

## **Annual report of the Medical Officer of Health / Nairobi Municipality.**

### **Contributors**

Nairobi (Kenya). Public Health Department.

### **Publication/Creation**

[Nairobi] : Municipal Council, [1932]

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Kenya.



FOURTH  
ANNUAL REPORT  
OF THE  
Medical Officer of Health

1932



*NAIROBI MUNICIPALITY*  
*Kenya Colony.*

*With the Compliments*  
*of*  
*The Medical Officer of Health.*

*Public Health Department,*  
*Municipal Offices,*  
*Nairobi,*  
*Kenya.*



Nairobi Municipality  
Kenya.

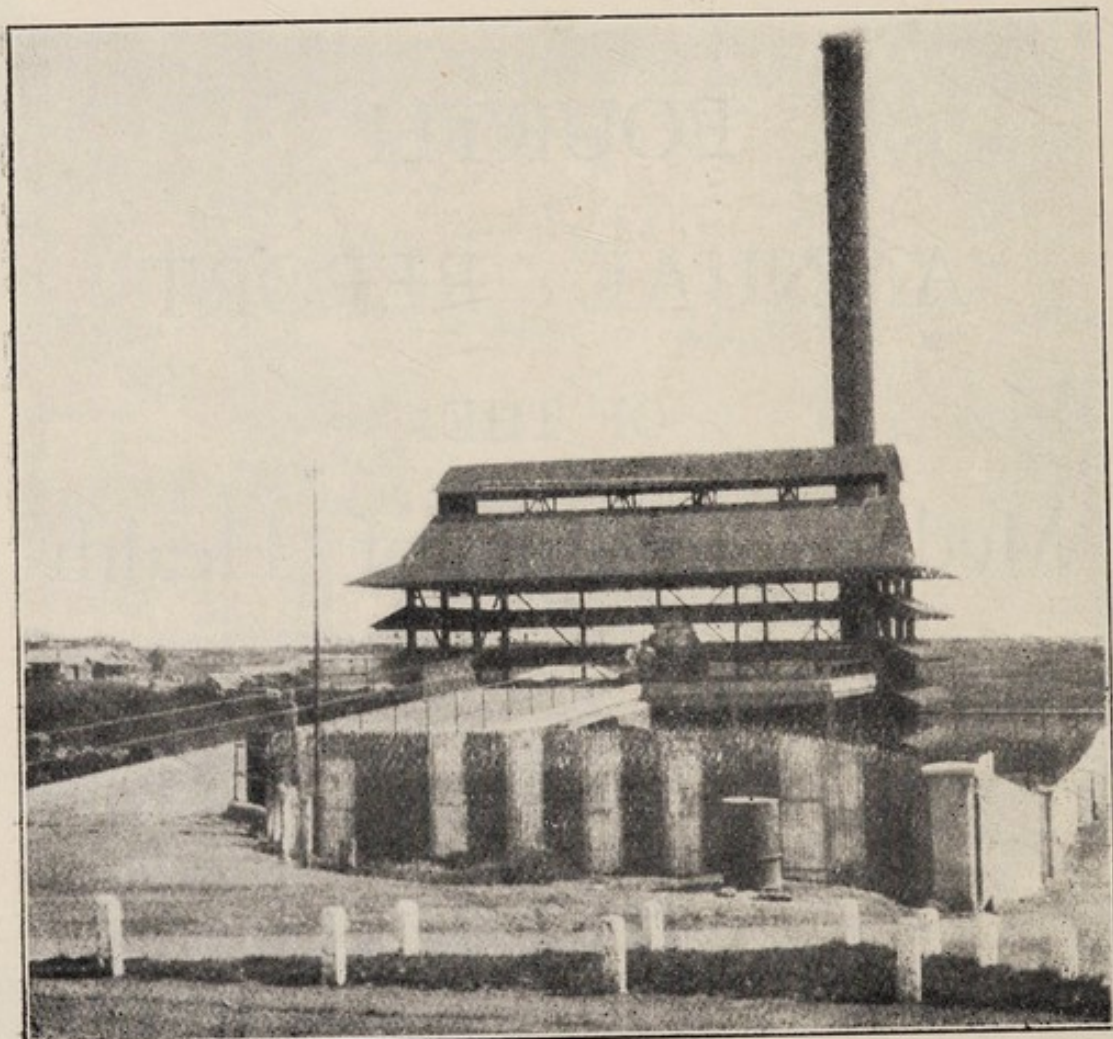


FOURTH  
ANNUAL REPORT  
OF THE  
Medical Officer of Health

1932



**Municipal Market.**




**The Destructor.**

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## GENERAL.

The Local Government (Municipalities) Ordinance came into force as from 1929, thus this is the fourth year that the Municipal Council has been the Local Public Health Authority for Nairobi.

This is the first complete year that the personnel of the Public Health Department has not included any officer seconded from Government.

The Auxiliary Services including Child Welfare, Ante-natal and Venereal Diseases Clinics, Dispensaries, Home Visiting, and provision of accommodation at the Infectious Diseases Hospital is still under the control of the Medical Department of the Government. An abridged report on these services will be found in this Report.

The sanction for the loan necessary for undertaking the building of the new Municipal Offices has not yet received Government sanction.

The office of the Public Health Department in June was removed from Standard Building in Sixth Avenue, to the Walji Hirji Rahimtulla Trust Building in Government Road.

The new Municipal Market was opened in May.

The new Abattoir was completed and put into use in November.

The new Destructor was put into commission in March 1931.

These new and up to date buildings mark a decided forward step in the sanitation of the Municipality.

## STAFF.

The staff of the Public Health Department includes:—

- 1 Medical Officer of Health
- 1 Chief Sanitary Inspector
- 4 District Inspectors
- 1 Meat and Food Inspector
- 1 Sanitary Overseer
- 1 Clerk
- Native Staff

The establishment has been understaffed to the extent of the Chief Sanitary Inspector for the whole year, and one District Inspector for the latter two months of the year. The granting of overseas leave has also depleted the staff by one Inspector for the last two months of the year.

The only alteration in the staff during the year was caused by the resignation of a District Inspector as from the end of October.

No member of the staff of the Health Department has been seconded from Government since the Chief Sanitary Inspector left in May 1931.

At the end of the year applications were called for the appointment of one Sanitary Inspector. These applications have not yet been dealt with.

A scheme has been approved by Council for the training of local youths as Sanitary Inspectors, the details being briefly as follows:—

The appointment is open to boys leaving or having recently left school, and the applicant must produce evidence that he has passed an examination in General Knowledge that will qualify him to sit for the Sanitary Inspector's Examination in England.

He must agree to serve, after qualification, at least one tour of 4 years with the Council. There will be a probationary period of six months.

The salary as a learner commences at £75 per annum rising by two annual increments of £26 and one of £20 to a maximum of £150 per annum in the 4th year.

At the end of the 4th year a return passage to England will be provided and salary at the rate of £200 a year will be paid, during the six months' period of leave to which he will be entitled.

Fees for the examination, tuition, etc., may be advanced, the amount so advanced to be repaid during the first tour as an Inspector.

After appointment as a Sanitary Inspector, the salary for the first tour of 4 years will be from £240 to £300 by annual increments of £20; the salary for the second tour to be from £360 to £420

by annual increments of £20; the subsequent salary to be from £480 to £600 by annual increments of £15.

The details of the personnel of the staff employed during the year are given under:—

#### MEDICAL OFFICER OF HEALTH.

Dr. H. W. Tilling carried out the duties throughout the year.

#### CHIEF SANITARY INSPECTOR.

This post is now vacant but the duties have been carried out for the past 18 months by Mr. R. C. Forster.

#### MEAT AND FOOD INSPECTOR.

Mr. A. A. Watts performed these duties until going on overseas leave as from November. In his absence, the duties have been carried out by the District Inspectors by weekly roster.

#### SANITARY INSPECTORS.

As mentioned above, Mr. R. C. Forster, in addition to his duties as Sanitary Inspector, has been acting Chief Sanitary Inspector for the past 18 months.

Mr. F. G. Ward and Mr. D. Mackintosh have carried out the duties during the year.

Mr. R. A. Mackintosh resigned and relinquished his duties as from the end of October.

#### SANITARY OVERSEER.

Mr. T. Bagnall has been employed throughout the year.

#### CLERK.

Miss B. Howarth has been employed throughout the year.

#### NATIVE STAFF.

Twenty-five boys have been employed throughout the year. Ten of these were transferred from the Engineering Department and constitute the Anti-malarial gang.

The Oiling and Disinfection gang comprise four boys.

The Rat gang consists of six boys.

Of the remaining five, one is employed as Motor Driver, one as Notice Server, two as Office Messengers, and one to assist in Food Inspection.

## PERSONNEL OF HEALTH DEPARTMENT DURING 1932.

MEDICAL OFFICER OF HEALTH.		FROM	TO
Dr. H. W. Tilling	...	1.1.32	31.12.32
CHIEF SANITARY INSPECTOR.			
Vacancy.			
INSPECTOR OF MEAT AND FOOD.			
Mr. A. A. Watts	...	1.1.32	31.12.32
SANITARY INSPECTOR.			
Mr. R. C. Forster	...	1.1.32	31.12.32
Mr. R. A. Mackintosh	...	1.1.32	31.10.32
Mr. F. G. Ward	...	1.1.32	31.12.32
Mr. D. Mackintosh	...	1.1.32	31.12.32
SANITARY OVERSEER.			
Mr. T. Bagnall	...	1.1.32	31.12.32
CLERK.			
Miss B. Howarth	...	1.1.32	31.12.32
NATIVE STAFF.			
Anti-malarial gang	...	10	
Rat gang	...	6	
Oiling and Disinfection gang	...	4	
Office Messengers	...	2	
Notice Server	...	1	
Motor Driver	...	1	
Food and Drugs Inspection	...	1	
		25	

## EXPENDITURE.

The cost of the Public Health Department for the year 1932 amounted to £5,967, of which the Government, by grants made on account of public health, contributed £2,983, leaving £2,984 to be borne by the Council.

Comparison with previous years is shown under:—

Year.	Expenditure.	Paid by Government.	Paid by Council.
1929	... £7,948	£6,955	£993
1930	... £6,993	£6,118	£875
1931	... £5,978	£3,736	£2,242
1932	... £5,967	£2,983	£2,984

It will be noted that there has been a continued decrease in the amount expended since the Municipal Council became the Local Health Authority.

It will also be noted that during the four years of the period mentioned above, that the Government contribution has decreased by £3,972 or 57.1% and the liability of the Council has increased by £1,991 or 200.5%.

The total expenditure for 1932 was £1,981 or 24.9% less than the amount expended in 1929.

Under the provisions of the Local Government (Municipalities) Ordinance, the Government contributes one half of the cost of the salaries of the Medical Officer of Health and of qualified Sanitary Inspectors and also one half of the expenditure in connection with infectious disease. In addition, there was a diminishing grant paid by the Government in regard to the balance of all monies expended by the Council on behalf of its Public Health Services, however, this grant ceased at the end of 1931.

