

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

Contributors

Nairobi (Kenya). Public Health Department.

Publication/Creation

[Nairobi] : Municipal Council, [1952]

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City Council of Nairobi

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The Twenty-third Annual Report

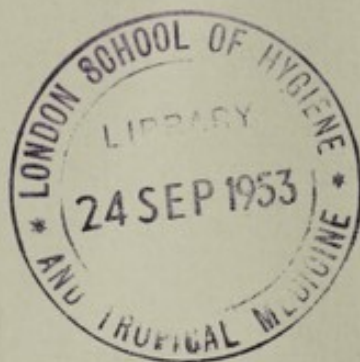
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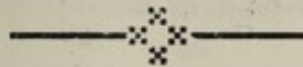
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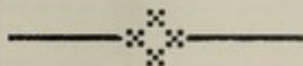
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Town Hall,

NAIROBI.

1st July, 1953.

The Worshipful the Mayor,

Aldermen and Councillors,

City Council of Nairobi.

Your Worship, Aldermen and Councillors,

I have the honour to present to you my Annual Report on the sanitary circumstances, sanitary administration, vital statistics and the state of the public health of the City of Nairobi for the year 1952, as required by the "Municipalities Ordinance, 1948" "The Medical Officers of Health Rules Section 2 (12.d.)"

A. T. G. THOMAS,

M.D., B.S., D.P.H.,

Medical Officer of Health.

PUBLIC HEALTH COMMITTEE

DECEMBER 1952

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„ Mrs. E. M. Rayner Deputy Chairman.

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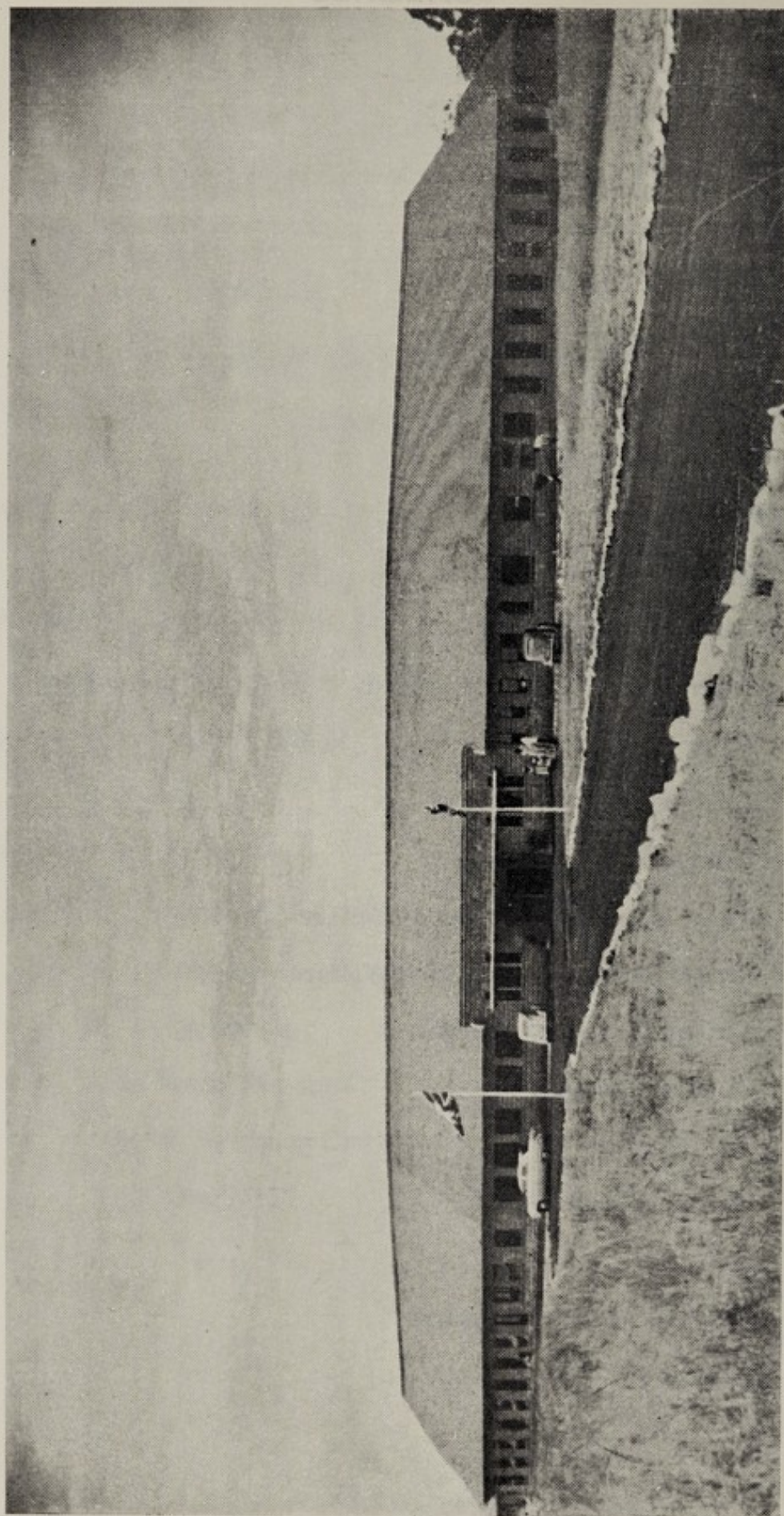
„ Hem Singh Bhangra.

„ Mrs. M. Needham-Clark.

„ A. M. Ofafa.

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PUMWANI MATERNITY HOSPITAL OPENED FEBRUARY 1ST 1952

Section 1

INTRODUCTION

The year opened on a cheerful note but towards its close the shadows of the national emergency had gathered.

In February we were honoured by the visit of Her Majesty the Queen, then Princess Elizabeth, and the Duke of Edinburgh to our new Maternity Hospital at Pumwani. Owing to the fact that we had rather short notice of this we were at some pains to have the building and its equipment in a fit state for the occasion and thanks are due to the Matron and the City Engineer for the splendid efforts which were made to have it ready. The occasion was one which will always be remembered by the staff and other members of this department.

The opening of this hospital has enabled us to convert the old building into a first class hostel for the African staff and trainees, and this increase in comfort and amenity is greatly appreciated and will no doubt benefit the important work of training African midwives for service in all parts of East Africa.

During the year, the phenomenal growth of the City continued as did the steady work of eliminating its slum dwellings. Indeed, the time can now be foreseen when this latter activity may slow up to some degree since we are running out of buildings which demand demolition and the focus of attention will then pass to those in need of, and worthy of, rehabilitation.

As usual, the health statistics of the City compared with South African and British cities gave cause for satisfaction, and no epidemic disease showed undue prevalence.

The distribution of rainfall was unusual, inasmuch as the long rains were very heavy, whereas the short rains failed altogether. The heavy rains early in the year did not cause any serious rise in the incidence of malaria.

During the year discussions on the taking over by the Public Health Department of the Government Dispensaries continued, but progress was slow.

Towards the end of the year the political situation deteriorated sharply and in October a state of Emergency was declared. Two Departments at once gave cause for anxiety, the African Maternity and Child Welfare Service, whose staff work in the heart of the locations and the Cleansing Department, the operation of which depends upon African labour. Fortunately, up to the end of the year there was little cause for worry and the situation appeared to become fairly stable. It was notable, however, that there was a distinct falling off in the co-operation given to our work by Kikuyu members of the population, and it was sincerely hoped that this would not develop further.

Progress in several of the branches of the department was signalled by the opening of new clinics. The Asian Maternity and Child Welfare Clinic at Eastleigh was completed and opened and is a most welcome change from the temporary wooden hut where activities had previously been carried on under great disadvantages and discomfort.

A new African Child Welfare Centre was opened at Maesha in co-operation with the Railway. This will help us to keep pace with the development of African housing on this side of the town which is proceeding rapidly.

A further pleasing event was the opening of the Woodley Day Nursery. This attractive building is designed to accommodate 120 children.

Another branch of the service which is growing is the European Maternity and Child Welfare Service. At present, two clinics are operated, one at Parklands and one at Woodley, and one European Health Visitor makes domiciliary visits. The service was started last year on a very tentative basis and it is felt that it is making progress and is filling a definite need.

As in previous years, I should like to acknowledge with great appreciation the co-operation I have received from the Chairman and Members of the Public Health Committee, the Government Medical Department and Members of my staff.

Section 2

METEOROLOGY

SOME METEOROLOGICAL DETAILS — EASTLEIGH AERODROME 1952

(From the E.A. Meteorological Department)

1952	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Mean Maximum	79.7	83.2	84.7	80.5	77.1	72.7	71.9	73.2	79.7	79.4	76.4	77.9
Mean Minimum	56.4	57.3	58.0	60.1	59.9	55.3	53.7	53.8	55.3	57.4	58.4	57.5
Mean	68.1	70.3	71.3	70.3	68.5	64.0	62.8	63.5	67.5	68.4	67.4	67.7
RAINFALL (inches)	0.08	0.58	0.61	11.86	6.39	0.04	0.77	0.86	0.63	0.45	3.33	0.49
DAYS OF RAIN	2	4	5	12	14	3	7	4	3	5	15	3
AVERAGE RAINFALL OVER 36 YEARS	1.42	1.90	4.93	8.06	5.01	1.66	0.56	0.97	0.87	2.12	3.90	2.67
RELATIVE HUMIDITY %	81	79	75	84	87	84	86	84	80	80	86	81
MEAN ATMOSPHERIC	840.1	839.2	838.9	839.7	840.3	842.5	842.1	841.7	841.3	841.3	840.4	840.8
PRESSURE (mbs.)	837.1	836.1	835.9	836.8	837.7	840.6	840.2	839.4	838.0	838.0	837.4	837.9

SOME FIGURES OF NAIROBI RAINFALL — 1897-1952

Readings taken at Nairobi Railway Station

Average yearly rainfall 1897—1950	...	...	35.10 inches.
Average yearly rainfall 1901—1925	...	...	37.81 inches.
Average yearly rainfall 1926—1950	...	...	32.33 inches.
Total rainfall for 1951	...	...	60.08 inches.
Total rainfall for 1952	...	...	26.09 inches.

Average Yearly Rainfall 10-Year Periods

1901 to 1910	...	...	37.16 inches.
1911 to 1920	...	...	40.71 inches.
1921 to 1930	...	...	34.90 inches.
1931 to 1940	...	...	31.98 inches.
1941 to 1950	...	...	30.60 inches.

NOTE ON THE CLIMATE OF NAIROBI CITY

The City of Nairobi is situated at an altitude of about 5,500 feet, rather more than 300 miles from the coast, and about 100 miles south of the equator. It is flanked by high ground on the north and west, and by extensive plains to the south and east. The modifying effect of the topography on an otherwise tropical climate is considerable.

The climate displays only relatively minor seasonal variations, but Nairobi's position so far inland results in a large diurnal variation, particularly in temperature and humidity, while its height causes it to be some 13° F cooler than the coast. The result is a climate which does not have the enervating effect generally associated with the tropics.

The hottest months are February and March, and during this period afternoon temperatures rise to 85° F or more, and very occasionally to nearly 90° F, a figure which has never yet been exceeded. The period June to August is invariably one of comparative low day and night temperatures. The average maximum temperature for June is about 72° F; night-time temperature are generally about 54° F giving a mean range of 18° F. The lowest minimum recorded is 44° F during an August night in 1933, but temperatures much nearer freezing point have been experienced in neighbouring valley situations from time to time.

Relative humidity also has a very marked daily range. In the early morning it frequently reaches saturation and may fall to 10% in the middle of the day on clear sunny days in February or March.

Cloud is least during the period December-March when skies are about half-covered in the mornings and less than half-covered in the afternoons. From April onwards cloud amount increases until in August at the height of the S.E. monsoons the sky may be quite overcast all morning, the cloud only breaking in the afternoon. As cloud usually decreases after midday there is about 30% more sunshine in the afternoon than in the morning, and it follows that westerly slopes receive more sunshine than easterly. The following figures for mean hours of sunshine per day illustrate this point very clearly:—

	Hrs.		Hrs.		Hrs.
January	9.8	May	6.2	September	5.7
February	9.8	June	4.7	October	7.4
March	8.5	July	4.	November	7.1
April	7.2	August	4.1	December	8.4

The significance of these figures is better appreciated when it is remembered that the sun is above the horizon for about 12 hours per day throughout the year.

The figures for average rainfall given in the appendix show a distribution with two peaks, one in March—May (the "long rains") and the other in October—December (the "short rains"). Late December and mid-March is popularly supposed to be the dry season, but there is an appreciable expectancy of rain in this period, a rather greater expectancy in fact than in the cool, dry but cloudly mid-year period. Rainfall is mainly, although not entirely, in the form of afternoon and evening showers, associated at times with thunderstorms. During the months June to September the S.E. Monsoon may bring a dense cap from which light rain sometimes falls for several hours, mainly during the early morning. Very heavy rain of the tropical deluge type occurs infrequently; when it does it is invariably associated with the more violent type of thunderstorm. In 1951, a very wet year, falls of as much as 5" in 3 hours were experienced in the Nairobi area during the "long rains". This is however exceptional, falls exceeding 2" in 24 hours being infrequent.

As is general in East Africa, rainfall means can be very misleading. Since several years of short rainfall may follow one another, means have to be interpreted with some circumspection. Some indication of the range of variation is given by the following extreme falls:—

Highest fall recorded in Nairobi 61.80" in 1930.

Lowest fall recorded in Nairobi 19.13" in 1943.

It is apposite to note at this juncture that the mean annual evaporation from a free water surface in Nairobi is some 36", i.e. a figure comparable with the mean rainfall.

High winds are not common in Nairobi, but during February and March moderately strong east or north-easterly winds prevail, which, combined with very low humidities and high temperatures makes the few weeks before the rains the most trying of the year.

COMPARATIVE FIGURES

	Overall	European	Asian	African	Average 10 English Towns	England & Wales
NAIROBI						
Estimated Population	166,500	15,500	56,000	95,000	117,777	15.5
Birth Rate	33	21	61	18.1	16.6	12.5
Death Rate	12.0	9.3	7.8	15.3	13.4	29.6
Infant Mortality Rate	128.5	24	56	299	34.2	3.1
T.B. Death Rate (Pulmonary) (/10,000)	6.3	0	1.3	10.4	3.4	
KRUGERSDORP						
Estimated Population	76,500	27,700	2,500	46,300		
Birth Rate	23	29.2	47.6	16.7		
Death Rate	14.6	11.8	13.2	16.6		
Infant Mortality Rate	115.9	34.6	119.0	203.7		
T.B. Death Rate (Pulmonary) (/10,000)	10.2	1.4	23.5	14.5		
PRETORIA						
Estimated Population	227,352	129,218	5,236	88,187		
Birth Rate	28.0	26.9	43.93	28.0		
Death Rate	8.4	6.0	8.02	11.6		
Infant Mortality Rate	77.9	28.9	43.48	151.5		
T.B. Death Rate (Pulmonary) (/10,000)	5.9	1.1	1.9	12.1		
BLOEMFONTEIN						
Estimated Population	83,400	36,700	No Asians	45,500		
Birth Rate	26.9	21.1		31.6		
Death Rate	14.6	6.6		21.0		
Infant Mortality Rate	147.9	37.1		296.6		
T.B. Death Rate (Pulmonary) (/10,000)	6.4	1.3		10.5		
CAPE TOWN						
Estimated Population	436,080	183,822		249,258		
Birth Rate	31.1	17.9		41.5		
Death Rate	12.6	9.5		15.0		
Infant Mortality Rate	84.0	23.9		104.2		
T.B. Death Rate (Pulmonary) (/10,000)	21.6	4.6		34.8		
DURBAN						
Estimated Population	439,688	133,261	149,732	141,174		
Birth Rate	30.1	20.2	37.1	29.4		
Death Rate	14.0	9.1	10.3	22.8		
Infant Mortality Rate	132.0	21.5	69.8	301.6		
T.B. Death Rate (Pulmonary) (/10,000)	12.8	2.6	7.0	28.1		
AVERAGE FIVE SOUTH AFRICAN TOWNS						
Estimated Population	252,604	102,780	52,489	114,283		
Birth Rate	27.8	23.1	42.9	29.4		
Death Rate	12.8	8.6	10.5	17.4		
Infant Mortality Rate	111.5	29.2	77.4	193.9		
T.B. Death Rate (Pulmonary) (/10,000)	11.3	2.2	10.8	20.0		

Section 3

VITAL STATISTICS

GENERAL

Area of City	...	...	...	20,480 acres or 32 sq: miles
Population (estimate)	...	...	...	166,500
Birth Rate (per 1,000 population)	...	...	...	33
Still Birth Rate (per 1,000 live and still births)	...	...	...	33
Maternal Mortality Rate (per 1,000 live and still births)	...	...	...	2
Infant Mortality Rate (deaths under one year per 1,000 live births)	...	...	...	128.5
Death Rate (corrected; per 1,000 population)	...	...	...	12.06

The estimated population has increased by 17,000 or 10%. Of this increase 15,000 is due to the increase in the African population, which represents a considerable addition. The figure for the 1952 African population is probably more accurate than has been estimated for many years. This is accounted for by the police poll tax "drive" which revealed that there were many more male Africans employed in Nairobi than was thought. This much greater and probably more accurate estimate reflects in the statistics for the African population and must be kept in mind when making comparisons with previous years.

It has always been emphasised and is again emphasised that the population figures are estimated only, as no accurate census is possible in Nairobi. The statistical figures are, consequently, best read by comparing them from year to year.

The vital statistics for 1952 do not vary greatly from those of 1951. European infant mortality rate has reduced from 52 to 24 but the significance of this is decreased by the small numbers involved. The African rate, however, has increased by more than 100 from 180 to 299. It is difficult to pin point the reason for this—the number of births notified was 2,058 in 1951, 1,784 in 1952; it is noted that the number of still-births and infant deaths was increased month by month, from September onwards; the African birth rate decreased from 24.7 to 18.1. It may be that the answer lies in notification. The births of many infants who do not die are probably not notified at all, while the authorities are made aware of all infant deaths by death certification.

Maternal deaths and maternal mortality rate remain satisfactory compared with other years.

Comparative figures.

A table of figures for comparison with South African and English towns is included and the figures for Nairobi again compare quite favourably, generally speaking. It gives food for thought that a town so primitive, hygienically, as Nairobi, should compare as well as it does with towns so highly developed as those in England.

The infant mortality rate is possibly the best criterion of modern civilised and of public health development, and comparison is interesting:—

Nairobi Asian	Nairobi African	England
56.	299.	29.6

The European death rate in Nairobi is 9.3 and 12.5 for England and Wales. It must be remembered that the age distribution of the population in Nairobi is probably more favourable to a low rate.

Causes of Deaths.

The principal causes are:—

(Death rates are per 1,000 of the population)

Disease Group (a)	No. of Deaths	Death Rate (a)	Main cause in group (b)	No. of Deaths	Death Rate (b)
Infectious and Parasitic	417	2.5	Tuberculosis (all forms)	134	0.80
Respiratory	410	2.5	Whooping Cough	131	0.80
			Broncho, and unspecific. pneumonia	293	1.7
Digestive	219	1.3	Gastro-enteritis (under 2)	110	0.69
Peculiar to 1st year of life	178	1.1	Prematurity	108	0.69
Violence	143	0.86	Road accidents	64	0.38
Il-defined causes	284	1.7	Natural causes	145	0.87
			Unknown	65	0.38
			Heart failure	56	0.33

Total Deaths in Nairobi — 2,009.

The order of this list is the same as in 1951, respiratory diseases amongst Africans, pneumonias, and tuberculosis being the most significant. Inexplicable is the sudden rise in significance of whooping cough, particularly amongst the Africans. This is not a notifiable infectious disease so that incidence figures cannot be given. There were 26 deaths from whooping cough in 1951 and 131 in 1952; in both years the only deaths from whooping cough were amongst the African population.

Prematurity is the main cause of deaths of infants under one month. 42% of Asian and 34% of African deaths were due to prematurity. These could well be reduced by increased mother and child welfare education.

Of the deaths of infants from one month to one year, 37% of the Asians and 32% of the Africans were caused by pneumonia (broncho and lobar) and 27% of the Asian and 16% of the African by gastro-enteritis. Both these could probably be reduced by increased parental care and knowledge.

Amongst the African population the low standard of living, inadequate housing, poor diet and so on, undoubtedly play an extremely important part.

TABLE 3
Number of Births Registered in 1952

	RESIDENTS	NON-RESIDENTS	TOTAL
Europeans	1,030	617	1,647
Asians	1,000	1,000	2,000
Africans	1,111	1,111	2,222
TOTAL	3,141	2,728	5,869

TABLE 4
Birth Rates over the Past Five Years

	1948	1949	1950	1951	1952
Europeans	24.8	27.2	19.7	20.2	21.03
Asians	22.8	22.1	22.8	27.7	21
Africans	22.8	22.8	22.8	24.7	18.1

TABLE 1

Population Figures 1948 to 1952

(Estimated by East African Statistical Department).

	1948	1949	1950	1951	1952
Europeans	10,830	12,000	14,500	15,000	15,500
Asians	41,810	50,000	52,000	54,000	56,000
African	65,939	66,000	70,000	80,000	95,000
TOTALS	118,579	128,000	136,500	149,000	166,500

Nairobi District: European population only — 20,000

TABLE 2

Summary of Vital Statistics 1952

	Estimated Population	Deaths	Death Rate per 1,000	Live Births	Birth rate per 1,000	Infant deaths	Infant Mor- tality Rate	Live and Still Births	Matern- al Deaths	Rate per 1,000 Births
Europeans	15,500	114	7.3	326	21	8	24.5	332	1	3.3
Asians	56,000	442	7.9	3416	61	192	56.2	3514	9	2.5
Africans	95,000	1453	15.3	1711	18.1	501	299.1	1794	4	2.2
TOTALS	166,500	2009	12.06	5453	32.7	701	128.5	5640	14	2.5

TABLE 3

Number of Births Notified in 1952

	RESIDENTS			NON-RESIDENTS		
	Births	Still-Births	Total	Births	Still-Births	Total
Europeans	326	6	332	251	6	257
Asians	3416	98	3514	73	3	76
Africans	1711	83	1794	1018	65	1083
TOTALS	5453	187	5640	1342	74	1406

TABLE 4

Birth Rates over the Past Five Years

	1948.	1949	1950	1951	1952
Europeans	24.6	27.2	19.7	20.2	21.03
Asians	53.9	53.1	55.6	57.7	61
Africans	23.6	25.8	25.6	24.7	18.1

TABLE 5

Infant Mortality Rates Over Past Five Years

(Deaths of Infants under one year per 1,000 live births)

(Corrected for Outward Transfer)

	1948	1949	1950	1951	1952
Europeans	75	25	39	52	24
Asians	67	57	58	52	56
Africans	187	168	170	180	299

TABLE 6

Maternal Deaths and Maternal Mortality Rate 1952

	Live and Still births	Maternal Deaths	Rate/1000 Births
Europeans	332	1	3.3
Asians	3514	9	2.5
Africans	1794	4	2.2
TOTALS	5640	14	

TABLE 7

Death Rates Over Past Five Years

	1948	1949	1950	1951	1952
Europeans	10.0	9.8	8.6	9.9	9.3
Asians	8.2	6.6	7.0	8.0	7.8
Africans	12.0	13.8	14.0	16.8	15.3

TABLE 8
Summary of the Causes of Death

	Europeans	Asians	Africans	Totals	Percentage of all deaths in 1952	Percentage of all deaths in 1951	Death Rate 1952	Death Rate 1951
1. Infectious and Parasitic Diseases	5	19	393	417	20.75	20.36	2.5	2.6
2. Cancer and other Tumours	18	12	15	45	2.23	2.27	0.26	0.24
3. Rheumatism, Diseases of Nutrition, etc.	1	10	34	45	2.23	2.48	0.26	0.32
4. Diseases of the Blood, etc	1	12	17	30	1.49	1.6	0.18	0.10
5. Chronic Poisoning and Intoxications	—	—	1	1	0.04	0.31	0.006	0.04
6. Diseases of the Nervous System	14	21	56	91	4.52	4.13	0.54	0.53
7. Diseases of the Circulatory System	24	30	9	63	3.13	2.84	0.37	0.37
8. Diseases of the Respiratory System	6	81	323	410	20.40	20.10	2.46	2.60
9. Diseases of the Digestive System	10	60	149	219	10.90	12.4	1.31	1.0
10. Diseases of the Genito-Urinary System (non-venereal)	5	11	12	28	1.34	1.3	0.16	0.16
11. Diseases of Pregnancy, Childbirth, etc.	1	9	4	14	0.69	0.72	0.08	0.09
12. Diseases of the Skin ...	—	1	1	2	0.09	0.26	0.01	0.03
13. Diseases of Bones and Joints	—	1	2	3	0.14	—	0.01	—
14. Congenital Malformations	2	7	15	24	1.19	0.88	0.14	0.10
15. Diseases peculiar to the First Year of Life ...	3	85	90	178	8.86	9.30	1.06	1.20
16. Senility, old age ...	6	5	1	12	0.59	0.63	0.07	0.86
17. Death from Violence ...	10	35	98	143	7.11	7.7	0.85	1.00
18. Ill-defined Causes ...	8	43	233	284	14.13	12.71	1.10	1.6
Total of all Death ...	114	442	1453	2009	100.0	100.0	12.06	12.9

TABLE 9
Causes of Infant Deaths

(Under one month).

