diarrhoea		0		0		
Parosmia	1	54	1	55	1	
Total	11	736	76	766	10	

Table VI (D)

Hospital or Institution **Massena Native Civil Hospital.** 577NUMBERS OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR **1912**

Disease	Remaining in Hospital at end of 19 11	Yearly Total Admissions	Deaths	Total Cases Treated	Remain- ing in Hospital at end of 19 12	Remarks
Brought forward	21	735	76	740	10	
DISEASES OF THE DIGESTIVE SYSTEM Contd.						
Constipation		1		1		
Colic		6		6		
Hepatitis - Acute	1			1		
Abscess		1	1	1		
Cirrhosis		1	1	1		
Jaundice		1		1		
Ascites		1		1		
DISEASES OF THE LYMPHATIC SYSTEM						
Splenitis		3		3		
Inflammation of Lymphatic Gland		6		6		
Suppuration of Lymphatic Gland	3	13		16		
Elephantiasis		1		1		
DISEASES OF THE URINARY SYSTEM						
Bright's Disease		10	7	10		
Cystitis		1		1		
DISEASES OF THE GENERATIVE SYSTEM						
Male Organs:-						
Epididymitis				1		
Prostatitis		7		7		
Total						
	10	735	86	807	19	

Table VI.

(D)

579

Hospital and Institution

LOMBARDIA HOSPITAL CIVIL HOSPITAL.

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

Disease	Remaining in Hospital At end of 19 12	Yearly Total.		Total Cases Received 19 12	Remain- ing in Hospital at end of 19 12	Remarks
		Admissions	Deaths			
Brought forward	15	702	85	807	10	
DISEASES OF THE GENITRATIVE SYSTEM Contd.						
Male Organs:-						
Swelling of Testicle			2	2		
DISEASES OF ORGANS OF PROCREATION.						
Prostatitis			7	7		
Urethritis			3	3		
DISEASES OF CONNECTIVE TISSUE						
Orchitis			36	36	1	
Proctitis	2		16	18	2	
DISEASES OF THE URINARY						
Pyelitis			0	0		
Nephritis			12	12		
Cystitis			4	4		
Urethritis			27	27		
DISEASES OF THE SKIN						
Scabies	5		165	170	0	
Herpes			7	7		
Erysipelas (Snake bite)			2	2		
PARASITES - ANIMAL:						
Protozoa:-						
Malaria			1	1		
Trichinosis			3	3		
Amoebiasis			0	0		
Helminths			0	0		
Total	22	1207	103	1310	32	

Table VI, (E)

Hospital or Institution Nairobi Lunatic Asylum

530

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

Diseases	Remaining in Hospital at end of	Yearly Total:		Total Cases Treated	Remain- ing in Hospital at end of	Remarks
	12	Admissions	Deaths		12	

CAL DISCHARGED

MENTAL DISCHARGES:

Males:-

Idiocy	4		3	4	1	
Mania	10		8	7	24	11
Melancholia	5		3	4	7	2
Dementia	8		11	6	19	11
Delusional Insanity	3		1		4	3
Observation			10		10	1

Females:-

Idiocy			2			
Mania			1		1	
Delusional Insanity			1		1	

Total

36

36

23

72

39

Hospital or Institution: **Nairobi Native Civil Hospital.**RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR **1912**

Diseases	Remaining in Hospital at end of 1911	Yearly Total Admissions-Deaths	Total Cases Treated	Remain- ing in Hospital at end of 1912	Remarks
INFECTIVE DISEASES.					
Shaken-Pox	2	169	171	1	
tyentery	1	80	43	3	
enteric		3	1	3	1
gonorrhoea		6		6	
typhoid (Anesthetic)	1	2		3	
alaria (Tertian)		15	4	15	
(Quartan)		2		2	
(Acetive-antunnaal)		48	13	40	7
Relapsing Fever		6	2	6	
Rheumatic Fever		3	3	3	
Syphilis (Primary)		3		3	
(Secondary)	3	10	2	10	0
Tuberculosis	1	5	3	6	2
Other Diseases		18	1	18	
INTOXICATIONS					
Alcoholism		2		2	
GENERAL DISEASES					
anaemia		6		6	
Other General Diseases	2	14	2	16	0
Total	10	390	74	408	20

Hospital or Institution **Nairobi Native Civil Hospital.**

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1918

Disease	Remaining in Hospital at end of	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of	Remarks
	11.	Admissions	Deaths		12	
Brought forward.	10	398	74	408	25	
LOCAL DISEASES						
DISEASES OF THE NERVOUS SYSTEM.						
Meningitis		1	1	1		
Epilepsy		1		1		
Neuralgia		2		2		
Other Diseases		2	1	2		
DISEASES OF THE EYE						
Conjunctivitis		1		1		
Ulceration of Cornea		3		3		
Iritis		1		1		
DISEASES OF THE EAR.						
Otitis Media		2		2		
DISEASES OF THE CIRCULATORY SYSTEM.						
Myocarditis		1	1	1		
DISEASES OF THE RESPIRATORY SYSTEM						
Tracheitis	1	72	14	73	1	
Pneumonia-pneumonia	3	103	39	106	3	
Emphysema		9		9		
Other Respiratory Diseases		2	1	2		
Total	14	600	121	614	29	

Hospital or Institution: Nairobi Native Civil Hospital.

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

Disease	Remaining in Hospital at end of	Yearly Total		Remarks		Remarks
		1911 Admissions	Deaths	Total (Case- Treated)	ing to Hospital at end of 1912	
Brought forward	14	600	131	614	29	
DISEASES OF THE DIGESTIVE SYSTEM						
Inflammation of Tonsils			1		1	
Gastritis			2		2	
Germia			2		2	
Marasmus	1	9	4	10		
Colic			2		2	
Diarrhoea			1		1	
DISEASES OF THE LYMPHATIC SYSTEM						
Splenitis			2		2	
Inflammation of Lymphatic Gland			1		1	
Suppuration of Lymphatic Gland			6		6	1
Lymphangitis			1		1	
DISEASES OF THE URINARY SYSTEM						
Acute Nephritis			2	2	2	
DISEASES OF THE GENERATIVE SYSTEM						
Male Organs:-						
Prostate			1		1	
Gonorrhoea			2		2	
Epididymitis			1		1	
Other Diseases			1		1	
Total	15	634	157	649	30	

Table VI.

(F)

584

Hospital or Institution

Madras Native Civil Hospital.

RETURN OF DISEASES AND DEATHS (IN PATIENTS) FOR THE YEAR 1932

Disease	Remaining in Hospital at end of 1932	Year Term		Total Cases Treated	Remain- ing in Hospital at end of 1932	Remarks
		Admissions	Deaths			
Brought forward	13	634	157	649	30	
DISEASES OF THE GENERATIVE SYSTEM Cent.						
Male Organi-						
Delayed Labour			1	1	1	
DISEASES OF ORGANS OF LOCOMOTION.						
Arthritis			1	1		
Other Diseases	1	6		7	1	
DISEASES OF CONNECTIVE TISSUE						
Gonorrhoea	1	3	1	4		
Other Diseases		7		7		
DISEASES OF THE SKIN						
Scabies		1		1		
Other Diseases		1		1		
Other Diseases	1	21		22	3	
WOUNDS						
Other Diseases	7	77	6	84	10	
	25	735	167	770	44	

Table VI. (C)

Hospital of the Indian Division - Alaska Native Hospital.

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

Disease	Remaining in Hospital at end of 1913	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of 1913	Remarks
	11	Admissions	Deaths		11	
INFECTIVE DISEASES						
Diphtheria		2		1		
Chicken-Pox		10		10		
Dysentery	1	11	1	12	1	
Enterorrhoea		4		4		
Epyrexia (Anaesthetic)		1	1	1		
Malaria (Tertian)		97	4	97	1	
(Acute-antimal)	2			1		
(Blackwater)		1		1		
Measles		2		1		
Typhoid		30	30	30		
Pneumonia	3	33	14	36	1	
Rheumatic Fever	1			1	1	
Trypanosomiasis (I. D.)	1	7	6	8		
Small-Pox		1		1		
Syphilis (Primary)		0		0		
(Secondary)	0	23	1	20	0	
Tuberculosis		3	1	2		
Whooping Cough		4		4	1	
NON-INFECTIVE DISEASES:						
Chorea		3		3		
Pharyngitis Acute		1		1		
Total	13	305	66	300	11	

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

Disease	Remaining in Hospital at end of 19 <u>11</u>	Yearly Total Admissions	Deaths	Total Cases Treated	Remain- ing in Hospital at end of 19 <u>12</u>	Remarks
Brought forward	13	205	56	205	11	
LOCAL DISEASES.						
DISEASES OF THE NERVOUS SYSTEM						
Paralysis		1		1	1	
Epilepsy		2		2		
Dania		1		1		
Delusional Insanity		1		1		
DISEASES OF THE EYE.						
Conjunctivitis		2		2		
Coratitis		0		0		
Iritis		2		2		
DISEASES OF THE RESPIRATORY SYSTEM						
Tracheitis	3	21		24		
Pneumo-pneumonia		6		6		
Emphysema	1					
Other Diseases		3		3		
DISEASES OF THE DIGESTIVE SYSTEM						
Gastritis		2		2		
Dyspepsia		2		2		
Enteritis	1			1		
Colitis		1		1		
Diarrhea		1		1		
Total	18	204	56	262	11	

Hospital or Institution Wisnu Native Hospital.RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1912

Disease	Remaining in Hospital at end of 19 <u>11</u>	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of 19 <u>12</u>	Remarks
		Admissions	Deaths			
Brought forward	18	304	56	322	12	
DISEASES OF THE DIGESTIVE SYSTEM -Contd.						
Hernia			2	2		
Diarrhoea	2	14	4	16		
Constipation			2	2		
Hepatitis-Acute			2	2		
Peritonitis			1	1	1	
DISEASES OF THE LYMPHATIC SYSTEM.						
Splenitis	1		2	3		
Inflammation of Lymphatic Gland			4	4		
Suppuration of Lymphatic Gland			5	5		
Lymphangitis			1	1		
DISEASES OF THE URINARY SYSTEM						
Bright's Disease			1	1		
Cystitis			1	1		
DISEASES OF THE GENITIVATIVE SYSTEM						
Male GONORRHOEA-						
Vulvocolitis			2	2		
Proctitis			1	1		
Female GONORRHOEA-						
Proctitis			1	1		
	21	343	62	364	12	

Hospital or Institution

Kisumu Native Hospital.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1911

Disease	Remaining in Hospital at end of 1911	Yearly Total.		Total Cases Treated	Remain- ing in Hospital at end of 1911	Remarks
		Admissions	Deaths			
Brought forward	21	343	62	364	12	
DISEASES OF ORGANS OF LOCOMOTION.						
Osteitis			1	1		
Arthritis	1			1		
DISEASES OF CONNECTIVE TISSUE						
Cellulitis		13	1	13	1	
Abscess	1	14	3	15	1	
Elephantiasis		1	1	1		
DISEASES OF THE SKIN						
Urticaria		1		1		
Boil		1		1		
INJURIES:						
General		11	2	11		
Local	5	65	1	66	3	
WOUNDS						
		2		2		
POISONS						
Snake Bite		2		2		
Yaava "		1		1		
INSECTA:						
Mex Pediculus		1		1		
Total	26	464	70	493	12	

Hospital of Institution

Dispensary, Fort Hall.