Details of expenditure by the Public Health Department are given under:—

#### EXPENDITURE.

##### Administration.

	£	£
Salaries: M.O.H. and Sanitary Inspectors ... ..	3,696	
Office Clerk ... ..	240	
Boys' Wages, etc. ... ..	67	
Travelling Allowances ... ..	248	
Passages ... ..	112	
Rent and Telephone ... ..	213	
Printing, Stationery, etc. ... ..	44	
Miscellaneous ... ..	14	4,634
		<hr/>

##### Infectious Diseases Prevention.

Notification Fees ... ..	19	
Hospital Fees ... ..	450	
Overseers salaries ... ..	450	
Boys Wages, etc ... ..	244	
Oil and Stores ... ..	47	
Upkeep of Lorry ... ..	96	1,306
		<hr/>

##### Food and Drug Inspection.

Food Analysis ... ..	27
	<hr/>

Total ... ..	5,967
Less Government Grants ... ..	2,983
	<hr/>
Cost borne by the Council ... ..	2,984
	<hr/>

# METEOROLOGICAL.

## Geographical Position:—

Latitude  $1^{\circ} 16' 43''$  South  
Longitude  $36^{\circ} 50'$  East

## Height Above Sea Level:—

From 5,452 to 5,700 feet.

## Area:—

Approximately  $34\frac{1}{2}$  square miles.

# METEOROLOGICAL.

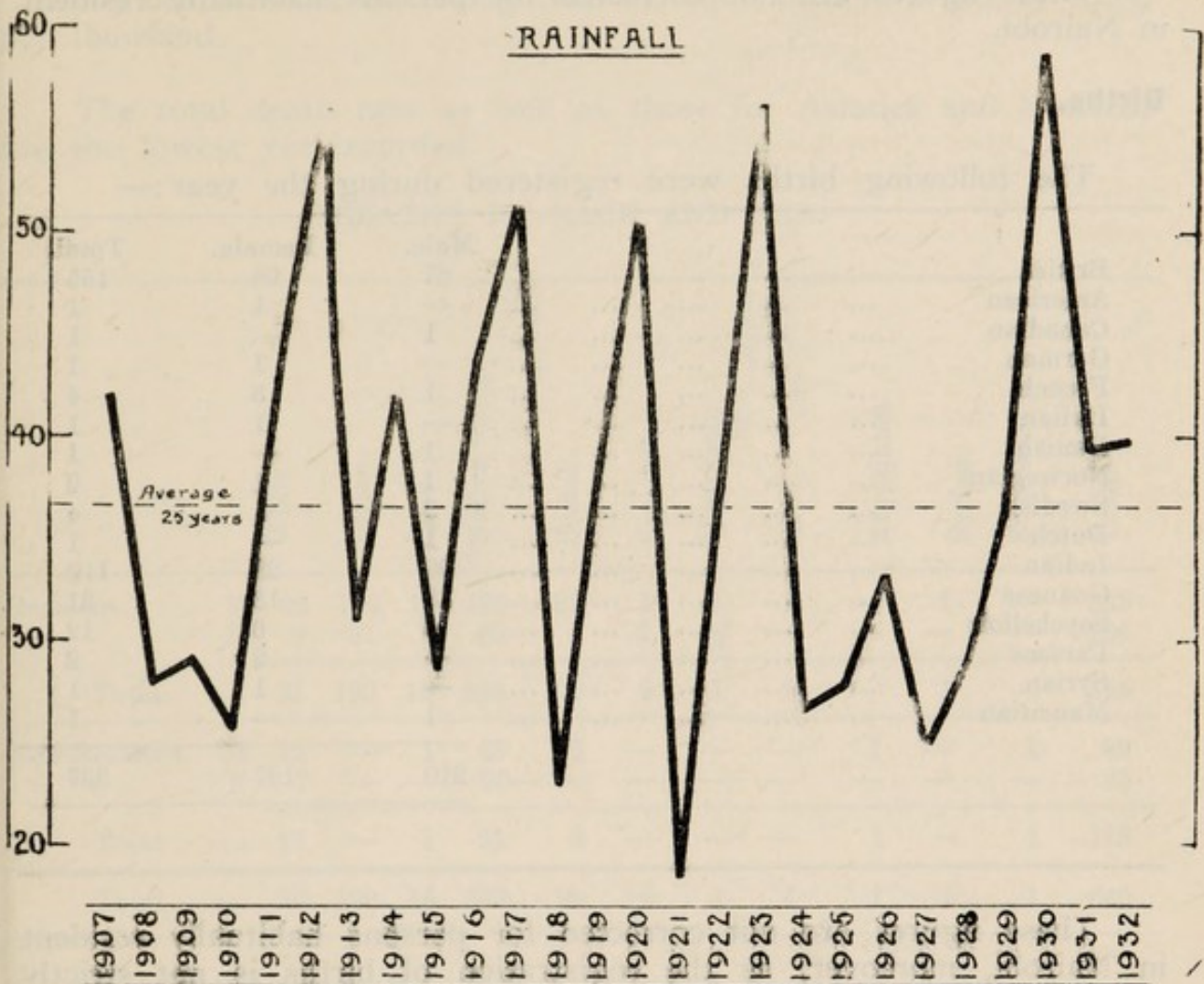
Month.	Barometer corrected to 32 F. at station level.	Dry Bulb.			Wet Bulb.			Humidity. %	Shade Temperature			
		Mean.	Ext. Max.	Ext. Min.	Mean.	Ext. Max.	Ext. Min.		Mean	Mean	Ext. Max.	Ext. Min.
January	24.294	68.5	78	60	60.5	65	55	62.4	76	54	80	49
February	24.274	70.5	82	59	60.5	67	50	58.2	78	54	84	50
March	24.274	70.0	80	60	61.5	67	59	67.3	77	57	81	53
April	24.289	68.5	78	60	61.5	67	58	74.8	75	57	80	53
May	24.333	65.0	75	60	65.5	67	58	79.7	71	56	76	50
June	24.345	64.5	72	56	58.5	62	54	71.8	71	53	75	48
July	24.318	64.0	75	55	57.0	62	54	71.1	70	50	77	46
August	24.324	65.0	76	54	57.0	62	53	65.6	72	52	81	45
September	24.321	68.0	79	58	59.0	62	56	64.3	76	54	82	47
October	24.312	69.5	80	59	59.5	63	56	60.8	78	56	82	49
November	24.294	68.5	77	61	61.0	64	59	70.2	76	57	80	51
December	24.283	66.5	74	59	61.0	64	55	76.3	72	56	76	52
Mean.	24.305	67.5			60.0			68.5	74	55		

Barometer readings from Kabete Observatory 6,004 feet, 8.30 a.m.  
Humidity and Temperature figures from Government Laboratories.

# RAINFALL.

Month.	RAINFALL.			DAYS OF RAIN	
	1932.	Average 25 years.	1932.	Average 25 years.	
January	...	2.44	1.51	7	5.0
February	...	2.17	2.15	5	5.0
March	...	9.03	5.11	18	10.3
April	...	6.35	8.49	14	18.0
May	...	4.30	5.14	21	15.4
June	...	1.41	1.52	11	8.0
July	...	0.86	0.69	9	5.1
August	...	0.66	1.02	8	6.1
September	...	0.34	1.28	5	6.0
October	...	1.74	2.07	5	7.5
November	...	3.42	4.88	17	14.5
December	...	7.13	2.83	14	10.3
Total	...	39.85	36.74	134	111.6

Rainfall figures from Hill Station.



### VITAL STATISTICS.

#### Population.

The population of the Municipality as at December 31st, 1932, was estimated at:—

European	6,000
Asiatics	14,700
Natives	26,765
Total	<u>47,465</u>

#### Marriages.

The following marriages were celebrated in Nairobi during 1932.

British	76
Asiatic	13
Others	7
Total	<u>96</u>

These figures are not corrected for persons habitually resident in Nairobi.

### Births.

The following births were registered during the year:—

	Male.	Female.	Total.
British	87	68	155
American	—	1	1
Canadian	1	—	1
German	—	1	1
French	1	3	4
Italian	—	1	1
Danish	1	—	1
Norwegian	1	1	2
Swedish	3	1	4
Dutch	1	—	1
Indian	90	29	119
Goanese	18	13	31
Seychellois	6	6	12
Parsees	—	2	2
Syrian	—	1	1
Mauritian	1	—	1
...	210	127	337

These figures are not corrected for persons habitually resident in Nairobi, moreover, as the registration of births is not strictly enforced, the above figures especially those applying to Asiatics and other Races, are approximate only.

### Deaths.

The death rate for all races for the year was 11.08 per thousand population as compared with 13.78 for the previous year.

The total number of deaths reported in Nairobi during the year was 640, equivalent to a crude death rate for all races of 13.51.

The number of deaths from all causes among persons stated to be normally resident in Nairobi was 525, equivalent to a recorded death rate for all races of 11.08 per thousand population.

Of the 525 deaths among residents, 361 were of males and 164 of females.

31 deaths occurred among Europeans, equivalent to a rate of 5.63 per thousand.

205 deaths occurred among Asiatics, equivalent to a rate of 13.57 per thousand.

289 deaths occurred among Natives, equivalent to a rate of 10.79 per thousand.

The total death rate as well as those for Asiatics and Natives, are the lowest yet recorded.

#### DEATHS BY RACE AND SEX.

		White.	Indian.	Goan.	Native.	Somali.	Seychellois.	Mauritian.	Arab.	Abyssinian.	Syrian.	Sudanese.	Total.
Resident.	M	22	109	10	195	21	1	1	1	—	1	—	361
	F	9	81	5	63	5	1	—	—	—	—	—	164
Total	...	31	190	15	258	26	2	1	1	—	1	—	525
Non-Resident	M	12	—	1	65	2	—	—	—	1	—	1	82
	F	7	—	—	26	—	—	—	—	—	—	—	33
Total	...	19	—	1	91	2	—	—	—	1	—	1	115
Total	...	50	190	16	349	28	2	1	1	1	1	1	640

#### COMPARATIVE DEATH RATES FOR SIX YEARS.

Year.	Crude Rate.	Recorded Rate.
1927	21.66	18.90
1928	25.11	17.94
1929	17.91	13.77
1930	20.79	16.20
1931	16.21	13.78
1932	13.51	11.08

#### COMPARISON OF DEATH RATES FOR RACES FOR TEN YEARS.

Race.	* 1923.	* 1924.	* 1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.
European	8.4	18.4	10.3	13.5	13.8	12.8	8.4	11.8	4.7	5.6
Asiatic	16.5	16.0	16.1	30.3	29.2	23.3	17.0	20.7	14.3	13.5
Native	33.5	29.9	18.3	17.3	16.5	16.1	13.4	15.2	15.2	10.7
All Races	23.3	22.9	16.6	20.5	18.9	17.9	13.7	16.2	13.7	11.0

\*Crude Rates.

## AVERAGE OF DEATH RATES.

Race.				10 years Average 1923—1932.	5 years Average 1923—1927.	5 years Average 1928—1932.
European	...	...	...	10.7	12.8	8.6
Asiatic	...	...	...	19.6	21.6	17.7
Native	...	...	...	18.6	23.1	14.1
All Races	...	...	...	17.4	20.4	14.5

The above tables are instructive in demonstrating the declining death rates.

It will be noted that the European death rate for 1932, namely 5.6, was somewhat higher than that for the last year, but 45.6% below the average for the previous 5 years.

The Asiatic death rate was slightly lower than in 1931 and 35.7% lower than the average for the previous 5 years.

The Native death rate was 29.6% below the rate for the past year and also the average for the previous 5 years.