International

List No.	Cause	Europeans	Asians	Africans	Total
12.	Tetanus	—	—	2	2
24.	Septicaemia	—	—	1	1
28.	Malaria	—	—	1	1
30.	Congenital Syphilis	—	—	1	1
33.	Influenza	—	1	—	1
72.	Haemophilia	—	1	—	1
86.	Infantile Tetany	—	—	1	1
103.	Haemorrhage	—	1	—	1
106.	Bronchitis	—	—	1	1
107.	Broncho-pneumonia	—	7	6	13
108.	Lobar-pneumonia	—	1	2	3
109.	Pneumonia-undefined	—	11	3	14
119.	Diarrhoea	—	3	1	4
119.	Gastro-enteritis	—	5	6	11
129.	Peritonitis	—	1	—	1
130.	Acute Glomerular Nephritis	1	—	—	1
141.	Accidental Haemorrhage	—	1	—	1
157.	Congenital Absence of Bile-duct	—	—	1	1
157.	Congenital Heart Disease	1	2	5	8
157.	Defect in Brain Development	—	1	—	1
157.	Spina Bifida	1	1	—	2
157.	Cleft Palate	—	1	—	1
157.	Anencephalus	—	—	1	1
157.	Hydrocephalus	—	—	2	2
157.	Hare Lip	—	1	—	1
157.	Other congenital Malformations	—	1	—	1
158.	Congenital Debility	—	1	2	3
158.	General Weakness	—	1	—	1
158.	Hydramnios	—	—	1	1
158.	Malnutrition	—	10	10	20
159.	Prematurity	1	52	48	101
159.	Immaturity	—	2	—	2
160.	Birth Injuries	—	3	11	14
161.	Neonatal Septicaemia	—	—	1	1
161.	Umbilical Sepsis	—	—	1	1
161.	Gangrene of Scrotum	—	—	1	1
161.	Haematemesis Neonatorum	—	—	1	1
161.	Toxaemia of Infant	—	1	—	1
161.	Erythroblastosis Foetalis	1	—	—	1
161.	Atelectasis	—	1	1	2
161.	Icterus Neonatorum	—	5	—	5
161.	Foetal Ascites	—	1	—	1
161.	Asphyxia Neonatorum	—	1	—	1
161.	Sclerema Neonatorum	—	—	1	1
161.	Haemorrhagic Disease	—	—	1	1
182.	Asphyxia	1	—	—	1

200.	Pyrexia of unknown origin	—	1	1	2
200.	Unknown	—	—	10	10
200.	Natural Causes	—	1	13	14
Totals		...	6	119	137
					262

TABLE 10
Causes of Infant Deaths
 (From one month to one year.)

International List No.	Causes	Europeans	Asians	Africans	Total
1.	Typhoid	—	—	1	1
9.	Whooping Cough	—	—	35	35
10.	Diphtheria	—	—	2	2
13.	Pulmonary Tuberculosis	—	—	4	4
14.	Tuberculous Meningitis	—	—	2	2
27.	Bacillary Dysentery	—	—	2	2
28.	Malaria	—	1	6	7
30.	Congenital Syphilis	—	—	1	1
33.	Influenzal Meningitis	—	—	2	2
35.	Measles	—	—	5	5
43.	Thrush	—	—	1	1
69.	Kwashiokor	—	—	3	3
73.	Anaemia	—	—	3	3
73.	Von Jaksch's Anaemia	—	1	—	1
81.	Pneumococcal Meningitis	—	1	15	16
83.	Spastic Quadriplegia	—	—	1	1
86.	Convulsions	—	1	—	1
86.	Tetany (infantile)	—	—	1	1
105.	Laryngitis	—	—	1	1
105.	Laryngeal Stridor	—	—	1	1
106.	Bronchitis	—	—	6	6
107.	Broncho-pneumonia	1	14	61	76
108.	Lobar Pneumonia	—	1	18	19
109.	Pneumonia, undefined	—	13	35	48
119.	Enteritis	—	—	3	3
119.	Gastro-enteritis	1	20	52	73
119.	Diarrhoea	—	10	7	17
122.	Intestinal Obstruction	—	1	—	1
135.	Urinary Obstruction	—	1	—	1
157.	Cleft Palate	—	1	—	1
157.	Congenital Heart Disease	—	—	2	2
157.	Hydrocephalus	—	—	1	1
157.	Meningomyocele	—	—	1	1
158.	Malnutrition	—	4	6	10
159.	Prematurity	—	3	4	7
161.	Icterus Neonatorum	—	1	—	1
161.	Neonatal Anaemia	—	—	1	1
182.	Foreign Body in Throat	—	—	1	1
200.	Unknown	—	—	15	15
200.	Natural Causes	—	—	33	33
Totals		...	2	73	331
					406

Causes of Deaths

(Corrected for Outward Transfer)

International Classification.

Group I.—Infectious and Parasitic Diseases

International

List No.	Cause	Europeans	Asians	Africans	Total
1.	Typhoid ...	—	1	10	11
6.	Cerebro-spinal Meningitis ...	—	—	1	1
9.	Whooping Cough ...	—	—	131	131
10.	Diphtheria ...	—	2	8	10
12.	Tetanus ...	—	1	10	11
13.	Pulmonary Tuberculosis ...	—	5	85	90
13.	Tuberculosis of Lungs ...	—	—	2	2
14.	Tuberculous Meningitis ...	—	3	23	26
14.	Brain Tumour ...	—	1	—	1
15.	Tuberculous Peritonitis ...	—	—	2	2
15.	Tuberculous Enteritis ...	—	—	1	1
16.	Tuberculosis of spine ...	—	—	3	3
21.	Tuberculous pericarditis ...	—	—	2	2
22.	Miliary Tuberculosis ...	—	—	7	7
22.	Generalised Tuberculosis ...	—	—	1	1
23.	Leprosy ...	—	—	1	1
24.	Pyæmia ...	—	—	1	1
24.	Septicæmia ...	—	—	5	5
27.	Bacillary Dysentery ...	—	—	37	37
28.	Blackwater Fever ...	1	—	1	2
28.	Cerebral Malaria ...	—	1	2	3
28.	Malaria ...	—	2	14	16
29.	Kala-Azar ...	—	—	1	1
29.	Trypanosomiasis ...	—	—	1	1
29.	Peritonitis ...	—	1	—	1
30.	Syphilitic Laryngitis ...	—	—	1	1
30.	Congenital Syphilis ...	—	—	2	2
30.	Syphilis, chronic ...	—	1	—	1
30.	Syphilitic Aortitis ...	—	—	1	1
30.	Syphilitic Meningitis ...	—	—	2	2
30.	General Paralysis of the Insane ...	—	—	3	3
33.	Influenzal Meningitis ...	—	—	2	2
33.	Influenzal Pneumonia ...	1	—	—	1
33.	Influenza ...	—	1	—	1
35.	Measles ...	—	—	27	27
36.	Poliomyelitis ...	1	—	1	2
39.	Tick Typhus ...	1	—	—	1
41.	Hydatid Cyst of Lung and Liver ...	—	—	1	1
42.	Ascariasis ...	—	—	3	3
43.	Moniliosis of Lungs ...	1	—	—	1
43.	Thrush ...	—	—	1	1
Totals		5	19	393	417

Group II.—Cancer and other Tumours

International

List No.	Cause	Europeans	Asians	Africans	Total
46.	Cancer of the stomach	—	2	—	2
46.	Cancer of the oesophagus	2	—	1	3
46.	Cancer of the liver	—	2	3	5
46.	Carcinomatosis abdominales	1	—	—	1
46.	Cancer of colon	1	—	—	1
46.	Cancer of rectum	2	3	—	5
46.	Cancer of pancreas	3	—	1	4
47.	Cancer of bronchus	1	1	—	2
47.	Cancer of lung	2	—	—	2
50.	Cancer of breast	3	1	1	5
51.	Cancer of testicles	—	1	—	1
52.	Cancer of bladder	1	—	1	2
54.	Sarcomatosis	—	—	1	1
55.	Cancer, unspecified	—	—	1	1
56.	Uterine fibroid	1	—	—	1
56.	Cerebral tumour	—	2	—	2
56.	Tumour of bladder	1	—	1	2
56.	Degeneration of fibromyoma	—	—	1	1
57.	Abdominal neoplasm	—	—	1	1
57.	Mediastinal tumour	—	—	1	1
57.	Neoplasm of liver	—	—	2	2
Totals		18	12	15	45

Group III.—Rheumatism, Diseases of Nutrition and of the Endocrine Glands and Vitamin Deficiency Diseases, General Diseases

International

List No.	Cause	Europeans	Asians	Africans	Total
58.	Rheumatic Carditis	—	—	5	5
58.	Rheumatic Fever	—	3	—	3
58.	Acute Rheumatism	—	—	1	1
59.	Rheumatoid Arthritis	1	—	—	1
59.	Septic Arthritis	—	—	1	1
61.	Diabetes Mellitus	—	2	—	2
61.	Diabetes	—	4	—	4
61.	Diabetic Coma	—	—	2	2
63.	Thyroidectomy	—	1	—	1
65.	Addison's Disease	—	—	1	1
69.	Pellagra	—	—	1	1
69.	Kwashiokor	—	—	23	23
Total		1	10	34	45

Group IV.—Diseases of the Blood and Blood-forming Organs

International

List No.	Cause		Europeans	Asians	Africans	Total
72.	Thrombocytopaenic					
	Purpura	...	—	1	—	1
72.	Haemophilia	...	—	1	—	1
73.	Sickle Cell Anaemia	...	—	—	2	2
73.	Anaemia	...	—	3	11	14
73.	Von Jaksch's Anaemia	...	—	1	—	1
73.	Anaemia, Normocytic	...	—	1	—	1
73.	Anaemia, Acute					
	Haemorrhagic	...	—	1	—	1
74.	Lymphatic Leukaemia	...	—	—	1	1
74.	Acute Leukaemia	...	1	—	—	1
74.	Leukaemia	...	—	—	1	1
74.	Leucocythaemia	...	—	1	—	1
74.	Myeloid Leukaemia	...	—	3	—	3
75.	Cyst of Spleen	...	—	—	1	1
	Total	...	1	12	17	30

Group V.—Chronic Poisoning and Intoxication

International

List No.	Cause		Europeans	Asians	Africans	Total
77.	Alcoholism	...	—	—	1	1
	Totals	...	—	—	1	1

Group VIII.—Diseases of the Respiratory System

International

List No.	Cause		Europeans	Asians	Africans	Total
105.	Laryngeal Stridor	...	—	—	1	1
105.	Laryngitis	...	—	—	1	1
106.	Whooping Cough	...	—	2	—	2
106.	Brucella pneumonia	...	—	2	—	2
107.	Brucella pneumonia	...	1	31	129	161
107.	Pneumonia					
	hypostatic	...	—	1	—	1
	laryngeal	...	—	1	—	1
108.	Lobar Pneumonia	...	1	1	79	81
108.	Pneumonia, unspecified	...	—	25	57	82
109.	Pleural Effusion	...	—	3	—	3
111.	Pulmonary Embolism	...	1	1	—	2
112.	Asthma	...	2	2	2	6
114.	Lung Abscess	...	—	2	—	2
114.	Mediastinal Tumour	...	1	—	—	1
	Totals	...	3	41	323	410

Group VI—Diseases of the Nervous System

International

List No.	Cause		Europeans	Asians	Africans	Total
80.	Cerebellar Abscess	...	—	—	2	2
80.	Encephalitis					
	(non-epidemic)	...	—	1	2	3
81.	Meningitis					
	(pneumococcal)	...	—	3	33	36
83.	Paraplegia	...	—	1	—	1
83.	Paralysis (unstated					
	origin)	...	—	1	—	1
83.	Hemiplegia	...	—	2	—	2
83.	Cerebral Haemorrhage	...	10	4	3	17
83.	Apoplexy	...	—	—	1	1
83.	Spastic Quadriplegia	...	—	—	1	1
83.	Cerebral Thrombosis	...	3	—	1	4
83.	Sub-arachnoid					
	Haemorrhage	...	—	1	1	2
84.	Insanity	...	—	—	1	1
84.	Acute Mania	...	—	—	5	5
84.	Exhaustion from Mania	...	—	1	—	1
84.	Schizophrenia	...	—	—	1	1
85.	Epilepsy	...	1	3	3	7
86.	Convulsions (under 5)	...	—	2	—	2
86.	Convulsions	...	—	1	—	1
86.	Tetany, Infantile	...	—	—	2	2
87.	Paralysis Agitans	...	—	1	—	1
	Totals	...	14	21	56	91

Group VII.—Diseases of the Circulatory System

International

List No.	Cause	Europeans	Asians	Africans	Total
90.	Pericarditis ...	—	1	4	5
92.	Mitral Heart Disease ...	—	—	1	1
92.	Aortic Incompetence ...	—	—	1	1
92.	Valvular Heart Disease ...	1	—	—	1
93.	Myocardial Disease ...	3	—	—	3
93.	Cardio-vascular Degeneration ...	2	—	—	2
93.	Toxic Myocarditis ...	1	—	—	1
93.	Myocardial Degeneration ...	—	1	1	2
93.	Ruptured Heart ...	—	—	1	1
93.	Myocardial Infarction ...	—	1	—	1
94.	Coronary Thrombosis ...	10	18	1	29
94.	Coronary Occlusion ...	1	—	—	1
95.	Auricular Fibrillation ...	1	—	—	1
95.	Chronic Cardiac Asthma ...	—	1	—	1
97.	Arterio-sclerosis ...	—	2	—	2
97.	Arterio-sclerosis (cerebral) ...	1	—	—	1
97.	Diffuse Arterio-sclerosis ...	1	—	—	1
102.	Hypertension ...	3	4	—	7
102.	Hypertension (malignant) ...	—	—	1	1
103.	Haemorrhage ...	—	1	—	1
Totals		24	30	9	63

Group VIII.—Diseases of the Respiratory System

International

List No.	Cause	Europeans	Asians	Africans	Total
105.	Laryngeal Stridor ...	—	—	2	2
105.	Laryngitis ...	—	—	1	1
106.	Bronchitis ...	—	2	21	23
106.	Bronchiectasis ...	—	2	—	2
107.	Broncho pneumonia ...	1	31	129	161
107.	Post operative hypostatic pneumonia ...	—	1	1	2
108.	Lobar Pneumonia ...	1	4	70	75
109.	Pneumonia, unspecified ...	—	35	97	132
110.	Pleural Effusion ...	—	1	—	1
111.	Pulmonary Embolism ...	1	1	—	2
112.	Asthma ...	2	2	2	6
114.	Lung Abscess ...	—	2	—	2
114.	Mediastinal Tumour ...	1	—	—	1
Totals		6	81	323	410

Group IX.—Diseases of the Digestive System

International

List No.	Cause	Europeans	Asians	Africans	Total
115.	Retro-pharyngeal abscess	—	1	—	1
115.	Tonsillectomy	—	1	—	1
115.	Suppurative parotitis	1	—	—	1
117.	Duodenal Ulcer	2	—	1	3
118.	Haematemesis	—	1	—	1
118.	Chronic pyloric Stenosis	—	1	—	1
119.	Enteritis (under 2)	—	—	4	4
119.	Acute Enteritis	—	—	3	3
119.	Gastro-enteritis (under 2)	1	28	81	110
119.	Diarrhoea (under 2)	—	15	10	25
120.	Diarrhoea (over 2)	—	1	5	6
120.	Gastro-enteritis (over 2)	—	2	29	31
120.	Chronic Enteritis	—	2	—	2
120.	Chronic Ulcerative Colitis	1	—	—	1
121.	Appendicitis	1	—	1	2
122.	Acute Volvulus	—	—	1	1
122.	Intestinal Obstruction	—	1	—	1
122.	Strangulated Hernia	1	1	—	2
124.	Cirrhosis of liver	—	1	7	8
125.	Hepatitis, infective	—	1	—	1
125.	Abscess of liver	—	—	1	1
125.	Acute yellow atrophy of liver	—	—	2	2
126.	Cholelithiasis	1	—	—	1
127.	Cholecystectomy	1	—	—	1
127.	Catarrhal Jaundice	—	2	—	2
129.	Peritonitis	1	2	3	6
129.	Retro-peritoneal Abscess	—	—	1	1
Totals		10	60	149	219

Group X.—Diseases of the Urinary & Genital System (Non Venereal)

International List No.	Cause	Europeans	Asians	Africans	Total
130.	Sub-acute glomerular Nephritis ...	—	—	1	1
130.	Uraemia (under 10) ...	—	1	—	1
130.	Acute Nephritis ...	—	—	2	2
130.	Acute Glomerular Nephritis ...	2	—	—	2
130.	Renal Failure ...	—	—	1	1
131.	Chronic Nephritis ...	—	1	—	1
131.	Chronic parenchymatous Nephritis ...	—	—	1	1
132.	Nephritis ...	—	2	—	2
132.	Uraemia ...	2	4	4	10
133.	Haematuria (unclassified) ...	—	1	—	1
135.	Cystitis (chronic) ...	—	1	—	1
135.	Urinary Obstruction ...	—	1	—	1
136.	Extravasation of Urine ...	—	—	2	2
137.	Prostatectomy ...	1	—	—	1
139.	Pelvic Peritonitis ...	—	—	1	1
Totals		5	11	12	28

Group XI.—Diseases of Pregnancy, Child Birth and the Puerperal State

International List No.	Cause	Europeans	Asians	Africans	Total
140.	Septic Abortion ...	—	1	—	1
141.	Accidental Haemorrhage ...	—	1	—	1
143.	Ante-partum Haemorrhage ...	—	—	2	2
144.	Eclampsia ...	—	2	—	2
146.	Post-partum Haemorrhage ...	—	2	—	2
147.	Cerebral Emolism (Puerperium) ...	—	1	—	1
149.	Inversion of Uterus ...	—	1	—	1
149.	Obstetric Shock ...	1	—	—	1
149.	Uterine Haemorrhage ...	—	1	—	1
149.	Caesarian Section ...	—	—	2	2
Totals		1	9	4	14

Group XII.—Diseases of the Skin and Cellular Tissue

International

List No.	Cause		Europeans	Asians	Africans	Total
152.	Abscess of Thigh	...	—	1	—	1
153.	Pemphigus Foliaceus	...	—	—	1	1
	Totals	...	—	1	1	2

Group XIII.—Diseases of the Bones & Organs of Movement

International

List No.	Cause		Europeans	Asians	Africans	Totals
154.	Osteomyelitis	...	—	1	1	2
154.	Periostitis	...	—	—	1	1
	Totals	...	—	1	2	3

Group XIV.—Congenital Malformations

International

List No.	Cause		Europeans	Asians	Africans	Total
157.	Congenital Absence of Bileduct	...	—	—	1	1
157.	Meningomyocele	...	—	—	1	1
157.	Hydrocephalus	...	—	—	6	6
157.	Spina Bifida	...	1	1	—	2
157.	Congenital Heart Disease	...	1	2	7	10
157.	Hare Lip	...	—	1	—	1
157.	Defect in Brain Development	...	—	1	—	1
157.	Other Congenital Malformation	...	—	1	—	1
157.	Cleft Palate	...	—	1	—	1
157.	Anencephalus	...	—	—	1	1
	Totals	...	2	7	15	24

Group XV.—Diseases Peculiar to the First Year of Life.

International

List No.	Cause	Europeans	Asians	Africans	Total
158.	Hydramnios ...	—	—	1	1
158.	Congenital Debility ...	—	1	2	3
158.	Malnutrition ...	—	14	16	30
158.	General Weakness ...	—	1	—	1
159.	Prematurity ...	1	55	52	108
159.	Immaturity ...	—	2	—	2
160.	Birth Injuries ...	—	3	11	14
161.	Neo-Natal Septicaemia ...	—	—	1	1
161.	Icterus Neonatorum ...	—	5	—	5
161.	Pulmonary Atelectasis ...	1	—	—	1
161.	Asphyxia Neonatorum ...	—	—	—	—
	Atelectasis ...	—	1	—	1
161.	Umbilical Sepsis ...	—	—	1	1
161.	Toxaemia of Infant ...	—	1	—	1
161.	Erythroblastosis ...	—	—	—	—
	Fcetalis ...	1	—	—	1
161.	Atelectasis (new born) ...	—	1	1	2
161.	Haemorrhagic Disease ...	—	—	1	1
161.	Foetal Ascites ...	—	1	—	1
161.	Neonatal Anaemia ...	—	—	1	1
161.	Gangrene of Scrotum ...	—	—	1	1
161.	Haematemesis ...	—	—	—	—
	Neonatorum ...	—	—	1	1
161.	Sclerema Neonatorum ...	—	—	1	1
Totals ...		3	65	90	178

Group XVI.—Senility, Old Age.

International

List No.	Cause	Europeans	Asians	Africans	Total
162.	Senility ...	6	5	1	12
Totals ...		6	5	1	12

Group XVII—Deaths from Violence.

International

List No.	Cause	Europeans	Asians	Africans	Total
163.	Poisoning ...	—	1	—	1
163.	Barbiturate poisoning ...	1	—	—	1
164.	Suicide by firearms ...	3	1	—	4
164.	Asphyxia ...	—	—	1	1
164.	Suicidal hanging ...	—	1	—	1
164.	Accidental hanging ...	—	—	1	1
166.	Homicide by firearms ...	—	3	10	13
167.	Homicide by stab wound ...	—	—	4	4
168.	Asphyxia, strangulation ...	—	—	11	11
168.	Hammer blows ...	1	—	—	1
168.	Head injuries ...	—	—	3	3
170.	Traffic accidents (road) ...	2	19	43	64
177.	Vegetable poisoning ...	—	—	1	1
178.	Carbon monoxide poisoning ...	—	—	2	2
179.	Barbiturate poisoning ...	—	1	—	1
179.	Other accidental poisoning ...	—	—	1	1
181.	Burns ...	—	7	10	17
182.	Foreign body in throat ...	—	—	1	1
182.	Asphyxia from inhalation of vomit ...	—	—	2	2
182.	Asphyxia from choking ...	—	—	1	1
182.	Asphyxia ...	—	—	—	1
183.	Accidental drowning ...	—	—	4	4
189.	Starvation ...	—	—	1	1
193.	Electrocution ...	—	1	—	1
195.	Fracture of thigh ...	1	—	—	1
195.	Heart failure under anaesthetic ...	1	—	—	1
195.	Fractured neck ...	—	1	—	1
195.	Fractured dislodged cervical spine ...	—	—	1	1
195.	Shock, pentothal anaesthesia ...	—	—	1	1
Totals		10	35	98	143

Group XVIII.—Ill Defined Causes of Death.

International

List No.	Cause	Europeans	Asians	Africans	Total
200.	Natural Cause ...	1	6	138	145
200.	General Debility ...	—	1	—	1
200.	Unknown ...	2	4	59	65
200.	Heart Failure ...	3	29	24	56
200.	Malnutrition (over 1 year) ...	—	1	10	11
200.	Pyrexia of unknown origin ...	—	1	1	2
200.	Shock ...	—	—	1	1
200.	Post-operative shock ...	2	—	—	2
200.	Post operative Heart Failure ...	—	1	—	1
Totals		8	43	233	284

Section 4

NOTIFIABLE DISEASES

TABLE 12

Notifiable Diseases, by Races

Disease	Europeans	Asians	Africans	Total 1952	Totals 1951	for 1950	previous 1949	years 1948
Anthrax	—	—	10	10	16	10	25	12
Beri-beri	—	—	—	—	1	—	—	—
Blackwater Fever	1	1	2	4	2	1	3	—
Cerebro-spinal Fever	—	—	2	2	11	2	5	26
Chickenpox	45	3	7	55	531	279	340	16
Diphtheria	—	7	23	30	16	12	12	33
Dysentery, Amoebic	2	10	63	75	57	25	43	19
Dysentery, Bacillary	11	49	285	344	316	198	289	28
Erysipelas	1	—	—	1	1	5	2	—
Glanders	4	—	1	5	—	—	—	—
Kala-Azar	—	—	1	1	—	—	—	—
Malta Fever	1	—	5	6	4	1	4	4
Ophthalmia Neonatorum	—	—	19	19	11	20	5	—
Para-typhoid	6	—	4	10	1	1	4	—
Poliomyelitis	14	10	8	32	9	16	21	4
Puerperal Fever	—	3	3	6	5	4	4	5
Relapsing Fever	—	—	5	5	8	1	—	3
Scarlet Fever	2	—	—	2	1	2	1	4
Smallpox	—	—	—	—	1	—	—	—
Tick Typhus	23	—	1	24	15	18	27	29
Trypanosomiasis	—	—	1	1	2	—	—	—
Tuberculosis	9	24	328	361	405	387	305	281
Typhoid	2	6	30	38	74	97	130	106
TOTALS	121	113	805	1,039	1,500	1,101	1,221	589

Generally speaking there is no change in the incidence order. It is of interest to note that the notifications of chickenpox have dropped remarkably from 531 to 55 and that the figure in 1948 was 16. Has chickenpox a four year cycle?