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

Diseases.	Remaining	Yearly Totals.		Total Cases Treated	Remaining in Hospital at end of 1913	Remarks.
	in Hospital at end of 1912	Admissions	Deaths			
	11				13	
INFECTIVE DISEASES:						
Dysentery	1	1		2		
Gonorrhoea		2		2	1	
Procy (Anaesthetic)		1		1		
Malaria (Tertian)		49		49		
Relapsing Fever		1		1		
Rheumatic Fever		1		1		
Septicæmia		1	1	1		
Syphilis (Primary)		1		1		
" (Secondary)		2		2		
Tuberculosis		1		1		
Wounds		1		1		
LOCAL DISEASES						
DISEASES OF THE EYE						
Conjunctivitis		3		3		
DISEASES OF THE CIRCULATORY SYSTEM						
Valvular Mitral		1		1		
DISEASES OF THE RESPIRATORY SYSTEM						
Pharyngitis		1		1		
Pneumo-pneumonia		6	2	6		
Pneumonia		1		1		
Total	1	75	3	74	13	

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

Disease	Remaining in Hospital at end of 1911	Yearly Total.		Total Cases Treated	Remain- ing in Hospital at end of 1912	Remarks
	1911	Admissions	Deaths		1912	
Brought forward	1	73	3	74	1	
DISEASES OF THE DIGESTIVE SYSTEM.						
Diarrhoea		6		6		
Pancreatitis		1		1		
DISEASES OF THE GENITRATIVE SYSTEM						
Male Organs:-						
Gonorrhoea		3		3		
DISEASES OF CONNECTIVE TISSUE						
Abscess		2		2		
DISEASES OF THE SKIN						
Impetigo		1		1		
INJURIES:						
General						
Local	1	30		31	1	
SURGICAL OPERATIONS *						
		(4)				
Total	1	118	3	120	2	

* Recorded under respective disease.

Hospital or Institution: Chicago Hospital.

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

Disease	Remaining in Hospital at end of 1912	Yearly Total Admissions	Yearly Total Deaths	Total Cases Treated	Remain- ing in Hospital at end of 1912	Remarks
INFECTIVE DISEASES						
Chicken-Pox		30		30		
Dysentery		14	5	14		
Erysipelas		16		16		
Malaria (Tertian)		25	1	25		
Septicæmic Fever		2	1	2		
Syphilis (S.L.S.)		1		1		
Small-Pox		3	1	3		
Syphilis (Primary)	2	32		34	1	
(Secondary)	2	9		11	4	
Tuberculosis		4	2	4	1	
Pulmonary		1		1	1	
GENERAL DISEASES						
Other General Diseases		3		3		
LOCAL DISEASES						
DISEASES OF THE NERVOUS SYSTEM						
Epilepsy		1	1	1		
Paralysis		2		2		
OTHER DISEASES						
Pneumonia		1		1		
TOTAL						
		149	11	160	6	

Hospital or Institution State Hospital.RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1912.

Diseases.	Remaining in Hospital at end of	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of	Remarks
	19 11	Admissions	Deaths		19 12	
Brought forward	4	149	11	163	8	
DISEASES OF THE MOUTH						
Stomatitis			1		1	
DISEASES OF THE CIRCULATORY SYSTEM						
Bicuspid Mitral			2	2	2	
Ischemic			1	1	1	
DISEASES OF THE RESPIRATORY SYSTEM						
Pneumonia			13		13	
Pneumo-pneumonia	2	22	0	24	2	
Empyema	1	4		5		
DISEASES OF THE DIGESTIVE SYSTEM						
Gastritis			2		2	
Colitis			1		1	
Enteritis			1		1	
Proctitis			12		12	
DISEASES OF THE LYMPHATIC SYSTEM						
Enlargement of Lymphatic			1		1	
Total	7	209	20	229	11	

Hospital or Institution

Madras Hospital.

RETURN OF DISEASES AND DEATHS (IN PATIENTS) FOR THE YEAR 1928

Disease	Remaining in Hospital at end of 19	Yearly Total		Total Cases Treated	Remaining in Hospital at end of 19	Remarks
	11	Admissions	Deaths		12	
Brought forward	7	209	20	216	11	
DISEASES OF THE URINARY SYSTEM						
Other Diseases		1	1	1		
DISEASES OF THE GENERATIVE SYSTEM						
Male Organs:-						
Stricture		1		1		
DISEASES OF ORGANS OF LOCOMOTION.						
Gonorrhoea	1	3		4		
Other Diseases		2		2		
DISEASES OF CONNECTIVE TISSUES						
Gonorrhoea		2		2		
DISEASES OF THE SKIN.						
Scabies		2		2		
Other Diseases		1		1	1	
WOUNDS:						
General		2		2		
Operative	2	60	2	62	1	
SURGICAL OPERATIONS						
		(5)		(5)		
Wounds		1		1		
	10	299	23	299	15	

Hospital or Institution Loosa Native Hospital.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1922.

Disease.	Remaining in Hospital at end of 1922	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of 1922	Remarks
		Admissions	Deaths			
INFECTIVE DISEASES.						
Chicken-Pox		1		1		
Dysentery		1		1		
Malaria (Active-subacute)		4	2	4		
Tetanus		1	1	1		
Tuberculosis		1	1	1		
GENERAL DISEASES						
Anemia		1	1	1		
LOCAL DISEASES						
DISEASES OF THE RESPIRATORY SYSTEM						
Bronchitis		2		2		
DISEASES OF THE DIGESTIVE SYSTEM						
Hernia Strangulated	1			1		
Ascites		1	1	1		
DISEASES OF THE SKIN:-						
Ulcer		3		3		
ACCIDENTS						
Local		5		5	1	
SURGICAL OPERATIONS * (1)						
PARALYTIC ZEPHAL				(3)		
Paralysis				1		
Amputation				1		
Amputation				1		
Total	1	21	6	23		

* Recorded in 22 respective diseases.

Hospital or Institution: **INFECTIOUS DISEASES HOSPITAL, ENGLISH POINT, BOMBAY.**
 RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1912

Diseases.	Remaining in Hospital at end of 1911	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1912	Remarks.
		Admissions	Deaths.			
INFECTIVE-DISEASES						
Plague x		4	2	6		
Small-Pox x x.		65	29	95	12	
Total		69	31	99	12	

x. The above total does not include 23 cases of Plague reported dead or segregated in their houses in Town, during the year 1912.

x x The above total does not include 202 cases of Small-pox notified and segregated in their houses in Town, during the year 1912.

Hospital or Institution Various Dispensaries
 in charge of Sub Assistant Surgeons and Compounders.

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

Disease.	Remaining in Hospital at end of 1911	Yearly Total.		Total Cases Treated.	Remain- ing in Hospital at end of 1912	Remarks.
		Admissions.	Deaths.			
ACUTE DISEASES						
Chicken-Pox		44		44	0	
Dysentery	5	114	24	139	16	
Gonorrhoea	1	17		18		
Influenza		2		2		
Leprosy (Nodular)		1		1		
Malaria (Tertian)	2	890	14	892	0	
(Quartan)		12		12		
(Acute-annual)		44		44		
(Chronic Malaria)		4	2	4		
(Black-water)		7	1	7		
Measles		34	3	34	1	
Meningitis	3	19	1	22		
Septicemia		1	1	1		
Typhoid fever (G.I. sickness)	3	0	0	0	3	
Small-Pox		17		17	0	
Syphilis (Primary)	1	28		29	2	
(Secondary)	2	33	1	35		
(Inherited)		4		4	1	
Tetanus		1	1	1		
Tuberculosis		12	4	12	1	
Whooping Cough		18		18		
CHRONIC DISEASES						
Alcoholism		1		1		
Other General Diseases						
Anemia	1	15	1	16		
Other General Diseases		6		6		
Total	18	1327	59	1345	46	

Hospital or Institution *Various Aspermaries*

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

Disease	Remaining in Hospital at end of 1901	Yearly Total	Total Cases Treated	Remaining in Hospital at end of 1902	Remarks
Brought forward	10	1387	58	1345	40
LOCAL DISEASES					
EYES OF THE NERVOUS SYSTEM					
Paralysis	1	7		7	1
Neuralgia		73		73	0
Muscular Inequality		2	1	3	
EYES OF THE EYE					
Conjunctivitis		10		10	
Coratitis		3		3	
Ulceration of Cornea		1		1	
Iritis		1	1	1	
Cataract	2	3		6	
EARS OF THE EAR					
Otitis		1		1	
Other Diseases		2		2	
NOSE OF THE NOSE:					
Metaxia		1		1	
ARTERIES OF THE CIRCULATION SYSTEM					
Arteriosclerosis		1		1	
Arteritis		1		1	
Arteriovenous		1	1	1	
Arteriovenous		1		1	
ARTERIES OF THE RESPIRATORY					
Arteritis		2	1	2	
Arteritis		64	1	64	3
Total	20	1500	64	1500	53

Table VI

(L)

Hospital of Instruction

Various Diseases

507

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

Disease	Remaining in Hospital at end of 1911	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of 1912	Remarks
		Admissions	Deaths			
Brought forward	20	1500	54	1554	52	
DISEASES OF THE RESPIRATORY SYSTEM contd.						
Broncho-pneumonia	2	54	12	66		
Abscess of Lung		3		3		
Pleurisy		5		5		
Other Diseases		9	4	13		
DISEASES OF THE DIGESTIVE SYSTEM						
Caries of teeth		6		6		
Glossitis		1		1		
Inflammation of Tonsils		4		4		
Gastritis		1		1		
Dyspepsia		2		2		
Diarrhoea	2	100	10	102	8	
Constipation		11		11		
Colic		17		17		
Hemorrhoids	1	1		2		
Gonorrhoea - Acute		3		3		
Gonorrhoea		1	1	2		
Other Diseases		2		2		
DISEASES OF THE LYMPHATIC SYSTEM						
Adenitis		3		3		
Inflammation of Lymphatic Gland		2		2		
Suppuration of Lymphatic Gland		3		3		
Pharyngitis		1		1		
Total	25	1753	91	1756	60	

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

Disease	Remaining in Hospital at end of 1911	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of 1912	Remarks
		Admissions	Deaths			
Brought forward	20	1500	64	1560	52	
DISEASES OF THE RESPIRATORY SYSTEM Contd.						
Broncho-pneumonia	2	54	12	66		
Abscess of Lung		3		3		
Pleurisy		5		5		
Other Diseases		9	4	13		
DISEASES OF THE DIGESTIVE SYSTEM						
Carie of teeth		8		8		
Glossitis		1		1		
Inflammation of Tonsils		4		4		
Esophagitis		1		1		
Dyspepsia		2		2		
Diarrhea	2	100	10	102	8	
Constipation		11		11		
Salivary Glands		17		17		
Amoebiasis	1	1		2		
Colitis - Acute		3		3		
Enteritis		1	1	2		
Other Diseases		2		2		
DISEASES OF THE LYMPHATIC SYSTEM						
Adenitis		5		5		
Inflammation of Lymphatic Gland		3		3		
Suppuration of Lymphatic Gland		3		3		
Pharyngitis		1		1		
Total	26	1753	91	1758	60	