## MONTHLY INCIDENCE OF DEATHS BY RACE.

Month.	White.	Indian.	Goan.	Native.	Somali.	Other.	Total.	% of Total
January	... 4	15	1	22	5	—	47	8.95
February	... 2	14	2	28	3	—	49	9.33
March	... 1	22	2	16	2	—	43	8.19
April	... 1	19	—	29	4	—	53	10.09
May	... 1	14	2	13	2	—	32	6.10
June	... 3	16	1	32	2	—	54	10.29
July	... 5	10	1	19	2	1	38	7.24
August	... 2	18	2	20	—	1	43	8.19
September	... 3	13	—	15	—	1	32	6.10
October	... 6	15	1	17	2	—	41	7.81
November	... 1	21	1	25	2	1	51	9.71
December	... 2	13	2	22	2	1	42	8.00
Total	... 31	190	15	258	26	5	525	100.00

The deaths are fairly evenly spread over the four quarters, 139 deaths or 26.5% occurring during the 1st and 2nd quarters, 113, or 21.5% during the 3rd quarter, and 134, or 25.5% during the 4th quarter.

The most deaths occurred in June (54), April (53), November (51); the fewest in May (32), September (32), July (38).

## CAUSES OF DEATH BY GROUP &amp; RACE.

Group No.	International Cause of Death.	White.	Indian.	Goan.	Native.	Somali.	Other.	Total.
1.	General Diseases	3	25	2	63	6	—	99
2.	General Diseases not included above	6	11	2	5	1	—	25
3.	Diseases of Nervous System, etc.	3	12	2	4	—	—	21
4.	Diseases of the Circulatory System	5	2	—	3	—	—	10
5.	Diseases of the Respiratory System	2	62	3	101	13	2	183
6.	Diseases of the Digestive System	4	12	1	21	1	2	41
7.	Non-Venereal Diseases of the Genito-urinary System and Annexa	1	2	2	4	—	—	9
8.	The Puerperal State	—	4	1	6	1	—	12
9.	Diseases of the Skin and Cellular Tissue	—	—	—	—	—	—	—
10.	Diseases of the Bones	—	—	—	—	—	—	—
11.	Congenital Malformations	—	1	—	3	—	—	4
12.	Diseases of Early Infancy	2	38	2	8	—	—	50
13.	Old Age	—	2	—	—	—	—	2
14.	External Causes	5	8	—	29	3	—	45
15.	Ill-Defined Diseases	—	11	—	11	1	1	24
Total ...		31	190	15	258	26	5	525

## CAUSES OF DEATH BY GROUP WITH THE PERCENTAGE TO TOTAL AND RATE PER 1,000 POPULATION.

Group No.	International Cause of Death.	No.	% of total	Rate/1000.
5.	Diseases of the Respiratory System ...	183	34.86	3.863
1.	General Diseases ...	99	18.86	2.090
12.	Diseases of Early Infancy ...	50	9.52	1.055
14.	External Causes ...	45	8.57	0.950
6.	Diseases of the Digestive System ...	41	7.81	0.866
2.	General Diseases not included above ...	25	4.76	0.528
15.	Ill-Defined Diseases ...	24	4.57	0.507
3.	Diseases of Nervous System, etc. ...	21	4.00	0.443
8.	The Puerperal State ...	12	2.29	0.253
4.	Diseases of the Circulatory System ...	10	1.90	0.211
7.	Non-Venereal Diseases of the Genito-Urinary System and Annexa ...	9	1.71	0.190
11.	Congenital Malformations ...	4	0.76	0.084
13.	Old Age ...	2	0.38	0.042
10.	Diseases of the Bones ...	—	—	—
9.	Diseases of the Skin etc. ...	—	—	—
Total ...		525	99.99	11.082

Diseases of the Respiratory System again head the list accounting for 183 deaths, or over one-third of the total deaths. The number of deaths under the chief diseases being:—

Pneumonia	...	...	...	...	132
Broncho-pneumonia	...	...	...	...	47
Other	...	...	...	...	4

General Diseases account for 124 deaths being 23.6% of the total deaths and is the second group in point of numbers. The main deaths under this heading are:—

Tuberculosis	...	...	29	Cancer	...	...	6
Malaria	...	...	20	Syphilis	...	...	5
Septicaemia	...	...	9	Rickets	...	...	4
Typhoid Fever	...	...	6	Diabetes	...	...	4
Dysentery	...	...	6	Anaemia	...	...	4
Plague	...	...	6	Anthrax	...	...	3

The group of Diseases of Early Infancy comes next with 50 deaths or 9.5% of the total deaths, equivalent to a rate of 1.05 per thousand of population. The principal items were:—

Premature Birth	...	...	...	26
Congenital Debility	...	...	...	19
Other Diseases	...	...	...	5

The group of External Causes accounted for 45 deaths, being composed of:—

Judicial Hanging	...	...	...	17
Accidental injuries	...	...	...	11
Fracture	...	...	...	10
Suicide	...	...	...	5
Homicide	...	...	...	1
Unstated	...	...	...	1

Diseases of the Digestive System accounted for 41 deaths, one half of these being under the heading of Diarrhoea and Enteritis.

24 deaths or 4.76% of the total were classified under Ill-defined Diseases.

Diseases of the Nervous System accounted for 21 deaths, the largest cause being Infantile Convulsions (6) followed by Meningitis, Cerebral Hæmorrhage, Cerebral Tumour, and Diseases of the Ear with three each.

The deaths under Diseases of the Puerperal State totalled 12, the causes being:—

Eclampsia	...	...	...	...	3
Peritonitis	...	...	...	...	3
Puerperal sepsis	...	...	...	...	2
Post-partum hæmorrhage	...	...	...	...	2
Ectopic gestation	...	...	...	...	2

Diseases of the Heart accounted for 8 out of 10 deaths from Diseases of the Circulatory System.

7 out of 9 deaths under the heading Non-Venereal Diseases of the Genito-Urinary System and Annexa were caused by Nephritis.

There were 4 deaths classified under Congenital Malformations and 2 under Senility.

There were no deaths recorded under the groups for Diseases of the Bones and Diseases of the Skin.

#### CAUSES OF DEATH.

Group No.	No.	International Causes of Death.	White.	Indian.	Goan.	Native.	Somali.	Other.	Total.	Other Includes.
I.—GENERAL DISEASES.										
	1	Typhoid Fever	...	...	—	—	6	—	6	
	2	Typhus Fever	...	...	1	—	—	—	1	
	5	Malaria	...	...	—	10	9	1	20	
	9	Whooping Cough	...	...	—	1	—	—	1	
	10	Diphtheria	...	...	—	1	1	—	2	
	11	Influenza	...	...	—	1	1	1	3	
	16	Dysentery	...	...	—	3	3	—	6	
	17	Plague	...	...	—	5	1	—	6	
	21	Erysipelas	...	...	—	—	1	—	1	
	23	Encephalitis lethargica	...	...	—	2	—	—	2	
	24	Cerebro-spinal Meningitis	...	...	—	—	1	—	1	
	25	Yaws	...	...	—	—	1	—	1	
	25	Blackwater Fever	...	...	—	1	1	—	2	
	27	Anthrax	...	...	—	—	3	—	3	
	29	Tetanus	...	...	—	—	1	—	1	
	31	Tuberculosis, respiratory system	...	...	2	—	1	19	24	
	32	„ meningitis	...	...	—	—	2	—	2	
	33	„ peritonitis	...	...	—	—	—	1	1	
	36	„ osteomyelitis	...	...	—	1	—	—	1	
	37	„ disseminated	...	...	—	—	—	1	1	
	38	Syphilis	...	...	—	—	5	—	5	
	41	Septicaemia	...	...	—	—	8	1	9	

#### II.—GENERAL DISEASES NOT INCLUDED ABOVE.

	45	Cancer of intestines	...	...	—	—	—	1	—	1
	46	„ ovary	...	...	1	—	—	—	—	1
	47	„ breast	...	...	1	—	—	—	—	1
	49	„ larynx, kidney, pancreas	...	...	2	—	—	1	—	3
	51	Rheumatic Fever	...	...	—	1	—	—	—	1
	56	Ricketts	...	...	—	3	1	—	—	4
	57	Diabetes	...	...	—	3	1	—	—	4
	58	Anaemia	...	...	1	3	—	—	—	4
	60	Goitre	...	...	—	—	—	1	—	1
	64	Ruptured spleen	...	...	—	1	—	1	—	2
	65	Spleno-medullary leukaemia	...	...	1	—	—	—	—	1
	66	Alcoholism	...	...	—	—	—	1	1	2

Group	No.	International Causes of Death.	White.	Indian.	Goan.	Native.	Sonali.	Other.	Total.	Other. Includes.
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### III.—DISEASES OF THE NERVOUS SYSTEM, ETC.

70	Cerebral Abscess	...	...	—	1	—	—	—	1	
71	Meningitis	...	...	—	2	—	1	—	3	
74	Cerebral haemorrhage, apoplexy	...	...	—	2	—	1	—	3	
76	Dementia paralytica	...	...	1	—	—	—	—	1	
78	Epilepsy	...	...	—	1	—	—	—	1	
80	Infantile convulsions	...	...	—	4	1	1	—	6	
84	Cerebral tumour	...	...	—	2	—	1	—	3	
86	Diseases of the Ear	...	...	2	—	1	—	—	3	

### IV.—DISEASES OF THE CIRCULATORY SYSTEM.

88	Septic endocarditis	...	...	1	1	—	—	—	2	
90	Other diseases of the heart	...	...	3	—	—	3	—	6	
91	Arteriosclerosis	...	...	1	—	—	—	—	1	
92	Thrombosis	...	...	—	1	—	—	—	1	

### V.—DISEASES OF THE RESPIRATORY SYSTEM.

99	Bronchitis	...	...	—	—	—	1	—	1	
100	Broncho-pneumonia	...	...	—	23	1	21	1	47	1 Syr.
101	Pneumonia	...	...	2	38	2	78	11	132	1 Sey.
102	Pleurisy	...	...	—	—	—	1	1	2	
105	Asthma	...	...	—	1	—	—	—	1	

### VI.—DISEASES OF THE DIGESTIVE SYSTEM.

111	Ulcer of stomach	...	...	1	—	—	—	—	1	
113	Diarrhoea and Enteritis	...	...	1	8	—	7	—	17	1 Sey.
114	ditto	...	...	—	—	—	4	—	4	
115	Ankylostomiasis	...	...	—	—	—	1	—	1	
116	Intestinal obstruction (Tape worm)	...	...	—	—	—	1	—	1	
117	Appendicitis	...	...	1	1	—	1	—	4	1 Maur.
118	Intestinal obstruction	...	...	—	1	1	3	—	5	
122	Cirrhosis of liver	...	...	—	1	—	2	—	3	
124	Jaundice	...	...	—	1	—	2	—	3	
126	Peritonitis	...	...	1	—	—	—	1	2	

### VII.—NON-VENEREAL DISEASES OF THE GENITO-URINARY SYSTEM.

128	Acute Nephritis	...	...	—	1	—	2	—	3	
129	Chronic Nephritis	...	...	—	1	1	2	—	4	
133	Cystitis	...	...	—	—	1	—	—	1	
135	Adenoma of prostate	...	...	1	—	—	—	—	1	

### VIII.—THE PUERPERAL STATE.

143	Ectopic gestation, pelvic perit.	...	...	—	—	2	—	—	2	
144	Post partum haemorrhage	...	...	—	1	1	—	—	2	
145	Peritonitis, Shock	...	...	—	—	—	3	—	3	
146	Puerperal sepsis	...	...	—	2	—	—	—	2	
148	Eclampsia	...	...	—	1	—	1	1	3	