Poliomyelitis has increased. This was due principally to a small epidemic amongst the European population at the beginning of the year. Careful investigation was made into every case in this epidemic. It began in Thika and from there came to Nairobi. In no instance did the direct contact of any case get the disease. Investigation indicated that the spread was thus

1st	direct	2nd
case	contact	case

By direct contact is meant someone who was living in close relationship such as a family relationship with the case. The "2nd case" occurred in people who were in less close relationship with the direct contact, e.g. in contact at an office or sports club. Thus, the few cases of the epidemic were scattered throughout the town.

The incidence of typhoid fever has decreased again. It is more than surprising that there is not a great deal more of this disease and in epidemic form. This applies particularly towards the end of the year when the African population must have almost doubled due to people coming to the city from the troubled areas of the reserves. Immunity must be high.

Bacillary dysentery once again ranks high in the list and such notifications as there are probably represent a very small proportion of the actual number of cases.

No reduction can be expected in this disease until all races become more conscious of the importance of personal hygiene and environmental cleanliness and, in the case of much of the African population, until they get the opportunity to practice better hygiene, environmental and personal, by improved plumbing and drainage of their houses and by a great increase in the water supply to their residential areas. It is also, of course, a disease of overcrowding and, as such, affects the Asian population as much as the African.

Mention must be made of the considerable obstruction given by the Asian population to Council's officers who investigate cases of infectious disease. The department in this instance is regarded with suspicion. It would be appreciated if doctors, who have the confidence of their patients and families as we have not, would endeavour to re-assure people on our behalf. Our efforts, after all, are made in the interest of the people themselves.

Doctors have been most helpful throughout the year and appreciation is expressed herewith.

TUBERCULOSIS

Every year remarks have been made about the seriousness of tuberculosis. The figures speak for themselves. The death and attack rates are lower than in 1951, but it would be wrong to assume that the decrease is a real one.

TABLE 13

Tuberculosis Attack Rate and Death Rates, 1951.

Race	Cases	Attack Rate per 10,000 persons	Deaths	Death Rate per 10,000 persons.
Europeans	9	5.8	0	0
Asians	24	4.2	8	1.4
Africans	328	34.5	95	13.2

TABLE 14

**African Tuberculosis Attack and Death Rate per
10,000 Population**

Year	Attack Rate	Death Rate
1945	13.0	7.5
1946	14.2	7.9
1947	29.0	11.0
1948	41.0	14.0
1949	40.0	15.0
1950	53.0	27.0
1951	47.0	27.8
1952	34.5	13.2

Section 5

MALARIA AND AEDES CONTROL

The staff shortage continued but fortunately rainfall was small and there was never any risk of a malaria epidemic. During the last three months of the year, however, the section had only one Asian Inspector to supervise the 50 square miles of controlled area. The two African assistants then proved their real worth and work carried on smoothly.

Malaria Control

Vector Anophelene catches were negligible, the peak being in June with a total catch of 8 gambiae in stations outside the City boundaries to the east — a very favourable comparison with the 670 caught in June, 1951. The rainfall figures are of some interest in this connexion and were:—

	March	April
1951	5.4"	18.36"
1952	0.28"	11.84"

The total rainfall was 60.08" in 1951 and 27.98" in 1952. Oil consumption was, of course, decreased from 17,460 gallons in 1951 to 7,155 this year.

During the year the system of control was reorganised with the two-fold objective of economising in transport and of facilitating supervision for the reduced staff. The control area (i.e. the City and environs) is now regarded as one unit divided into sections and gangs work in adjoining sections making one daily block. Searching for larvae is now done on the same day, the searchers following closely on the oilers and helping if necessary in supervision and recalling them to any missed spots.

Previously the control area was marked out into three divisions and two gangs worked in each division. This meant that each day the six gangs were scattered throughout the whole control area. It can easily be seen that more transportation is saved each day. Unfortunately this does not show in the financial accounts as the hire charge for vehicles is by the day, irrespective of the amount of running done by the vehicles.

Dry Season Programme

The policy was to reduce the routine oiling and searching work as much as possible and to direct the men to work of a more constructive character and which, it was hoped, might make the wet season work easier in some bad areas. To this end over 4,000 yards of drains and small streams were cleared of debris and recut. The whole of the Mathari and Getathuru river within the City boundary were cleared and in some cases a new and more direct river bed was made, thereby draining areas of swamp. Work is continuing on other rivers. It is interesting that the men appeared to appreciate this change in routine.

Malaria

The number of cases contracted in Nairobi showed a happy decrease of 50% compared with 1951; there were 375 notifications in 1952 and 751 in 1951. Of these 375 cases, 220 were sub-tertian, 9 quartan, 6 benign tertian and 1 was a double sub-tertian and quartan infection; the remaining 139 were diagnosed on clinical symptoms only.

While the 50% decrease is gratifying it must be remembered that climatic conditions were favourable and it is well to keep in mind the 1951 figures which indicate that a potential danger exists and gives no room either for complacency or for a relaxation of anti-malarial measures. The constantly moving African population provides a perpetual reservoir of malarial parasites.

The distribution of cases of malaria contracted in Nairobi was—African locations 180, Eastleigh Asian/African area 60, Central Asian/African area 47, Parklands Asian/African area 19, Hill European/Asian area, 16 Southern and Western European area, 7, Muthaiga European area 2.

TABLE 15

A. Gambiae Caught in Fifty-two Collecting Stations.

Stations	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Eastern	—	—	2	—	6	8	6	—	—	—	—	—	22
Southern & Western	—	—	—	—	—	—	—	—	1	—	—	—	1
Northern	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTALS	—	—	2	—	6	8	6	—	1	—	—	—	23

Malaria Cases and Adult Gambiae Catches by Months

(Residents contracting in Nairobi.)

	Jan.	Feb.	Mar.	Apr.	May	Jun.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Europeans	4	2	1	1	1	—	—	—	—	—	—	—	9
Asians	23	17	12	12	8	9	7	11	2	—	1	1	103
Africans	44	32	35	35	28	17	17	17	14	12	7	5	263
TOTALS	71	51	48	48	37	26	24	28	16	12	8	6	375
Gambiae Catches	—	—	2	—	6	8	6	—	1	—	—	—	23

Malaria 1952

Race	Cases	Attack rate per 10,000	Deaths	Death Rate per 10,000
Europeans	9	6	—	—
Asians	103	18.3	2	0.3
Africans	263	27.6	14	1.4
Total	375	22.5	16	0.9

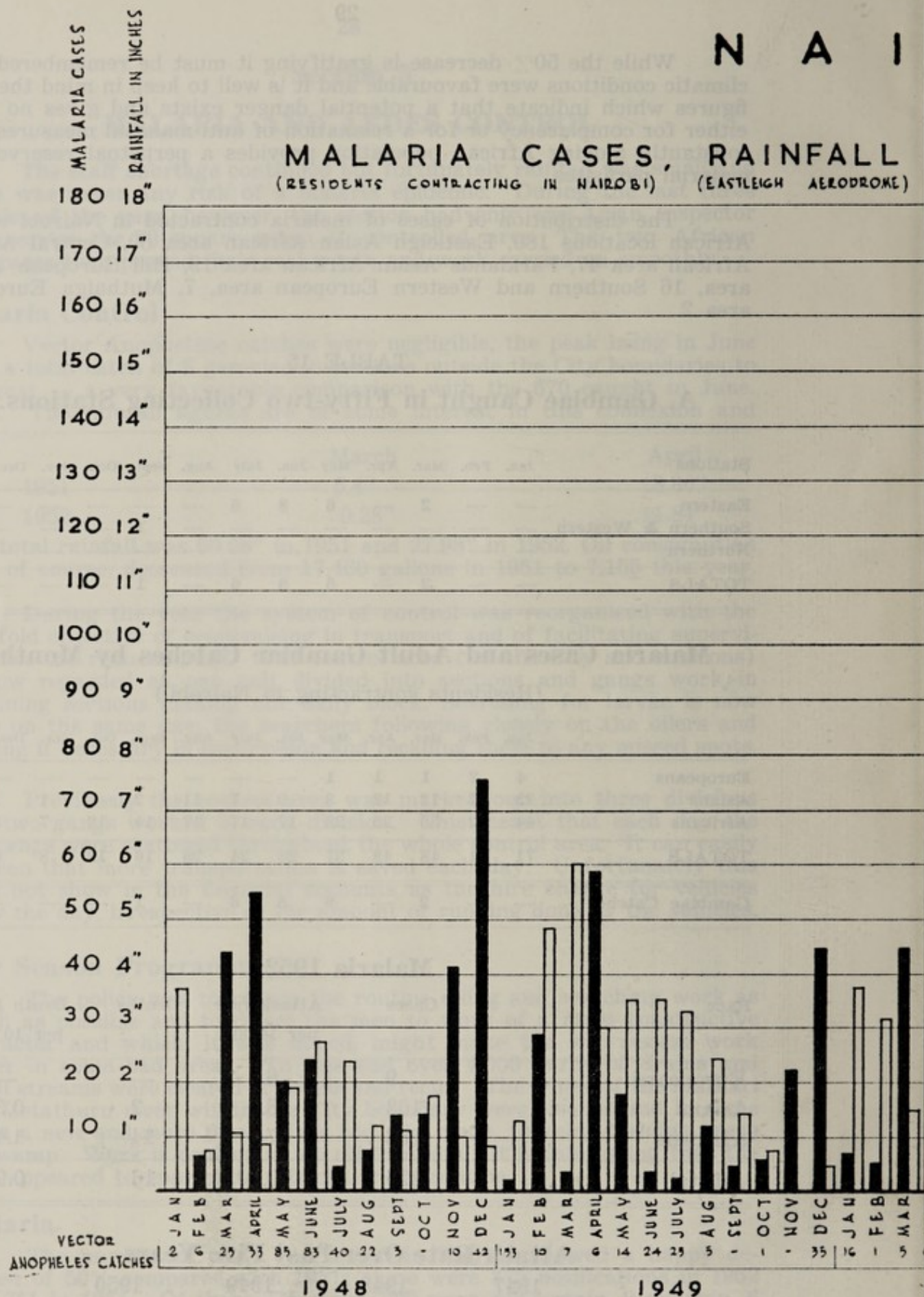
Attack Rate Over Past Five Years

	1947	1948	1949	1950	1951
Attack Rate	31	17	24	45	50.4

N A I

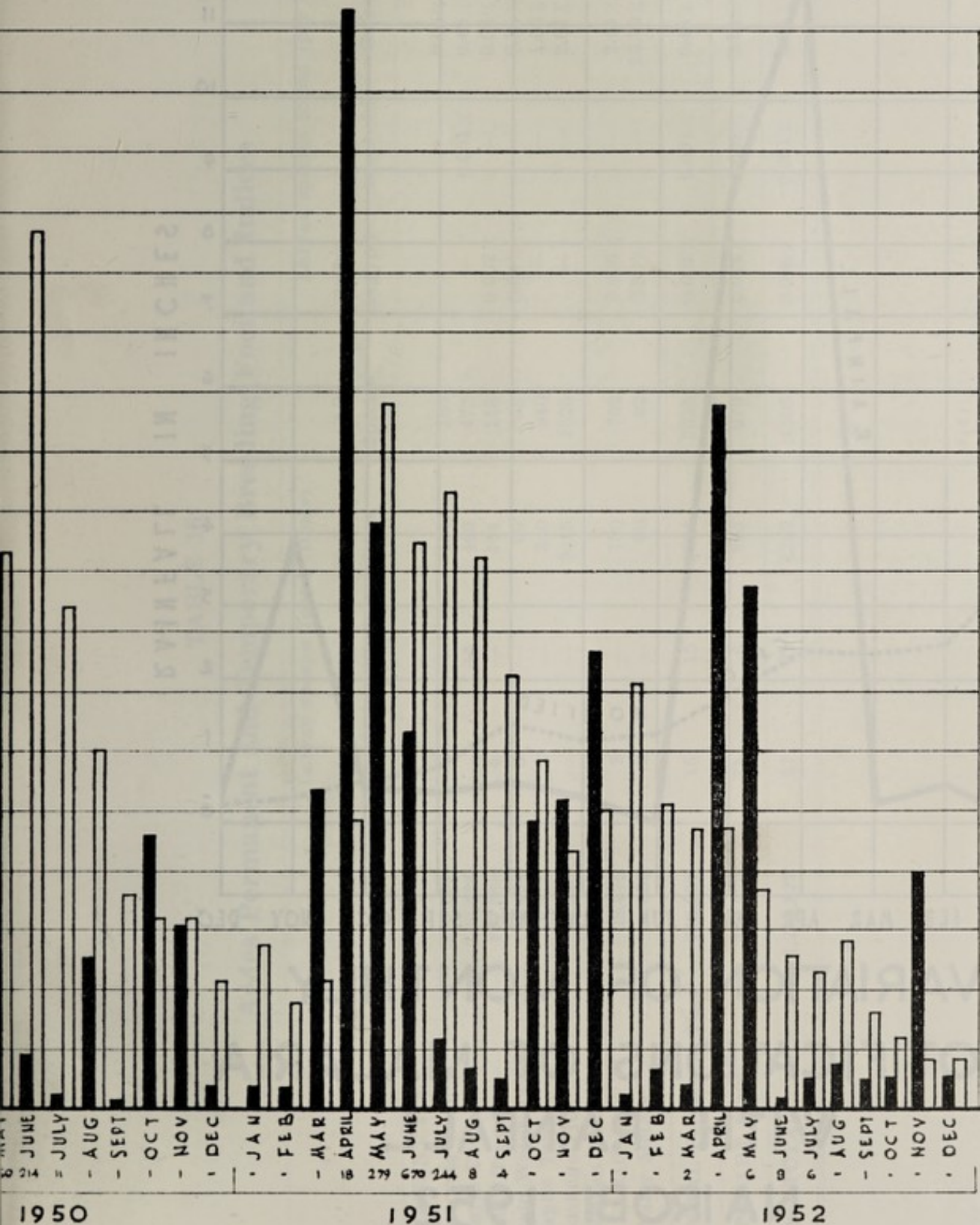
MALARIA CASES, RAINFALL

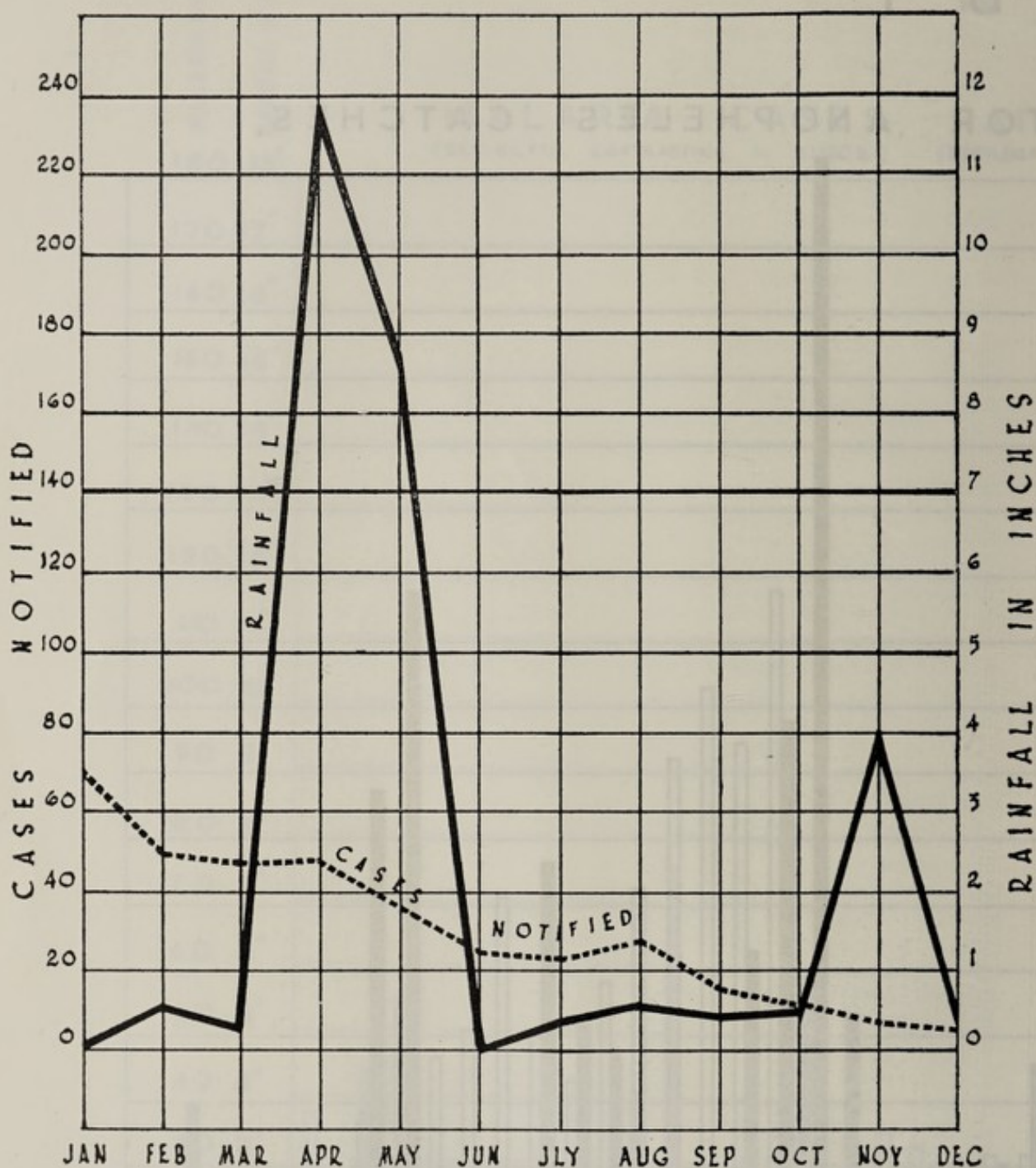
(RESIDENTS CONTRACTING IN NAIROBI) (EASTLEIGH AERODROME)



R O B I

VECTOR ANOPHELES CATCHES.





VARIATION OF MONTHLY
NOTIFICATIONS OF MALARIA
WITH RAINFALL
NAIROBI 1952

TABLE 16

Aedes Permanent and Temporary Breeding Foci and Indices

	No. examined	Larvae species found (times)			Larvae species found (per cent).			
		Aedes		Culex	Aedes		Culex	All Species
		Aegypti	Anopheles		Aegypti	Anopheles		
PERMANENT FOCI:—								
Concrete Drains	312,114	—	—	185	185	—	0.05 %	0.05 %
Earth Drains	100,428	—	15	460	475	0.001 %	0.45 %	0.46 %
Gully Traps	177,568	4	—	144	148	0.002 %	0.08 %	0.08 %
Rain Water Tanks	19,459	8	—	60	68	0.04 %	0.35 %	0.39 %
Septic Tanks	78,511	—	—	840	840	—	1.06 %	1.06 %
Soakage Pits	38,398	—	—	1025	1025	—	2.64 %	2.64 %
Sunken Drums and Bath Pits	28,676	2	—	700	702	0.006 %	2.44 %	2.44 %
Water Meters	653	2	—	90	92	0.30 %	13.79 %	14.08 %
TOTAL Permanent Foci	755,807	16	15	3504	3535	0.002 %	0.46 %	0.46 %
TEMPORARY FOCI								
...	490,020	71	6	893	970	0.014 %	0.18 %	0.19 %
GRAND TOTAL	1,245,827	87	21	4397	4505	0.006 %	0.35 %	0.36 %

Yellow Fever — Aedes (domestic) Mosquito Control

This section was also reorganised in a similar manner to malaria control and should work well when teething troubles have been overcome. The main difficulty in this sphere is supervision as it is so easy for a searcher to be missed amongst the maze of houses in areas such as Pangani and Eastleigh and flags placed outside premises in which the searcher is working are frequently stolen or conveniently lost.

Collections of *Aedes aegypti* larvae show an increase of 29 over 1951, the greater part of this being due to temporary collections of water in tins, bottles, jars etc. The greatest offenders in this respect are Asians and Europeans. Premises inspected during each cycle numbered 19,876, an increase of 709 over the 1951 figure and the total inspections numbered 233,187.

Aedes Aegypti indices for 1952 were as follows:—

To Foci 0.006% or 6 collections of larvae per 100,000 potential breeding places examined.

To Premises 0.03% or 3 per 10,000 premises inspected.

Anopheles collections in private premises numbered 27 compared with the 1951 total of 76, a decrease to be expected in view of the much drier conditions during the year.

Notices and Prosecutions

The practice of serving a warning notice on first finding mosquito breeding in private premises was continued. In many cases this warning notice has the desired effect but many people very quickly revert to their usual laxness in which case prosecution follows. 35 cases were taken to court and fines imposed totalled Shs. 1,079/- with costs of Shs. 352/-. 2,807 warning notices were served during the year.

Section 6

RODENT AND VERMIN CONTROL

Rodent Control

The duties of Rodent Officer were taken over in April by Mr. L. H. Clough, this post having been vacant since the resignation of Mr. E. P. Swan in November 1951. During the interim period the African Assistant Overseer, Mr. James Karebe kept the routine work going smoothly but unfortunately progress on the rat proofing of premises of necessity ceased. This is more unfortunate than might at first appear because during times when there is no rodent officer a noticeable decline takes place in general anti-rat preventive measures in shops and warehouses, with the result that on the advent of a new officer work must begin almost at the start again. Shop keepers, particularly in the bazaar and Asian and African areas, who store quantities of bagged goods such as maize meal and pulses must be continually harried to keep these goods properly stacked and their premises clean as, left to their own devices, they very often allow their premises to become a veritable paradise for rats. Rat droppings after all can be picked out of the meal or sugar and the public is none the wiser. This practice has been nipped in the bud many times by the vigilance of the rodent officer and food inspectors.

Twenty six of the twenty eight notices, served under the provisions of the Rat and Mouse (Destruction) Rules 1928, to rat proof food premises were complied with within the specified time. In one case legal proceedings were necessary and a fine of Shs. 55/- with Shs. 10/- cost was imposed. The other notices carried forward into 1953. In addition two notices were served—both on junk dealers in Racecourse Road — under the Public Health Ordinance to prevent rat harbourage by the correct stacking of scrap metal. Neither defaulter complied with the notice; one was fined Shs. 200/-, 350/- and 390/-, the other Shs. 100/- and 50/- with costs in all cases. Most of this junk had been removed by the end of the year but the state of affairs is still unsatisfactory — and very unsightly — and all possible measures are being taken to deal with these measures to health.

Plague

No cases occurred in Nairobi but there were one or two outbreaks in villages sufficiently near to warrant the department being prepared to put plague squads into action at a moments notice. It would appear that the modern methods of dealing with outbreaks by using insecticides are highly effective and have made plague less of a menace than it was formerly. Dealing with an outbreak in a small village is vastly different from dealing with an outbreak in a city such as Nairobi, and although we may nowadays have at our disposal more effective methods the fact remains that the damage done by plague in Nairobi could still be immense and that this disease is still a potential menace. The minimising of this by rat control is not the responsibility of the City Council only. Every citizen should regard it as one of his tasks. The plague menace apart, it is well to remember that rats are responsible for the destruction of vast quantities of food. In the United Kingdom it is estimated that £15,000,000 is lost in this way every year. No figure is available for Kenya but the figure, if available would undoubtedly be very high.

TABLE 17

Total Kill

Rattus Rattus	...	...	...	...	...	...	...	3,161
Mastomys Coucha Panya	...	...	...	...	...	...	...	3,301
Arvicanthis Abyssinicus	...	...	...	...	...	...	...	7,506
Otomys Angoniesis	...	...	...	...	...	...	...	160
Mice	...	...	...	...	...	...	...	5,557
Others	...	...	...	...	...	...	...	266
All Species (by Railway Administration)	...	...	...	...	...	...	...	4,264
Total	...	...	...	...	...	...	...	24,215
Estimated Kill, Gas or Poison	...	...	...	...	...	...	...	13,000
Total	...	...	...	...	...	...	...	37,215

Rat Examination

When possible all rats caught are subjected to examination for *P. pestis* and, at the least, a proportion of the daily catch from each locality is examined. This year 8,523 rats were examined with negative results.