Hospital, or Institution Various Dispensaries

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

Disease	Remaining in Hospital at end of 19 11	Yearly Total Admissions-Deaths	Total Cases Treated	Remaining in Hospital at end of 19 12	Remarks
Brought forward	85	1735	91	1765	60
ORGANS OF THE URINARY SYSTEM					
Acute Nephritis		2		2	
Cystitis		1		1	
Other Diseases		1		1	
ORGANS OF THE GENERATIVE SYSTEM					
Male Organs:-					
Inflammation of Scrotum		1		1	
Proctitis		7		7	
Other Diseases		1		1	
Female Organs:-					
Parturition		1	1	2	
Septicæmia		1		1	
ORGANS OF ORGANS OF LOCOMOTION					
Rheumatism		11	2	11	
Other Diseases		9		9	
ORGANS OF CONNECTIVE TISSUE					
Arteriosclerosis		14		14	
Diabetes	1	32		33	
Phthisis		4		4	
ORGANS OF THE SKIN					
Eczema		2		2	
Total	86	1830	93	1846	60

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

Diseases	Remaining in Hospital at end of 19 11	Yearly Total.		Total Cases Treated	Remaining in Hospital at end of 19 12	Remarks
		Admissions	Deaths			
Brought forward	80	1820	04	1846	60	
DISEASES OF THE SKIN contd.						
Eczema	1	0		7		
Scall		0		6		
Carbuncle		4		4		
Oriental Sore		12		12	3	
Scabies		28		28		
Ulcers		19		19		
Other Skin Diseases		3		3		
FURUNGS:						
General	1	16	2	17		
Local	3	314	0	317	0	
LOGICAL OPERATIONS						
	x	(2)	(10)	(17)		
LOGURS		2		2		
LOGHO		7		7		
ASITHO - ANIMAL						
estoda:-						
ania Solium		1		1		
ematoda:-						
chylestomiasis		1		1		
Total	31	2000	101	2100	72	

x Recorded under respective diseases.

Hospital or Institution 3rd King's African Rifles, Nairobi.

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

Disease	Remaining in Hospital at end of		Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of	Remarks
	1911	1912	Admissions	Deaths			
RECEIVED DISEASES.							
Beri-beri			1		1		
Dicken-Fox			25		25		
Dysentery	3		10	1	13		
Etiotic			1		1	1	
Gonorrhoea	2		12		14		
Malaria (Aestivo-autumnal)	2		101		103		
(Black-water)			3	1	3		
Measles			3	1	3	1	
Miasmatic Fever			10		10		
Mumps (Primary)	1		11		12		
(Secondary)			9		9		
LOCAL DISEASES.							
DISEASES OF THE NERVOUS SYSTEM							
Paralysis			1		1		
Rabies			3		3		
Tetanus			1		1		
Other Nervous Diseases			1		1		
DISEASES OF THE EYE:							
Conjunctivitis			5		5	1	
Inflammation of Cornea			1		1		
Other Diseases			3		3		
DISEASES OF THE CIRCULATORY SYSTEM							
Other Diseases			1		1		
Total	6		202	3	210	3	

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

1913

Disease	Remaining in Hospital at end of 1912	Yearly Total		Total Cases Treated	Remain- ing in Hospital at end of 1913	Remarks
	11	Admissions	Deaths		12	
Brought forward	8	202	3	210	3	
DISEASES OF THE RESPIRATORY SYSTEM						
Angina				1		
Arteritis		16		16		
Broncho-pneumonia		27	1	27		
Meurisy		1		1		
DISEASES OF THE DIGESTIVE SYSTEM						
Acute Throat		1		1		
Inflammation of Tonsils		1		1		
Gastritis		1		1		
Diarrhoea		3		3		
Constipation		1		1		
Arteritis of Liver		1		1		
DISEASES OF THE LYMPHATIC SYSTEM						
Inflammation of Lymphatic Gland		4		4		
DISEASES OF THE GENITIVUM SYSTEM						
Male Organs:-						
Gonorrhoea		1		1		
Chancres		7		7	1	
Female Organs:-						
Child Labour		2		2		
DISEASES OF ORGANS OF LOCOMOTION						
Gonorrhoea		4		4		
Gonorrhoea		2		2		
Other Diseases		1		1		
Total	9	279	4	283	4	

Hospital or Institution

3rd King's African Rifles, Nairobi.

RETURN OF DISEASES AND DEATHS (IN-PATIENTS) FOR THE YEAR 1922

Disease	Remaining in Hospital at end of 19	Yearly Total		Total Cases Treated	Remain- ing if Hospital at end of 19	Remarks
		Admissions	Deaths			
Brought forward	9	279	4	288	4	
DISEASES OF CONNECTIVE TISSUE						
Gonorrhoea		10		10		
Scabies		6		6		
DISEASES OF THE SKIN						
Trichinosis		3		3		
Scabies		7		7		
Warts		1		1		
Herpes		1		1		
Other Diseases		7		7		
WOUNDS:						
Wounds		17		17		
POISONING:						
Poisoning		1		1	1	
Total		331	4	340	5	

Hospital or Institution

Marshall Dispensary.

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

Disease	Remaining in Hospital at end of 1912	Yearly Total Admissions	Deaths	Total Cases Treated	Remain- ing in Hospital at end of 1912	Remarks
INFECTIVE DISEASES						
Dysentery		1	1	1		
Malaria (Acute-summer)		1	1	1		
Tuberculosis		1	-	1		
DISEASES OF THE DIGESTIVE SYSTEM						
Abscess of Liver		1	1	1		
DISEASES OF ORGANS OF LOCOMOTION						
Arthritis		1	-	1		
Total		5	3	5		

Table VII.

Native Hospital, Nairobi.

Return of Diseases (Out-Patients) for the year 1912.

Disease	Male	Female.
Chicken-Pox	6	-
Dysentery	179	1
Diarrhoea	110	-
Influenza	9	-
Leprosy	1	-
Malaria	589	1
Measles	8	-
Syphilis	167	12
Tuberculosis	6	-
Whooping Cough	3	-
Other Infective Diseases	20	-
Anaemia	8	-
Gout	3	-
Other General Diseases	90	6
Diseases of the Nervous System	333	3
" of the Eye	189	14
" of the Ear	125	4
" of the Nose	3	-
" of the Respiratory System	1671	20
" of the Digestive	1641	49
" of the Lymphatic	76	1
" of the Urinary System	2	-
" of the Generative	30	6
" of Organs of Locomotion	506	3
" of Connective Tissue	114	1
" of the Skin	1194	42
Injuries - General	-	-
- Local	2021	46
Parasites	39	1
Total	9126	225

Fort Hall Dispensary.

Returns of Diseases (Out-Patients) for the year 1912.

Disease	Male	Female
Chicken-Pox	3	-
Dysentery	5	3
Gonorrhoea	7	-
Influenza	2	-
Leprosy	1	1
Malaria	805	80
Rumps	1	-
Rheumatic Fever	35	4
Small-Pox	2	-
Syphilis	12	21
Typh	1	-
Anaemia - Pernicious	4	-
Scurvy	1	-
Diseases of the Nervous System	14	2
" of the Eye	94	87
" of the Ear	7	2
" of the Nose	66	7
" of the Respiratory System	231	49
" of the Digestive " "	363	73
" of the Lymphatic " "	10	1
" of the Generative " "	3	-
" of Organs of Locomotion	9	-
" of Connective Tissue	24	5
" of the Skin	272	20
Malaria - Local	1211	113
Total	3207	768

Native Hospital, Bombay.

Return of Diseases (Out-Patients) for the year 1912.

Disease	Male	Female
Cox-Sox	385	34
Dysentery	46	7
Enteritæcea	142	1
Malaria	1446	119
Rheumatic Fever	64	14
Syphilis	39	4
Tuberculosis	6	4
Scabies	14	-
Wickets	1	-
Burvy	1	-
Leishmaniasis	4	3
Diseases of the Nervous System	133	12
of the Eye	197	24
of the Ear	124	20
of the Nose	393	39
of the Circulatory System	1	-
of the Respiratory	249	35
of the Digestive	1846	142
of the Lymphatic	77	7
of the Urinary	3	-
of the Generative	72	4
of Organs of Locomotion	73	3
of Connective Tissue	119	10
of the Skin	1614	121
Injuries - Local	940	47
Wounds	3	-
Fractures	59	13
Total	7475	669
Surgical Operations	380	42

Jail Hospital, Kansas.

Return of Diseases (Out-Patients) for the year 1912.

Disease.	Male	Female
Dysentery	2	-
Gonorrhoea	12	-
Malaria	104	2
Rheumatic Fever	8	-
Syphilis	13	3
Typh	1	-
Trachoma	8	-
Other General Diseases	2	-
Diseases of the Nervous System	12	1
" of the Eye	64	2
" of the Ear	33	1
" of the Nose	1	-
" of the Respiratory System	397	21
" of the Digestive	295	13
" of the Lymphatic	30	-
" of the Urinary	2	-
" of the Generative	18	-
" of Organs of Locomotion	52	6
" of Connective Tissues	31	-
" of the Skin	167	-
Injuries-Local	130	4
Parasites-Animal	8	-
Total	1500	60

Native Hospital, Makuru.

Return of Diseases (Out-Patients) for the year, 1912.

Disease.	Male.	Female.
Dysentery	54	3
Gonorrhoea	38	-
Influenza	23	-
Leprosy	1	-
Malaria	171	9
Plague	1	-
Syphilis	57	8
Tuberculosis	4	-
Scurvy	2	-
Other General Diseases	8	-
Diseases of the Nervous System	15	2
" of the Eye	52	17
" of the Ear	17	3
" of the Nose	1	-
" of the Circulatory System	4	-
" of the Respiratory	291	30
" of the Digestive	310	36
" of the Lymphatic	9	-
" of the Generative	6	3
of Organs of Excretion	51	3
of Connective Tissue	42	3
of the Skin	56	10
Injuries - General	1	-
- Local	404	25
Tumours	-	1
Parasites	2	-
Total	1664	152
Medical Operations	105	-

Table VIII
(E)
Native Hospital, Lunenburg

889

Return of Diseases (Out-Patients) for the year 1912.

Disease	Male	Female
Chicken-Pox	2	-
Disentery	1	-
Hemorrhoea	34	1
Impetigo	3	1
Malaria	268	96
Scarletina of uncertain origin	29	3
Septicemic Fever	64	13
Syphilis	34	5
Tetanus	2	1
Typhoid	13	6
Typhus	17	3
Trichinosis	1	-
Uremia	8	7
Wounds	2	-
Zoster	2	-
Diseases of the Nervous System	70	70
of the Eye	74	12
of the Ear	40	6
of the Nose	10	1
of the Circulatory System	13	1
of the Respiratory System	227	37
of the Digestive	477	225
of the Lymphatics	24	12
of the Urinary	4	-
of the Generative	51	10
of Organs of Locomotion	21	8
of Connective Tissue	40	2
of the Skin	461	51
Wounds - Local	197	16
Wounds - General	9	2
Parasites	74	15
Total	2313	446
Special Operations	4	-

Native Hospital, Kismayu.

6-10

Return of Diseases (Out-Patients) for the year 1912.