No. Group	No. International Causes of Death.	White.	Indian.	Goan.	Native.	Somali.	Other.	Total.	Other Includes.
IX.—DISEASES OF THE SKIN, ETC.									
X.—DISEASES OF THE BONES.									
XI.—CONGENITAL MALFORMATIONS.									
159	Congenital malformations	...	—	1	—	3	—	—	4
XII.—DISEASES OF EARLY INFANCY.									
160	Congenital debility	...	—	19	—	—	—	—	19
161	Premature birth, Injury at birth	2	15	2	7	—	—	—	26
162	Asphyxia neonatorum, Atalectasis	...	—	4	—	1	—	—	5
XIII.—OLD AGE.									
164	Old age	...	—	2	—	—	—	—	2
XIV.—EXTERNAL CAUSES.									
165	Suicide by poisoning	...	1	—	—	1	—	—	2
168	Suicide by hanging	...	—	1	—	1	—	—	2
170	Suicide by fire arms	...	1	—	—	—	—	—	1
179	Accidental burns	...	—	3	—	—	—	—	3
185	Accidental injury by fall	...	—	1	—	—	—	—	1
188	Accidental injury (Road veh.)	1	2	—	3	—	—	—	6
183	Accidental injury (Fire arms)	—	—	—	1	—	—	—	1
198	Homicide by cutting instrument	—	—	—	1	—	—	—	1
201	Fracture	...	1	1	—	8	—	—	10
202	Judicial hanging	...	—	—	—	14	3	—	17
203	Violent death, unstated nature	1	—	—	—	—	—	—	1
XV.—ILL-DEFINED DISEASES.									
205									
(1)	Heart failure	...	—	5	—	—	—	—	5
(2)	Natural causes	...	—	—	—	5	—	1	6
	Pyrexia of unknown origin	...	—	2	—	—	—	—	2
	Debility	...	—	1	—	1	—	—	2
	Ascites	...	—	1	—	—	—	—	1
(3)	Unknown	...	—	—	—	4	—	—	4
	Post operative shock	...	—	2	—	1	1	—	4
All causes		...	31	190	15	258	26	5	525

### INFANT MORTALITY.

The total number of deaths in Infants under one year of age during 1932 was 147 or 28.0% of the total deaths.

As the registration of births is not strictly enforced, it is not possible to determine the Birth Rate or to compile any Infant Mortality Rate. This state of affairs is unfortunate as it is not possible to determine whether satisfactory progress has been made in this important branch of Public Health work. The only rate that can be given with any degree of accuracy is the percentage of infant deaths to the total deaths and as the statistics for previous years

have been compiled under similar conditions, a relative comparison can be made.

### INFANT DEATHS.

Race.				No. of Deaths.		% of total.
				Infants.	Total.	
White	...	...	...	3	31	9.67
Asiatic	...	...	...	94	205	45.85
Native	...	...	...	50	289	17.30
All Races	...	...	...	147	525	28.0

### INFANT DEATHS FOR SIX YEARS.

Race.	1927.	Percentage of total deaths.					1932.	Average 6 years.
		1928.	1929.	1930.	1931.			
White	...	13.5	8.3	23.7	13.2	12.0	9.6	13.4
Asiatic	...	37.7	34.5	44.9	42.7	44.6	45.8	41.7
Native	...	5.8	13.1	15.4	10.6	20.6	17.3	13.8
All Races	...	18.6	20.6	24.3	20.6	29.5	28.0	23.6

Attention is still directed to the high mortality among Asiatic infants. The average over 6 years of 41.7% of the total Asiatic deaths should be a clear indication to the Indian communities that this matter is not receiving the attention it warrants.

### CAUSES OF DEATH IN INFANTS UNDER ONE YEAR OF AGE.

	White. Indian. Goan. Native. Other. Total.									
Malaria	...	...	...	...	—	3	—	1	—	4
Whooping Cough	...	...	...	...	—	1	—	—	—	1
Encephalitis lethargica	...	...	...	...	—	1	—	—	—	1
Yaws	...	...	...	...	—	—	—	1	—	1
Rickets	...	...	...	...	—	3	1	—	—	4
Anaemia	...	...	...	...	—	1	—	—	—	1
Meningitis	...	...	...	...	—	1	—	—	—	1
Convulsions	...	...	...	...	—	4	1	1	—	6
Bronchitis	...	...	...	...	—	—	—	1	—	1
Broncho-pneumonia	...	...	...	...	—	17	—	11	1	29
Pneumonia	...	...	...	...	—	13	—	10	2	25
Diarrhoea and Enteritis	...	...	...	...	1	6	—	6	1	14
Intestinal obstruction	...	...	...	...	—	1	—	—	—	1
Congenital malformations	...	...	...	...	—	1	—	3	—	4
Congenital debility	...	...	...	...	—	19	—	—	—	19
Premature birth	...	...	...	...	2	14	1	8	—	25
Other diseases of early infancy	...	...	...	...	—	4	—	1	—	5
Cause ill-defined or unstated	...	...	...	...	—	2	—	3	—	5
					3	91	3	46	4	147

COMPARISON OF THE PERCENTAGE OF THE FOUR PRINCIPAL  
CAUSES OF INFANT MORTALITY TO TOTAL INFANT  
DEATHS FOR SIX YEARS.

		Percentage to total Infant deaths.						Average 6 years.
		1927.	1928.	1929.	1930.	1931.	1932.	
Pneumonia	... ..	47.9	32.6	32.0	44.6	41.7	36.7	39.2
Prematurity	... ..	6.5	11.3	13.2	15.0	7.7	17.0	11.8
Congenital debility	... ..	15.4	10.6	11.9	10.0	15.9	12.9	12.8
Diarrhoea and Enteritis	... ..	6.5	7.8	9.4	6.9	8.7	9.5	8.1

Pneumonia still holds the premier position of the four causes, but is below the average for six years and Diarrhoea constitutes the last in spite of being above the average. Prematurity is considerably above the 6 yearly average whereas Congenital debility, although lower than last year, is slightly above the average.

### NOTIFIABLE INFECTIOUS DISEASES.

No alteration to the list of Notifiable Infectious Diseases has been made since Malaria was made notifiable in 1930.

The number of cases notified during the year was 964.

Excluding the 836 cases of Malaria, the total of 128 compares very favourably with the corresponding totals for the past five years which were 466, 368, 124, 249, and 177 respectively.

The number of cases of Malaria reported was double that of the previous year.

31 cases of Typhoid Fever were notified as compared with 23 for 1931.

Diphtheria of a sporadic nature accounted for 10 notifications.

As in 1931, 2 cases of Blackwater Fever were notified.

It is of interest to note that 2 cases of Encephalitis lethargica were notified, the first case to be reported, occurring last year.

Plague did not assume epidemic proportions, 7 cases were notified.

The number of Tropical Typhus cases reported decreased from 11 in 1931 to 4 in 1932.

Anthrax accounted for 12 cases, 7 of these being infected from one carcase.

The incidence of Cerebro-spinal Meningitis decreased from 7 to 3 cases.

Only two cases of Puerperal sepsis were reported.

One case each of Leprosy, Malta Fever and Erysipelas was notified.

Tuberculosis accounted for 52 cases as compared with 54 last year.

The individual diseases are discussed in the following section.

#### CASES OF INFECTIOUS DISEASES NOTIFIED.

Disease.				White.	Asiatic.	Native.	Total.
Malaria	...	...	...	76	112	648	836
Tuberculosis	...	...	...	4	5	43	52
Typhoid Fever	...	...	...	4	7	20	31
Diphtheria	...	...	...	4	5	1	10
Blackwater Fever	...	...	...	...	2	—	2
Encephalitis lethargica	...	...	...	—	2	—	2
Plague	...	...	...	—	5	2	7
Tropical Typhus	...	...	...	4	—	—	4
Anthrax	...	...	...	—	—	12	12
Cerebro-spinal Meningitis	...	...	...	—	1	2	3
Puerperal sepsis	...	...	...	—	2	—	2
Leprosy	...	...	...	1	—	—	1
Erysipelas	...	...	...	—	1	—	1
Malta Fever	...	...	...	—	—	1	1
Total				93	142	729	964

	y.	er.	er.	er.
...	...	...	...	...

COMPARISON OF NOTIFICATIONS OF INFECTIOUS  
DISEASES FOR 10 YEARS.

1923. 1924. 1925. 1926. 1927. 1928. 1929. 1930. 1931. 1932.

[illegible]

## INFECTIOUS & COMMUNICABLE DISEASES.

### ACUTE ANTERIOR POLIOMYELITIS.

No cases were reported during the year. In 1931 two cases occurred, this being apparently the first time that this disease has been reported in Nairobi.

### ANTHRAX.

Twelve cases, all natives, were reported with three deaths. In each case the infection was traced to the handling of infected carcasses. The number of cases during the years 1928 to 1931 was, 8, 3, 5, 7 respectively.

### BERI-BERI.

No case was notified during the year. The last case was in 1928, and previously there were two cases in 1925.

### BLACKWATER FEVER.

Two cases among Asiatics were notified, both of which were fatal. For 1928-1931 there were 4, 0, 5, 2 cases respectively.

### CEREBRO-SPINAL MENINGITIS.

Three cases only were reported, 2 Natives, and 1 Asiatic, with 1 Native death. Figures for the five previous years are 16, 18, 6, 19 and 7.

### CHICKENPOX, MEASLES, WHOOPING COUGH, MUMPS.

These conditions are not notifiable. They occurred frequently during the year. One Asiatic death was attributed to Whooping Cough.

### CHOLERA.

There are no records to show that this disease has occurred in Nairobi.

### DIPHTHERIA.

Ten cases, 4 White, 5 Asiatics, and 1 Native were reported with 1 Asiatic and 1 Native death. Although there was an increase in the number of cases over the preceding years, there is no indication of this condition becoming epidemic in character. These cases were spread over nine months, two cases occurring in April. During the previous 8 years, 33 cases were notified.

### DYSENTERY.

Six deaths were recorded, 3 Asiatics and 3 Natives. These cases were not in epidemic form. They occurred one each in January, February, August, September, November and December.

### ENCEPHALITIS LETHARGICA.

Two Asiatic cases, both fatal, one in January and one in April were recorded. Last year there was one fatal European case. No case previous to this has been reported in Nairobi.

### ENTERIC FEVER GROUP.

31 cases were notified during the year, 4 White, 7 Asiatics and 20 Natives. There were 6 fatal cases all among Natives. Six cases were reported in November and four in December.

Seven cases were reported in the 1st quarter, four in the 2nd, nine in the 3rd, and eleven in the 4th.

### ERYSIPELAS.

This is not a prevalent condition. One fatal case in a Native was recorded in August.

### GLANDERS, RABIES.

No cases of these conditions have yet been reported in Nairobi.

### LEPROSY.

One European was notified. The number of cases occurring during the four previous years were 7, 4, 4, 4, all among Natives.

### MALTA FEVER.

One Native suffering from this condition was reported in September. Last year there was one fatal case in a Native. The last case previous to this, was 1927.

### MALARIA.

Details of the notification of this disease will be found in another section.

### OPHTHALMIA NEONATORUM.

No cases were reported. There were two cases in 1931, one in 1930, and one in 1929.

### PLAGUE.

Particulars regarding the incidence of this disease will be found in another section.

### PNEUMONIA.

During 1932, pneumonia was responsible for 132 deaths and broncho-pneumonia for 47, making a total of 179 or 34.1 per cent. of the total deaths in the Municipality for the year. The percentage of deaths from pneumonia total deaths in 1929, 1930, 1931, were 40.0, 36.3, and 36.1 respectively. The annual death rate per thousand of population for the pneumonias during 1932 was

White	0.36
Asiatic	4.23
Native	4.22
<hr/>	
All Races	3.77
<hr/>	

The death rates from pneumonia per 1,000 population of all races for the past 7 years are as under :—

1926	5.2	1930	5.8
1927	5.9	1931	4.9
1928	7.6	1932	3.7
1929	5.5		

### PUERPERAL SEPSIS.

Only 2 cases were reported, both among Asiatics, compared with 3, 8, 16, 10, 6 for the previous five years.