Poisoning

Poisoning using the pre-baiting method was continued as a routine measure throughout the African locations and in a number of other premises on request. However, with the advent of the Emergency in October it was considered advisable to cease laying poison such as arsenic and zinc phosphide in the African locations lest it be used for unlawful purposes. Up to this time 22,120 poisoned baits had been laid of which 1,306 were consumed. Only 43 bodies of rats were recovered but many more must have died in inaccessible places. In addition 5,450 poisoned baits were laid by Railway Staff. Of these, 1,532 were taken and, it may safely be presumed, resulted in that number of rat deaths.

Commercial Area

Traps were set in 1,624 premises, 316 of these being infested. This gives an infestation index of 19.3%. *Rattus rattus* were, as usual, the most numerous, 436 being caught; 393 mice were caught and 5 rats of other species making a total catch of 834. Corresponding figures for 1951 were as follows:—premises 1,417; Infestation index 22%; total catch 1,078. The 1952 figures show some improvement.

TABLE 18

Trapping in Native Locations.

	Rooms Trapped	Houses Trapped	Rooms or Houses Infested	Index	Rattus Rattus	Mice	Others	Totals	Trapping Days
Kariakor and Ziwani	2.435	—	241	9.8%	190	162	1	283	171
Pumwani and Gorofani	—	388	128	32.9%	103	191	—	294	91
Shauri Moyo	—	563	223	41.5%	219	587	12	181	108
Kaloleni	1.203	—	197	16.3%	53	345	8	406	132
Bahati	764	—	74	9.6%	45	105	5	155	40
Starehe	555	—	44	7.9%	24	104	—	128	52
Totals					564	1494	26	2084	

*** Grassing**

Three houses infested with rats and/or bats were treated with Cyanogas. 63 heavily infested warrens were also treated and the kill must have been very high, an estimate of 50 rats per warren being reasonable. The Railway Administration also gassed 4,615 burrows.

Hand Catching in Buildings

This method instituted in 1950 appears to have been highly successful in reducing the numbers of mice, particularly in Shauri Moyo location, where in 1950 and 1951 2,673 and 2,568 mice were caught respectively. The 1952 figures below show a total of only 742 caught by hand in this location.

* read Gassing

TABLE 19

Hand Catching in Buildings

	Commercial Area	Kariakor and Ziwani	Pumwani and Gorofani	Shauri Moyo	Kaloleni	Bahati	Totals	
							1952	1951
Rattus Rattus	99	100	71	460	—	—	730	539
Mice	190	683	60	742	50	—	1745	4134
Others	40	—	—	16	1	—	57	4
Totals	329	783	131	1238	51	—	2532	4677

Hand Catching in Open Areas

The smaller numbers of field rats during 1952 were more easily dealt with than in 1951 when the heavy rains caused prolific growth of vegetation providing ample food and cover for an ever increasing rodent population. It was no doubt fortunate from the plague aspect that such dry conditions prevailed during this year.

TABLE 20

Hand Catching in Open Areas

	Kariakor	Pumwani	Shauri Moyo	Kaloleni	Bahati	Atatitir	Swamp	Ngara and Pangani	Other Areas	Totals
Rattus Rattus	83	90	238	8	59	6	161	61	70	776
Mastomys Coucha Panya	344	264	1133	39	150	1	666	425	172	3194
Arvicanthis Abyssinicus	394	401	1799	812	196	26	707	2472	674	7481
Otomys Angoniesis	—	2	9	2	3	—	66	21	49	152
Mice	519	80	283	41	14	—	387	356	57	1737
Others	25	22	36	11	1	—	15	29	20	159
Totals	1365	859	3498	913	423	33	2002	3364	1042	13499

Private Work for Public on Request

Ninety five private premises were dealt with for rats infestations on repayment. Several of these were infestations of garden by field rats in which cases burrows were gassed or dug out. The total catch in these 95 premises was 1,002 of which 655 were *Rattus Rattus*, 188 mice and 159 other species.

Vermin Control

Requests by the public for the destruction of Vermin numbered 209. These were dealt with by spraying with D.D.T. or B.H.C. preparations as the case demanded.

Infestations were as follows:—bugs 93, cockroaches 28, fleas 30, ticks 2, mites 7, flies 4. There were 11 preventive treatments.

In addition to the above 2,866 rooms in African locations were disinfested against bugs, lice etc. The charges for these were met by the City African Affairs Department.

The total receipts for disinfestations was Shs. 10,769/62.

Insecticide prepared by this department and sold to the public at Sh. 1/- per pint was in great demand, over 8,000 pints being sold during the year compared with 5,000 in 1951 and 2,500 in 1950. Very little publicity has been given to this service and it would appear that none is required. Bulk supplies of this insecticide sold to Government and City Council Departments etc. realized Shs. 19,856/23 representing approximately 3,300 gallons.

Section 7

SANITARY ADMINISTRATION

With a chronic housing shortage such as has persisted in Nairobi for more years than one cares to acknowledge, it has become commonplace to call attention to it in reports, so commonplace in fact, that familiarity has possibly rendered it mentally non-existent to certain employers. Yet, before the turn of the year signs were not wanting that the lack of sufficient and suitable African housing was to become a major issue. Thousands of Africans took the matter into their own hands and built unauthorised and ill designed huts for themselves and others. These hovels are without floors, the occupants are without sanitary accommodation and an approved water supply and, for the most part they are on or near the banks of filthy rivers. The occupants claim to be employed by firms within the City, but the facts are of course, that many in the lodger category are unemployed or are engaged in callings of doubtful community value if not of a suspicious character.

These collections of huts or villages grow at such a pace that the ordinary legislation of civilised peoples has been proved quite insufficient to cope with the problem. So slow are the ordinary processes of the law that before positive action can be taken against one offender there are half-a-dozen others and, like a snowball it grows until the particular patch of land is covered. Under such conditions the rivers which border most of the settlements become indescribably fouled and such filth flows on and on contaminating the water course for many miles.

Until such time as more rapid and direct action can be taken, this state of affairs will continue. It is a delusion to believe that the building of well designed houses on properly laid out and drained estates will alone solve the problem — towns and cities everywhere are magnets for the hopeful. It would seem that the difficulties in places like Nairobi are increased because immigrants from the reserves can live so cheaply and can remain unemployed and unconcerned for much longer periods than could people used to a more highly developed way of existence. The political aspects of these questions can find no place in a Medical and Sanitary report except insofar as they impinge on the health and well-being of the inhabitants and on the protection of the community generally. And such protection, always of paramount importance, is rapidly becoming a source of some anxiety for if plague or smallpox should be introduced the conditions are such that the spread would be rapid and disastrous. Nor would the effect be confined to the City, for it is usual during an epidemic for as many people as are able, to return to the reserve — there to spread the infection.

There is only one way to deal with these illegal settlements and that is to burn them and no obstruction, political or sentimental, should be allowed. It is only reasonable to expect that the vermin of the hovels should be destroyed at the same time and not be allowed to escape to infest other premises as would be the case were these insanitary structures to be merely levelled. Thousands of honest law-abiding people in the nearby Council-controlled locations are entitled, and are in a position to demand, that their health and well being and that of their children shall not be endangered by the influx of groups of thoughtless people who bring with them the squalor of the reserves to contaminate morally as well as physically those members of the community who are trying to elevate themselves above the uncouth ways and unhygienic manner of living which is their unfortunate heritage.

These seekers of a more civilized way of life are not, in general, in a position to build their own houses although those who are financially able are to be encouraged so to do. This however, is forcing people to take root as it were, they will not have the same freedom of movement as those who prefer to rent a house or room from some-one else, for it must be remembered that large numbers still retain ties with the reserves and wish to return to the pastoral life into which they were born.

The magnitude of the task of housing non-domestic African employees may be gauged from the expenditure in the past and the proposals for the near future.

The outlay to the end of 1952 on African locations and housing amounted to not less than £860,000 and during 1953 alone it is estimated that an additional £350,000 will be expended by the City Council. Many thousands of these pounds might have been saved by the Council if the employers of labour had been compelled to provide houses for their employees. There would appear to be no cogent reason why employers should not provide — not merely rent from the Council — at least 75% of their expected muster.

Employers of domestic servants are required to provide accommodation with the usual conveniences and it is difficult to understand why the employees of established profit making concerns are not similarly accommodated by law. To hand a man shillings six-fifty with his pay packet in lieu of providing a place in which he can live borders on an indifference which is almost callous. Particularly is this so when the employee has a wife and children to support. Healthy conditions are almost impracticable because of the necessity of living in the lowest of slums.

Where the immediate consideration is to build the greatest number of houses at the least possible cost, the advice of the sanitarian if followed, would add so much to the expenditure that more often than not either his advice is not sought or, if sought, is only partially carried out. The immediate cost is reduced, but what of the ultimate price — the price to be paid in health, in time in the retarding of an educational process?

These cannot be reckoned in terms of shillings and cents. The inculcation in the rising generation of hygienic measures and ways of living should be numbered among the first rungs of the ladder which will take a people from lowly ways of existence to a fuller life.

The history of housing demonstrates that it is of paramount importance in this educational process and if full value is to be obtained for the money spent, the building of houses and housing estates must be thought of in this way. To think of it only in terms of walls and rooms and the number of occupants is merely laying the foundations of future trouble in the foundations of the present homes. Success can be achieved only if the sociological and public health sides are given full and just attention. The history of peoples less primitive than the Africans has proved this. So much greater, then, is the need for the comprehensive view here. It will cost money. It is education and progress. It should not be rejected on the score of cost.

Apart from the thoughtless acts and misuse by the unfortunate and illiterate section of the population, Council suffers from deliberate sabotage of sanitary fittings, the theft of taps and other brassware by those who choose the "easy life" of crime. The absence of ball-valve and other essential fittings results in choked closets, the accumulation of filth and the indescribable conditions which follow. There arises also

the problem of numbers — a problem in that virtually the most liberal allowances made in the number of conveniences to be provided, result in an underestimation of the population which misuses these conveniences. Even the semi-private closets of tenements are used by passers-by who do not bother to operate the flushing apparatus afterwards.

There is only one answer to these particular problems and that is through closets for all public or semi-public conveniences, and resident attendants at all times to maintain them. There should be a dual system of flushing — one utilizing the waste water from washing stands and bathing places and the other, (to be used during the absence of such wastes) taking water from the main. It is known that even with such a system ingenuity must be practised for no ordinary door will withstand the robbers of brass. Scores of water supply fittings have been stolen during the year and considerable damage has been done in order to steal them. Methods to prevent these thefts have been tried and have failed and will continue to fail while text book methods are practised and the thieves can rely on the connivance of others, a connivance compelled by fear. The adoption and maintenance of a satisfactory sanitary code is difficult enough without having to cope with consistent thieving of essential parts. The efforts of the Council to provide the means to a more healthy way of living are, meanwhile, largely nullified by the activities of these anti-social elements.

Since 1929 when the drainage by-laws were first introduced a fairly high standard of plumbing and other sanitary works has been maintained, a standard which is being attacked from many sides mainly on the grounds of economy. This is to be deplored, for cheese-paring in those matters which history has shown to be necessary for the safety of the public and the maintenance of sound healthy conditions is not economy; for were it to be paid for in discomfort alone it could indeed be shown to be false. The bill is paid not only in discomfort but also in those periods of illness — sometimes serious, sometimes merely irritating — which if we must be materialists, mean financial loss to the employer, to the employee and in the economy of the country.

Plumbers and drainlayers are not permitted to practice sanitation without first becoming licenced for the purpose. This course was adopted over twenty years ago to keep such important activities in the hands of trained artisans, and licences are only granted on proof of ability to carry out works to a satisfactory standard.

At the end of 1952 there were 53 plumbers and 51 drainlayers on the register. Of these, 13 of each group were licenced during the year. The danger of licensing large numbers of persons lies in the cut-throat competition which is bound to follow, and when it is considered that quite a large proportion of these newcomers have not served an apprenticeship, the quality of workmanship may be expected to suffer. Sanitary and building inspectors are not in a position to act as clerks of works, and occasional visits to plumbing in progress cannot possibly ensure first class workmanship throughout. It is true that action may be taken against offenders who deliberately refuse to comply with the by-laws but it could also be taken against unlicenced persons. The whole object of licencing is to ensure that persons engaged in the trade should have consciences attuned to matters sanitary and should be craftsmen who take a pride in their work. But as the profit motive often comes first, there is a good case for more supervision and a more wary approach to work in progress.

Failure to enforce the by-laws to the full will inevitably lead to conditions almost as serious in themselves as the seemingly irrevocable state into which the local authority has found itself in regard to uncontrolled African housing and other buildings.

A parallel disfigurement to that of the groups of hovels is the illegally erected tea stands, second-hand goods stalls and, indeed whole markets, a circumstance which must be surprising to those who are unacquainted with the tolerance which is shown towards the indeginous inhabitants. This indulgence is abused regularly and stern measures must be adopted if, like the unauthorised villages, these trading centres and groups of semi-itinerent vendors are not to become beyond control.

Towards the end of the year one such market, covering an area in the region of four acres and which was the most perfect example of everything insanitary—was destroyed by fire. How the blaze was started remains a mystery — but considered from the public health angle, more was accomplished in two hours than even the most energetic and optimistic officer could do in as many months along the usual legal channels. Fortunately for many of the dealers the new market built by the City Council was made available before the official opening date — drainage and other matters remaining for completion during occupation. This burnt-out centre of dirt and iniquity is now for the most part only a memory but the area is considerably cleaner as a result. Without question, it would be to the benefit of the general public if other similar accumulations could also be removed even if the slower legal processes must be used. It is not as though these particular traders were wealthy—there are so many of them that nett profits must produce barely enough to support the lowliest of the race, certainly not enough to keep families in a state where reasonably well fed bodies can be provided with proper dwellings.

This does not apply only to the African people; Asians and Europeans are also in need of more accommodation. Particularly is this the case with the Asian population where overcrowding on space is so serious. During the year a survey has shown that individual rooms are seldom overcrowded but the number of families occupying single dwelling houses is quite often unbelievable until a check shows the deplorable conditions to be only too true. Rooms which are shown on the approved plans as dining-room, lounge, sitting rooms, nursery and by other designations are all occupied as bed-living rooms and no increase in the ordinary conveniences has been made with a result only too obvious.

Faced with almost insuperable difficulties as regards the provision of houses for all it has become necessary to accept this undesirable overcrowding on space and to ease the inconveniences suffered by the tenants by requiring the owners to provide additional facilities to satisfy the needs — not merely of the family unit for which the house was designed — but for the actual number accommodated.

This is no hardship on the owner for the financial return in the case of multiple lettings is, as may be expected, quite high. The nuisance incidence, actual as well as potential is also high and necessitates a departure from set ideas to reduce insanitary conditions to a minimum. Housing under such circumstances breeds its own peculiar nuisances.

TABLE 21

SANITATION**Summary of Works Performed****Nuisances:**

Inspections made to:—

Dwelling Houses	...	...	...	...	...	...	4,064
Laundries	...	...	...	...	...	...	305
Offensive Trades	...	...	...	...	...	...	71
Stables and Cattle Sheds	...	...	...	...	...	...	37
Trade Premises and Offices	...	...	...	...	...	...	1,435
Public Buildings	...	...	...	...	...	...	273
Open Spaces, Streets etc.	...	...	...	...	...	...	1,619
Barbers	...	...	...	...	...	...	433
Complaints Investigated	...	...	...	...	...	...	560
Camps Inspected	...	...	...	...	...	...	5
Second Hand Clothing Dealers	...	...	...	...	...	...	51
Miscellaneous	...	...	...	...	...	...	693
							<hr/> 9,546

Defects Remedied in :

Dwellings, Offices etc.	...	...	...	...	...	...	1,145
Public Buildings	...	...	...	...	...	...	11
Laundries	...	...	...	...	...	...	221
Open Spaces — Vacant Plots	...	...	...	...	...	...	232
Eating Houses	...	...	...	...	...	...	211
Restaurant and Tea Rooms	...	...	...	...	...	...	30
Groceries and Provision Dealers	...	...	...	...	...	...	131
Hotels and Bars	...	...	...	...	...	...	27
Barbers	...	...	...	...	...	...	39
Miscellaneous	...	...	...	...	...	...	303
							<hr/> 2,350

Licences :

Trade premises inspected	...	...	...	...	...	...	1,238
Taxi cab Inspections	...	...	...	...	...	...	396
Food Carts: Milk, Meat, Bread etc.	...	...	...	...	...	...	336

Erection and Alterations of Buildings

(Public Health Department Supervision only).

Plans scrutinized	...	...	...	...	...	...	523
Inspections made	...	...	...	...	...	...	269
No. of premises connected to sewers	...	...	...	...	...	...	57
No. of new water closets discharging into sewers	...	...	...	...	...	...	182
No. of new septic tanks installed	...	...	...	...	...	...	7
No. of new water closets discharged into septic tanks	...	...	...	...	...	...	7

Unauthorised Buildings :

Inspections made	...	...	...	...	...	...	402
Notices served	...	...	...	...	...	...	40
References to other Departments	...	...	...	...	...	...	122
Structures demolished (P.H.D.)	...	...	...	...	...	...	36

Notices Served

Intimation (Verbal)	2,197
Intimation (Written)	351
Public Health Ordinance	538
By-laws	785
Others	5

Prosecutions :

	Cases.	Convicted.	Acquitted.	Withdrawals.
Public Health Ordinance	72	62	2	8
By-laws	116	91	9	16
Milk and Dairies Regulations	12	10		2

Total Fines Shs. 13,398/-.

Costs Shs. 1,146/-.

Fifteen prison sentences were awarded ranging from two week's simple imprisonment to six month's hard labour.

Sixteen Demolition Orders were obtained.

Inspections of premises subject to special control

	No.	Inspections
Aerated water factories	20	158
Bakeries	24	238
Butchers and Fishmongers	92	1,629
Dairies and Milkshops (Nairobi)	12	425
Dairies (extra-mural)	104	
Eating Houses	121	1,671
Food Factories	25	340
Groceries and Provisions	722	2,493
Restaurants	32	362
Hotels and Bars	—	413
Markets (Stalls)	101	1,114
Vegetable dealers	134	736
		<hr/> 9,579 <hr/>

Liquor Licences

There was a reduction in the number of applications for liquor licences during the year — a drop of 6.6% from those of 1951. Many of these applications were rejected by the Court, not on hygienic grounds but because proof of necessity was lacking.

Not only was there a serious reduction in the quantity of European beer sold but the Council-brewed beverage also suffered from an "ordered" boycott, the loss of profits affecting solely the Africans themselves who benefit in many ways through the Trust Fund into which profits are paid. The health aspect is one for some concern, for the boycott, far from causing the African community to go "dry" encourages the brewing of illicit liquor, the effects of which can be dangerous. This liquor is made and stored in anything from old petrol and oil tins to gourds, all of which are practically impossible to cleanse. The police do a fine job in fighting this disgusting trade but cunning and guile have been developed to such a pitch that only partial and temporary success can be claimed. The profits are too high for such a trade to be extinguished and, as with rats, its control is limited and cannot be complete.

Liquor Licence Applications

Non-Spirituous	...	...	...	...	...	...	150
Wine Merchants and Grocers	...	...	...	...	...	...	95
General Retails	...	...	...	...	...	...	18
Wholesale	...	...	...	...	...	...	7
Restaurant	...	...	...	...	...	...	6
Others	...	...	...	...	...	...	6
							<hr/> 282

City Mortuary

The number of bodies received into the mortuary during 1952 was 270, divided into races as follows:—

Africans	...	...	222
Asians	...	...	22
Europeans	...	...	23
Others	...	...	3

Of these, 230 were recorded as being residents of Nairobi and the remaining 40 as having been brought from areas beyond the City limits. There is little doubt however, that the figure of 230 is subject to outward transfers.

The City Council, as undertakers, disposed of the bodies of 1,097 Africans, all burial, these being 75.5% of the total African deaths. The remaining 356 were taken by relatives and with one or two exceptions were all buried in cemeteries maintained by the Council. The exceptions were taken to burial places nearer their homes in the reserves. One only, a Hindu, was cremated.

The institutions from which the bodies were removed are as follows:

King George VIth Hospital	...	...	...	...	...	560
Pumwani Maternity Hospital		..	...	...	...	193
Mathari Mental Hospital	...	...	...	...	...	28
Infectious Diseases Hospital	...	...	...	...	...	172
City Mortuary	...	...	...	...	...	120
Prisons	...	...	...	...	...	24
						<hr/> 1,097

The total expenditure amounted to £2,158 for the combined services of mortuary and African burials and the receipts were £962. A schedule of charges for the use of the mortuary in certain circumstances is under consideration as are other matters designed for the better management of the service.

City Pound.

This little known branch continues to cater for the careless and forgetful, the castaways and the too trustful. The service cost them Shs. 4,496 and cents 25.

Wandering poultry	headed the list	897
Lost or castaway dogs	...	549
Cattle (illegal grazing)	...	145
Goats and sheep	...	78
Horses	...	5
Turkeys	...	2
Monkeys and Donkeys	each one	2
There were also numbers of boxes, tables, handcarts, engines and tar boilers, one of.		

Section 8

FOOD INSPECTION

Milk

The systematic sampling and testing of all milk supplies is proving of great value in maintaining a high standard of bacterial purity. Of the 104 producers whose supplies were tested regularly 89 were in Category A and the remainder in Category B. The supplies from a further 21 producers were not tested with sufficient regularity to give a true indication of their quality. Without a legal standard there is no doubt that many supplies would have been in Category C but the knowledge that persistent "Reject" results will lead to a stoppage of the supply has been sufficient to bring about swift improvement.

The last three months of the year was a particularly trying time for all milk dealers. The farmer's attention was necessarily divided between supervising his business and guarding his family and property against attack. Many farmers lost their trained milkers and dairy boys with the removal of Kikuyu labour back to their reserves. The failure of the short rains made it necessary to give supplementary feed to the milking herds, thus aggravating the labour shortage and added to all this, extensive power cuts put many milk coolers and cold stores out of action for long periods resulting in considerable deterioration in the keeping quality of the milk supplies. All these factors are reflected in the rather high percentage of Resazurin test failures during October, November and December shown in Table 22. It is perhaps somewhat surprising that the results were not worse.

Towards the end of the year the much needed amendments to the Milk and Dairies Bylaws were approved, making it an offence to deliver milk otherwise than in a container which has been filled and sealed at a registered Dairy. The effect of this is to stop the sale of milk in the streets by dipping out of open cans, a practice which has made adulteration and contamination all too easy. Milk retailers had been warned well in advance of the intentions of this department in this respect and knew it would mean making new arrangements for bottling much larger quantities of milk than hitherto. In view however of unexpected difficulties concerning delivery of equipment the date of implementation of the new legislation was postponed until 1953, and the effect will be reviewed in the next Annual Report.

The Woodley Cup awarded for the best dairy during the year was won by the Colonial Dairy, but there are already indications that competition next year will be much keener than in the past.

One disconcerting note which emerges from the routine tests carried out during the year is the high percentage of samples found to contain less than the legal minimum percentage of non fatty solids. The cause of this is not yet known with certainty. It may be attributable to lack of protein in the pastures or feed, but the possibility of small scale adulteration cannot be ruled out and it is hoped that it may be possible during the coming year by carrying out freezing point tests to discover to what extent, if any, this deficiency is due to added water.

Other Foods

The quality of two important articles of food, namely bread and sugar, has caused this Department considerable concern during the year.

In spite of representations made in the highest quarters with regard to the objectionable state of much of the sugar obtained from Mauritius, further consignments were imported during the year. Complaints from the public were commonplace and further protests were made, strengthened from time to time by analytical reports which disclosed a variety of contaminants. There is now some reason to believe that the efforts of this department to have this particular source of supply discontinued have at last met with success.

The bread problem is more complex. Defects which include unpleasant odours and taints, unsatisfactory texture, discolouration, fungoid growths, and the presence of foreign bodies may be attributable to many factors in a long chain of food handlers from the farmer who grows the wheat to the retailer who sells the loaf of bread, and each individual link in the chain claims that the fault lies elsewhere. So far it must be admitted we have failed to ensure that the public can rely on obtaining bread of a consistently satisfactory quality, and this is a state of affairs which must be remedied. To accomplish this aim in the shortest time possible will require the cooperation of all concerned, farmer, miller, and baker alike; and it is hoped that it will not be necessary to resort to legal proceedings to bring about the improvement to which the public is undoubtedly entitled.

It has still not been possible to carry out the systematic sampling of foodstuffs for analysis under the Food and Drugs (Adulteration) Ordinance. This is a serious omission, which must be rectified at the earliest opportunity. The solution, however, lies not only in bringing the staff of this department up to full strength, but also involves the facilities available in the Public Analysts laboratory. It must be stated here that the highest degree of co-operation has always been received from the Government Chemist (who is the only authorised analyst) and our inability to have the required number of samples examined has not been due to any reluctance on his part, but solely to the physical impossibility of doing this work in addition to that required of him by the various Government Departments.