Disease	Male	Female
Chicken-Pox	1	-
Dysentery	45	2
Gonorrhoea	14	-
Malaria	105	4
Chumps	1	-
Pneumonia	17	-
Rheumatic Fever	3	-
Small-Pox	5	-
Syphilis	9	1
Tuberculosis	19	-
Yaws	2	-
Anaemia	6	1
Anaemia-Perniciosa	1	-
Berury	6	-
Diseases of the Nervous System	100	12
" of the Eye	44	8
" of the Ear	7	1
" of the Circulatory System	1	-
" of the Respiratory	122	7
" of the Digestive	335	49
" of the Lymphatic	20	-
" of the Generative	14	4
" of Organs of Locomotion	9	-
" of Connective Tissues	39	5
" of the Skin	97	16
Injuries - Local	144	20
Poisons	2	-
Parasites - Animal	27	7
	1104	152
Surgical Operations	2	-

TAMMISWELL. (G.)

Retiree Hospital, Kismatu.

Return of Diseases (Out-Patients) for the year.

Disease.	Male	Female.
Dysentery	70	7
Diarrhoea	46	2
Eala Akar	1	-
Leprosy	4	-
Malaria	826	64
Rampe	5	-
Plague	30	18
Pneumonia	10	2
Rheumatic Fever	44	11
Septicæmia	2	-
Syphilis	140	17
Tuberculosis	4	2
Whooping Cough	1	-
Itch	5	1
Anæmia	7	1
Scurvy	1	-
Other General Diseases	4	-
Diseases of the Nervous System	132	13
of the Eye	175	62
of the Ear	69	6
of the Nose	16	3
of the Circulatory	4	1
of the Respiratory	704	84
of the Digestive	652	69
of the Lymphatic	75	15
of the Urinary	6	2
of the Generative	31	19
of Organs of Locomotion	162	13
of Connective Tissues	65	8
of the Skin	560	72
Injuries - General	32	8
Local	1190	64
Poisons (Snake bites)	2	-
Parasites	40	4
Total	6084	452

TABLE VII.

Military Hospital, Camp King, American Rifles.
 Return of Diseases (Outpatients) for the Year.

Disease	Male	Female
Dysentery	47	8
Gonorrhoea	3	-
Malaria	508	40
Rheumatic Fever	16	3
Syphilis	2	-
Tuberculosis	1	-
Whooping Cough	4	-
Anaemia	16	-
Diabetes	1	-
Scurvy	13	-
Other General Diseases	16	-
Diseases of the Nervous System	252	46
" of the Eye	78	25
" of the Ear	62	23
" of the Respiratory System	606	96
" of the Digestive	465	124
" of the Lymphatic	21	3
" of the Generative	27	17
" of Organs of Excretion	212	2
" of Connective Tissues	133	8
" of the Skin	1039	130
Injuries - Local	546	41
Tumours	1	-
Parasites	20	-
	Total	876
Surgical Operations	63	-

TABLE VII (1)

Haruabit Dispensary.

Return of Diseases (Out-Patients) for the year

Disease	Male	Female
Malaria	90	1
Syphilis	1	-
Diseases of the Nervous System	6	-
" of the Eye	4	-
" of the Ear	3	-
" of the Respiratory System	22	3
" of the Digestive System	46	3
" of the Generative System	3	1
" of Connective Tissue	12	-
" of the Skin	2	-
Injuries	62	2
Parasites	4	-
Total	283	10

CABLE WILL (1)
 Royale Dispensary

Return of Diseases | Out-Patients | for the year.

Disease	Male	Female
Malaria	47	7
Syphilis	7	2
Tuberculosis	-	1
Diseases of the Nervous System	3	-
" of the Eye	69	18
" of the Ear	10	2
" of the Respiratory System	29	3
" of the Digestive System	39	6
" of the Urinary System	1	-
" of the Generative System	1	1
" of the Organs of Locomotion	9	2
" of Connective Tissue	-	1
" of the Skin	9	6
Injuries	91	12
Tumours	-	2
Parasites	1	1
Total	316	63

20th April 1912.

Sir,

In compliance with your letter No. 28/529/1, dated the 20th March 1912, we have the honour to submit herewith our Report on the results of our inquiry into the causes which gave rise to the recent cases of Enteric Fever in Nairobi, together with a draft Circular embodying some information on the disease, as well as recommendations which, if adopted, will tend to the prevention of its spread, and which, we would suggest, be printed, and copies thereof distributed among the inhabitants of the Township.

We have been assisted in every way by the patients and their friends, and the help thus received we would gratefully acknowledge.

A perusal of the Report will show that we have been unable to proceed beyond a question of probability. Starting with a knowledge of the fact that Enteric Fever exists to an unknown extent in Kikuyu, and that the people of that country constitute the bulk of the unskilled labour, we find that Mr. ^{It} W - (case 1) employs many Masudi workmen, whose personnel frequently changes, and who are liable to disappear, as often as not, when overtaken by illness. He is accustomed to handle their implements, with a view to demonstrating their better use, and has recalled the fact that he has subsequently, at times, proceeded to food without preliminary ablution. The possibility of his having thus contracted the disease from one of his men, is rendered the more probable by the fact

Principal Medical Officer,
Nairobi.

the fact of his having taken his meals, during the time under review, with his brother and the brothers H---, two of whom, would later appear to have derived their infection from a source, other than that of the food which they partook of in common.

Mr. W's- two brothers subsequently developed the affection, one, apparently, without doubt from the soiling of his fingers with the contents of a vessel, which held infected excreta, and the subsequent omission to perform an ablution, and, the other probably in the same manner.

Mrs. W - and her children failed to contract the disease, the former, because she carried out the medical attendant's instructions carefully, and the latter, because they were not permitted to have anything to do with the patient.

Mr. K - (one of the 3 brothers alluded to above Case 3) may have derived his infection from the same source, although the time which intervened between his departure from Nairobi, and the development of the disease, seems somewhat long. Both he and his brother lived together, during almost the whole of their shooting trip, their food and drink being practically the same. The porters who accompanied them could not, unfortunately, be examined, so, though we suspect that the origin of the disease may be found among them, yet we have not been in a position to prove or disprove the supposition. The blood of the brother who remained free gave, on examination, a negative Widal reaction.

Mr. M's (case 6) work brought him into contact with an Uganda, who had previously suffered from the disease, and he was accustomed to wash his hands in cold water, and cleanse his teeth through the medium of the same basin. It is possible that he even omitted at times the act of ablution prior to meals, and it is interesting to note that his messmate did not contract the disease, has never, so far as he knows, had it, and that his work did not bring him into contact with the Uganda referred to.

Mr. S - and Mr. G (case 7 & 8) were accustomed, up to the end of February, to mess at Mrs. P's house in company with a number of others, the vast majority of whom have never had Enteric Fever. Mr. S indulged in weekly shooting trips, and, when engaged on such, was given to drinking of any water he happened upon. The blood of his personal servant however, gave a positive Widal reaction on examination, and a possible inference may be that he infected his master. Mr. G. must have been infected in some similar manner, as, owing to his habit of partaking of his food with others who remained unaffected, the possibility of his having contracted the disease in this fashion, may be eliminated.

Mr. B's (case 6) is a case of a solitary appearance of the disease in a susceptible household, and it is to be regretted that his cook had left Nairobi, before we had the opportunity of examining him.

The Coanese children, (cases 11, 12, 13, 14), the Indian child, and the Indian postman, would seem to have derived their disease from hands soiled by infective matter - at least

as far as their histories and habits can lead us to formulating a probability.

Mr. R - (case 9) contracted the disease, either here or in the Seyidie Province. While journeying in the latter place, he was accompanied by two others, who acted in the same manner as he did, and who did not subsequently develop Typhoid Fever. At Mairobi his mode of life is methodical, he never consumes uncooked food, and his milk is boiled. We have not had the opportunity of examining the bloods of either his servant or his porters.

In conclusion, we would submit that the sporadic manner in which the disease has manifested itself, and the existence of associates in connection with all the cases who shared in their ways and food, and yet remained unaffected, would seem to point to the patients having derived their affection, as the result of their hands, and consequently, their food, having been contaminated by infected matter.

We have the honour to be,

Sir,

Your obedient servants,

ed/ J.A.Maran,

S.M.O.

ed/ Alexander Robertson .O.M.

REPORT ON CASES OF ENTERIC FEVER IN NAIROBI BETWEEN

OCTOBER 1911 and MARCH 1912.

Mr. W - (case 1) Victoria Street, developed the disease about the 10th of December.

Movements prior to attack.

He returned from a holiday in England at the end of August; was in Uganda for a fortnight in the middle of October. Between his return from Uganda, and the date of attack, he had resided continuously on his farm at Athi Plains, about 5 miles from Nairobi, coming in to Nairobi to his workshop in the morning, and returning to his farm in the late afternoon.

Habits.

He has breakfast and dinner at the farm; he lunches in a room adjoining his office in Victoria Street, the food for lunch being brought in from the farm in the morning, and consisting chiefly of cold meat and bread. The food for lunch is not kept in a safe. He says that he never eats uncooked vegetables.

He drinks either stout or milk at lunch, the latter being brought in from the farm in a bottle each morning. In the evening he usually has a whisky and soda, the soda water being procured from Mackinnon Bros, who got it in the first instance from the factory of Intinalli. He had lunch at the Norfolk Hotel about a week before his illness, but he partook of nothing uncooked.

The Workshop and Offices are situated in Victoria Street behind the Stanley Hotel. There is a passage on one side of the building which Natives frequently use for purposes of defecation etc.

Mr. W - was in the habit of handling the implements used by the Indian and Native labourers. Mr. W states that his Native labourers frequently left his service at the end of a month.

The water supply is from a standpipe in Government Road and is the ordinary town supply.

The dwelling house at the farm is now, the water supply for drinking and cooking is from two large galvanised iron tanks, placed above the ground, while for washing purposes, the water is procured from a cement tank underground. The garden, in dry weather, is watered by means of a watering can, the water for this purpose being got from the River, which is distant about 400 yards from the farm.

The milk supply is under the personal supervision of his wife and brother.

Mr. A.W. (Case 2) a brother of the above, took ill about 20th January 1912. He was employed in the Agricultural Department, but had his lunch each day with his brother at his office in Victoria Street, and during his brother's illness, he frequently looked in at the workshop, to see how the work was going on. He was, also sometimes, in attendance on his brother at the farm, during his illness. His habits were pretty much those of his brother.

(Case 3) A third brother, who resided continuously on the farm, developed the disease at the end of January. He had

He had been, very frequently, in attendance on his two brothers, during their illness, and assisted in removing stools etc.

Mrs. W, and the two children, have not developed the disease. Several of the boys employed, at the farm and workshop, were sent to the Laboratory, with a view to having their blood examined, but a negative result was got in each case.

(Case 4) An Indian Mistri, employed by Mr. W in his workshop in Victoria St., developed Enteric about 20th February. He had been Mr. W's service for over 3 years.

About 3 years ago, he was superintending the erection of a building at Kikuyu, and after he had been there about 8 days, he developed Fever and Diarrhoea, which he says lasted for over a fortnight. As an overseer, his work takes him a lot into the surrounding country, and he says he has been in the habit of drinking from streams and pools of stagnant water. He resides at the workshop in Victoria Street, cooks his own food, and never eats anything uncooked, except perhaps fruit.