The number of notifications obviously does not accurately represent the number of cases occurring. The reasons for this lack of notification are many and are complicated by racial problems. The position is influenced by a considerable number of confinements not being attended by a medical practitioner and by midwives considering the notification of such cases to be detrimental to their practice. The vagueness of the term also militates against notifications being submitted. It has been found, by experience elsewhere, that considerable help is afforded when the term is defined concisely. The fact of notification alone does not reduce the incidence of the condition but combined with the efficient control of hospitals and midwives and the compulsory notification of certain details relating to the puerperal period, it may be possible to materially decrease the incidence rate. The suggested definition of puerperal sepsis is as under :—

*'Puerperal Sepsis, shall include puerperal sapraemia, puerperal septicaemia, puerperal pyaemia and any condition of an infective or probable infective nature which produces a maternal temperature of 100 degrees Fahrenheit or higher, persisting for more than 12 hours on more than one occasion, within 10 days immediately following the birth of a viable child or a miscarriage before the end of the seventh month of pregnancy.'*

Incidental infection can be easily eliminated from the cases notified. To effect any radical improvement in the incidence of this condition, it is obviously necessary for the notification of births to be enforced, and also the control of hospitals and midwives to be placed under one authority who can investigate all cases and take the necessary steps to prevent the spread of infection.

## RELAPSING FEVER.

No case of this disease was notified. The incidence of this condition is apparently rapidly diminishing, whereas in 1924, 1925, and 1926 there were 20, 46, and 27 cases respectively, during 1929, 1930, 1931 and 1932, there were 9, 3, 3, and 0.

## SCARLET FEVER.

No case was reported. One case occurred in each of the years 1928, 1930 and 1931.

## SMALL-POX.

No case was reported during 1932. The last case occurred in 1928.

## TRYPANOSOMIASIS.

No case was reported. During the past 7 years, 5 cases have been notified, one in 1926, one in 1928, two in 1929, and one in 1930.

## TROPICAL TYPHUS.

4 European cases were reported, one in March, one in May, one in September and one in December. One case was fatal. 11 cases were notified in 1931, 6 in 1930, 4 in 1929, 2 in 1928 and 3 in 1927.

## TUBERCULOSIS.

52 cases of all forms of Tuberculosis were notified during the year, among 4 Whites, 4 Asiatics, and 44 Natives. 29 of the total cases were fatal, 2 White, 2 Asiatics, and 25 Natives.

Of these 52 cases notified, 37 were pulmonary, comprising 4 White, 4 Asiatics, 29 Natives, of which 24 had a fatal termination, 2 White, 1 Asiatic and 21 Natives.

Of the 15 cases 'other than pulmonary,' 6 were of glands in Natives, 5 of bones and joints, 1 Asiatic, 4 Natives, 2 of meningitis in Natives, 1 of intestines and 1 generalised in Natives. 5 of these non-pulmonary forms were fatal, 2 meningitis, 1 peritonitis and 1 generalised all Natives, and 1 osteomyelitis Asiatic.

The notification rate for all forms of tuberculosis equalled 1.09 per thousand population all races.

Tuberculosis accounted for 5.52 per cent. of the total deaths and the death rate for the condition was 0.612 per 1,000 of population.

## P L A G U E .

Seven cases of plague were reported during the year, five of these were of bubonic character and two septicaemic.

Following the latter part of last year, the cases were irregular in incidence and non typical in character.

Three cases appeared in the first quarter and four in the third. The three cases of the first quarter occurred two in January, and one in March. Of the latter four cases, three occurred in August and one in September.

In all cases the source of infection was problematical.

The first case, an Indian from River Road, suffering from the bubonic variety, died 12 days after the onset of symptoms.

The second case, a Native from Pangani, was taken ill suddenly and removed to hospital where he died after one day. The diagnosis of septicaemic plague was made post mortem.

The third case, a Native houseboy from Swamp Road, with the bubonic variety, recovered after being treated in Hospital.

The fourth case, an Indian from Canal Road, died at his residence and the diagnosis of septicaemic plague was made post mortem.

The fifth case, an Indian from the Bazaar, as in the previous case, died at his residence and the diagnosis of bubonic plague was made post mortem.

Dead rats had been found positive to *b.pestis* on a nearby plot.

The sixth case, an Indian from the Bazaar, seen immediately before death, suffered from the bubonic variety. He worked in a shop where positive dead rats had been found.

The last case, an Indian from the Bazaar, died from bubonic plague after one day in hospital. A positive dead rat had been previously found on the plot opposite.

There were no European cases of plague.

All the cases were confined to Native and Asiatic locations.

There was a total of 6 deaths from this disease, giving a percentage to total deaths of 1.14 per cent. and a death rate per thousand population all races of 0.126.

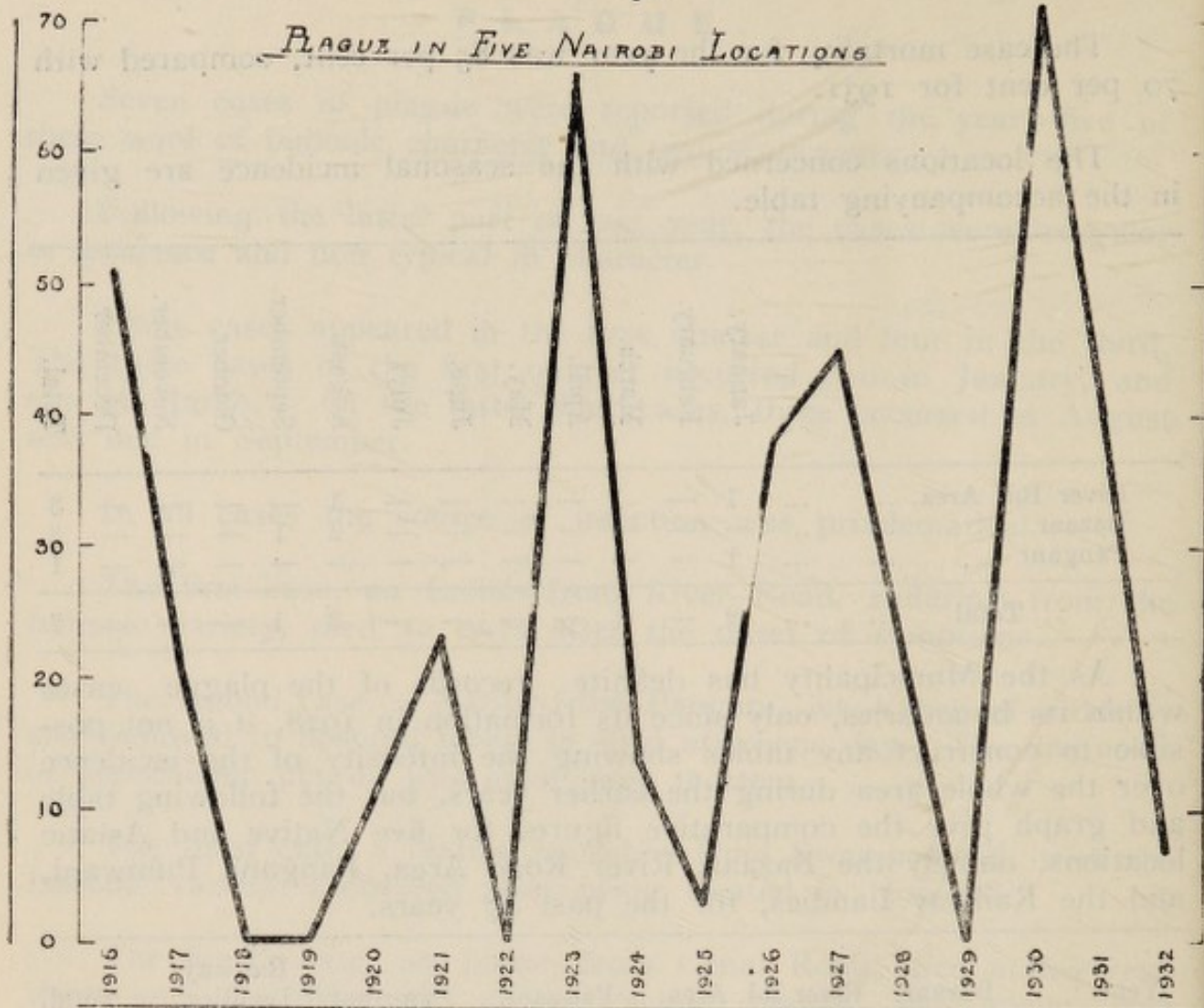
The case mortality for the year was 85 per cent, compared with 70 per cent for 1931.

The locations concerned with the seasonal incidence are given in the accompanying table.

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
River Rd, Area. ...	...	1	—	1	—	—	—	—	1	—	—	—	—	3
Bazaar ...	...	—	—	—	—	—	—	—	2	1	—	—	—	3
Pangani ...	...	1	—	—	—	—	—	—	—	—	—	—	—	1
Total ...	...	2	—	1	—	—	—	—	3	1	—	—	—	7

As the Municipality has definite records of the plague cases within its boundaries, only since its formation in 1928, it is not possible to construct any tables showing the intensity of the incidence over the whole area during the earlier years, but the following table and graph give the comparative figures for five Native and Asiatic locations, namely the Bazaar, River Road Area, Pangani, Pumwani, and the Railway Landies, for the past 17 years.

Year.	Bazaar.	River Rd. Area.	Pangani.	Pumwani.	Railway Landies.	Total.
1916 ...	18	15	4	—	14	51
1917 ...	3	5	11	—	2	21
1918 ...	—	—	—	—	—	—
1919 ...	—	—	—	—	—	—
1920 ...	3	4	1	—	3	11
1921 ...	2	5	9	—	7	23
1922 ...	—	—	—	—	—	—
1923 ...	—	15	30	6	15	66
1924 ...	1	8	2	2	1	14
1925 ...	3	—	—	—	—	3
1926 ...	2	9	2	2	23	38
1927 ...	1	2	10	25	7	45
1928 ...	3	12	6	1	—	22
1929 ...	—	—	—	—	—	—
1930 ...	3	21	6	24	17	71
1931 ...	5	6	4	24	1	40
1932 <del>1931</del> ...	3	3	1	—	—	7



### RATS.

Routine Rat trapping was carried out during the year and as the number of boys employed did not vary and similar conditions prevailed, the monthly catches may be some indication of the fluctuation in the rat population.

Only 32 dead rats were found during the year, all of them in the central portion of the town, and seven of them were positive on examination.

#### ROUTINE RAT TRAPPING.

Month.		Rats destroyed.	Found dead.	No. Positive.
January	...	1,987	—	—
February	...	1,994	2	1
March	...	2,072	1	—
April	...	1,808	2	—
May	...	2,238	—	—
June	...	2,007	—	—
July	...	1,438	—	—
August	...	1,526	18	4
September	...	1,500	3	1
October	...	1,402	6	1
November	...	1,571	—	—
December	...	1,665	—	—
Total	...	21,208	32	7

# MALARIA.

Malaria was made notifiable from February, 1930.

During 1932, 1,015 cases were notified, 836 being Residents, and 179 Non-residents, compared with 724 cases during 1931, comprising 420 Residents and 304 Non-residents.