The quality of the Town's water supply has been maintained at a high level as will be seen from the bacteriological results given in Table 22. Samples taken from the boreholes in use in the Municipal area however were found to have a fluorine content sufficiently high to render it unsuitable for drinking purposes and alternative supplies from the Town mains have had to be provided. This increase in the fluorine content of borehole water seems to have been general throughout the district during the year.

TABLE 22

Milk Samples Examined by Food Inspector**1. RESAZURIN TESTS**

Month	Category			Total
	A 4—6	B 1—3½	C 0—½	
January	362	49	64	475
February	314	27	66	407
March	274	64	114	452
April	285	49	71	405
May	378	48	56	482
June	418	13	17	448
July	400	19	8	427
August	368	16	18	402
September	310	24	10	344
October	314	26	60	400
November	335	33	29	397
December	331	43	33	407
TOTAL	4089	411	546	5046

2. PHOSPHATASE TESTS.

Efficiently Pasteurised	Inefficiently Pasteurised	Not Pasteurised	Total
5	7	—	12

3. ESTIMATION OF FAT AND TOTAL SOLIDS

	Satisfactory	Unsatisfactory	Total
Milk	536	228	754
Cream	2	—	2

Samples Submitted by Food Inspector to Government Chemist

Article	Satisfactory	Unsatisfactory	Total
Almond Oil	2	—	2
Brandy	1	—	1
Coffee	1	1	2
Cream	1	—	1
Dripping	1	—	1
Kippers	1	—	1
Maize Meal	1	1	2
Mineral Waters	8	—	8
Oats	1	—	1
Pepper	2	—	2
Sodium Hypochlorite	3	—	3
Squashes & Cordials	5	2	7
Sugar (Mauritian)	2	3	5
Tinned fruit	1	—	1
Water (Boreholes)	—	9	9
Water (Main supply)	1	—	1
Water (Swimming Baths)	6	—	6
Wincarnis	—	1	1
	37	17	54

Samples Submitted by Food Inspector to Government Bacteriologist

Article	Satisfactory	Unsatisfactory	Total
Bread	—	2	2
Beer glass rinses	6	—	6
Confectionery	2	—	2
Flour	—	2	2
Mineral waters & cordials	139	6	145
Posho	2	—	2
Sweets	1	—	1
Tinned Food	5	23	28
Water (Town main)	233	16	249
Water (Other sources)	12	6	18
	400	55	455

Legal Proceedings Instituted by Food Inspector

Nature of Offence	Prosecutions	Convictions	Acquittals	Penalties (Totals)	Costs
Milk and Dairies Regulations.					
(a) Using unregistered premises as a Dairy	4	4	—	800/- One month Imprisonment	24/-
(b) Purveying milk without licence	3	3	—	10/- Six weeks Imprisonment	
(c) Selling or conveying adulterated milk	5	5	—	9 months Imprisonment	
(d) Using unapproved cans	1	1	—	10/-	
Public Health Ordinance					
(a) Obstructing an Officer	2	2	—	200/-	12/-
(b) Failing to protect foodstuffs	1	1	—	200/-	10/-
(c) Exposing Unsound Food for sale	4	2	2	2000/- Six months Imprisonment	22/-
Nairobi Municipality (General) By-laws.					
(a) Exposing uninspected meat for sale	6	4	2	200/- and 7 months Imprisonment	10/-
(b) Failing to protect bread from contamination	1	1	—	20/-	5/-
(c) Using dirty vehicle for conveyance of meat	1	1	—	10/-	5/-

Continuing the policy of ensuring a clean and wholesome food supply, inspections were again increased — by 40% — bringing the total number of visits to premises used for the sale, storage or preparation of food to 9579.

There is no doubt that the work is producing satisfactory results in-so-far as advice and persuasion can make them, but there are limits beyond which the health department cannot go. The continued importation of unpalatable sugar which was the subject of many complaints by the public is a case in point, but as mentioned elsewhere in this report it is probable that the representations made are at last having the desired effect.

The quantity of unsound food condemned was considerably less than half of that for 1951, but flour, fish and canned foods continued to head the list. Loose foods were taken for the most part because of rat contamination, the loss due to these vermin being much greater than these figures show.

The rat proofing of buildings is proceeding, and gradually conditions favourable to rodent propagation are being reduced. Rat catches remained at the 37,000 mark but this gives no indication whatsoever as to the probable rat population.

Canned foods continue to hold a high position in the condemned list and, as in the case of fish, the climatic conditions no doubt play no small part.

TABLE 23
Unsound Food Condemned

Article	lbs.
Biscuits	1264
Cordials	18
Confectionery	1534
Fish (Fresh and smoked)	4064
Flour	2149
Fruit (fresh)	64
Fruit (dried)	1237
Meat (Illicit)	190
Meat (cooked)	95
Patent medicine	900
Provisions	630
Tinned Fish	3744
Tinned Fruit	2651
Other tinned foods	2038
	—
	20578
	—

Section 9

MEAT INSPECTION

The Kenya Meat Commission abattoir which had been taken over from the City Council at the end of 1950 continued to operate as the main centre of slaughter. The inspection of the carcasses was carried out by inspectors of the Council who also maintained a close watch over the butchers and other food shops throughout the City area.

In the tables which follow, reference is made to "Grade" oxen and "Native" oxen. These designations have not the same meaning as was the case some years ago when "Grade" indicated European blood and "Native" the humped animals from Native sources.

Any animal whose condition warrants the term "Grade" is so designated despite its possible native origin.

TABLE 24

Carcasses Inspected: (3 years)

	No. of carcasses 1950	No. of carcasses 1951	No. of carcasses 1952
Grade Oxen ...	12,955	18,794	16,055
Native Oxen ...	6,753	1,656	1,996
Calves ...	729	489	237
Grade Sheep ...	12,514	11,964	16,147
Native Sheep ...	19,560	16,693	28,974
Goats ...	18,192	12,610	19,497
Pigs ...	11,104	11,725	9,813
TOTALS	81,807	73,931	92,719
Poultry ...	181,603	192,774	234,212

Carcasses Condemned: (3 years)

	1950		1951		1952	
	Number	Rate %	Number	Rate %	Number	Rate %
Grade Oxen	416	3.2	883	4.1	827	5.1
Native Oxen	989	14.6	460	27.7	270	13.5
Calves	161	22.1	136	27.8	67	28.2
Grade Sheep	32	0.2	75	0.6	256	1.5
Native Sheep	294	1.5	226	1.9	1899	6.5
Goats	309	1.5	515	4.1	991	5.0
Pigs	36	3.2	86	0.7	64	0.7
TOTALS	2,239		2,381		4,374	
Poultry	651	0.3	656	0.3	607	0.2

Conditions Necessitating Condemnation

Disease	Grade Oxen	Native Oxen	Calves	Grade Sheep	Native Sheep	Goats	Pigs	Poultry
Anaemia	—	2	—	—	—	1	5	94
Bruising	—	—	—	—	—	—	—	—
Cancer	2	—	—	—	—	—	—	—
Cysticercus bovis	660	149	65	—	—	—	—	—
Cysticercus Cellulosae	—	—	—	—	—	—	1	—
Dropsy with								
Emaciation	24	24	—	144	1,685	531	7	2
Emaciation	1	7	—	22	16	8	—	28
Fevered Condition	67	25	—	23	30	131	5	23
Immaturity	—	—	1	—	—	—	—	—
Jaundice	35	12	1	19	56	11	2	30
Lymphadenitis	—	—	—	4	10	53	—	—
Moribund	2	—	—	3	—	—	—	225
Pleuropneumonia	—	3	—	—	2	3	—	—
Septicaemia	14	1	—	41	100	253	14	134
Shot carcass	—	—	—	—	—	—	28	—
Skin disease	—	—	—	—	—	—	—	34
Tuberculosis	5	2	—	—	—	—	2	1
Xanthosis	2	—	—	—	—	—	—	—
Blackquarter	14	—	—	—	—	—	—	—
Heart water	1	—	—	—	—	—	—	—
Decomposed	—	—	—	—	—	—	—	36
TOTALS	827	270	67	256	1,899	991	64	607

Organs Condemned

Hearts	...	...	...	2,159
Heads	...	...	...	199
Tongues	...	...	...	186
Kidneys	...	...	...	6,173
Livers	...	...	...	51,568
Lungs	...	...	...	16,875
Spleens	...	...	...	119
Stomachs	...	...	...	14
Intestines	...	...	...	16
Others	...	...	...	10,968
TOTAL	...	...	...	88,277

Total Weight Condemned (lbs.)

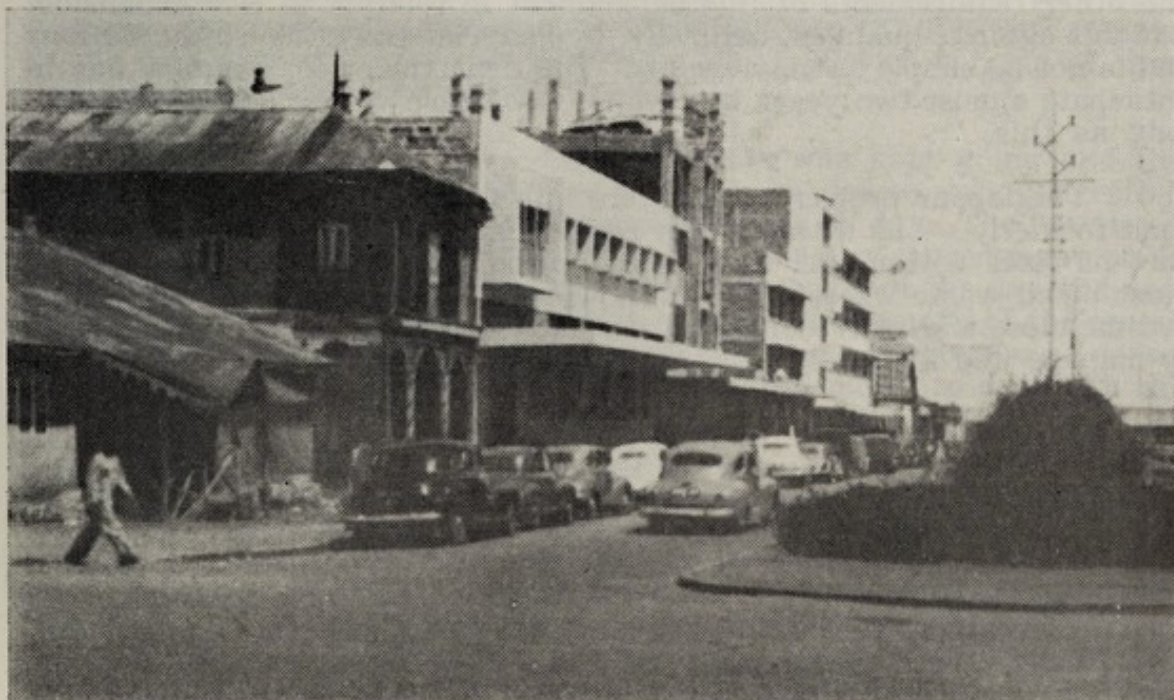
Grade Oxen	...	...	360,444
Native Oxen	...	...	68,702
Calves	...	...	3,787
Grade Sheep	...	...	23,846
Native Sheep	...	...	49,268
Goats	...	...	33,052
Pigs	...	...	14,015
Poultry	...	...	3,987
TOTAL	...	...	557,101

"Measle" (Cysticercus bovis) Rate

	No. inspected	Condemned for Cyst. bovis	Rate %	Cyst. bovis car- cases passed	Rate %
Grade Oxen	16,055	660	4.1	869	5.3
Native Oxen	1,996	194	9.7	188	9.4
Calves	237	65	27.4	15	6.3
TOTAL	18,288	919	5.0	1072	5.8

Disposal of Condemned Carcasses

	Number	Weight lbs.
Cysticercus bovis carcasses cooked ...	896	282,741
Diseased carcasses processed ...	4,085	274,360
TOTAL ...	4,981	557,101

**NAIROBI — THE OLD AND THE NEW**

Section 10

CLEANSING DEPARTMENT

The three main problems affecting this department are (i) labour (ii) the continued rapid expansion of the city (iii) financial.

(i) The department has over 800 African employees recruited entirely from the Kikuyu/Embu tribe. Under normal circumstances supervision of so large a labour force is difficult. The difficulties were greater during most of the year, reaching a height about the time the state of emergency was declared. Thereafter there was an improvement but there is evidence that this may be only of a temporary nature.

The African staff was more "floating" than usual and, in addition, we lost quite a number who were taken by the forces of law and order for security reasons. It was found almost impossible to get new recruits.

Our complete dependence on manual labour in all branches of our cleansing work was emphasised by this state of affairs and leads one to think along the lines of increased mechanisation in some ways in order to render the department more independent of political or other misfortunes. There is too, let us admit, the possibility that in the very near future mechanisation will be less expensive than manual labour—which it is not at the present rates of pay.

(ii) In a city so undeveloped from the sewers point of view the relationship between development and cleansing is very close. The question rises as to which dictates to which. There is little doubt but that expansion of the city should dictate the degree and rate of expansion of the cleansing department. Every endeavour is made to anticipate vehicular and other requirements of this department in relation to city expansion. But this again is qualified, naturally, by financial and other considerations and is not as simple as may appear. The department for example has to anticipate almost two years in advance as vehicle delivery alone takes as long as this.

The labour problem also enters into this—indeed perhaps more so than formerly — as many of the residential plots now being subdivided are of black cotton soil, thus necessitating the removal by the department of all waste water from the houses. And so, as the city grows we become more and more dependent on labour which becomes more difficult to manage and almost impossible to recruit.

(iii) Much of the time of the European overseers is spent in sorting out account "shauries" to the detriment of their real work. The advantage of all cleansing services being "on the rates" is obvious but the practical difficulties, in a city such as this, are manifest. Whatever, others are more competent to judge of this.

When the loyalty of the members of the Kikuyu tribe is so questionable, it is with satisfaction and pride that we make reference to Karanja Mutuota who retired in December after fifty-two years service with Council. During this time he worked only in the cleansing department. Council has suffered a loss through his departure for he was always a loyal and efficient worker.

A night shift was organised during the year, when junior overseers took their turns of duty. This proved highly successful as night work was speeded up and was also done more efficiently. As a result, there was a small shortage of daytime supervisory staff, but the improvements in night work amply compensated for this. An additional advantage lies in that it has proved an excellent training ground for junior overseers as they have to depend on their own initiative and have to make their own decisions without reference to their senior officers.

Conservancy

A total of 8122 buckets was cleaned throughout the year, i.e. approximately 10,080 tons was collected and disposed of. This is almost the same figure as in 1951.

The labour in this section was particularly difficult and considerable worry and vexation was caused in keeping it going to full capacity and in a satisfactory manner.

Refuse Removal

A total of 48,426 tons was collected (compare 54,540 in 1951). This figure, however, is based on estimated tons and the decrease in tonnage is due to a large extent to the fact that in March the work was re-organised in the Cleansing Department and placed on a divisional basis. This has resulted in closer supervision of the lorries and better loading and fuller loads being carried. Without a weighbridge these figures are only estimated tons and cannot be considered as accurate. Further, more forces became available and a night shift was instituted. Both of these resulted in an easing of the transport situation which had been critical at the end of 1951. The disposal of refuse showed a return of £703 from composting.

The cost of refuse removal was approximately Shs. 12/02 per ton and the cost of disposal Shs. 3/18 per ton. These figures are very satisfactory. The average tonnage collected per day was 132.6. Refuse removal in the suburban areas was on the whole maintained on a basis of three clearances per week throughout the year.

In the commercial area daily collection was kept going and this proved quite satisfactory when done at night, but led to untidy streets in the mornings owing to refuse standing in the bins all day. The practice of searching through bins for stamps and pieces of paper caused many of the streets in town to have a littered appearance throughout the day and until some drastic action is taken to stop this practice, the keeping of the central area clean and tidy will be a difficult problem. New By-laws were passed and the police and municipal inspectors now have power to deal with this problem.

Street Cleansing

The street cleansing was highly satisfactory but was considerably handicapped in that the work was changed from a day to a night basis in the refuse removal side. This resulted in considerable littering of the streets and the need to maintain a limited number of men working until after the vehicles had passed in the main thoroughfare in Nairobi. The difficulties that these men had to cope with were to be seen at the weekends where refuse was cleared on Saturday morning, bins were not cleared until Monday night and the resultant litter was always at its worst at this period. The same thing was noticeable at holiday time.

Sweeper Service

Receipts rose from Shs. 11,000/- to Shs. 12,900/-. This section has shown a steady rise in income over several years. The sweeper service could show a big improvement if more time were available for the overseers to give closer supervision to the labour employed on it.

There was a big expansion in locations during the year entailing the use of additional labour. There was a permanent water shortage which meant that latrines could not be flushed and so often got into an appalling mess. As the new Bahati locations had buckets these latrines were in a more satisfactory condition. Two new public conveniences were opened and one old one removed.

Compost

The initial success of this scheme led Council to expand during 1952. Good murrum roads were laid so that stacking could continue during the rainy season thus ensuring an uninterrupted output of compost during the year. The ground for this had to be raised to be level with the main dump road and this was done by controlled tipping. The ground thus made has been very satisfactory and has, of course also increased the area of land available for stacking.

The new side roads have meant accelerated turn-round of vehicles, easier stacking and turning for the staff and a more rapid screening and delivery of compost. Tailings from the compost making are tipped and are being used to increase the available area. As the city expands the land required for compost stacking will need to be increased but it is hoped that the process of tipping tailings will mean that the present site will be adequate for many years.

The public has received the compost very well and the supply has not been able to meet the demand. Coffee farmers are becoming more and more interested.

The analysis of the compost is:—

Moisture	16.4%	Total nitrogen	1.40%
Loss on ignition		Phosphoric Oxide	0.36%
(mainly organic matter)	35%	Potash (K_2O)	1.62%
Earth and Ash	48.6%		

The Agricultural Chemist made the analysis and rates its value very highly.

It will be sometime before we shall be able to produce enough compost to meet the demands so that Council may anticipate an increasing income over the years — a most gratifying state of affairs as composting (except for the comparatively small capital expenditure) costs no more than controlled tipping which gives no return.

TABLE 25

STATISTICS

Conservancy

	1951	1952
Estimated total tons night soil	10,975	10,080

Exhausting

Total conserving tanks emptied	4,692	6,474
Total septic tanks emptied	1,123	876
Total waste water pits emptied	11,724	14,167

Refuse

Total estimated tons refuse	54,540	48,426
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Section 11

SEWERAGE AND SEWAGE DISPOSAL

(From the Annual Report of the City Engineer).

General

During 1952 a steady rate of sewer construction has been maintained and the emphasis has been on the provision of main and branch sewers to serve the residential areas.

The main sewer to serve Parklands and the High Ridge area was completed and put into use in August. Work was started immediately on the many branch sewers that will serve into this main sewer, and a large area of Pangani and the Forest Road area have already been provided with sewerage.

Work has been proceeding for a year on the Industrial Area Sewerage Scheme, which is in the hands of Consulting Engineers, and substantial progress has been made. The scheme is estimated to cost £260,000, and it is hoped to complete the work early in 1954.

A start has been made on the task of extending the Sewage Disposal Works to more than double its present capacity. One contract has been commenced and much of the machinery is on order, but the £325,000 scheme will take two or three years to complete.

It was not possible to make a start on the £53,000 Parklands/Westlands Sewerage Scheme during 1952, but a contract has been let for the work and it is hoped to be able to commence early in 1953.

The Public Works Department and East African Railways and Harbours have contributed to Nairobi's sewerage system by the construction of sewers in their respective estates at Nairobi South and Whitehouse Road.

New Construction.

A total of 36,724 lin. feet of sewers were constructed during the year compared with 35,264 lin. feet in 1951, and 25,378 lin. feet in 1950.

The main works were as follows:—

	lin. feet.
Parklands Trunk Sewer	8,145
City Square	3,288
Pangani	7,967
Area North of Imtiazali Road	1,171
Forest Road	1,600
Other smaller works	5,476
Nairobi South Estate (P.W.D.)	6,755
Whitehouse Road (E.A.R. & H.)	2,322
Total	36,724 lin feet

The Industrial Area Sewers have not been included in these figures as it is not anticipated that they will come into use for some while, but at the end of the year 9,075 lin. feet of 33" and 36" concrete sewers and 852 lin. feet of 12" glazed ware sewers had been completed.

Sewage Disposal Works

The average daily load on the Disposal Works is now 50% above the designed capacity, creating a number of operational problems. The Works Manager has carried out his duties well in the face of these difficulties.

Statistics

Mileage of sewers in 1951	...	...	57.70 miles
Constructed during 1952	...	...	6.96 miles
Total at the end of 1952	...	...	<u>64.66 miles</u>

During the year, 376 connections were made to the sewers compared with 241 in 1951.

Section 12

WATER SUPPLY

(From the Annual Report of the City Engineer)

General

The year 1952 did not continue the satisfactory rainfall of the previous two years, and the rainfall during the year fell well below the average especially in Nairobi itself. Fortunately the supply of water from Ruiru was very satisfactory and thus no restrictions in the water supply to the City were found necessary. Main laying throughout the year was mainly in the provision of water services to newly developing areas, i.e., French Mission and Bernhard Estate, Parklands and High Ridge, and to African Housing at Bahati and Gorofani.

Existing Sources of Supply

- (a) **Kikuyu Springs:** These have continued to give an unfailing daily supply of approximately one million gallons of water of excellent quality throughout the year, and the reservoir has remained full.
- (b) **Ruiru Reservoir:** This reservoir has, fortunately, proved capable of giving a greater supply than originally estimated and a daily supply of approximately four million gallons has been obtained from this source throughout the year. The Ruiru catchment was not so deficient in rain-fall as was the City area and the reservoir has remained completely full, with some flow over the spillway, until 7th December when flow over the spillway ceased for the first time since April 1951.
- (c) **Nairobi Dam:** With a good supply from Ruiru, this reservoir has been kept mainly as a stand-by in case of emergency. The plant has been run for one day only each week, and the reservoir, in spite of the low rainfall, has thus remained well filled, although the water in this reservoir is always heavily charged with silt and is somewhat difficult to purify.

Services

The demand for new connections continues unabated and 799 new connections were given during the year, an increase of about 4% over the previous year. The total number of connections is now 9,047.

Purity of Water.

The new sedimentation tanks have proved very satisfactory in service and the quality of the water greatly improved over the previous year. One hundred and ninety eight samples of water were taken from the mains for testing and only two "Unsatisfactory" reports were received.

Rainfall

The rainfall during 1952 was poor and below the average, this deficiency being greater in the immediate vicinity of Nairobi than in the Uplands area, the main gathering ground for the Ruiru Reservoir.

At the Lari Forest Station, Uplands, the details of rain-fall for the past eight years are:—

Year	Total Rainfall
1945	43.35 inches.
1946	57.02 inches.
1947	68.19 inches.
1948	52.96 inches.
1949	31.96 inches.
1950	52.14 inches.
1951	68.64 inches.
1952	45.26 inches.