(Case 5) Mr. E. took ill, while away on safari in the Fort Hall District, about the middle of January. He had resided with the W's on their farm, and lunched with Mr. W in his office as also. He left on safari, with his brother, about the middle of December. While on safari, he drank from pools of stagnant water, and from streams. His brother did not develop the disease, even though, his habits were much the same.

(Case 6) Mr. F took ill on the last Monday in January. He worked at W.S. Sammills, and F.S. 500, on their premises near the Public Works Department. He had all his meals

his meals on the premises; he says that he never partakes of any food that is uncooked. He usually drinks Lime Juice and Soda. His ^{milk} supply is from Masai milk sellers; the milk is boiled. An Uganda boy, employed at the Mill, was often in attendance on Mr. M. during the working hours, and this boy was ill with diarrhoea and fever, about the end of December.

A widal reaction of this boy's blood was positive. Large numbers of Natives are in the habit of using the ground, in the vicinity of the Mill, as a public latrine.

(Case 7) Mr. S took ill about the 5th of March. He was employed in a local Bakery, and resided in a room at the back of the bake-house. He had his meals at the boarding house, managed by Mrs. P in River Road. He had tea in the bake-house each morning, the tea being made and brought by a boy employed by his employer. Mr. S's personal servant, though he gave no history of illness, gave a positive Widal reaction when his blood was examined: Mr. S. was in the habit of going out twice a week, to the Athi Plains, to shoot, and on these occasions, he was not regular as to what water he drank.

Mrs. P. had Enteric Fever, about 20 years ago, while resident in South Africa.

About 15 persons had meals regularly at Mrs. P. in River Road, and of this number, 3 had had Enteric Fever in South Africa, in former years.

(Case 8) Mr. G. took ill about the 14th March. He resided with Mr. H. his partner, in a house in Duke Street. He had been up at Lumbwa, for a day or two, at the end of February;

he dined at Nakuru, and had a glass of water to dinner, slept one night at Londiani, and had breakfast there. On his return from Lumbwa, he was at Ngong for part of a day, but took sandwiches, and a bottle of mineral water. He spent one day at Ruiru, where he lunched, but drank no water. He changed his servant, a week or two before he took ill. He had meals with Mrs. P., until he went to Lumbwa, about the end of February, and on his return, about March 1st., he had his meals in the Stanley Hotel. He says that he rarely eats salads, or uncooked vegetables. The servants, ^{at} the house in Muker, were sent to the Laboratory, but each gave a negative Widal reaction.

(Case 9) Mr. R. took ill at the end of December. He had been in Nairobi, during the whole of November, and went to Shimba Hills, on the 12th December, returning to Nairobi about the 18th. He drank from stagnant pools of water on the way to Shimba, but when in Lombasa he only used Perrier water. His milk supply is from Dr. H's dairy, and this is boiled; he never eats uncooked vegetables.

(Case 10) Mr. M took ill about the 6th March, but continued at work for over a week, before he went to bed. He returned from leave in November last and had not been out of Nairobi since his return. He usually drinks whisky and soda, lime juice and soda, and water from standpipes, in the compound, which is filtered. He gets his soda water supply from Sousa Junior, who prepares it in the first instance from Intinsali. He had an Uganda cook, whom he discharged, about a fortnight before he took ill. He sometimes eats salads. He got the vegetables from a European farm in the vicinity, but a fortnight before

before he took ill, this supply of vegetable food became rather short, and he supplemented the supply from the Native Jeevanjee Market. Two of his personal servants were examined; but both gave a negative Widal reaction.

(Case 11) An Indian child, living in the Railway Landies, and aged about 3 years, took ill on the 27th March. The milk supply from Kasai, water supply from a tap in the compound, all food is cooked, and the milk was said to be boiled. Fruit is sometimes purchased from the Jeevanjee Market. The child was in the habit of playing in the drains at the landies.

(Case 12) An Indian, by the name of ~~Waseehanker~~^{Waseehanker}, employed in the Post Office, was ill with Enteric Fever in the month of October. He prepared his food himself which was all cooked. He got his milk supply from a Somali, his water supply is from a tap; but he was in the habit of washing his clothes in water from the irrigation trench.

Cases 13 & 14) Two Goanese children, living in the Railway quarters, developed the disease early in April. The milk supply was from a Somali milk seller, who delivered the milk at the house, each day. This milk supply was suddenly stopped, about 3 days before the children took ill. Previous to this condensed milk was used. Water supply from public standpipes.

From the histories of the cases of Enteric Fever, the following deductions may be drawn.

Water Supply. One cannot possibly attribute the causation of these cases to the Public Water Supply, since an infection following such would be widespread, more especially as the water is neither boiled nor filtered, by the majority of householders.

With regard to the drinking of water from pools and streams, a history of which is given by at least 3 of those attacked, namely Messrs. Ross, Macrae, and Smith, it is obvious that this cannot be disregarded, and is a possible cause of the disease in these three cases.

It is interesting to observe, however, that Messrs Ross and Macrae were accompanied by others who practically ate and drank in the same way, and yet did not develop the disease.

Milk. The milk supplied to those attacked, with the exception of the brothers W., was from different vendors. This article of food cannot be well regarded as the cause of the disease, since were such the case, it would, probably, have assumed wider proportions.

It is, however, known that milk boys are frequently in the habit of washing empty milk bottles and milk cans, in the Irrigation Trench in Swamp Road, and in other pools and streams, that intervene between Hairobi and the various dairies. In many cases, also, it is quite possible for boys to open bottles containing fresh milk, abstract some of the milk, and add water to make up the deficiency. In cases where milk cans are locked, this cannot be done, nor can the cans be washed anywhere but at the dairy.

Note. A system of locked cans, and the provision of stoppers to bottles, that cannot be tampered with is greatly to be desired. The dangers in washing bottles and cans in pools and streams in this country, are undoubtedly not remote, since pollution of the water, with various bacteria, is now well known, and this contamination is continuous, on account of the habit that the native has of defecating and micturating, here, there, and everywhere. In a letter, from Dr. Arthur of the Mikuju Mission, we have been able to elicit the information, that Enteric Fever is by no means unknown amongst the natives, in and around the Mission Station, which, by the way, is not far from the source of the Nairobi River. In 1909 there were 3 cases treated in the Mission Hospital, and last year there were 9 others. The cases treated in hospital, most probably, from only a small proportion of those infected.

FLIES. It is well known that the infection of Enteric Fever, can be carried to food, by means of ordinary house flies. Though one must keep this in view as a possible cause, we can submit nothing very definite in support of the opinion, that flies were the agents which gave rise to the recent cases.

CARRIERS. The most probable cause of the sporadic cases referred to, is he who is known by the name of the carrier. With an infected native population, some of those who have had the disease, may still have the infective germs in their bodies, from which they are emitted in the discharges from the bowel and bladder.

With regard to the individual cases, it is very probable that Mr. J.K.W. contracted the disease from a "carrier," and that he ultimately infected his two brothers, and the Indian Mistri in his employ.

With regard to Mr. M (case 5), the two brothers were living under similar circumstances, and why one should contract the disease from drinking water that may have been polluted, and the other escape, can possibly be ascribed to a certain degree of Natural Immunity in the one, which was not existent in the other. It is possible that Mr. M. contracted the disease through the agency of a carrier, which was not operative in the case of the brother.

He may have obtained his infection from Mr. W., with whom he stayed, though the incubation period is somewhat long, should this be the case.

With regard to Mr. M., (case 6) it is very likely that he contracted the disease through a "carrier" in the person of the Uganda boy who assisted him at his work. The two other Europeans, who passed with him, did not develop the disease, so that we cannot attribute the infection in his case, either to milk, water, or the agency of flies.

Two possibilities exist in the case of Mr. S., either, that he derived his disease from polluted water, or by means of the native who was his personal servant, and who gave a positive Widal Reaction, even though he could give no history of illness.

With regard to Mr. Q., it is possible that he may have contracted the disease outside Nairobi. It is unfortunate, however, that his personal servant should have left his

his employment, a fortnight or so before his illness commenced, thus preventing us from interrogating him. Mr. R. probably acquired his infection after his return from Shamba. It is possible that he contracted the disease on his journey there, through drinking polluted water, though the two Officers who accompanied him, and lived under the same conditions, did not, as far as we know, develop the disease.

In the case of Mr. E., the possibility that he derived the infection from the Kiganda cook, whom he dismissed a fortnight before he took ill, must not be forgotten although he gives a history of having eaten uncooked vegetables bought in the Jeewanjee Market, most of which are watered by means of irrigation streams derived from the Nairobi River, which is known to be polluted. The latter alternative, however, should have led to the disease appearing among the members of his family. The source from whence the Indian child, who resides at the Railway Ladies, derived his infection, seems difficult to arrive at with certainty. We can only say that it is a common custom for children of his age and class to play in the adjacent drains, as well as on the ground adjoining their dwellings. If these habits are considered in conjunction with the almost universal practices of natives, as regards micturition and defaecation, the possibility of having acquired the disease through ^{his} contaminated hands, would seem to be the most probable one. As regards the two Goanese children, we have learned that their parents commenced to purchase milk from an itinerant vender, some 15 days before the former took ill.

The parents however, assert that the milk was always boiled before use, and that their food is invariably cooked before use. Their servant who had been in their employment for a considerable time, had left at the end of the previous month, and we were, consequently unable to interrogate him. It was not possible to obtain any information as to the whereabouts of the milk vendor, who had ceased calling, and it was not absolutely certain that the children might not have drunk the milk unboiled.

Against the possibility of the milk having been the medium of conveyance, is the fact that no other cases have appeared having the same history. We can, thus, only surmise that they derived the disease, as a result of their habits of play, and the resultant contamination of their food.

In the case of Murakabawer, we have been informed that he lives close to the irrigation channel, and was accustomed to wash his clothes with water drawn therefrom. (In this connection, we may invite attention to the possibility of rains washing the overflow from the latrines, at the Civil Hospital, into the same channel, a short distance above where he resides, and the consequent danger of resulting infection of the water). Had he derived the disease from this source, we should have expected to meet with other cases from the same area, although individual habits must be remembered. He asserts that all his food was invariably cooked. From a consideration of the circumstances, attending all these cases, we have come to the conclusion that the majority, if not all of them, were probably due to contamination of food, resulting from the hands of the patients having become infected by contact with matter containing the germs of enteric fever.

MEDICAL DEPARTMENT.

CIRCULAR No. 130.

ENTERIC FEVER.

Brief Notes on its Causes and Prevention

As cases of Enteric or Typhoid Fever have occurred in the Protectorate the following information regarding the occurrence of the disease may be of interest to you.

It is caused by the entrance into the body of a special microbe. This can be brought about by:—

- (1) direct or indirect contact with a person suffering from the disease or with a "Carrier."

NOTE:—A "Carrier" is a person who has had an attack of typhoid fever, and who, otherwise perfectly healthy and able to follow his avocation, yet continues to excrete the microbe.

- (2) water which has been contaminated with the excreta from a case of the disease,
- (3) food which has been contaminated in the same manner, or
- (4) the retention of infective matter in the neighbourhood of dwellings.