Particulars of the notifications for 1932 relating to seasonal incidence and race are given in the following table:—

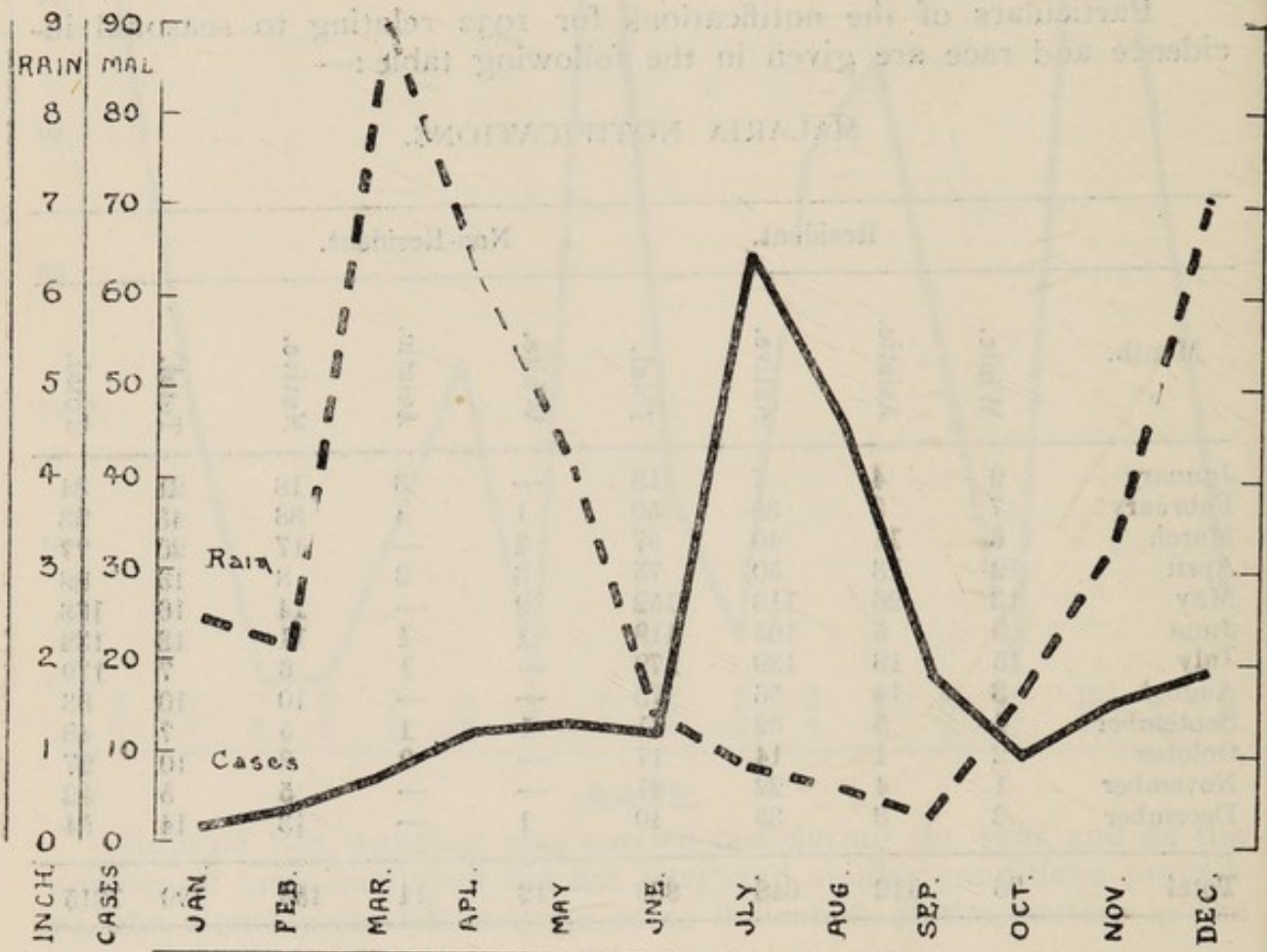
## MALARIA NOTIFICATIONS.

Month.	Resident.				Non-Resident.				Total.
	White.	Asiatic.	Native.	Total.	White.	Asiatic.	Native.	Total.	
January	2	4	7	13	—	3	18	21	34
February	7	8	35	50	1	4	38	43	93
March	6	11	40	57	3	—	17	20	77
April	12	13	50	75	3	2	8	13	88
May	13	26	113	152	2	—	14	16	168
June	9	5	105	119	1	1	11	13	132
July	15	18	139	172	—	1	6	7	179
August	3	14	56	73	—	—	10	10	83
September	4	5	32	41	1	1	5	7	48
October	2	1	14	17	—	2	8	10	27
November	1	4	22	27	—	—	5	5	32
December	2	3	35	40	1	—	13	14	54
Total	76	112	648	836	12	14	153	179	1015

## LOCALLY ACQUIRED INFECTIONS.

Month.	White.	Asiatic.	Native.	Total.
January	—	1	—	1
February	1	2	—	3
March	—	6	1	7
April	5	7	—	12
May	6	7	—	13
June	3	4	5	12
July	8	16	61	85
August	1	8	37	46
September	3	2	14	19
October	1	1	8	10
November	—	2	14	16
December	2	1	16	19
Total	30	57	156	243

The seasonal incidence of the locally acquired infections, as shown in the following graph, indicates a sudden rise in July, culminating in a peak, and then descending during August and September to the main curve which extends fairly evenly from about zero in January to 20 cases in December. For comparative purposes, the monthly rainfall curve is superimposed.



INCIDENCE OF NOTIFIED MALARIA PER 1,000 POPULATION.

Race.				1930.	1931.	1932.
White	...	...		23.88	13.19	13.81
Asiatic	...	...		30.51	10.87	7.41
Native	...	...		10.84	6.73	24.20
All Races	...	...		16.62	8.81	17.64

The following tables are an analysis of the notified resident cases.

It should be noted that the diagnosis of all the notified cases with the exception of those termed "Clinical" was supported by laboratory examination.

In the case of those classified as "Clinical," the laboratory finding was negative and evidence was produced that reasonable care had been taken in diagnosis.

Endeavour has been made to classify each case notified according to the location of the probable source of infection. All the cases were placed in one of the following classes:—

1. NAIROBI.—More or less conclusive evidence of infection taking place within the Municipality.
2. EX-NAIROBI.—Evidence of infection being contracted outside the Municipality.
3. DOUBTFUL.—Cases not falling into the previous categories or in which no definite information could be obtained.

#### PROBABLE SOURCE OF INFECTION.

Source of Infection.	No. of Cases.			Percentage.		
	*1930.	1931.	1932.	1930.	1931.	1932.
Nairobi ... ..	107	79	243	13.6	18.8	29.1
Ex-Nairobi ... ..	84	133	214	10.6	31.7	25.6
Doubtful ... ..	598	208	379	75.8	49.5	45.3
Total ... ..	789	420	836	100.0	100.0	100.0

\*11 Months.

The percentage of the locally acquired infection is higher than in 1931, and now occupies the middle position as was the case in 1930.

Apparently the number of persons having acquired their malaria from places outside the Municipality has decreased, although the percentage is still higher than in 1930.

The continued decrease in the percentage of "Doubtful" cases, indicates that still more care is being taken in the preparation of the notification forms. The addition of one more question on the notification form has aided this decrease.

Classification of the reported cases according to the type of infection and the probable source of infection is given under:—

## TYPE OF INFECTION AND PROBABLE SOURCE.

Probable Source.		Clinical.	Benign Tertian.	Quartan.	Sub-Tertian.	Total.	Double. Infection.
Nairobi	... ..	19	13	12	204	243	5
Ex-Nairobi	... ..	13	14	9	184	214	6
Doubtful	... ..	21	9	9	347	379	7
Total Residents	... ..	53	36	30	735	836	18
„ Non-Residents	... ..	6	4	5	166	179	2
Total	... ..	59	40	35	901	1,015	20

## PERCENTAGE OF TYPES OF INFECTION.

Type.	Nairobi.	Residents Ex-Nairobi.	Doubtful.	Non-Residents.	% of Total Cases
Clinical	... 7.7	5.9	5.4	3.3	5.7
Benign Tertian	... 5.2	6.4	2.3	2.2	3.9
Quartan	... 4.8	4.1	2.3	2.8	3.4
Subtertian	... 82.3	83.6	90.0	91.7	87.0

For the purpose of this Report, the Municipality has been divided into 10 districts, the names of these districts being sufficient to indicate their position.

The accompanying table indicates the number of cases notified from each of the undermentioned districts :—

## NAIROBI INFECTIONS.

District.	1930.	No. cases notified.	
		1931.	1932.
1. Upper Parklands	...	—	1
2. Muthaiga	...	—	1
3. Westlands	...	—	1
4. Parklands	...	4	9
5. Forest Road	...	6	14
6. Racecourse Road	...	3	42
7. Eastleigh	...	—	8
8. Kilimani	...	2	10
9. Hill	...	2	23
10. Commercial	...	62	134
Total	... ..	79	243

Double infections were recorded more frequently than in the previous year, 20 or 1.97 per cent. of the total cases notified being noted, compared with 5 or 0.69 per cent of the total in 1931 and 25 or 2.3 per cent. in 1930.

## DOUBLE INFECTIONS.

Source of Infection.			Subtertian and Quartan.	Subtertian and Benign T.	Quartan and Benign T.	No. Cases notified.
Nairobi	...	...	3	2	—	243
Ex-Nairobi	...	...	3	3	—	214
Doubtful	...	...	3	4	—	379
Non-Resident	...	...	2	—	—	179
Total	...	...	11	9	—	1,015
Percentage of Total cases	...	...	1.08	0.88	—	—

The total of 20 double infections being 1.97 per cent of the cases notified.

## DEATHS FROM MALARIA.

There was a mortality of 2.56 per cent. of the cases notified compared with 2.62 per cent. in 1931 and 3.68 per cent. in 1930.

The death rate per thousand of population was 0.42 a slight increase compared with 0.35 in 1931, but a considerable decrease compared with 0.82 in 1930.

Details of the deaths from Malaria will be found under :—

## DEATHS FROM MALARIA.

Month.			No. Cases notified.	No. Deaths.	% Mortality.
January	...	...	34	—	—
February	...	...	93	2	2.15
March	...	...	77	1	1.30
April	...	...	88	3	3.40
May	...	...	168	2	1.19
June	...	...	132	7	5.30
July	...	...	179	4	2.23
August	...	...	83	—	—
September	...	...	48	—	—
October	...	...	27	4	14.81
November	...	...	32	2	6.25
December	...	...	54	1	1.85
Total	...	...	1,015	26	2.56

## DEATH RATE PER 1,000 POPULATION FOR THE RACES.

Race.		No. of Deaths.			Rate per 1,000.		
		1930.	1931.	1932.	1930.	1931.	1932.
White	...	1	—	—	0.22	—	—
Asiatic	...	12	12	10	1.09	0.76	0.66
Native	...	26	5	10	0.81	0.18	0.37
All Races	...	39	17	20	0.82	0.35	0.42

There were six deaths among Non-residents including three Europeans, two Natives and one Somali.

#### DEATHS AND DEATH RATES FOR 14 YEARS.

Year.	No. Deaths.	Death Rate per 1,000.
1919	47	—
1920	37	—
1921	22	—
1922	29	—
1923	28	—
1924	32	—
1925	19	—
1926	130	—
1927	25	1.1
1928	27	0.60
1929	27	0.56
1930	39	0.82
1931	17	0.35
1932	20	0.42

#### ANTI-MALARIAL WORKS & MEASURES.

The maintenance and cleansing of the existing anti-malarial canals is under the control of this Department. Ten boys have been employed under the supervision of the Sanitary Overseer.

The whole length of the canals has been inspected and cleansed each week, the sides of the embankment having been filled and consolidated where necessary.