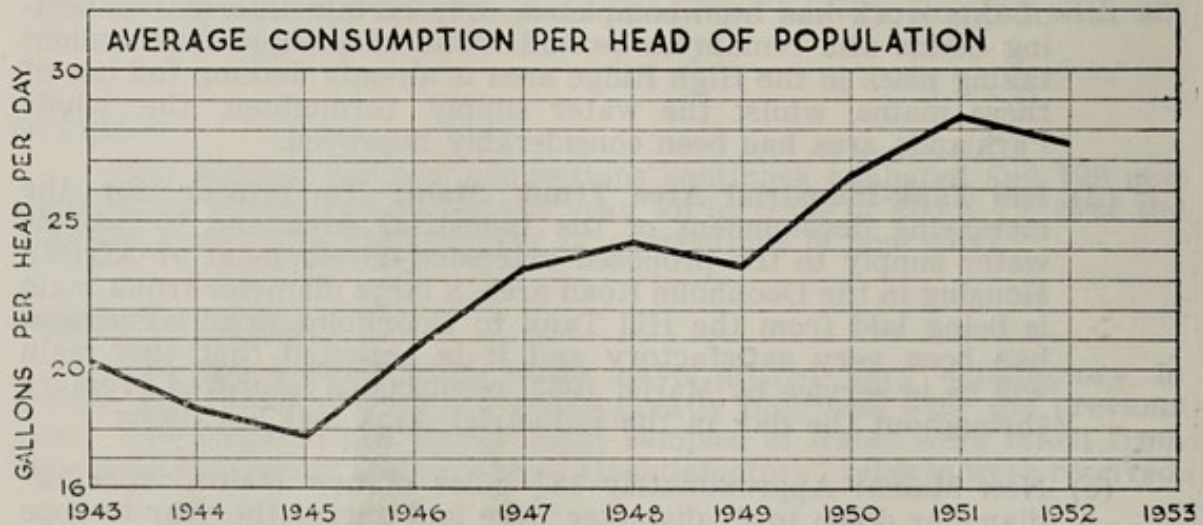
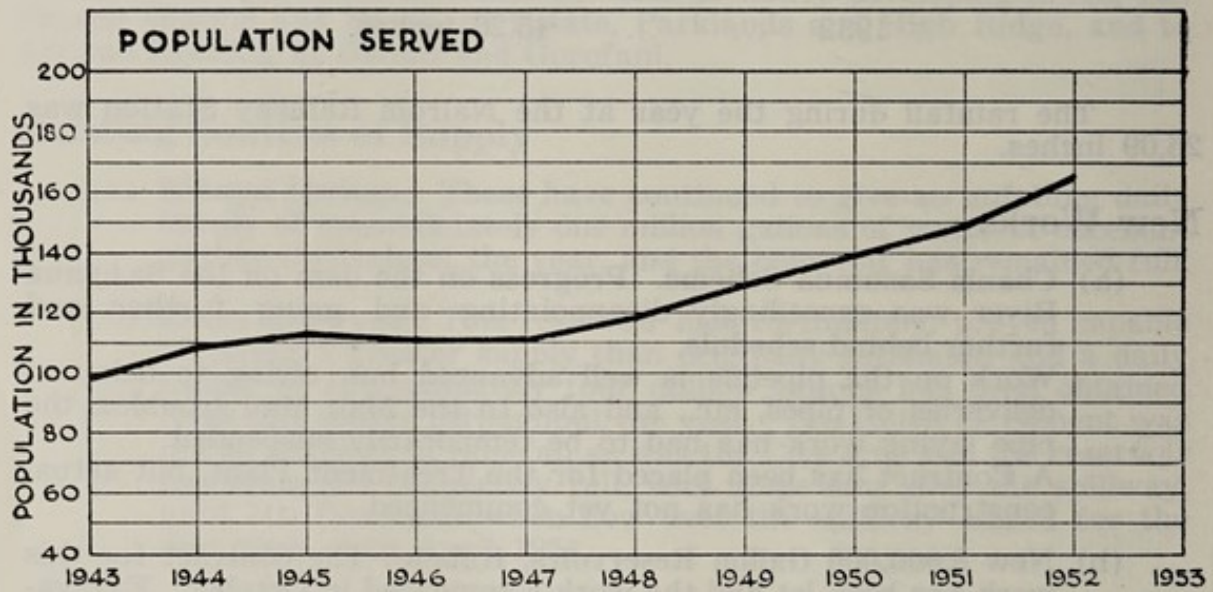
The rainfall during the year at the Nairobi Railway Station was 26.09 inches.

New Works

- (a) **Chania-Sasumua Scheme.** Progress on the dam on the Sasumua River was exceedingly disappointing and going further and further behind schedule.
Work on the pipeline is well advanced but, owing to delay in deliveries of pipes, etc., and also to the Mau Mau troubles, the pipe laying work has had to be temporarily suspended.
A Contract has been placed for the Treatment Plant, but actual construction work has not yet commenced.
- (b) **New 6,000,000 Gallon Reservoirs, Kabete:** The contract for this work has been let and the work commenced in October. Excavation has been completed and foundation concrete is being laid. Progress on this scheme has been very satisfactory.
- (c) **Parklands-High Ridge Reticulation Scheme:** The main outline of this work has been completed, only certain internal connecting mains still remain to be laid. The very rapid development taking place in the High Ridge area is already making full use of these mains, whilst the water supply throughout the whole Parklands area has been considerably improved.
- (d) **Hill Tank-Industrial Area Trunk Main:** To provide for the increasing development of the Industrial Area and to provide water supply to the proposed extensive development of African Housing in the Doonholm Road area, a large diameter trunk main is being laid from the Hill Tank to Doonholm Road. Progress has been very satisfactory and it is expected that this main will be in service by March 1953, resulting in improved pressure throughout the day in the Industrial Area and Locations.
- (e) **New Mains:** Approximately 18½ miles of new mains, from 12" diameter down to 2" diameter were laid during the year to cope with the increasing demand and new development. These included mains to serve the Bernhard and Lavington Estates, High Ridge and Parklands area, Upper Hill Estates, Woodley and Bahati Estates, and the Industrial Area, in addition to numerous minor developments.

Statistics

	1949	1950	1951	1952
Total deliveries, in million gallons	1,105	1,314	1,555	1,676
Average daily deliveries	3,048	3,772	4,250	4,600
Population, estimated	130,000	140,000	149,000	166,500
Average daily delivery per head	23.5	26.0	28.5	27.6



H. R. BRIDGER, C.B.E.,
CITY ENGINEER.

Section 13

BUILDING

(From the Annual Report of the City Engineer)

General

The amount of building work carried out during the year again showed an increase over the previous year's figures, both in value and volume — particularly in housing. Prices, which rose rapidly at the beginning of the year, steadied by the middle of the year and rose only slightly thereafter.

European Housing, etc.

- (a) **Woodley 111:** Started at the latter end of 1951, this scheme was completed by the end of 1952. It consists of 20 3-bedroom and 10 2-bedroom houses and 2 blocks of one-bedroom flats, each block containing 8 flats.
- (b) **Day Nursery and Matron's Flat, Woodley:** This European Day Nursery, started in 1951, was completed by the middle of the year and can accommodate 125 children between the ages of 2 and 6.
- (c) **General Store and Flat over:** Also started the previous year this shop was completed by the middle of the year. It forms a part of a scheme which will ultimately comprise three similar shops with flats over.

African Maternity Hospital, Pumwani

Nearly completed by the end of 1951, this 71-bed hospital was finished in March. Thereafter the old building was converted into a hostel for nurses and trainees.

African Housing

- (a) **Gorofani 3.** This scheme consisting of 15 2-storey blocks housing 48 persons in each block and 20 pairs of 2-room family dwellings, was completed in August.
- (b) **Bahati 2. (Extension) and Bahati 3.** These single storey blocks of rooms, the former housing 72 persons and the latter 1,200, were also completed by the end of August.
- (c) **Bahati 4.** A further extension of the Bahati type housing consisting of 21 4-room blocks and 21 8-room blocks and designed to house 756 persons was started in October and by the close of the year was approximately 15% complete.
- (d) **African Built.** A further 3 dwellings were built in this area during the year.

European Staff Housing

One 3-bedroom staff house, started late the previous year, at Pumwani, was ultimately finished departmentally by the end of May.

African Market, Shauri Moyo

This scheme also, after many delays by the contractor, was completed departmentally towards the end of the year and occupied shortly after the old "Burma" Market was destroyed by fire.

Asian Clinic, Fourth Street, Eastleigh

25% completed by the end of 1951, this Clinic was completed by the middle of the year.

Asian Family Housing, Quarry Road

This scheme of semi-detached family houses,—13 pairs of houses in all — was started in June and by the end of the year was approximately 75% complete.

Other Works

Many minor works were carried out during the year including new stalls in the Municipal Market, Stewart Street, and a garden shelter for visitors to the African Maternity Hospital, Pumwani.

Future Schemes

- (a) **Wholesale Market, Mincing Lane:** Tenders were received, one of which was accepted, and work on this project should start early in 1953.
- (b) **European Women's Hostel, Kirk Road:** Final drawings for this scheme are being prepared.
- (c) **African Housing:** Tenders were invited from contractors for non-traditional or traditional type housing according to their own specifications and the tenders received at the end of December were being considered.

Woodley Estate

Woodley 3, Second Portion: Tenders for this new European housing, consisting of 10 3-bedroom and 4 2-bedroom houses, were received and instructions to proceed with the work will be given to the chosen contractor as soon as the necessary loan sanction is received.

Design Work

During the year schemes were prepared for two blocks of family (2-bedroom) flats at Woodley Estate. These were to have been 3-storey and containing 24 flats and 18 flats respectively. Also a preliminary scheme was prepared for a proposed Crematorium, but all these schemes were abandoned.

Preparatory work was also started on schemes for the Council's Exhibit at the forthcoming Rhodes Centenary Exhibition at Bulawayo and for Street Decorations for the Coronation.

Work on the design of a new permanent Hostel to replace the existing temporary "Ann's House" and "Delamere Hostel" is well in hand. The new Hostel will provide accommodation for 54 ladies in Hostel rooms and 18 ladies in small flats.

Building Inspection

There was a slight falling off in building activity towards the end of the year and the upward trend of the total value of plans approved annually has, for the first time since the War not been maintained. The relevant figures are:

1948	...	...	2,802,659
1949	...	...	4,072,683
1950	...	...	4,369,906
1951	...	...	5,274,980
1952	...	...	4,611,352

Nevertheless, the falling off was only of minor proportions and a large volume of building was undertaken in the year.

The figures exclude Government, Railway and City Council projects which have been of the order of £1,000,000 annually.

The volume of work was almost equally divided between residential and non-residential development.

Seven Building Inspectors were employed.

Unauthorised Buildings

74 unauthorised buildings were removed.

Statistics

	1952	1951
Plans approved	1,247	1,897
Plans disapproved	15	149
New dwellings approved (included in above)	545	736
New dwellings completed	511	436

Ambulance

The following are the Ambulance figures for the past 12 months, together with the comparative figures for 1951.

				No. of calls.		Mileage.	
				1951	1952	1951	1952
European	...	...	...	191	181	2,057	1,941
Asian	...	...	...	32	67	286	547
Totals	..	..	..	223	248	2,343	2,488

Section 14

EUROPEAN CHILD WELFARE

For the first time since its inception the European Child Welfare Service has had full-time staff for a full year, and the marked increase in all aspects of the work reflects the efforts of adequate staff in a field where the need is great and the response immediate.

Staff

Dr. Philippa Gaffikin continued as medical officer until 30th June, when she completed her tour of service and went on leave to England. The department was fortunate in securing Dr. Blanche Hordern as locum medical officer from 1st July till the end of the year, and her wise and helpful guidance was valued by staff and patients alike.

Mrs. Graham carried out the full time duties of health visitor throughout the year, and in addition from 8th August to 30th November was Acting Matron of the new Woodley Day Nursery. This immense extra burden necessarily curtailed the time devoted to home visiting, nevertheless the total of visits rose in comparison with 1951 — 1196 children were visited during the year. It is very largely due to Mrs. Graham's untiring efforts that the year's work has been so satisfactory.

Buildings

Parklands Clinic: The work of this increasingly busy clinic is still carried out in the matron's office and schoolroom of the day nursery. With the marked rise in attendances at both Wednesday and Thursday sessions the dislocation of the day nursery's routine is wellnigh intolerable — and the patience of the matron and staff quite amazing — yet there is still no prospect of a separate clinic building.

Ngong Road/Woodley Clinic: Clinic sessions continued to be held in the premises of the Old Cambrian's Club until 8th August, when the opening of Woodley Day Nursery made available the clinic block which is embodied in the nursery building. This had proved immensely satisfactory, and the Health Visitor is particularly appreciative of having at last an office in which to store records and carry out clerical work. It is appropriate to express in this report our very great gratitude to the President and Committee of the Old Cambrians' Club, who by their kindness in allowing us the use of their clubhouse enabled clinic services to be extended to the Ngong Road area more than a year before our own building was ready.

Clinic Activities

Clinic sessions were continued during 1952 on the same pattern as in the previous year, but with increased attendances as Table 1 reveals. The Medical Officer was present at the first session per week in each area, the Health Visitor alone conducted the second, and an effort was made to concentrate inoculations and vaccinations at the latter in order to relieve congestion. All children were examined by the Medical Officer at their first attendance, and thereafter as often as the parents wished or the Health Visitor advised — in practice young infants were seen weekly, older babies less often. The public now

WOODLEY DAY NURSERY OPENED SEPTEMBER 15TH 1952



reposes great confidence in the Health Visitor's judgment, and parents readily accepted the decision as to whether medical advice was indicated, which enabled her to keep the demands on the Medical Officer's time within practicable limits. The child welfare service is appreciated above all by young mothers with their first baby, and many of these have expressed great gratitude for help and guidance in the early difficult weeks of a new infant's life. It is noteworthy that once a mother has made contact with a clinic she continues to attend, with not only the first but all subsequent children. There are several regular attenders with families of four.

The modern policy in infant feeding namely to introduce solid food as early as six weeks, has now been followed for over three years, and its long-term value is becoming evident in the excellent physique of toddlers who have been under clinic care from the start. It has also played its part in enhancing the department's reputation and is now indeed a self-propagating gospel. Mothers who have watched a neighbour's child making a steady gain of half a pound a week do not wait to be told before trying the same methods on their own babies, and are very ready to take the advice of a department whose counsel evidently produces results. Families in touch with the European Child Welfare Department are as yet only a small section of the European population and there is much to do before the aim is achieved of having every "under 6" enjoying full care. The good health of "clinic babies" is in marked contrast with the condition of those who, through parental ignorance or plain laziness, have not had the benefit of proper guidance and supervision from their earliest months and it is especially to these that our continued and vigorous efforts are directed.

There was no real epidemic disease during 1952, but failure of the short rains and the consequent increase in dust brought a high incidence of blepharitis and conjunctivitis — notably at Woodley Day Nursery. An outbreak of mumps dragged its erratic course through toddledom in the later months — fortunately a mild form without complications, a nuisance but "something to get over when young."

Home Visiting

Starting at the very beginning, the Health Visitor now regularly pays her first visit to newcomers when they are very new — at hospital or maternity home, age about one week. This visit is enormously appreciated by the mother, who is thus made aware that helpful guidance is available to her as soon as she may need it. The visits are made by courtesy of the staff at the Princess Elizabeth Hospital and the various Maternity Homes, whose unfailing help and cooperation are immensely appreciated. Subsequent home visits are made either on request or at the discretion of the Health Visitor, and with the abolition in November of the fee for revisits it became possible to visit more freely in the poorer houses, where the need has always been greatest but financial stringency formerly limited the number of visits. Abolition of the visiting charge was made in the first place for a trial period of six months: it is our earnest hope that it will be abandoned completely.

Of particular value, as a supplement to clinic attendance, are test feeds. These were mainly carried out at the Medical Officer's request, the Health Visitor paying domiciliary visits on two successive days and allowing the mother the use of an infant weighing scale in the intervening twenty-four hours. A detailed record is thereby obtained of the infant's

food intake, and the resultant figures are of immense value in enabling the Medical Officer to make an exact assessment of the baby's feeding requirements.

Conclusion

Time and the public response have demonstrated that a European Child Welfare Service fills a real need in the life of Nairobi, and the health of children attending the clinics demonstrates the value of the work. The importance of the ancillary service, the provision of nursery schools (the subject of separate reports) is equally confirmed by their success. It is hoped in 1953 to widen greatly the scope of home visiting, and thereby to improve the health and wellbeing of children in the lower income groups. This will inevitably increase the clinic attendances, making the lack of a clinic building in Parklands an even graver handicap than at present; but difficulties can be overcome under the stimulus of necessity, and it is a real pleasure to build up a service whose results are so rewarding.

TABLE 26

Clinic Attendances

Attendances

			Parklands	Ngong Road/ Woodley
For advice and weighing	...	...	2,596	1,375
Vaccination	...	...	144	113
Diphtheria immunisation	...	...	267	138
T.A.B.	...	...	100	41
Whooping cough immunisation	...	...	219	120

New Registrations

0—1 year	...	...	133	74
1—6 years	...	...	168	199

Comparative Figures 1948-1952

	1948	1949	1950	1951	1952
Advice and weighings	160	809	1,182	2,311	3,971
Vaccination ...	98	90	102	177	257
Diphtheria immunisations ...	307	203	113	256	405
T.A.B. ...	65	152	68	116	141
Whooping cough immunisations ...	1	72	97	234	339

PARKLANDS DAY NURSERY

Staff

Miss Watson continued as Matron until the 16th July when she left on six months overseas leave and Mrs. Salmon, to whom our thanks are due, acted as locum during Miss Watson's absence.

Mrs. Somen joined the staff, replacing Mrs. McGrath in January, and has carried out her duties in the supervision of the kitchen and staff very efficiently.

Mrs. Plunkett joined the staff in place of Mrs. Stiebel who resigned in March.

Mrs. Pelling was much missed when she went on unpaid overseas leave. She has since returned.

Mrs. Simpson, who is responsible for the kindergarten class, has continued this duty with her usual perserverance and patience. The response which she gets from the children is most gratifying.

The Day Nursery was much in evidence at the public health stand at the Agricultural Show in Mitchell Park. Mr. and Mrs. Grant made a detailed scale model of the Day Nursery for the Exhibition. This model proved to be a great attraction and our deep thanks are due to Mr. and Mrs. Grant and the staff who assisted them for making so excellent and so attractive an exhibition at very short notice.

March was the busiest month at the nursery; 1,874 children attended during this month. This contrasts with the month of June when the attendance fell to 887 because of a measles epidemic; but the numbers rose rapidly again during July.

The Xmas party has always proved a success and the one in 1952 was no exception. The dancing display given by Madame Zerkovitz's nursery pupils was excellent. The children played extremely well, as usual, in the Manger Scene which was produced at the party. Handwork from the kindergarten class was on view to the parents and was of a very high standard.

Only two accidents occurred during the year. One child fractured a wrist after falling, another was cut over the eyebrow by a recoiling swing.

Diseases:

Measles	...	...	59	Whooping Cough	...	6
Mumps	...	...	2	Chickenpox	...	6
Malaria	...	...	1	Glandular fever	...	2
Tonsillitis	...	...	1	Ringworm	...	1
Malaria	...	...	1			

Waiting List:

Full day 60 Half day 29.

WOODLEY DAY NURSERY

The nursery was officially opened by His Worship the Mayor on September 15th, 1952. The staff is to be congratulated on working so nobly to make the nursery most attractive and on providing so excellent a tea party.

The nursery has been running under considerable difficulties since its opening. It is essential that a nursery should have an outside playground and the absence of this has made the work and organisation of the nursery restricted and very difficult. The laying out of the grounds must wait until the rains begin but it is hoped that by the time the nursery celebrates its first birthday the grounds may even be the envy of Parklands! Overspending on the building and furniture—frequently inevitable

nowadays when estimates are prepared one or two years in advance — resulted in the nursery being unable to buy enough toys and playthings for the children. This serious deficiency was remedied rapidly but it did, at the beginning, cause serious difficulty.

Several obvious improvements which can be made have still to be done but generally the nursery is now quite well equipped and is running very smoothly.

A considerable number of staff changes during the first few months was also unsettling, if unavoidable, for some of them were caused by the emergency. Mrs. Chambers and Mrs. McCarthy both resigned for this reason. The staff position it is hoped will be more stable during 1953.

The number of children attending has increased satisfactorily. The nursery opened with about 25 children but by December 31st about 70 were attending. The improvements which will be carried out next year (1953) will probably attract more children.

There was no serious outbreak of infectious disease, only two cases of mumps and one of whooping cough being reported since the opening.

It is only right to record appreciation of Mrs. Graham who in addition to her other duties acted as Matron during the difficult first six weeks after its opening. It may be that her association with other teething troubles enabled her to cope so excellently.

TABLE 27

Total attendance hours			Total potential hours		
September	...	3,201	September	...	24,960
October	...	10,405	October	...	26,160
November	...	11,403	November	...	24,600
December	...	11,743	December	...	25,080
		<u>36,752</u>			<u>100,800</u>
	Full-day Att.	Half-day Att.	Casuals	Afternoons	
September	...	317	102	9	9
October	...	1,008	324	19	21
November	...	1,127	388	33	—
December	...	1,175	355	108	2
		<u>3,627</u>	<u>1,169</u>	<u>169</u>	<u>32</u>

Section 15

ASIAN MATERNITY AND CHILD WELFARE

The pattern of events in the Asian Maternity and Child Welfare Department during the past year has reproduced in miniature that of the whole Colony — hard work and constant endeavour striving with varying success against increasing difficulties.

Buildings

There has been one major and welcome change in clinic accommodation — the long awaited transfer from Pangani's nasty little hut to the excellent new building at Eastleigh.

Ngara Clinic. The existing building adjacent to the Indian Maternity Hospital continues to serve so large, expanding and enthusiastic a population that the limited accommodation is painfully overstrained. Both at antenatal and at child welfare sessions an overflow into the garden has become the rule, and either extension or rebuilding is urgent. No satisfactory conclusion has yet been reached in negotiations with the Lady Grigg Welfare League regarding expansion on the present site, but one way or the other action during 1953 is clearly imperative.

Pangani Clinic. The staff and activities of this clinic were transferred on 30th June to the new building at Eastleigh. His Worship the Mayor, Dr. J. R. Gregory, O.B.E., very kindly consented to open the clinic and this was officially done at a very pleasant ceremony on July 11th. A tea party, honoured by the presence of many distinguished guests, followed the opening ceremony.

The new clinic is designed on the "master plan" first developed at Victoria Street, but had to be built to a lower standard of finish and fittings by reason of higher building costs — something had to be sacrificed in order to obtain a big enough building for the money available.

Sandiford Road Clinic. In the course of the year the building was redecorated internally, a water storage tank fitted, and electric power points provided to allow for the use of an electric steriliser and kettle. All these have added both to the amenities and to the ease of working and, though the building is small and old fashioned in design, it is adequate for its district.

Victoria Street Clinic. The excellence of this building becomes more apparent with every year and its work and influence are steadily expanding.

Staff

Medical Officer: Dr. Philippa Graffikin continued as medical officer until 30th June, when she completed her tour of duty and went on leave to England. Dr. Blanche Hordern took over as locum medical officer on 1st July and continued on duty for the remainder of the year.

Supervisory Health Visitor: Miss Priscilla Benjamin returned from part of her long leave on February 18th and remained on duty until Christmas Eve, when she left by air for England en route for U.S.A. She is using the balance of her long leave to undertake a study tour arranged

and financed by the Fullbright Foundation through the help and kindness of the United States Consulate and the Office of the Member for Health and Education.

Health Visitors: Miss Elizabeth de Mello continued in charge of Victoria Street Clinic throughout the year, and also carried out the duties of Acting Supervisor during Miss Benjamin's absence.

Mrs. Savitri Chaddah was in charge of Pangani until that clinic closed when she transferred to Eastleigh and remained there until October 20th; thereafter she was on indefinite unpaid leave for the purpose of undertaking further training in Midwifery in the United Kingdom.

Mrs. Maria R. Pachecos remained in charge at Sandiford Road Clinic throughout the year and Mrs. Narinder Kaur Nayer in charge at Ngara Clinic.

In pursuance of the policy of having a small number of trained staff in preference to a larger number of untrained helpers, the establishment was changed in January 1952 from five health visitors and eight health assistants to seven health visitors and four health assistants. The two vacancies thereby created in the health visitor grade were filled in March by Miss Kanaklater Inamdar and Miss Joginder Kaur Gabri. Miss Inamdar worked at Victoria Street until October when, on Mrs. Chaddah's departure, she was transferred to Eastleigh and Miss Gabri worked at Ngara Clinic until the end of June. At the beginning of July the transfer of Pangani's staff and activities to Eastleigh left the residents of the Park Road and Fort Hall Road areas without an easily accessible clinic. It was decided to create a new clinic area based on the Railway Housing Estate in the hope — unfortunately later disappointed — that E.A.R. & H. could provide a clinic building: Miss Gabri was put in charge of the new district, working from the Ngara building.

The vacancy created by Mrs. Chaddah's unpaid leave was filled by the appointment of Miss Shirin Habib Noormohammed, who worked at Victoria Street Clinic from October 21st till the end of the year.

Four health assistants remained in the department during 1952 namely Miss Kursheed Begum Ramzan, Mrs. Jaswant Kaur Jagat Singh, Mrs. Swaran Kaur Pallan and Mrs. Mohinder Kaur Bhagwant Singh. Of these, the first named, who holds a permanent appointment returned from long leave in March and thereafter carried out the duties of interpreter and Medical Officer's clerk. The remaining three health assistants two at Pangani/Eastleigh and one at Sandiford Road, gave excellent service during the time they remained in the Department. However, being aware towards the end of the year that the department's policy would bring about the abolition of their posts in January 1953, they elected to resign in November 1952. The replacement of health assistants by health visitors having been approved in principle, the vacancies thus caused were consolidated into one health visitor post which was filled by Miss Mohinder Kaur Sat Bachan Singh.

Training

Training of Health Visitors: The second course of training for the Diploma in Health Visiting ended late in 1951. It was not considered advisable to initiate a new course during 1952 as the Medical Officer and

the Supervisory Health Visitor—who, between them, carry out nine tenths of the teaching — were both due for long leave. A waiting list of potential students has been opened in preparation for the projected course in 1953.

Training of Midwives: The Midwives Refresher Course has become an annual institution, and was held late in November. It was again extremely popular, with an excellent attendance, and very great gratitude is due to the many practitioners who found time in their over-busy lives to prepare and deliver exceedingly interesting papers. Miss Benjamin was as usual a highly efficient interpreter. The programme of lectures and visits to places of medical interest ended with a tea party at which His Worship the Mayor presented Certificates of Attendance.