The most frequent mode of infection is by contact or by the mouth, the virus either being contained in water, milk or other food, or conveyed directly by the unwashed hands after contact with infected matter. (*Whitelegge and Newman.*)

In connection with infection contracted from filth or through food the agency of flies must not be forgotten. The domestic house-fly and other forms have been proved to be carriers of contamination on their feet and legs. (*Niven quoted by Whitelegge and Newman.*)

The disease varies in its severity, some cases being of so mild a character that the patient may continue to pursue his daily avocations being only conscious of a slight sense of ill-being. Such a person is none the less capable of transmitting the disease to others.

A consideration of the above facts makes it clear that the disease is largely, if not entirely, avoidable and the following hints may be of service towards this end, viz:—

- (1) The hands should always be carefully washed before partaking of food, the water for this process being obtained from a reliable source and, preferably, hot.
- (2) A special vessel should be maintained for the holding of the water wherewith the mouth and teeth are cleansed. The water for these purposes should be obtained from a reliable source and, preferably, boiled before use.
- (3) Uncooked foods, such as salads, should be avoided, unless their origins are unimpeachable. It would be best to allow no food to come to the table which has not been cooked.
- (4) Milk should be boiled beforehand. Fruit should be peeled. Foods such as cold meats, milk, bread, etc., should be stored in fly-proof places when not actually on the table.

- (5) The cleanliness of the latrines and closets attached to a house should be rigorously attended to and a box of earth should be kept in each of these places. Whenever a place of the kind has been used, sufficient earth to completely cover the deposit should be subsequently added by means of a scoop.
- (6) The occupier of a house should see that his servants or their visitors are not allowed to micturate or defecate on the ground attached to his residence. A favourite place for the former performance is that which adjoins the back of the kitchen. The grounds surrounding a building should be kept trim and free from undergrowth as the absence of cover discourages these practices.
- (7) The cleanliness of the kitchen and its contents is a matter which needs constant supervision. The "Mitowa Jiko" is prone to sour his pots and pans in the earth and ashes adjoining the sphere of his operations, and, as he or his friends may perhaps select the same site for micturating at night, the possibilities of the combination are obvious.
- (8) Servants should wash their hands thoroughly before being permitted to attend at table. Their clothes and the quarters occupied by them should be always clean.
- (9) The grounds surrounding a building should be kept free from accumulation of garbage, manure, refuse, and other filth, as the presence of these materials encourages the breeding of flies.
- (10) When flies invade a building immediate steps should be taken to destroy or drive them out.
- (11) Where laneways or unoccupied plots in the township are noticed to be used for purposes of micturition, etc., the Police authorities should be notified of the fact.
- (12) Water should not be drunk which has been drawn from pools or streams unless it has been boiled previous to use.
- (13) Tanks used for the storage of rain water should be of the overground variety and be furnished with taps.

REPORT ON BERI-BERI AT BERENJI,
DACHOUMAH 1911 TO JULY 1912.

In presenting a report on the recent epidemic of Beri-Beri at Berenji, I will follow an unusual order and describe first the mode of onset, course, symptoms, and measures taken to cope with the disease and then discuss the vexed question of causation, incubation period, possible causes of such a high mortality and finally offer recommendations for the future.

Onset. As usual the first cases were likely to be overlooked, the symptoms amounting only to slight pain and swelling on the legs. As early as November, two or three such cases occurred but it was not realized until the second week in December that a definite epidemic of Beri-Beri had to be dealt with.

The number of patients with these preliminary symptoms rapidly increased.

Symptoms. It has often been noticed that the symptoms of Beri-Beri vary considerably in different epidemics and in different cases in the same epidemic. So much is this the case with regard to different epidemics that it seems not unlikely, that in our present state of want of knowledge, different diseases have been and are now lumped together under this blessed word "Beri-Beri."

Now one fact stands out most conspicuously in this epidemic.

The Uniformity of the symptoms.

The first signs of oedema have not been in the feet, though these swollen later, but on the outer side of the upper third of the tibia, or rather between the tibia and fibula. The slightest pressure in this region which slight is quite perceptible in the very early stages. About the same time pain is noticed in the thigh muscles especially the adductors and very soon the calf muscles are also affected. In slight cases these pains amount only to a feeling of stiffness. Lieut. Davies, 3rd K.A.R. tells me that often on parade a man would complain in the first instance of pain in one knee and limp slightly. This is interesting as a one sided lameness would have put me on a wrong scent.

The patella reflex is lost very early; a preliminary increase might reasonably be expected, but possibly through not examining soon enough, I have been unable to obtain it. These symptoms in the lower extremities have usually developed so rapidly to the vice so the so-called Beri-beri gait.

Some puffiness under the eyes and sometimes on other parts of the face may be present.

In fact I want to lay stress on the apparent insignificance of the symptoms so far described. Yet this epidemic has been characterized by a very high and sudden mortality. The serious symptoms, leading almost invariably to a fatal result, have now to be described.

The most distressing fact all through has been the

The poison seems to have made a bad line for the vagus nerve, or more correctly, when once affected, the attack on the nerve has been sudden and severe. Many of the cases which have been considered quite slight for a month or more, have from some unexplained cause, suddenly developed cardiac and stomach symptoms with rapidly fatal results.

Though writing with a very small experience yet it seems to me extraordinary that we have had so few cases of moderate severity lasting a considerable time. I have seen no typical "wet" or "dry" cases judged by a text book standard, none to correspond to those severe cases often seen in home hospitals for tropical disease, no really extensive dropsy and no extreme wasting.

The suddenness of the heart symptoms may perhaps have led to a fatal issue before the signs of back pressure could become developed, but one might expect some of the slighter cases, which have been hanging on for nearly three months, to show more of the effects of pleuritis. They walk with a stink, still complains of all these side some pain, the knee jerk is still absent, but the respiration is very slight.

Stomach and cardiac symptoms appear nearly simultaneously. Often after two or three days' constipation a full meal could no longer be easily digested, pain in the chest, palpitation and some dyspnoea quickly supervene. Then the fight for life begins, and though, as has been already stated, nearly always unsuccessful, one cannot admire the splendid effort made of the patient's part.

The fact it almost seemed as if the initial condition of the heart had less to do with prolonged life than the

the character of the patient and conditions producing a moral effect upon him. This is specially noticeable by the way patients died in barracks. If after a hard struggle a popular sergeant died, his death was rapidly followed by three or four more, then a pause for some days, only to be followed by another lot of deaths one after another.

To return to these final symptoms:-

Peristent vomiting and fetching nearly always set in some hours or a day or two before death.

Marked anaesthesia of the the lower limbs though not complete was always present at this stage and then all the well known symptoms of an extremely dilated and failing heart brought on a fatal termination.

The physical signs included most passing and varied cardiac murmurs, generally systolic; largely increased cardiac dulness to right side, but to my surprise without a marked displacement of the apex beat outside the nipple line though this was often much lower than is normally the case.

Measures taken to cope with the epidemic.

In a letter written to the Officer Commanding, Boreham on February 22nd after my arrival I wrote:-

In December you telegraphed to me and as the disease continued you had to inform me, I recommended that rice should be discontinued & this you have already done. What next was essential and that a light and varied diet was useful for the sick. At my request you sent me daily messages. Though eight men had died, after three weeks

the epidemic seemed to be subsiding as you reported that there were no more deaths and no more new cases. However, after about a week you reported more cases and five more deaths with no improvement in the old cases, so I decided with the consent of the Provincial Commissioner to visit Sereni. Leaving Kisumu on January 29th, I arrived at Dekatch on February 15th, inspected the camp and remained Sereni on the 16th, where the new cases in a few days had amounted to over 25, out of a total strength of 117. This was before the Inspector General's escort returned so you have had over 70 cases and up to the present 16 deaths.

In moving those of the sick able to travel to this camp 25 miles South, I think that you have done right, but I do not think what the immediate transfer of these men by road to Yanti is advisable. Even if you can provide mules, the journey would be too slow for them and you must expect a further higher mortality.

During the few days that I have been here and at Sereni, I can see little or no improvement in the condition of the more serious cases and some of the slight cases have developed into serious ones. As it seems to me that we can only do as well as possible in this camp, until a steamer arrives to relieve the men.

Everything which I have suggested you have or are trying to carry out. It is important that if possible you should employ more labour, as the men are unable to work for themselves, to build shelters etc., the more hands the better next season.

Since my arrival the river has risen a few inches and though this is probably only a temporary rise, it is advisable that the Provincial Commissioner

be asked to send a steamer as soon as possible.

With regard to food supplies to the troops I considered the rations inadequate and unsuitable and at my request you have ordered more and procured some locally.

It seems to me that in those operations where Government have to ration the troops, care should be taken that the food is at least as varied as that supplied to prisoners in gaolhouses or Nairobi jails.

This letter shows that by stopping the issue of rations, improving the rations and in moving the sick we were making efforts to stay disease. Now ineffectual and inadequate these measures, proved to be will be shown. The fact is that, when this river is not navigable, it is difficult to imagine a more unsatisfactory situation in which to cope with a disease of this kind.

One can now realize in the days of long sea voyages the helplessness and despair created by ship beriberi. Our condition was little better. There seemed to be no escape. Much the most important measure after an outbreak is to remove the sick to a higher altitude, but here our only water supply is the Juba river and we are but 40 ft. above sea level. A move to any hills to the north would cut us off still further from our base of supplies and was in other ways quite impracticable.

As DeKatch to my surprise I found that the sick, if it met with my approval, were to go on to Yonti by road. Having examined the men and knowing the road it seemed possible to recommend such a journey at that time. That rest and careful nursing is needed in this disease has long been

been impressed upon me and the great danger of any sudden movement or strain.

The condition of the heart in the majority of these 30 men showed that they were quite unfit to travel.

The track across to Akshau means a daily double journey from 4 a.m. to 1.30 p.m. and again for similar hours if possible in the evening (necessary with a limited camel transport through waterless country). Such marching combined with a sweltering mid-day heat would be a great strain on an enfeebled heart. It seemed madness to send the men. Yet now it seems to me that I was probably wrong to stop them. Surely the mortality would not have been higher than which we afterwards had at Dekatch (see mortality table.) and which we had to watch sitting down.

The Camp at Dekatch was not satisfactory. It was situated under the shade of *omy palm* and other large bush trees right on the bank of the river. The bank here was fortunately high above the water. It would have been worse to have moved on to the bare stony rising ground away from the river as we had not the necessary labour, time, and material to build suitable huts. On my arrival the camp was much improved. Lieut. *Orin* having enlarged, cleared and generally cleaned up the place. Every man was provided with a fixed bedstead about 2 ft. from the ground, made on the spot, of wood and grass with plenty of room between them. A shelter was built over each, but no side walls were

6115

of considering white (especially polished) rice as an essential cause of the disease; but in this epidemic my theory is that the disease was contracted in a short time in the last half of November, long before my arrival and that nothing short of moving the whole of these troops would have had any effect.

Medicines were very very disappointing. Various tonics and stimulants were tried one after the other with the exception of Nitro-glycerine, but they seemed to increase the distress of the patients and became distinctly unpalatable. The only medicine in great demand at Dekatch camp was a strong highly flavoured Mist. Ros. for those who could still eat well and Iron and quinine mixture was given but was seldom well borne. Syr. Ferr. Sulfat. is proved to be an excellent tonic to a very weak convalescent from a slight but long standing attack.