The work of filling in and french draining the old river bed at the terminal section of the southern system has been completed.

The swamp between Ngara Road and the Nairobi River has been drained, and the adjoining land has now been cultivated.

The disused murrum pits near Kilimanjaro Avenue have been partially filled and permanently drained.

The stream feeding the Masari Road and Limuru Bridge section of the anti-malarial canals, is being straightened, cleaned and canalised; work on this section has been completed as far as the Marlborough Road.

When not employed in oiling, the oiling gang were used in burning bush and grass in various places, after cutting by detainees.

On numerous occasions the detainees have been supervised in cutting bush and grass on Government and private plots.

Charges made to private owners for cutting and burning bush and grass amounted to Shs. 250.

Although routine oiling has been carried out, draining and filling has accounted for a very considerable saving of expenditure in oil; only 524 gallons of oiling mixture were used as compared with 1,352 gallons last year.

#### ANTI-MALARIAL WORK.

Month.	Gallons oil used.		Places attended.		Mileage.		Average gallons per place		
	1931.	1932.	1931.	1932	1931.	1932.	1931.	1932.	
January	...	—	140	—	82	622	232	—	1.70
February	...	16	48	6	37	366	216	2.66	1.29
March	...	—	120	—	56	400	320	—	2.14
April	...	112	168	54	82	190	338	2.07	2.04
May	...	160	—	120	—	204	268	1.33	—
June	...	216	—	130	—	358	406	1.66	—
July	...	272	—	123	—	281	316	2.21	—
August	...	192	—	90	—	311	276	2.13	—
September	...	152	—	45	—	276	274	3.37	—
October	...	88	—	43	—	396	336	2.04	—
November	...	—	—	—	—	268	350	—	—
December	...	144	48	98	29	250	274	1.46	1.65
Total	...	1,352	524	709	286	3,922	5,606	1.90	1.83

#### SANITATION.

The Annual Report for 1933 will contain a fuller record of the sanitary state of the Municipality, the present report being in the nature of a summary.

The new Destructor which commenced to function in March 1931, has greatly facilitated the sanitary disposal of household and trade wastes, in addition to supplying power for the by-products plant run in connection with the Abattoir.

An illustration of the destructor will be found elsewhere.

The approval given last year for the installation of impervious 'conserving' tanks to be used in connection with septic tanks erected on land not capable of dealing with the effluent, resulted in the installation of three of these plants.

Fifteen new premises, with 82 closets were connected to the sewer.

There are now 931 water closets connected to the sewer and about 255 septic tanks are in operation.





**RATS.**

Number destroyed	...	...	...	...	...	...	...	21,208
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**NOTICES SERVED.**

Public Health Ordinance:—

Nuisances, Section 119	...	...	...	...	...	...	...	4
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Cleansing and disinfecting, Section 23	...	...	...	...	...	...	...	1
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Municipal By-laws:—

Cleansing plots, By-law 499	...	...	...	...	...	...	...	35
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Inadequate latrine accommodation, By-law 510	...	...	...	...	...	...	...	6
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Intimation Notices:—

Number sent	...	...	...	...	...	...	...	114
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**FOOD CONTROL.****GENERAL.****MARKETS.**

The new Municipal Market, of which an illustration appears elsewhere opened in May. It is situated on the western side of Stewart Street at the Bazaar end. It is a modern concrete structure of ample proportions, built on the principle of a central hall with two adjoining open courts. The main entrance has two shops on each side. The central hall contains 20 stalls, with open balconies along the length, which may in the future, be converted into further stalls. Over the frontage portion level with the balconies there are six offices.

Each of the two open courts leading from the central hall contains 23 stalls. One of the courts is reserved for the sale of meat and fish.

Modern water borne conveniences, for all races, are installed.

The Jeevanjee Market has been demolished.

The Native Market, off Racecourse Road, is visited daily and has been kept in a very satisfactory state.

**BUTCHER SHOPS.**

During the year 21 premises were registered, 7 being European, 13 Asiatic and 1 Native. These are inspected daily and found to be kept in a satisfactory state of cleanliness.

**BAKERIES.**

Four European and seven Asiatic premises were licensed.

**FISHMONGERS.**

Ten European and five Asiatic licenses were issued. The premises were inspected daily and found to be kept up to a good standard.

## VEGETABLE SELLERS.

Six European and sixteen Asiatic premises were licensed during the year.

## AERATED WATER FACTORIES.

One European and three Asiatic factories were licensed and maintained in a satisfactory state of cleanliness.

## LAUNDRIES AND DHOBIES.

Of the 24 licences issued, 3 were European and 21 Asiatic.

## MILK SHOPS AND DAIRIES

26 registration certificates were issued under the Milk and Dairy Regulations, 1925, 14 being European and 12 Asiatic.

451 milk vendors were examined and licensed during the year.

## TRADE PREMISES SUBJECT TO CONTROL UNDER SPECIAL BY-LAWS.

	1927.	1928.	1929.	1930.	1931.	1932.
Aerated Water Factories ...	3	4	5	5	4	4
Bakeries ...	9	11	13	10	13	11
Butchers Shops ...	26	13	18	17	21	21
Dairies and Milk Shops ...	6	9	12	20	28	26
Fishmongers ...	7	6	10	9	14	15
Laundries and Dhobies ...	25	18	21	23	21	24
Restaurants ...	45	30	34	48	40	40
Vegetable Dealers ...	19	13	19	17	19	22

## CONTROL OF FOOD SUPPLIES—GENERAL INSPECTIONS.

Aerated Water Factories ...	751
Bakeries ...	443
Butcheries ...	227
Dairies and Milk Shops ...	2,195
Fishmongers ...	334
Markets ...	192
Vegetable Dealers ...	507
<b>Total</b> ...	<b>4,649</b>

## UNSOUND FOOD CONDEMNED.

Fish ...	3,541 lb.
Fruit ...	576 lb.
Groceries, etc. ...	2,378 lb.
Meat ...	2,346 lb.
Tinned and bottled foods ...	187 lb.
Other foods ...	112 lb.
Milk ...	2 gallons

## SAMPLING.

Food	Samples taken.	Not analysed.	Genuine.	Doubtful.	Not Genuine.
Milk	33	1	25	3	4

## ABATTOIR.

The Municipal Abattoir, a new structure on modern lines and built on the site of the former Municipal Landies, was put into use in November.

It comprises separate slaughter halls for European and Asiatic oxen, and for European and Asiatic sheep, with the necessary lairage. The slaughter hall for pigs is a separate structure.

A cooling room and chilling chamber are provided.

An offal cleaning room and triperary are attached.

A by-products plant utilising steam generated in the adjoining destructor, is in use to deal with the carcasses condemned as unfit for human consumption at the abattoir.

Illustrations of the abattoir and the by-products plant appear elsewhere.

The former slaughter house has been demolished.

## INSPECTIONS AND CONDEMNATIONS.

1932		Number of Carcasses		Percentage of
		Inspected.	Condemned.	Carcasses Condemned.
Oxen, Grade	...	3,054	363	11.88
Native	...	11,044	1,757	15.90
Total	...	14,098	2,120	15.03
Calves	...	441	128	29.02
Sheep	...	8,114	63	0.77
Goats	...	18,740	394	2.10
Pigs	...	1,865	78	4.18
Total	...	43,258	2,783	6.43

## ORGANS CONDEMNED APART FROM CARCASSES.

Hearts	...	...	...	3,344
Tongues	...	...	...	2,772
Kidneys	...	...	...	8,917
Livers	...	...	...	13,310
Other	...	...	...	22,954
Total	...	...	...	51,297

## ESTIMATED WEIGHT OF TOTAL MEAT CONDEMNED.

Beef	...	...	1,043,761 lb.
Veal	...	...	11,686 lb.
Mutton	...	...	7,314 lb.
Goat	...	...	17,877 lb.
Pork	...	...	12,193 lb.
Total	...	...	1,092,831 lb.

## CONDITIONS NECESSITATING CONDEMNATIONS.

		Oxen.		Calves	Sheep	Goats	Pigs	Total	% of Total
		Grade	Native						
Abscess	...	—	—	—	4	3	1	8	0.3
Anaemia	...	1	—	—	—	—	—	1	0.0
Anaplasmosis	...	3	5	—	—	—	—	8	0.3
Bruising	...	—	—	—	2	1	—	3	0.1
Cysticercus bovis	...	321	1,568	117	—	—	—	2,006	72.1
„ cellulosa	...	—	—	—	—	—	5	5	0.2
Dropsy	...	6	12	—	3	2	—	23	0.9
East Coast Fever	...	—	9	—	—	—	—	9	0.3
Emaciation	...	1	3	—	—	2	—	6	0.2
Fevered	...	3	5	1	3	15	5	32	1.1
Heartwater	...	—	1	—	3	341	—	345	12.4
Jaundice	...	5	12	—	5	3	1	26	0.9
Pleuropneumonia	...	—	1	—	—	5	—	6	0.2
Redwater	...	—	2	—	—	—	—	2	0.1
Septicaemia	...	1	1	—	—	—	1	3	0.1
Tuberculosis	...	1	12	—	—	—	1	14	0.5
*Toxaemia	...	21	126	10	43	22	64	286	10.3
Total	...	363	1,757	128	63	394	78	2,783	100.0
Percentage of inspections		11.8	15.9	29.0	0.7	2.1	4.1	6.4	

## \*Toxaemia.

This condition has been classified as toxaemia for want of a better name.

In all probability the condition was due to a food deficiency disease, possibly combined with the ingestion of toxic substances, probably decomposed protein material connected with the locust invasion. The condition was mainly characterised by, the presence of multiple blood extravasations, inflammatory conditions of the alimentary tract, oedema of the loose connective tissues and spongy condition and discoloration of the gums. Only those cases were totally condemned where the extravasations were of large proportions and the condition of the flesh was obviously affected.

During the latter part of May, pigs were noticed to be suffering from this condition and within a month, the percentage of pigs affected reached a total of about 90 per cent.

During the latter part of June, oxen began to be affected, the incidence rising less rapidly than that of the pigs, but within six weeks it reached 60 per cent.

During the latter part of July, both sheep and calves began to be affected, the incidence for the latter commencing abruptly at the 60 per cent. level, whereas the incidence for the former within 3 weeks reached about 40 per cent.

During the latter part of August, goats began to be affected, within 3 weeks the incidence rising to 30 per cent.

The condition of the carcasses after slaughtering was characteristic and has been described in detail in a memorandum written on the subject.

The peak of the incidence of the condition was from the middle of June to the end of October, from when it gradually decreased so that at the end of the year it almost ceased.

The totals affected were considerable, as will be seen in the appended table which includes the period of weeks from the commencement of the incidence to the end of the year, for the particular types of animals slaughtered.

No. of weeks.	Type of animal.	No. killed.	No. condemned.	No. affected.	% affected.	Highest weekly % affected.
32	Pigs	1,080	68	536	49.6	100
27	Oxen					
	Grade	1,298	21	469	36.1	88
	Native	6,472	126	2,037	31.4	61
	Total	7,770	147	2,506	32.2	61
22	Sheep	4,166	39	986	23.6	62
22	Calves	168	10	68	40.4	88
19	Goats	5,900	24	849	14.3	48

It will be noted from the previous table that 72.1 per cent. of the total condemnations were on account of measles in oxen and calves. The measles rate for 1932 for Grade oxen was 10.5 per cent., for Native oxen 14.2 per cent. and for Total oxen 13.4 per cent.