Training of Dais: Weekly Dais classes were held throughout the year by Miss Benjamin or, in her absence, by Miss de Mello. They were well attended and many dais have expressed great appreciation of the care taken for their professional welfare.

Refresher Courses for Health Visitors: A series of weekly lectures on home nursing for the department's staff was held by the Supervisor, and a similar course on first aid, was begun by the Deputy Medical Officer of Health and will be completed during 1953.

Clinic Activities

Antenatal Clinics: Weekly antenatal sessions were held as before at each of the four clinics. In addition, from July when Pangani was closed and its activities were transferred to Eastleigh, a second session weekly was held in Ngara Clinic for the Fort Hall Road area. The year's attendances totalled 5285, an increase of 468. Among abnormalities detected in these patients there was again a high incidence of simple iron deficiency anaemia; and the dental health of pregnant women leaves a great deal to be desired. The most outstanding feature of the year was a sharp rise in the incidence of pre-eclamptic toxæmia — 156 cases compared with 43 last year — classified according to severity as under:—

Raised blood pressure only 102

Raised B.P. with albuminuria 54

156

One of these cases developed eclamptic fits after admission to hospital but made a satisfactory recovery.

The maternal mortality rate rose slightly in 1952; 6 deaths in 4,025 births or 1.48 per thousand births compared with 1.41 in 1951. Of these, two were due to eclampsia, neither woman having attended a clinic; two were attributable to post partum haemorrhage and obstetric shock; one to haemorrhage after delivery of twins; and one to haemorrhage from incomplete abortion. These are the unforeseeable accidents of obstetrics, and in each case investigation revealed that the midwife or dai in attendance had acted with proper care and skill, and that all possible life-saving measures (including calling in medical aid) had been promptly carried out.

Child Welfare: Children's sessions were held weekly at all four clinics, and again — from July — an additional weekly session at Ngara for the Fort Hall Road area. The total attendances — 12,513 — again

showed a rise, as did the totals of new registrations in both the 0—1 year and 1—5 year age groups.

The usual infectious diseases occurred sporadically through the year, but there was no real epidemic, and the health level of children above a year old was well up to average. There was, however, a sharp rise in the deaths of children under one year, from 166 (1951) to 202, which, together with 108 stillbirths, gives an infant mortality rate of 79.14 per thousand live births compared with 70.7 last year. Analysis of the causes of death reveals the evil trio of infant killers—Prematurity, pneumonia and gastro-enteritis — so far in the lead that the rest are nowhere. These are above all the slum diseases, the constant sequelae of overcrowding, of lack of light and air and the cleansing power of sunshine; and they are ills that the most earnest endeavour of a Child Welfare Service can only mitigate, not cure.

Home Visiting: In the course of the year the policy envisaged in 1951 of staffing the clinics entirely with trained personnel, was gradually accomplished. Consequently the home visits paid during 1952 show a higher proportion by health visitors — 10,899 — and only 916 by untrained health assistants. From December 1st onwards the staff was composed of health visitors only and all visits thereafter were by those who could speak with authority on health and hygiene problems—a point of great importance when it is remembered that a home visitor could be regarded as a young woman with neither husband nor child trying to teach a mother of ten how to run her house and raise her family! That the young woman's advice is accepted and acted upon is due to the respect engendered by her training and qualifications, and it is greatly to the advantage of this department's position and authority that no untrained staff now speak on its behalf.

Inoculations and Vaccinations: During the year it was found possible to abolish the charge for immunisation against diphtheria and whooping cough and there was a very marked rise in the number taking advantage of this service. There has been a concomitant fall in the numbers receiving protection against typhoid, partly because there has been an outbreak of typhoid in the Asian community and partly as a direct result of the increase in diphtheria and whooping cough inoculations in that these immunisations require three injections, and when these three have been received it takes a good deal of parental firmness to induce small children to accept two more.

Health Education: Owing to the increasing lawlessness in Nairobi there was a progressive diminution in the response to efforts at direct health education — the women preferred to remain in the safety of their own homes. As the attendances at classes and demonstrations fell off, the time formerly given to them was devoted to increased home visiting.

Co-operation with Other Health Services

Private Practitioners: It is pleasant to record the continuing good relations between the department and general practitioners. In the course of the year 362 cases were referred to the Medical Officer for examination and opinion.

Midwives: A really happy feature of the year's work has been the marked and steady improvement in relations between the Asian Maternity and Child Welfare Department and the Indian Midwives. A sincere effort on the part of the department's staff, to extend to the midwives all possible help and consideration met with a reciprocal effort from the midwives and there has been a real advance in the standard of record-keeping, in notification of births, and in attendance with their patients at antenatal clinics. The Midwives Refresher Course had an influence extending far beyond its actual duration — it built up a feeling of mutual confidence that is of vast though indirect value.

A number of midwives have opened private maternity homes, and these were inspected monthly by the Deputy Medical Officer of Health, the department's Medical Officer and Supervisor. Initially a good deal was lacking in all of them, due rather to want of knowledge in the running and internal administration of a maternity home than to any failure of effort or intention. Every effort was made to assist in raising the standard, by advice, suggestions and even on-the-spot demonstration, and of the five homes now active four can be regarded as satisfactory: the fifth, less so, is the object of the department's unremitting care!



EASTLEIGH CLINIC OPENED JULY 11TH 1952

Dais: Dais' classes held weekly throughout the year, were supplemented by regular inspection of the dais' equipment, maternity bags and homes: and one afternoon per week was set aside by the Supervisor for visiting with individual dais to help and advise regarding any abnormal cases in their practice.

Nurses and Midwives Council: Registration of Midwives and Dais, under the terms of the Nurses and Midwives Council Ordinance, was begun late in the year and is not yet complete. There was prolonged discussion as to the classification of Indian Midwives in terms of the new register, and some ill-feeling was aroused; but, on the whole, the principle of registering those qualified to practise has been welcomed, as clarifying and augmenting professional status, and has evoked a greater sense of responsibility.

Conclusions

The purpose of maternity and child welfare department is to safeguard life and health of the young child and his mother from conception to school age. The record of the year 1952 shows that this object is being achieved insofar as the mother and the older child are concerned but not in the case of the infant. Child life is at its most vulnerable in the first year, and here the defences have evidently weakened—for the first time in six years the infant mortality rate has risen. The stillbirth rate again shows a small decline, and the implication is that maternal health and safety in childbirth have maintained their level, but that the environment into which the child is born has deteriorated so gravely that individual efforts to maintain health and hygiene can no longer overcome the hostile influence of poverty and overcrowding. There is no known panacea for these ills, but there seems to be one obvious means of reducing overcrowding within the city area—to build not out but up. The centre of Nairobi at ground level is almost fully built over, and to spread further out brings a new series of problems in transport and in essential services: but with improved water supplies and sewerage we can surely accept a greater building density per acre—the density of human beings is there already. The day of the bungalow is over, the housing of the future in Nairobi is blocks of flats.

STATISTICAL RECORD

TABLE 28

Ngara Pangani/ Sandiford Victoria Forthall Total
Eastleigh Road Street Road

Antenatal Welfare.

Clinics Held	...	52	49	49	51	27	
Attendances	...	1,700	1,004	344	895	442	5,285
New Registrations	...	560	721	96	274	152	1,803

Child Welfare

Clinics Held	...	51	50	49	52	29	
Attendances	...	4,005	3,959	1,230	2,093	1,226	12,513
New Registrations	...						
0—1 year	...	514	547	93	253	188	1,595
1—5 years	...	313	582	65	345	181	1,486

		Ngara	Pangani/ Eastleigh	Sandiford Road	Victoria Street	Forthall Road	Total
Home Visits							
Supervisor	...	592	—	—	—	—	
Health Visitors	...	1,968	2,751	2,737	2,043	808	11,815
Health Assistants	...	—	626	290	—	—	
Vaccination and Inoculations							
Vaccination	...	441	638	155	427	153	1,814
Diphtheria and Diphtheria/Whooping cough antigen	...	221	293	543	106	109	1,272
Whooping-cough antigen	...	53	190	12	1	1	257
T.A.B.	...	92	75	70	81	36	354
Minor Treatments	...	122	142	89	146	28	527
Comparative figures 5 year period	...	1948	1949	1950	1951	1952	
Antenatal Welfare							
Attendances	...	6,715	4,560	5,126	4,817		5,285
New registrations	...	1,504	1,410	1,490	1,444		1,803
Child Welfare							
Attendances	...	9,691	9,004	9,455	11,844		12,513
New registrations	...						
0—1 year	...	1,101	1,103	1,083	1,292		1,595
1—5 years	...	862	1,128	896	1,151		1,486
		9,977	10,632	9,037	11,780		11,815
Notification of Births							
Indian Maternity Hospital	...	...	...	...	...		639
Midwives and Dais	...	...	...	...	...		3,286
Known to have occurred, not notified	...	...	...	...	...		100
							4,025
				Less still births			108
				Live births			3,917
Deaths under 1 year of age (including stillbirths)	...						310
Infant mortality rate (per thousand Live births). 77.01.							

Causes of Stillbirth

Prematurity	...	27
Prenatal causes	...	30
Macerated foetus	...	9
Natural causes	...	2
Cause not known	...	40
		<hr/>
		108
		<hr/>

Total of Live and still births 4,025
 Stillbirth rate (per thousand births) 26.8.

Causes of Death — Asian Children under 5 Years

	Under 1 year.	1—5 years.
Anaemia	1	3
Abscess of lung	—	1
Accidental Haemorrhage	1	—
Asphyxia	1	—
Birth Injury	5	—
Extensive burns, primary shock	—	1
Bronchitis	—	1
Bacillary dysentery	1	—
Congenital malformation	2	—
Convulsions	1	1
Congenital heart disease	2	—
Cleft palate	1	—
Atelectasis of lungs	1	—
Diphtheria	—	1
Dehydration	1	1
Cerebral malaria	—	1
Exfoliative dermatitis	1	—
Fracture of skull	—	2
Fracture of pelvis	—	1
Foetal asertes	1	—
Gastro enteritis	32	3
Heart failure	15	5
Haemophilia	1	—
Intestinal obstruction	1	—
Infantile diarrhoea	5	4
Influenza	1	—
Jaundice	5	—
Malaria	1	—
Nephritis	—	1
Marasmus	9	1
Congenital debility	3	—
Natural causes	1	—
Pneumonia	49	16
Prematurity	52	—
Pyrexia	1	—
Pulmonary oedema	1	—
Post-operative asphyxia	—	1
Pericarditis	—	1
Peritonitis	1	—
Toxaemia	1	1
Tuberculous meningitis	1	1
Upper respiratory infection	1	—
Uraemia	2	1
Meningitis	—	2
Total	202	50

Section 16

AFRICAN CHILD WELFARE**Staff**

European: Dr. J. A. T. Henry was Medical Officer in charge throughout the year. The total number of examinations done by her was 11,470. The examination of nursery school children was discontinued with effect from the 1st May, when the seventh African Antenatal and Child Welfare Clinic was opened. Estimates have been approved for the appointment of a second medical officer to this department in 1953.

We are very appreciative of another year of excellent and untiring service given to the department by Mrs. Dugmore, the Supervisor of Health Visitors and District Midwives. We are glad to report that she is to have assistance from early in 1953, because the dual post is too much for one person. During the year she did 160 days of relief duty for Health Visitors' local leave and sickness; seven clinics were supervised and six Districts Midwives, with a total of 590 cases, were kept on duty, Mrs. Dugmore having all the work of preparing and issuing and inspecting their equipment, drugs and dressings. Mrs. Dugmore has taken an active part on the Committees of the Kenya Nursing Council and we hope that with the implementing of their regulations and the improvement in the City bye-laws there will be a raised standard, and maintenance in the control, of midwives available for clinic and district work. It is possible that when nurses are available with a General Nursing Certificate (4 years training) and a Midwifery Certificate (one years training) the material will be forthcoming to train African Health Visitors.

Mrs. Brooks was on overseas leave from 29th June 1952 to 28th November 1952 and her locum was done by Mrs. Hobden. The total of sick days for Health Visitors was 132, due mainly to major illnesses. Mrs. Gibb fractured her ankle on duty and while off for only one month could not perform full duty for a further month as home visiting entails walking and standing. Mrs. Brooks sustained a foot injury, which had to be dealt with surgically and Mrs. Davis had a P.U.O. of severe toxicity.

We were fortunate to have the services of Mrs. S. Laxton for two months and Mrs. Adams for $3\frac{1}{2}$ weeks, seconded from the Venereal Diseases Clinic to help as Health Visitors' replacements. We welcomed Mrs. Taylor back on 1st January as Health Visitor at Makongeni, replacing Mrs. Pickwell.

European staff local leave days totalled 133 and two days were taken without pay.

African. Due to sickness 153 days were lost and leave without pay, mainly maternity leave, accounted for 196 days. Pregnancy, family problems, and the state of emergency, each in their turn interfered with the smooth running of centres and necessitated the frequent transfer of staff from one centre to another.

With the married members of the staff pregnancy was the greatest problem and the year ended with one on maternity leave and four others in various stages of pregnancy. From the single women pleas for safe, and what they considered suitable, housing reached, during the state of emergency, proportions which could not be met, and finally five were

housed, each with a room, in a block at Shauri Moyo. The result of this was an appeal to their staff association. The problem in selecting candidates for vacancies is whether to choose a married woman with a husband to protect her but requiring frequent maternity leave and leave of absence if the children are sick, or a single woman in an almost permanent state of trepidation. According to the African Terms of Service the different scales of salary are entitled to housing, if available, of a certain rental, presumably that of the Housing Allowance he or she receives e.g. Scale C starts with housing allowance of Shs. 23/-. With the housing situation as it is and likely to continue, it appears unfair that accommodation, which Council seems to have had in mind as suitable for a married man with a family, should also apply as suitable for a single woman. The housing of six single women in a six roomed house, each room with its own padlocked door, plus a front and back door which can be bolted at night appears to be suitable if made available in a good district with adequate water supply and latrine facilities.

The other matters requiring consideration as applying generally to terms of service are:—

1. Leave of absence to guard personal effects during the white washing of houses.

At one time staff required only about an hour off duty twice a year and this was granted. Those living in three roomed houses now require a whole day twice a year and the remainder expect similar time off. Taken all over this would have meant a considerable loss in working hours and about Shs. 224/- in cash to Council during a year; the practice was consequently stopped and its cessation has caused discontent.

2. The question of whether there is any responsibility on the employee to show that she has actually made a rail journey when going on leave after three years service.

3. The laying down of a probationary period of, say, one month, during or at the end of, which an employee may be dismissed for unsuitability without having the right to appeal against dismissal.

Review of Activities

General

The clinic at Maesha was opened on 1st May in temporary quarters and on 15th May in the new building and we have to thank the Administration of the East African Railways and Harbours for providing such a suitably equipped building. We hope to make this plan the standard one for future clinics. It is serving the 95 houses in Maesha and Blocks A—M; 695 houses in Makongeni.

Estimates for 1953 have been approved for the building and equipping of a clinic in the municipal section of Bahati Estate and this will allow the present Bahati Clinic, in houses loaned by the Public Works Department, to absorb the population from the recent extensions in their estate.

We hope to absorb the population of the Stadium flats into Kaloleni Clinic after the second medical officer is appointed. Although grumbling from new housing has been a worry it is good to realize it comes from mothers who have become accustomed to the antenatal and child welfare service in some other estate and feel neglected if the service is not available.

Posts and Telegraphs are building a clinic in their new estate on the Doonholm Road and have given permission for the mothers and children of the Employer's Estate to attend, when the latter housing is occupied. When the Posts and Telegraphs Clinic is completed we shall transfer the equipment and personnel from Pumwani Clinic. It has become increasingly obvious that the population in Pumwani want only a dispensary. The Swahili-Arab population prefer to go their own way and the remainder of the Africans are in Pumwani for such a short time and the houses so overcrowded that the possibility of teaching is negligible. The exception to this is Bondeni and part of the Gorofani section and the women and children from there will be welcomed at Kariokor Clinic.

The special teaching unit operated until the end of April, but after the opening of Maesha Clinic there was no staff available for this purpose, but lectures were given by senior members of staff in their own centres. Estimate has been approved for a special teaching member of staff in 1953 and we hope to co-operate with Jeans School in allowing a suitable person to attend for special instruction before the unit is started.

At the beginning of the state of emergency the clinics were closed for a short period, namely Makongeni, Maesha and Muthuruwa from 21st to the 27th October; Kariokor, Pumwani and Kaloleni from 21st October to 3rd November; and Bahati clinic from 21st October to 10th November. The work has been affected by the political situation, not so much in the numbers who attend but, in place of the friendly co-operation and willingness to talk in the street and to welcome the Europeans and Africans to their houses to be instructed there is an atmosphere of suspicion and being "not wanted" and, to avoid embarrassing those who are willing to be friendly, but are afraid of their neighbour's criticism the visiting has been reduced greatly and for security reasons in the less safe areas a European never visits alone and the African Assistants also go in pairs. There has been some opposition and rudeness in certain areas but this has been only slight.

It is hoped that when inter-tribal and inter-racial feeling improves and with the assistance of a second Medical Officer more group talks can be given to fathers through the existing clubs and social groups. The response to letters inviting the men to come for talks with the Health Visitor has improved and the Railway Officers have been very helpful about getting in touch with their employees about family problems.

A party was held in each of the clinics just before Christmas for the mothers and children.

The total money collected for medicine throughout the year was Shs. 6,607/50.

Ante-Natal Clinics

The total number of new cases for all clinics was 2,194 with total attendances 5,492, i.e. 96 and 44 cases respectively more than last year.

There is now an appointment column on the small card, which is retained by the mother, and this has helped considerably to bring the patients back for examination on due date.

The Starehe women continue to be a problem as regards their keenness to deliver in hospital, and contra wise, cases in the more remote estates try to deliver at home though they have been advised to go to hospital.

The total of post natal examinations was 412 and the extra district midwives have helped to promote this increase in numbers compared with 1951.

Child Welfare Clinic

I. W. New cases were 1,696; a decrease of 192 from 1951.

P.S. New cases were 1,753; a decrease of 530 from 1951.

Total attendances were 25,908; a decrease of 1,765 from 1951.

The general emphasis in the home is still on the new baby and in spite of repeated encouragement and instruction from the clinic staff the toddler baby tends to be left at home, shut in the house or to play in the street. The African parents need a lot of teaching on the benefit of the pre-school child being sent to nursery schools and when the demand has been created we hope the schools will be forthcoming.

We welcome the prospect of the Salvation Army increasing this type of work at their Welfare Centre, because many Nairobi African mothers work away from their homes and the children are left with an "ayah", usually little more than a child himself.

Attendances at milk bars were 21,662 and its chief use is still considered as a teaching medium only as the quantity available is so small. The diet of the average Nairobi African baby at the weaning period is poor and two main causes prevent the increase in the consumption of milk, the ideal additional food at that time—(1) the cost of milk, and (2) the inability of the African to realise that skim milk would be equally useful for the child, as the dietary deficiency is mainly protein. It is very disappointing that our endeavours to persuade Council to have a system of milk tickets for the Location Dairies remain unsuccessful. The chief argument in favour of this is that it would enable the purchase of tickets to be made at the beginning of the month, when money is available, for milk obtained for the tickets throughout the month.

Dispensary Attendances

Total attendances were 84,410 an increase of 2,136 compared with 1951. This fact, in conjunction with the decrease in other figures, agrees with the impression of the effect of the political situation, namely, that the African only wants to be cured of her ills and escape from unnecessary contact with Europeans. This figure includes the attendances for tonics, which were given weekly to reduce the numbers at the daily dispensaries and allow for more instruction in home nursing etc.

Home Visits

The total number was 20,269; a decrease of 6,825 compared with 1951. The main reasons for this were noted in the paragraph on Clinic Activities, though sickness of European staff also accounted for some loss in visits.

Very helpful and detailed reports on sanitation and housing have been sent in monthly and contained such suggestions, as that master buckets and rubbish buckets should stand on concrete plints; that the alignment of drainage should be improved to encourage flow and that all ground near latrines and drains be kept in good condition e.g. short grass.

Teaching

The clinic teaching for groups included the special teaching unit with film strips from January to April, inclusive. Thereafter the group teaching was done in each clinic by the Senior Assistant on one or two afternoons each week to invited mothers.

The subjects for these included:

- Health and hygiene during Ante Natal period.
- Preparation for baby, clothing, cot, etc.,
- Feeding of baby and training.
- Post natal care and reasons for post natal examinations.

Home instruction included:

- Hygiene and cleanliness of home.
- Training of children
- Care of sick children.
- Diet; storage and cooking of food.
- Use of latrines.
- Value of medical examinations, especially for injections.

Individual tuition in clinic included:

- Clothing.
- Weaning and balanced diet.
- Care of teeth.
- Personal hygiene.
- Value of regular inspection.

The question of use and abuse of lavatories occupied much time but little headway resulted and the following suggestions are made for consideration to help in educating the African public.

1. All clinics and nursery schools should have well lit and suitably proportioned latrines for children.
2. The allowance of day light for all latrines should be increased—even older children are afraid to enter dark places.
3. The verandah wall should be removed from all latrines blocks and doors should enter directly into individual cubicles. If this cannot be corrected in already existing ones, it should be the accepted design for all new ones.
4. Pilot schemes of individual latrines for renting, **without** a sweeper service, to people who have a better idea of how to help and use them, should be started.

Medical Aspects

The medical examinations in the Municipal Nursery Schools were discontinued from April 30th, but it is hoped that when a second doctor is appointed these may be started again as the age group is the one which tends to be neglected by the parents due to pressure for school fees and uniforms for older children and the care of younger babies. It is hoped also to carry on medical records from P.S. to N.S. to the Government.

School Medical Service

Two cases of sickle celled anaemia were diagnosed at the Makongeni clinic by Dr. Henry Foy. One died soon after diagnosis, at which time the R.B.Cs. were less than one million. The second child returned to the Reserve about six months ago and no news about her has been received.

Measles and whooping cough have continued sporadically throughout the year and the continuous nature of these infections, compared with their occurrence some years ago before and after Christmas, suggest that there may be an alteration in the movements of the Nairobi child population.

Gastro enteritis, involving some deaths, was very bad up to July and recurred in November and December.

Respiratory infections, chronic otitis media (still a problem because of the distance from the locations to the E.N. & T. clinic and the protracted treatment usually required), septic sores, ring worm and scabies made up the major portion of the remaining diagnoses. There have been a few cases of tuberculous adenitis, one infant ending with a generalised tuberculosis and death.

Kwashiorkor occurred throughout the year, even in breast fed babies at the weaning age, and some Luo children returned from Kisumu with definite signs of it.

The prospect of pre-school age children having regular animal protein in any quantity seems to be as poor as ever it was.

1,386 cases of malaria were treated during 1952.

592 cases of helminthic infections were treated during 1952.

Number of vaccinations for small pox done in the year was 1,318.

Number of T.A.B. inoculations done was 2,118.

An effort has been made to educate the women about having two injections and then yearly booster doses and in this connection the attached analysis is of interest.

Clinic	1st only	1st & 2nd	Booster	Total with adequate cover	Total of injections
Kariokor	100	54	44	98	252
Pumwani	28	26	20	46	100
Makongeni	44	156	126	282	482
Kaloleni	113	84	59	143	340
Bahati	50	76	17	93	219
Muthuruwa	81	201	65	467	548
TOTALS	416	597	331	1,129	1,941

Maesha clinic is not included in this table.

Laboratory Tests

No. of Kahn specimens examined	2,110; positive	247
No. of cervical smears examined	2,040; positive for S.c.	47
No. of blood slides of Malaria examined	7,645; positive	1,498
No. of stools for helminths examined	2,683; positive	1,159

A lot of work has been done this year by European and African Staff to send in accurate monthly sanitation and housing reports and the contrast between the Railway and Government Estates and the City Estates showed that more supervision and intensive education will improve the general standard, the two former being so much better than the last.

Clinic Buildings and Equipment

The buildings are all in good condition and we are grateful to Internal Audit for taking an interest in our annual inventories.

Early in the year a section of the main hall at Kaloleni was converted to an office and a "strong room" for the supervisor, the site being more central for further housing development than Kariokor Clinic.

During the year there were five successful and four unsuccessful burglaries of clinics. An entry into Maesha on December 4th was the most offensive in that destruction and abuse of the equipment seemed to be the object rather than theft.