Etiology.

Rice. When the bad news reached me that Beri-beri had broken out at Berak, the only satisfaction I felt was that now, from the recent successful experiments by many observers, we really knew something definite about the cause of the disease. Still more recently I see that the Eastern Branch of the British Medical Association have petitioned interested governments to control the preparation of rice. It is by keeping in view this recent work and especially the excellent research of Fraser and Braden that I have tried to trace the cause of this outbreak. Before leaving I wrote to the Provincial Commissioner giving him the names of the different kinds of rice obtainable in the local shops and asking him to send samples to Nairobi for examination, but leaving on the same day I never heard the result.

The first thing they is to consider the quality of rice issued at Carenli. We need not trouble about any date previous to June 1911 as at that time there was no rice on the station and food was urgently needed. Towards the end of June E Company arrived bringing the first consignment. The rice had been long in transit, having been stored over 7 months in Coblen. It is said that it did not arrive here until over a year after being bought from Bonstead and Clarke at Robinson. The Capt. Surgeon James Galsbol has given me this and the following information about the previous history of the rice. It is important it could be easily verified. It is also stated that the rice got wet on more than one occasion. However the A. S. S. assured me that this first rice was of much better quality than the next two consignments. In July 1911 the rice was again in the stocks. The second supply is said to have come from Java, was sent and in the same steamer from the same shipping company and reached Carenli at the end of July. This rice was bad, was broken, and often matted together in lumps.

It is of interest to note here that E. Company, when stationed at Carenli, departed from the station at Beris-Bari in the summer of 1911. They quickly recovered on being at once removed to Maimoni, October 1911. They left for Dubland May 30th 1911.

The first lot of rice was sent by the last steamer of the year November 1911, and is said to have been bought locally at Kisiya. It was consigned to the Civil Department, and was taken into general store and was in poor condition. It would be satisfactory to nail down one particular batch as the cause of the difficulty, but this seems to be impossible. The only way to be sure that the first consignment was finished before the second was

...and there is no doubt that he considers the second
~~...disease, which quality.~~

On November 2nd very heavy rain fell at Berenji, the
store was not entered and many of the bags wet.

On November 6th. The Inspector General left with
an escort of 25 men from Berenji. They took 1,400 lbs
of rice. Considering that such a large proportion of men
remaining in Berenji separated Beri-Beri shortly after-
wards and that none of the Inspector General's escort have
ever shown any signs of the disease, it seems to be proved
that the outbreak occurred between November 6th and the
end of the month. The Ins. Surgeon does not agree
with this. He considers that the outbreak is the result
of long continued consumption of rice of poor quality and
accounts for the immunity of the escort to the fact of
a complete change of surroundings and later the climate
(Beranji). He also says that the amount of rice eaten on
this trip was individually small, as food was scarce.

Such discussion has lately taken place on the proper-
ties of polished rice. There seems to be a consensus of
opinion that by milling in this way Gerbes loses some
important constituent, the absence of which causes the
disease. Now at Berenji we have no polished rice, all
three batches have been the common Polva White Rice.
Which may really have been old, when bought and which has
since still further deteriorated.

But I have not read in the course of these discussions
that there is supposed to be any particular danger of Beri-
Beri from eating rice of inferior quality. On the contrary
one medical man wrote that in the institution under his
charge he attributes the freedom from Beri-Beri to the fact

Page 10. 644 A

that the authorities were too poor to use such expensive
rice as the polished variety.

Yet surely it is quite conceivable that rice may become
so affected in course of time, especially when exposed to
wet and heat, and after such transport in single bags of
sacking, as to approach the condition of the polished
variety to the extent of losing the waxy constituents
contained in the layer under the pericarp.

In this connection, our next. Surgeon Iwan Babush
calls my special attention to the action of weavils. The
rice in Sereni was overrun by these pests and it is
interesting to examine their method of attack. With a strong
glass it can be seen that though some grains are bored through
more centrally the path of the weevil is shown in longitudinal
and grooves parallel to slight ridges which seem to be
ridges of attachment to the husk or pericarp are formed
during husking. The grain is not completely eaten away,
but a large quantity is damaged in this way. I should like
to see how such a rice would stand Graser and Stanton's
Phosphorus pent-oxide test.

Ten years ago at Afnan we had a similar outbreak.
One Company of conscripts was cramped in a small house. The
only food was rice of very indifferent quality, which had
remained over from the Ogden expedition. Other favorable
conditions were also present then; heat, damp and overcrowd-
ing.

So the evidence seems overwhelming that this disease
is at any rate in part caused by rice which is probably
deficient in certain constituents or nutritive qualities.

But before leaving the consideration of the part
played by rice, I wish to protest against some of the
conclusions

shown by Johnson, et al. that the disease can be caused by
change of diet. He is supported by many observations.

But in this case the change of diet appeared to have
no effect on the course of the disease, which in my
opinion was contracted in December.

Cases occurred one, two and three months later, i.e.
with a long or short incubation period. The case started
early in December, and the largest outbreak was at the
end of February.

Schlosser finishes his paper by saying that all the
evidence taken together seemed to him however only to suggest
of one conclusion - that beri-beri was caused due to
deficient metabolism of phosphorus and its consequences.
But the evidence seems very thin for this one and one con-
clusion. Before, during and since the epidemic under
consideration, a liberal ration of yeast has been issued to
the troops, and sufficient to supply any deficiency of
Phosphorus. Of course it may be argued that in normal rice
Phosphorus is in a state of combination especially suitable
for metabolism, and that these people would not get sick
at all and could not be beri-beri. But it is certain
that a deficiency of some constituent, not the presence
of some harmful substance, is the cause of the disease. I
think that the authorities are lacking our power of
credibility sufficiently through present-day fixing on
Phosphorus as the guilty substance. Not leaving that risk,
we must consider other possible contributory causes. This
is obviously necessary if one is to answer such questions
as the following. All through the Rotterdam indifferent
white rice is eaten in large quantities, and in Java-beri
not more common or much, and in spite of the fact that

rice was issued to all hands on the station including
Havilli coolies and Havilli porters, and only the Havilli
troops and later their wives contracted the disease

Local conditions. cont.

Those who only know Serenli by visiting the
station in the cool months say to October, which happens
also to be the time the river is navigable, can have
no idea of the extreme heat from November to February.
One officer, who has served in India on the plains in hot
weather, at Aden and at Berbera, assures me that he has
never suffered from the effect of heat to such an extent
as experienced here last December and January. The
usual maximum shade temperature on the verandah of the
Officers' quarters was 96° (lieut. Davis) but was
probably higher in the lines at the back of the station.

With the exception of the storm at the beginning
of November already mentioned, there was no rain until
March. So at the time when the epidemic was at its height,
the station was very dry and unshaded. How did the
rain when they came quickly to the assistance of the disease

Overcrowding. The military quarters consist of seven
lines, each line has ten rooms, ten feet square.

at the end of November the strength was as follows:-

troops	166.
European Children	123
<u>Total</u>	<u>289</u>

An average of over four to a room. But to the
lajan beings must be added the large amount of kit
which Soudanese women manage to accumulate, such as
pots, clothes, basket work, pots and pans, chickens
and boxes including to my surprise tin uniforms. This
cloth is usually hung up in different parts of the
room to act as curtains for privacy and to stop any
fresh air which might try to get in. The result
is a dark stuffy place with hardly room to turn
round.

Visit Influence.

This is the third epidemic of Mazi-beri in East
Africa during the last ten years of which I have had
personal knowledge. Other outbreaks may have occurred
but I have never heard of them. In Uganda some years
ago it was reported, but when on the spot a year or
two later at Nalae (between Nakola and Toro), it was
hard to authenticate. The disease passed more likely
to have been Malaria fever.

Now in each of these three outbreaks the sufferers
have been Soudanese troops. The first was at Gassala,
in Jubaland, in 1902. After forced marches from Yendi
about 80 miles, a company was left to guard the wells.
The men were massed up in a small camp. It was very
hot and would in the men's discomfort rain came on.
The only food was rice, which had been many months in
the country, and was part of a large quantity left over
from

from the British Expedition. After a few weeks the officer, who was then alone, having left a fortnight before, had suddenly sick that he decided to evacuate the place. He was informed that the disease was ~~prevalent~~ died at Kinshasa, 3 mi. the road, where I met them 30 hours from Yonti, and afterwards one died in Yonti hospital. The symptoms were similar to the present cases, but the epidemic was milder and sooner over. The rice, some hundreds of bags, was brought to the end with the exception of six bags, which appeared to be in good condition. These 6 bags were sold by auction. No more cases appeared for some months when a man was admitted to Yonti hospital with every symptom of a mild attack.

It was found that this man had been in the habit of getting rice from an Indian, who ^{admitted} that he had bought it at the government sale. The receipt of the six bags was then traced and thrown into the sea.

The Senegalese outbreak is slight. I am told that the Senegalese suffered as well as the Africans. One Corporal died at Kinshasa on the way to Yonti.

The question whether the Senegalese or any tribe is especially liable to this disease is impossible to answer, but it may be worthwhile to consider their history in this country. Though called Senegalese many of them come from the northern part of the Uganda Protectorate. A few were enlisted at Khartoum but the majority are the remnant of men who were with Lugard, some as boys and others have been born in the regiment. Though consisting of a mixture of many tribes they have kept to themselves, looking down upon local tribes and perhaps they have deteriorated from

intermarriage. Ever since the German military, officers have been anxious to keep their men as they are naturally good soldiers and especially it is doubtful if they are so fit as ~~the~~ officers wish to maintain. They are bad weight carriers and not so good at marching as many other natives.

Lieut. Miles considers that the true northern Sudanese has shown greater resistance to beri-beri but I have been unable to prove it.

The number of cases and deaths in the different tribes is seen in the following list:-

Tribe	Locality	Cases	Deaths
Aburasa	Belgian Congo	13	6
Mandu		11	6
Anyero		9	3
Koro	Congo	6	6
Akur	Belgial	3	3
Wanda	Congo	4	1
Tuba	Soudokoro	4	1
Wankaya	Congo	4	1
Wakar	Belgial	4	2
Wawoi	Belgial	4	1
Wari	Soudokoro	4	1
Waba	Kartoum	3	2
Wartit	Belgial	3	1
Wawa	Wakala	2	1
Wabara	Khartoum	2	1
Wakaddi		2	1
Wandi	Wakala	1	1

Old theories die hard. It is impossible to go through

an epidemic like this...
 It is reasonable to think there may be some...
 differences in the flora in different places. To have
 a single but pungent example we consider this a native
 and a peculiar and unpleasant smell, and the native...
 the long thing about the European. But it is...
 small eyes escaped this epidemic because...
 is naturally only milk and occasionally meat, that
 a tropical flora is such to be...
 was eaten by the Japanese gives an opportunity to...
 gives usually present in...
 disease.

...
 given up as a...
 have shown...
 is strange to...
 should be...
 favour of the view that...
 a place there is no...
 this is stated with all...
 school of...
 called...
 to...
 which...
 patients...
 for other...
 are...
 The children...
 developed

developed the disease later, in smaller numbers than the rest.

Hoglers and S.C. G.'s suffered more severely than the rest of the rank and file. The former perhaps from extra heart strain, the latter from trying to keep going when really unfit.