## "MEASLE" RATE FOR TYPES OF OXEN SLAUGHTERED.

Year.	Type.	No. killed.	No. condemned.	% condemned.
1932	Grade	3,054	321	10.5
	Native	11,044	1,568	14.2
	Total	14,098	1,889	13.4

## "MEASLE" RATES FOR OXEN FOR SIX YEARS.

Year.	No. killed.	No. condemned.	% condemned.
1927	10,812	617	5.7
1928	12,107	801	6.6
1929	12,154	975	8.0
1930	11,349	960	8.4
1931	13,663	1,615	11.8
1932	14,098	1,889	13.4

TYPE OF OXEN SLAUGHTERED AND CONDEMNED FOR ALL  
CONDITIONS FOR FIVE YEARS.

Year	G R A D E			N A T I V E		
	No. inspected	No. condemned	% condemned	No. inspected	No. condemned	% condemned
1928	4,907	290	5.9	6,827	480	7.0
1929	4,231	252	5.9	7,436	764	10.2
1930	4,214	310	7.3	7,243	738	10.1
1931	4,313	471	10.9	9,350	1,318	14.1
1932	3,054	363	11.8	11,044	1,757	15.9

REPORT ON CHILD WELFARE, ANTE-NATAL AND  
VENEREAL CLINICS, DISPENSARIES AND  
HOME VISITS,

By Dr. M. M. Shaw, Medical Officer in Charge.

## SUMMARY :

Attendances at :—

Child Welfare Clinics	...	7,923
Ante-natal Clinics	...	1,626
Venereal Diseases Clinics	...	4,219
Dispensaries	...	23,316
Total Attendances	...	37,084
Total Visits by Health Visitors	...	3,646

## CHILD WELFARE AND ANTE-NATAL WORK.

The work of the department has progressed smoothly during 1932 and an increase is noted in total attendances at Child Welfare and Ante-natal Clinics.

The staff remains numerically the same; Miss R. K. Sharp returned to the department for duty early in March.

### PREMISES AND EQUIPMENT.

Minor repairs were carried out at Pangani by the Municipality and at Pumwani the doors and the walls of the main treatment room were painted. The Kenya and Uganda Railway, through the kindness of the General Manager, issued to the clinic at the Landies one cupboard and scales suitable for weighing older children, and erected a shelter for the Health Visitor's car.

### PUMWANI AND PANGANI.

The work in both these locations is still carried out by one Health Visitor and the number of dispensary attendances and the time spent in going backwards and forwards between the two locations, allow of very little time for visiting. The Child Welfare clinic at Pumwani has steadily increased in size and is approaching the stage, already reached at the Railway Landies, when to cope with the numbers the clinic must be an all-day one. This is impossible at present, but the Health Visitor opens the clinic earlier in the afternoon.

The numbers at Pangani show a slight decrease; this is probably due to the departure of some families to Pumwani in view of the contemplated abolition of Pangani village. The location, however, remains more or less the same dreary collection and as long as it does so, requires the full-time services of a Health Visitor.

### RAILWAY LANDIES.

Progress has been well maintained in this location and the change in the attitude of the inhabitants to the activities of the department during the last five years, is one which has justified completely the policy pursued. The Child Welfare clinic has assumed such proportions that of necessity it occupies one whole day. This is one factor that accounts for the diminution in the figures for home visiting; a second factor is that the Health Visitor has spent many Monday afternoons at the Infectious Diseases Hospital in an effort to instil some sense of responsibility into the female dressers at that institution. One afternoon per week is obviously not sufficient for that weighty task and results do not justify robbing the location of one

## LADY GRIGG AFRICAN MATERNITY HOSPITAL.

An ante-natal clinic is held weekly at this institution and has been well attended. A great proportion of the emergency work of this institution has been undertaken by the M.O. i/c Child Welfare and close co-operation has been maintained with the ante-natal and child welfare work of the Government clinics.

## LADY GRIGG INDIAN MATERNITY HOSPITAL.

One ante-natal clinic has been held weekly at this institution; the number of patients seen is not great and in the main consists of cases referred by the Matron as requiring further advice and treatment.

## CHILD WELFARE CLINICS.

	Pumwani.	Pangani.	Railway Landies.	Total.
Clinics held ...	49	50	50	149
Attendances ...	2,420	1,576	3,927	7,923

Average attendances per clinic 53.17.

Compared with 1931, the attendances at Pumwani show an increase of 1,305 or 117 per cent.; the attendances at Pangani show a decrease of 235 or 13 per cent.; those at the Railway Landies show an increase of 1,279 or 48.3 per cent.

The total increase in attendances compared with 1931 equals 2,349 or 42.14 per cent.

## ANTE-NATAL CLINICS.

	Pumwani.	Pangani.	Lady Grigg African Maternity Hospital.	Total.
Clinics held ...	49	52	50	151
Attendances ...	90	993	543	1,626

## VENEREAL DISEASES CLINICS FOR WOMEN AND CHILDREN.

Attendances at all clinics show an increase over the previous year. Particularly at Pumwani and Pangani one finds an increasing number who attend regularly for one or more prolonged courses of treatment.

During the year some alarm was felt because of women being more or less compelled to come for examination at Pumwani, follow-

ing the accusations of askaris. A letter was written to the Officer i/c Municipal Native Affairs, a copy of which was sent to Medical Headquarters, protesting against such a procedure, as it was felt that if it continued, it would have a serious effect upon the readiness with which patients come for treatment, and be opposed to all ideas of the successful running of such clinics.

Prostitution in the locations does not diminish; in view of all conditions under which the natives live in Nairobi, it can scarcely be expected to do so, but its effect, present and future, on the urban population makes one very apprehensive and does indicate the urgency of measures which will at least help to combat it.

## CLINICS.

	SYPHILIS		YAWS		Non V.D.	Total
1932.	Attendances.	New Cases.	Attendances.	New Cases.	Attend.	Attend.
HEALTH OFFICE :						
Women	417	85	142	53	—	559
Children	4	2	47	26	—	51
Total	421	87	189	79	—	610
PUMWANI :						
Women	1,294	171	333	59	6	1,633
Children	21	3	91	32	—	112
Total	1,315	174	424	91	6	1,745
PANGANI :						
Women	563	73	289	44	5	857
Children	21	4	51	9	—	72
Total	584	77	340	53	5	929
RAILWAY LANDIES :						
Women	703	105	146	35	—	849
Children	3	1	83	27	—	86
Total	706	106	229	62	—	935
Total						
Women	2,977	434	910	191	11	3,898
Children	49	10	272	94	—	321
Total	3,026	444	1,182	285	11	4,219

Compared with figures for 1931, there was an increase of 1,095 attendances or 35 per cent.

## DISPENSARIES.

			Pumwani.	Pangani.	Railway Landies.	Total.
Men	...	...	2,400	2	—	2,402
Women	...	...	2,638	1,683	1,823	6,144
Children	...	...	3,887	1,987	8,896	14,770
Total	...	...	8,925	3,672	10,719	23,316

## HOME VISITS BY HEALTH VISITORS.

In connection with		Pumwani.	Pangani.	Railway Landies.	Total.
Child Welfare	...	465	483	1,109	2,057
Ante-natal	...	2	53	398	453
Venereal Disease	...	281	177	284	742
Sick	...	60	72	262	394
Total	...	808	785	2,053	3,646

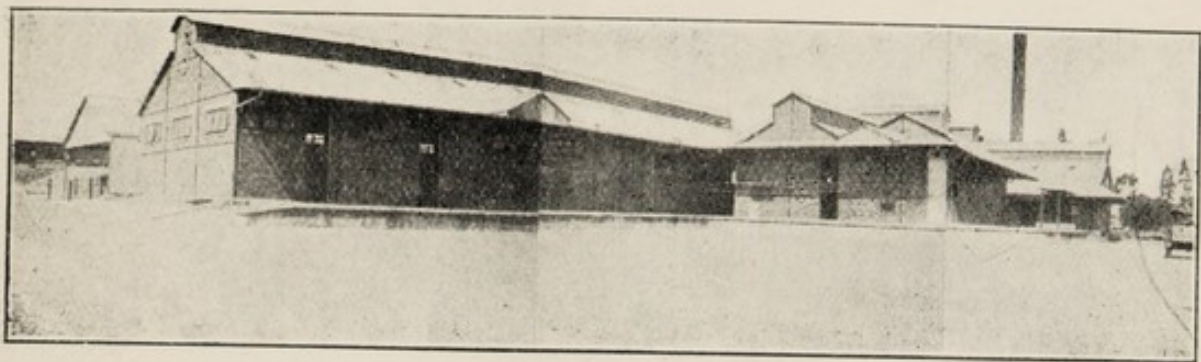
## COMPARISON OF ATTENDANCES &amp; VISITS FOR 5 YEARS.

		1928.	1929.	1930.	1931.	1932.
Child Welfare Clinics	...	2,109	3,110	3,822	5,574	7,923
Venereal Clinics	...	1,720	2,179	2,725	3,123	4,219
Dispensaries	...	13,933	2,794	7,988	23,413	23,316
Ante-natal Clinics	...	—	—	118	991	1,626
Total Attendances	...	17,852	8,083	14,653	33,101	37,085
Home Visits by Health Visitors	...	—	2,486	5,849	7,554	3,646

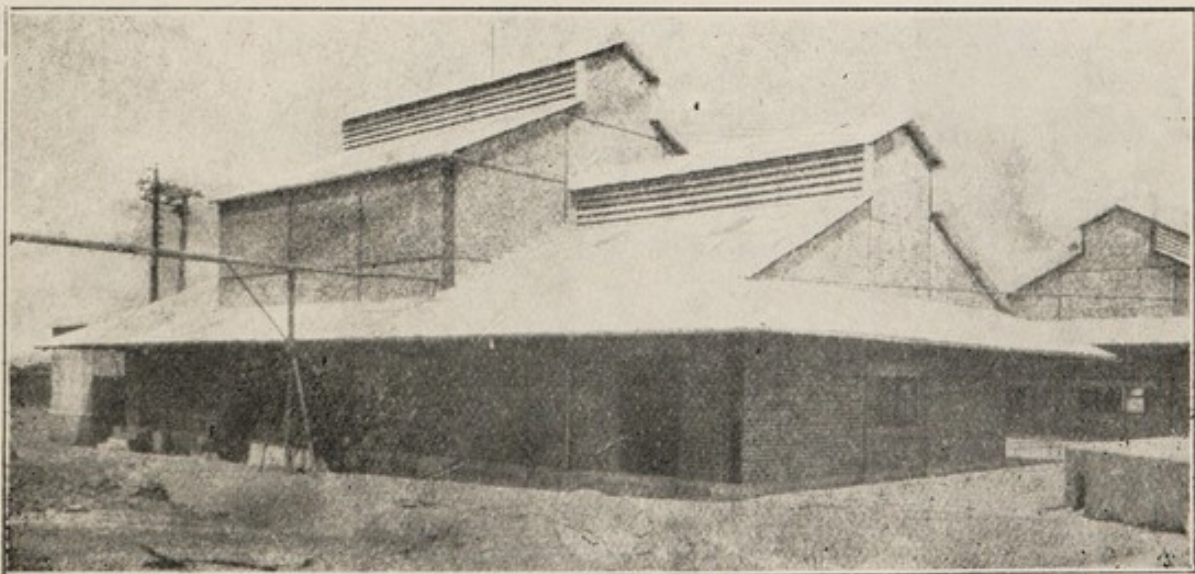
H. W. TILLING.  
Medical Officer of Health.

February 28th, 1933,  
Municipal Offices,  
Nairobi,  
Kenya Colony.





The Abattoir.



The By-Products Plant.