Often the incubation period seemed to have been unusually long, as the majority of new cases occurred in February about two months after rice was discontinued.

The attached list shows the names of the cases and a very heavy death rate especially among those first attacked. From this list we find:-

	cases	deaths
in November 1911	1	1
December 1911	1	1
January 1912	22	7
February 1912	63	28
March 1912	48	15
April 1912		

This includes 25 women with 3 deaths. The figures give a mortality of 39% but among the soldiers alone it was as high as 47%.

Prevention:

This is the most important consideration in prevention of beriberi.

In Serenli the troops have had to rely on rations supplied by Government. Until the disease broke out it was thought sufficient to issue a partial ration which the men could supplement with food bought from the natives and local shops, also with vegetables grown by themselves, plots of land being lent to them for cultivation.

The condition of the rations supplied by Government has been described; with the exception of meat it was satisfactory.

The Council is of the opinion that

the troops failed.

Under these circumstances it is a simple matter to point out what ought to be done, though by no means so easy for officers to carry it out, owing to difficulties in transport, storage, etc., and the extra expense involved.

1. When other food is not procurable the Govt. must supply full rations.

Experienced military officers have had charge of dieting the troops, but one feels inclined to acquiesce when of not accommodating the supply to special conditions.

Those in charge know well the barrenness of the country.

The rations issued would have been adequate in a country inhabited by an agricultural community such as we are accustomed to the older stations of East Africa

and most of Uganda.

But surely here and probably throughout the northern frontier districts the conditions are absolutely different. Little or no food can at present be obtained locally. The very few Goshu people in the neighbourhood barely cultivate enough for themselves.

It seems still to be a popular notion that natives can live on one kind of food only. The Hadzibee such as Koomi and Inasi now, but often do, live simply on milk with an occasional fowl of blood and meat; but milk is about the only complete food known.

If natives eat only one kind of food such as grain, the deficiency of one of the three main constituents, necessary for proper nourishment, has to be made up by eating enormous quantities and this has to be taken into consideration in the amount of ration.

But among the most satisfactory of East African tribes the variety of food consumed is much greater than is generally supposed. In the country in which these conditions were, it is considerable. Grain, bananas, sweet potatoes, beans of various kinds, pumpkins, okra, okras, etc., may all be found near the more civilized.

So long as the troops, and this applies also to the Mombasa Company on its way here, are not supplied with a liberal and varied diet, they will be liable to suffer from this or some other dietetic disease.

With regard to the Mombasa, or rather a Company's shop which has been given facilities to start here; what is its use if a regular contract should be made and entered to keep the required amount in stock.

This

This station has been in existence two years but in spite of the lack of all vegetables, no serious attempt has been made at irrigation. The well near the river on the east side of the station is suitable, yet there are no pumps, not even a hand-pump. It is useless to rely on such a scanty and doubtful rainfall. In July and August occasionally for a short time falls in buckets but it can never be depended upon.

Some of these deficiencies have been applied at various times to the kind of practical actions. It is a responsibility for the Government or for a wife to lead the birds.

The diet which I have already suggested to. It of April and 1912 is as follows:-

Food ration per man.

1000 gms. polished rice.
 1000 gms. lentils or chana dal
 1000 gms. oil
 1000 gms. salt

Food for

Comparatively little gourd polished rice is sold in the market, but the natives use it amongst themselves. At the end of January in Aizawa and Gabor only ten bags could be found in the shops. All this rice can easily be obtained from the local or foreign sources.

I have been unable to find out here how the rice is gilled.

Names of some of the different kinds of rice sold in East Africa:-

White uncured	Cured parboiled
Malwa, much the commonest, many different quantities Korbai	Matakoso
	Mukini (Madagascar)
	Morod Nuan

Ompti, sometimes cured sometimes uncured. There is probably best bought on the spot or in Madagascar country. A small quantity has lately been obtained at Rs 12/- a cask, but the local market price is often up to Rs 16/- and much higher. The latter price is about the same at present if bought in August or September. At some seasons it is more as the Indians store and corner for a high price.

The importance of protecting the food during transport and storage cannot be over stated.

After the last steamer of the season in October or November transport is difficult and expensive, so sufficient food should be in store to last until the following June.

Grain, Rice and Flour should be packed in double bags, the outer one made of green canvas. This sounds expensive but an examination to which I have been attached we found that it was really economy. The bags being damp and insect proof and strong enough to use over and over again. These double sacks were made in England, had brass eyelets for fastening and we used lead seals. As generally adopted here covering

covering over the common snake with skins is an excellent protection for animal transport through thorny bush but a ten x space is left where the skin is laced where dogs etc., can gain access.

During transport to Irenli so many opportunities occur for injury to perishable stores. Loading at Kismayu in wet and dirty dhows, faulty storage at Kismayu etc. It is not unusual to see stores heaped up on the beach near the pier for some days waiting to be taken to the Custom House, then transport to Solwen where it is to be stored until a steamer leaves and finally in a barge on the river the food may usually be spoiled unless properly protected.

The store at Irenli has been unsatisfactory. Hitherto the houses have been built of local timber, mud and grass, but already the present officer commanding is building a substantial stone house which will shortly be finished. You may justly consider that in giving these details I am going beyond my province and that it would be better for me to limit my business. The danger is that in places like this the questions of rations, transport and accommodation are all intimately associated with the welfare of the troops as is emphasized by the late Sir Cunningham in

Region of Station.

It would be interesting to know for certain whether the Government intend to keep a permanent station in this neighbourhood. In this report it is taken for granted that

656
A

they are, and everything points that way; more troops are ordered here and arrangements are being made for patrols. Even if another post is started farther north at Dolo for instance, it will probably be necessary to hold some place below the rapids for the wiswars to dump stores.

is Beranli the best place in the district on the river for a permanent station?

In my opinion it is well chosen. From personal observation, the country further south including the watering places at Bellahid, Alkadi, Naggagubli and Bkatch 36 miles south offers no advantages. (See Capt. Williams's map of the Juba River.) Twenty miles south of this (60 miles from here) is Malagli. It is the northern limit of Goshu country and from its position might become a useful site in the future but need not be considered here. In the same way to the north I am told that there is no site with any particular qualifications.

Beranli is on rising ground looking sheer down to the river with plenty of room for expansion to the west.

Away from the river all surrounding country is thick thorn bush but much clearing has been and is being done. The soil is dry and sandy. The site is well drained.

Mosquitoes are rare. Probably the risk of being infected with Malaria is less here than anywhere between this place and Yenti.

To the east is a creek which fills when the river rises and falling pools are left long enough for mosquitoes to breed. On his visit the Inspector General suggested that this should be filled in but he probably did not

know that besides being an inlet from the river it is also an outlet for storm waters. During heavy rains a raging torrent rushes down into this creek to the river. It would be simpler and probably better to treat these pools (which are very temporary) with oil one ounce to the square yard or to make a concrete bed to the drain.

Though perhaps not the most central point on the river for dealings with the Aulihar Samalis, Azenli is in touch with this tribe and at the same time within reach of the more Northern Nations. It is also a good kicking off place for Aulihar wells and Azenli on the Aghawinon frontier. It is unlikely that Government will turn back now after two years' occupation. Azenli will eventually become a civil station and possibly may develop into a trade centre.

The fact that Neri-heri has occurred here is not a sufficient reason for considering the site.

Just but not least Azenli is within one hour of the wireless telegraph station at Gondera and so is in touch with the outside world.

Accommodation.

For the reasons given above it appears that a permanent station will be made here.

If so, why should it not be built at once? Since no money must be spent on the place sometime, why not now? Ten or more years ago it was not unusual to wait, before suitable houses were built, until an officer or two had died (This happened at Misum), but this is not the policy of the Government. Yet even now these stations far from the centre are still liable to come off second best with regard to accommodations.

My description of Berenli may have left an impression that it is a healthy and pleasant place. On the contrary under present conditions, it is a most trying place to live in.

The grass houses are infested by snakes (commoner here than in any place I know), scorpions, white ants, etc. and at certain seasons are invaded by wood lice in their millions.

The station is enclosed by a clink of thick thorn bush forming an effectual check to shooting and ordinary forms of exercise. Until lately no one was allowed to leave the station. Cooped up in this way is it surprising that illness broke out during last wet season.

Those who visit Berenli for a day or two by dlesser and think the place so nice and pleasant should stay a year to realise its deadly dullness. It is only by constant hard work that a man can hope to keep fit in such a place.

No officer should be made to stay in Berenli for more than one year. The Inspector General was of this opinion and was much impressed by the dreariness of existence here.

If good station is built and facilities given for obtaining stores the conditions of life will rapidly improve. In the near future the patrols going about the country will have the advantage of giving a change of scene and a fresh interest.

Captain Hickson, Officer Commanding here, has made out a rough plan for a permanent station. The stone store

now being built is part of this scheme which I think is excellent.

The men's old quarters were built in lines seven long houses containing ten rooms each, an arrangement, pleasing to the military idea of order and regularity but so designed as to prevent any breeze penetrating into the quarters.

During the hot weather each of the lines screened the next one from the small amount of available N.E. wind.

Capt. Kicken proposes now to pull down these lines and build round huts (at any rate for the present) on the west hill. This will be a great improvement.

The sides of the huts should not be closed by treating with mud but made of reeds, which offer sufficient protection and allow free ventilation. The floor should be concrete and the grass roof should reach well over the sides and high enough to give a good slope.

The river frontage at Irenli consists of two hills. The temporary houses for the Europeans have been built on the east hill and are in a good position. But the West hill is slightly higher, has a more extensive river frontage and by clearing gives a better view. Personally I should prefer to see the permanent living houses for Europeans still kept on the East hill for themselves and servants, and give up the West hill for native huts, hospitals, etc., my reason being that it is a sound principle to keep the Officers' quarters well away from the natives. However, both the hills are good sites and the two officers here at present consider West hill so much better that they propose to build the houses there. The question seems to me to be almost immaterial so long as the points I have mentioned is considered i.e., distance from native huts. A defensive scheme

schemes may also make it advisable to build the Officers' houses on the West Hill.

Building material is hard to obtain locally, straight wood scarce, and palm leaves are very inferior to coconut for roofing. But plenty of stone is available and lime is being burnt on the spot, though probably of not very good quality. Unfortunately labour is very scarce.

The stone houses should have broad verandahs and the living rooms instead of ordinary doors should have large open arches. The houses should be built with a view to the maximum amount of air during the hot weather, the prevailing breeze being taken from the N.W.

The excessive heat here for three or four months especially in December, January and February has been mentioned. During these months the hours of work, parades, fatigues, etc., should be arranged on the same lines as on a plain station in India during the hot weather.

The wives of askaries should not be allowed to come to Serenli until the place is more settled and the accommodation much better than it is now.

In conclusion, I wish to point that in the Commanding Officer's inspection report to H.M. the Governor, (paragraph 6, on the health of the troops) it is stated that the Medical Officer, Jubaland, recommends that cured rice be supplied in view of the possibility of an outbreak of beri-beri. Although this report was not issued until January in this year it was typed in Serenli as early as last September, months before the outbreak. This shows me and our department from any charge of want of foresight.

I have, etc

Ed. C.L. Chevallier. M.D.