TABLE 29

Deliveries by District Midwives, 1952

Area	Normal c Live child	Normal c Dead child	Abnormal c Dead child	Abnormal c Dead child	To A.M.H.	Other calls	Total	Post Natal examination	B.B.A.	Infant deaths to 7th day
Ziwani	101	1	—	1	1	—	104	54	7	3
Starehe	90	3	—	1	—	—	94	60	4	1
Makongeni	104	1	1	—	2	1	109	54	19	1
Kaloleni	133	—	1	2	2	1	139	51	3	2
Bahati	71	—	—	—	5	—	76	27	11	1
Muthuruwa	67	1	—	—	—	—	68	22	9	1
TOTALS	566	6	2	4	10	2	590	268	53	9

Ziwani.	Mrs. Ruth Elikani throughout the year.
Normal with dead child	1. Still born B.B.A.
Abnormal with dead child	1. Midwife called too late for transfer to hospital.
To A.M.H.	1. Ruptured uterus. Woman lived and no blame was attached to midwife.
Infant deaths	3. A. Prem. Mother Kahn. + + + + B. Cerebral haemorrhage. C. Prematurity.
This midwife was away on leave December 13th—29th. Starehe midwife deputised. Approximate monthly earnings 173/-.	
Starehe.	Mrs. Annah Norman throughout the year.
Normal with dead child	3. a. Congenital condition with distended abdomen. b. Con. syphilis. c. Macerated foetus.
Abnormal with dead child	1. Cord several times round neck.
Infant deaths	1. ? Cerebral haemorrhage.
Approximate monthly earnings 156/-.	
Makongeni.	Mrs. Njoki Reuben throughout the year except for the first three months when due to persistent Vincents Angina she was not allowed to practise. During this period a nurse was seconded from the African Maternity Hospital.
Normal with dead child	1. ? cause.
Abnormal with live child	1. Extended breach.
To A.M.H.	2. a. During midwives attendance patient decided to go to hospital. b. Condition of child after delivery.
Other calls	1. Tried to trick the midwife into taking the case when M.O. had specified hospital.
Infant deaths	1. Suspected to have been given native "dawa" by parents and were referred to police for death certificate.
Approximate monthly earnings for this district 181/-.	
Kaloleni	Mrs. Rahel Mutia from January 1st to November 27th when she was arrested under "Jock Scott". Temporary replacement of Mrs. Peris Norman from December 15th.
Abnormal with live child	1. P.U.O. with P.P.H.
Abnormal with dead child	2. a. long second stage and mother refused hospital. b. ? cause. Midwife called too late.

To A. M. H.	2. a. Rigidity of cervix. b. ? Placenta Praevia.
Other calls	1. Incomplete abortion taken by midwife to King George VI Hospital.
Infant deaths	2. 5½ month twins.
Approximate monthly earnings 231/-.	

Bahati Mrs. Delina Heron throughout the year. Took maternity leave from November 1st to December 23rd during which period calls were taken by the midwives at Makongeni and Kaloleni.

To A. M. H.	5. a. P.U.O. b. Oedema of cervix c. Postnatal admission of twins who were B.B.A. under a hedge. d. details not recorded. e. P.U.I.
Infant Deaths	1. ? cause.

Approximate monthly earnings 126/-.

Muthuruwa. Mrs. Esther Nathon licensed to practise in this area as from January 7th and continued throughout the year.

Normal with dead child	1. Macerated. Mother + + + Kahn.
Infant deaths	1. ? cause. Taken to King George VI Hospital on third day where it died.

Approximate monthly earnings 113/-.

General

Fees: There were no requests for assistance in collection and so it is presumed that the midwives were satisfied.

It was found after the arrest of the midwife at Kaloleni that some 240/- was outstanding. Assistance was given with its collection and a receipt obtained for the money handed over to those responsible for the care of her children.

The average monthly earnings of midwives was considerably lower than those with the same qualifications employed by Council. This was partly due to the fact that the district midwife earns nothing when she is ill or takes leave. As we want to encourage private midwifery under supervision and as there has been a considerable increase in African wages during the year it is suggested that an increase of 2/- in the approved fee be considered. To maintain the present balance this would probably necessitate a like increase in the fee at the African Maternity Hospital.

Towards the end of the year agreement was reached between the City Treasurer, Maternity and Child Welfare Department and the African Maternity Hospital as to the proportion of fees due and the method of

collection by the district midwife who takes a case to the Maternity Hospital during the period of her attendance in the home. It was agreed that the hospital should collect the full fee and remit half to the midwife at the end of each month.

With the extension of African housing and the probable approval of additional maternity and child welfare centres and district midwives the 1953 estimates included a request for a supervisor of midwives. This was approved.

It is hoped that the Nursing Council of Kenya rules for midwives and also the Nairobi City Council By-laws for the control of midwives will be completed during the coming year. Up to date nothing has transpired to suggest that the subsidised midwives are not abiding by their bargain but without a By-law demanding application for licence to practise midwifery the financial security of these midwives willing to co-operate with the authorities could be seriously threatened. e.g.

1. The subsidised midwife must attend the antenatal clinic with her prospective patient.
2. Must attend mother and child for six days.
3. Must submit records etc.,
4. Must agree to controlled fee.

Should a certificated midwife decide to set up in opposition and advertise delivery for 5/- with no antenatal or postnatal care the attraction to those of a low standard of education and hygiene is obvious.

During the first period of the state of emergency when child welfare centres were closed midwives were given extra supplies of dressings and when or where they did not consider it safe to go out at night were advised to write an application for hospital delivery on the small clinic card. They were also provided with police passes.

TABLE 30

African Child Welfare — 1952

Pumwanl Kariolok Kaloleni Makongeni Muthuruwa Bahati Maeshe

1944

1945

1946

1947

1948

1949

1950

1951

1952

Ante-Natal

(8/12)
only

New Cases

430

378

443

320

287

280

56

470

536

771

1,184

1,178

1,379

1,735

2,098

2,194

Births at home

82

131

177

149

109

109

46

282

337

282

422

475

428

382

491

803

Births in Hospitals

88

96

47

30

40

54

8

—

—

—

276

326

332

226

231

363

Total

932

940

1,048

923

863

607

179

3,312

2,567

3,664

4,637

4,932

5,148

5,634

5,448

5,492

Infant Welfare

0—1 New Cases

244

300

317

250

258

250

77

748

1,226

1,352

1,492

2,262

1,475

1,576

1,888

1,696

0—1 Transfers

44

76

121

43

35

42

2

—

—

247

346

397

343

363

363

1—5 New Cases

222

275

309

283

302

266

96

934

1,353

1,018

1,337

1,387

1,194

1,831

2,283

1,753

Total

3,097

4,355

4,674

4,209

5,269

3,221

1,083

40,820

39,518

33,949

33,823

32,195

29,023

33,798

37,673

25,908

attendances

3,097

4,355

4,674

4,209

5,269

3,221

1,083

40,820

39,518

33,949

33,823

32,195

29,023

33,798

37,673

25,908

Home Visits

By H.V. see Min
No. 5 of
P.H.C.
13th Nov.
1951

725

636

1,182

583

296

187

9,212

6,612

10,384

9,292

6,712

5,278

5,012

4,751

3,609

By African

721

2,461

2,982

3,343

3,584

1,979

1,590

10,218

10,140

11,054

15,158

16,130

15,865

15,399

22,343

16,660

Assistants

721

2,461

2,982

3,343

3,584

1,979

1,590

10,218

10,140

11,054

15,158

16,130

15,865

15,399

22,343

16,660

Total attendances

721

3,186

3,618

4,525

4,167

2,275

1,777

19,430

16,752

21,438

24,450

22,842

21,143

20,411

27,094

20,269

Dispensary

456

401

379

372

303

296

69

—

—

—

4,846

7,229

4,867

6,499

2,293

2,276

Women (New)

2,014

2,867

2,360

2,040

3,175

1,221

455

—

—

—

27,927

33,861

26,163

36,763

8,341

8,457

Children (New)

1,005

1,280

1,421

1,776

1,411

1,148

416

—

—

—

—

—

—

—

—

—

(Repeat)

4,395

7,218

7,968

14,302

8,923

7,874

2,149

—

—

—

—

—

—

—

—

—

Attendances

312

299

155

834

488

232

396

—

—

—

—

—

—

—

—

—

for Tonics

8,182

12,065

2,283

19,324

14,300

10,771

3,485

23,336

7,002

12,850

32,773

41,090

31,030

43,262

78,274

80,410

Total

8,182

12,065

2,283

19,324

14,300

10,771

3,485

23,336

7,002

12,850

32,773

41,090

31,030

43,262

78,274

80,410

Section 17

AFRICAN MATERNITY HOSPITAL

Staff

Dr. Elizabeth Weller became Medical Superintendent in January, 1952 and thus the hospital once more had a full time medical officer. Dr. Weller's stay was short as she left to be married in South Africa seven months after taking up her appointment. This was a considerable loss to the hospital. Dr. Weller's professional and administrative capabilities were high; but additional values were her knowledge of the language and the people of Kenya as she is a Kenya girl and she had already experience of obstetrics amongst Africans in Johannesburg.

The hospital, however, has been most fortunate in getting, without a break, the services of Dr. A. W. Watts who rapidly adapted herself to African obstetrics and has been most conscientious in the pursuit of her manifold duties as doctor, teacher and advisor.

The staff position has been more stable throughout 1952 than for some time. Sister Pippett was absent on long leave from March to September and Sister Dicks was absent for three months on compassionate leave. Both temporary vacancies were most admirably filled by Sister Bridges to whom our thanks are due for her enthusiasm and co-operation.

Trainees

The trainees continue to be as keen as ever but are finding the new curriculum, set by the Kenya Nursing Council, much harder. They are, however, now beginning to settle down and the coming year should see a great improvement as the girls who have worked most of their time on the old course will be leaving. Examinations have continued as usual, but the final results were not as satisfactory as they have usually been; four passed in April and two in October. All the girls have chosen to re-sit the examination in 1953 and will probably do well. All the trainees who took their preliminary midwifery and nursing examinations did well.

All the work is now being done in English and although the trainees still tend to be shy at the language, they are, on the whole, doing well. We had 42 trainees and 3 staff nurses at the close of the year.

General Work

The most notable event of the year was the honour paid us by the visit to the new hospital on February 1st, of Her Royal Highness Princess Elizabeth. We were not told until the beginning of January that Her Royal Highness had expressed a wish to visit the hospital, and much work was still needed for completion of the new building. All, however, worked magnificently and completed in time two of the three wings, the theatre, and nurseries.

Her Royal Highness made a very thorough tour of the whole hospital. The opening of the new hospital meant the realisation of a long dream and there could have been no more perfect ending to the dream and beginning to its realisation than the visit of Her Royal Highness.

The Sister's new mess was opened at the same time as the new hospital and was equipped entirely with new furniture and fittings. During the latter part of the year, the conversion of the old hospital into a new nurses hostel began.

For some time the staff worked under difficulties in the new hospital. Most of the equipment had to come from the United Kingdom and delivery for most of the items took almost twelve months. But these drawbacks were amply compensated for by the spaciousness, lightness and general ease of running of the new building. Patients as well as staff have appreciated the change.

The nurses living conditions have been very unsatisfactory during recent years. The yearly increase in trainees without increase in accommodation has meant a cramping of space almost to the extent of overcrowding. Probably the greatest benefit of the new premises will be in the common room and study room for neither of these existed before and trainees could not be expected to study when conditions for study did not exist. Nor could there be any social life for the trainees within the hospital. Our teaching duties extend further than the field of obstetrics. These duties will be more easily and more effectually done when the facilities exist, as they will do, when the conversion is complete.

The temporary building will be used as a clinic — a much more spacious one—and necessarily so—for the number of ante-natal patients is increasing. Happily, and perhaps surprisingly, the number of ante-natal patients did not decrease during the emergency and about 200 are examined each week.

Mothers

On the whole the statistics of the hospital have altered little, which after the expansion from a 48 to a 72 bedded hospital (when there was apparently a need for the latter) might at first seem disappointing. There are, however, three very good reasons for the more or less static figures. They are:—

1. The expansion of our domiciliary midwifery services. Mothers are encouraged to have their babies at home unless home conditions are unsuitable or abnormality has been detected at clinic or it is a first baby. People are gradually getting educated into this method and there are greater demands on the midwives.

2. The third wing (24 beds) could not be opened until October because of lack of equipment and consequently our admissions had to be restricted as formerly.

3. The third wing was opened at the time when a state of emergency was declared. This affected the hospital in many ways. The number of admissions could not increase as many patients to begin with could not get to the hospital from outside Nairobi, especially at night, and many inside the City were afraid to come to the hospital after dark and preferred to manage as best they could by themselves or to call upon midwives. The third ward remained more or less empty for some time. Our policy then was to keep patients in hospital for a little longer than usual. Compare 13,708 patient days in 1952 with 13,678 in 1951 while admissions were 2,471 and 2,715 respectively.

The emergency also added to the numbers of abnormal cases which reflects in the 1951 and 1952 statistical comparison. Many women arrived at hospital having already been in labour for several days. Two patients

were dead on arrival, one died half an hour after arrival, six arrived gangrenous. The state of emergency also accounts largely for the increase in still-births; some mothers were saved, but nothing could be done for the children.

Again the female population increased very markedly as people streamed in from the "affected areas." This probably accounts for the increased number of non-clinic admissions and the rise in the abnormal presentation" and "forceps" rate. The proportionate number of operations, still-births, born before arrival and abnormal presentations increased markedly from the end of September onwards.

Babies

The average weight remains at $6\frac{1}{2}$ to 7 lbs. which is satisfactory when one realises that five years ago the average weight was $5\frac{1}{2}$ lbs. The hospital nurses have helped in the rearing of premature infants — an even temperature and good general facilities were non-existent in the old hospital.

TABLE 31
Hospital Statistics

	1951	1952
Total Admissions	2,715	2,471
Births	2,387	2,110
Still-births	158	169
Maternal Deaths	8	10
Infant Deaths	140	125
Operations (including forceps)	95	110
Born Before Arrival	122	100
Abnormal Presentations ...	143	186
Twins	45	39
Ante-Natal Clinics	204	199
Attendances	11,247	13,194
Post-Natal Clinics	48	45
Attendances	686	516
Patients in hospital on the first day of the year	48	33
Admissions		
Resident	1,613	1,331
Non-Resident	1,102	1,140
Total	2,715	2,471
Discharges	2,531	2,464
No. in hospital last day of year	39	27
Patients Days	13,678	13,708
Baby Days	12,584	12,577
Motherless Baby Days ...	535	1,587

Admission by Districts

Nairobi	1331	Magadi	1	Konza	2
Kabete	510	Kinangop	4	Karura	5
Ngong	49	Naivasha	2	Longonot	2
Dagoretti	52	Forthall	53	Email	1
Nyeri	15	Mbagathi	5	Tumu Tumu	1
Ruiru	25	Machakos	29	Narok	1
Limuru	44	Embu	4	Uplands	10
Langata	33	Kahawa	25	Kisumu	5
Thika	48	Mangu	20	Kima	1
Kiambu	126	Dandora	11	Ruaraka	24
Kijabe	2	Juja	3	Magugu	2
Mitutsuri	1	Sultan Hamud	1	Nakuru	2
Karen	4			Athi River	9
Kikuyu	8				

Admission by Tribes

		Clinic	Direct	Total
Kikuyu	...	1,127	326	1,453
Jaluo	...	373	57	430
Other Tribes	...	470	118	588

Statistics, Clinic and Non-Clinic.

General

		Clinic	Direct	Total
Births	...	1,731	379	2,110
Still-births	...	109	60	169
Born before arrival	...	52	48	100
Malpresentations	...	134	52	186
Twins	...	26	13	39

Still-births and Causes

		Clinic	Direct	Total
Anencephalic	...	2	2	4
Birth Injuries	...	6	5	11
Cause Unknown	...	10	0	10
Cerebral Injury	...	1	1	2
Concealed Haemorrhage	...	4	1	5
Congenital Heart	...	2	1	3
Delayed Labour	...	6	6	12
Delayed 2nd stage	...	3	1	4
Face Presentation	...	2	1	3
Hydramnios	...	2	0	2
Hydrocephalus	...	5	0	5
Macerated Foetus	...	15	4	19
Maternal Malaria	...	0	1	1
Obstructed Labour	...	8	6	14
Placenta Praevia	...	3	1	4
Prematurity	...	28	24	52
Prolapsed Cord	...	8	4	12
Ruptured Uterus	...	1	1	2
Syphilis, Congenital	...	2	1	3
Toxaemia of Mother	...	1	0	1
Total	...	109	60	169

Infant Deaths and Causes

	Clinic	Direct	Total
Anencephalic	1	0	1
Atelectasis	1	1	2
Birth Injuries	2	1	3
Cause Unknown	2	0	2
Cerebral Injuries	5	1	6
Cerebral Haemorrhage ...	3	0	3
Congenital absence of Bile Duct	1	0	1
Congenital Heart	4	1	5
Debility	1	0	1
Delayed 2nd stage	1	1	2
Diarrhoea and Vomiting ...	2	0	2
Haematemesis	0	1	1
Hydrocephalus	0	2	2
Malaria	0	1	1
Malnutrition	0	1	1
Marasmus	21	8	29
Mongolian Monster	1	0	1
Mother T.B. (wasting) ...	0	1	1
Pneumonia	0	1	1
Prematurity	25	33	58
Shoulder Presentation ...	1	1	2
Totals	71	54	125

Maternal Deaths

	Clinic	Direct	Total
A.P.H.; Placenta Praevia ...	2	0	2
Gangrene of Uterus (Not allowed into Nairobi— State of Emergency) ...	0	1	1
Meningitis	0	1	1
Myxomatous Degeneration ...	1	0	1
Obstructed Labour (1 week in labour in bush) ...	0	1	1
Post Operative Shock	0	1	1
Protracted Obstructed Labour	0	1	1
Pulmonary Embolism	1	0	1
Ruptured Uterus	1	0	1
Total	5	5	10

Operations

	Clinic	Direct	Total
Caesarean Section	47	9	56
Craniotomy	2	1	3
Curettage	0	1	1
Forceps	23	14	37
Internal version	6	0	6
Repair of Cervix	0	1	1
Repair of Uterus	1	0	1
Repair to Perineum	2	0	2
Re-suture of Abdomen	1	0	1
Ruptured Uterus	2	0	2
Total	84	26	110

Clinics

Ante-Natal No. Held 199

New Cases Resident	...	...	1,755
New Cases Non-Resident	...	...	3,096
Repeats Resident	...	...	3,006
Repeats Non-Resident	...	...	5,337
			13,194

Post-Natal No. Held 45

Resident	303
Non-Resident	213

516

Total Abnormal Cases Treated	347
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Section 18

VENEREAL DISEASES CLINIC

There was a very slight increase (67 cases) in the number of new cases attending the clinic during the year, the number of new cases in 1952 being 2,950 compared with 2,883 in 1951. The total attendance and the average attendance per clinic were, however, both much lower, the total attendance for 1952 being 2,556 less than in 1951 and the average attendance per clinic 81 compared with 92 in 1951. The lowest figures were for the months of January to May 1952 when the average attendances were 75, 73, 67, 74 and 73, while from June to December the average attendances varied from 80 to 98 per clinic.

Syphilis. The number of cases of syphilis attending the clinic was 944, 6% less than in 1951, and 35% less than in 1949.

The number of cases of acute syphilis, though lower than the figure in 1949, was higher than the numbers in the two preceeding years. This suggests that the incidence of syphilis is not declining.

Cases of latent syphilis and of congenital syphilis have decreased. The figures for the past 4 years are as follows:—

	1949	1950	1951	1952
Acute Syphilis	728	551	518	560
Latent Syphilis	536	443	314	285
Congenital Syphilis	188	167	172	99
Total	1,452	1,161	1,004	944

The treatment given to patients suffering from syphilis was a single shot of 1.2 mega units of procaine penicillin, followed, in a number of cases, by a course of 12 N.A.B. and 15 bismuth injections. The N.A.B. and bismuth injections were given together, once a week, the whole course of combined penicillin, arsenic and bismuth taking 16 weeks. A comparison of the two methods of treatment—penicillin alone, and the combined course, as they affected the Kahn reaction, the attendance of patients for follow-up, and the occurrence of relapses, has been made.

Briefly (1) the reversal of the Kahn occurred at two months or under in the majority of cases of primary and secondary syphilis treated by both methods; (2) patients receiving the combined course attended better for follow-up; (3) a few cases of relapse, or progression of the disease occurred after penicillin alone.

The 944 cases of syphilis seen in 1952 were analysed and divided into the following groups:—

Group 1.	Cases who received no treatment at all	...	...	35
	32 did not return for laboratory report			
	2 had no money to pay for their injections.			
	1 refused treatment.			

Group 2.	Cases treated before 1952 who attended for follow-up only	68
Group 3.	Cases whose treatment was begun in 1952 and continued into 1953	84
Group 4.	Cases whose treatment was begun in 1951 and continued in 1952	169
Of these:—		
(a) 107 completed their courses of treatment in 1952.		
(b) 62 defaulted in 1952 without completing their treatment.		
Group 5.	Cases treated with penicillin only	186
Group 6.	Cases treated with a complete course of combined penicillin, arsenic and bismuth	117
Group 7.	Cases treated with combined penicillin, arsenic and bismuth, who defaulted without completing the course	285
Total ...		<u>944</u>

Of the total of 402 patients in groups 6 and 7, 368 of them were pregnant women, who were treated with the combined course provided they attended the clinic.

The number of syphilitic patients who completed their treatment in 1952, is derived as follows:—

Group 4 (a)	... 107 patients
Group 5	... 186 patients
Group 6	... 117 patients
Total	<u>410 patients</u>

This compares with 93 syphilitic patients who completed their treatment in 1951.

The number of syphilitic patients who defaulted during treatment were as follows:—

Group 4 (b)	... 62 patients
Group 7	... 285 patients
Total	<u>347 patients</u>

This compares favourably with 678 syphilitic cases who defaulted during their treatment in 1951.

The follow-up of syphilitic patients. Patients were asked to attend 3 months after their course was completed for a Kahn examination and thereafter at 3 monthly intervals for 2 years. So few patients returned, that it was decided to ask them to return at intervals of one month. The response to this was better; but the best response was obtained when the patient was asked to return on a day, 4 weeks ahead, when the date was given to her, and the day of the week—e.g. on Friday April 11th.

An analysis of the return visits of patients is as follows:—

1. Number who completed the follow-up period of 2 years in 1952 — 3.

The number of months they each attended in 1952 is shown in table (3) that follows.

2. Number who completed treatment in 1952, but did not attend for follow-up at all — 111.

(Of these, 56 had had a single shot of penicillin. In 1951 there were 66 cases in the same category.)

3. Number who completed treatment in 1952 and attended for follow-up for a certain number of months.

For 1 month —84 cases	For 7 months—11 cases
2 months—57 (including 1 case in (1))	8 months—12 cases
3 months—58 cases	9 months—10 cases
4 months—32 (including 1 case in (1))	10 months—12 cases
5 months—27 cases	11 months—5 (including 1 case in (1))
6 months— 16 cases	12 months—5 cases

The number of consultations paid during the year by the 944 patients with syphilis were 8,481. Of this number 35 patients paid one visit only, leaving the number of 8,446 visits paid by 909 patients. This averages 9.3 visits per syphilitic patient.

Re-admission of Syphilitic cases. 45 cases of syphilis were re-admitted during the year for more treatment.

They comprised the following cases:—

(1) Re-infection	18 cases
(2) Pregnant women requiring more treatment ...	16 cases
(3) Defaulters requiring new courses of treatment ...	6 cases
(4) Kahn still positive after full course of treatment	3 cases
(5) Progression of the disease from Primary to Secondary syphilis	2 cases
Total	45 cases

Gonorrhoea. The number of cases of gonorrhoea seen in 1952 was 1,036, a decrease in the number seen in 1951, but more than in 1949. The figures for the past 4 years were as follows:—

1949	1950	1951	1952
993	1,620	1,190	1,036

An analysis of these cases provides the following information:—

(1) number treated but not discharged cured	409
(2) number treated and discharged cured	224
(3) number not treated at all	26
(a) 21 did not return for laboratory report	
(b) 4 had no money to pay for injection.	
(c) 1 refused treatment.	
(4) number treated and re-admitted with new infection ...	265
(5) number treated in 1952, and on into 1953	112
Total	1,036

The total number of consultations made by the 1,036 patients with gonorrhoea amounted to 6,232. Twenty six patients defaulted without treatment after the first visit, leaving 1,010 patients who paid 6,206 visits — an average of 6 visits per patient.

Patients are asked to attend for six consecutive weekly smears after receiving penicillin, and they are discharged on their 8th visit if the smears are negative and there are no clinical signs of gonorrhoea. Some of them defaulted immediately after receiving their injection; others were re-admitted with a new gonococcal infection during the follow-up period; and others continued the follow-up period into 1953. So that an average of 6 visits per patient for all patients throughout the year was quite satisfactory. 365 of these patients were pregnant.

Non-V.D. Patients. Of the 1,176 patients seen and treated who were not suffering from V.D. 600 were discharged cured.

Pregnant Women. During the year, 1,099 pregnant women were examined and treated at the clinic, 148 less than in 1951. Of these, 734 were found to be suffering from V.D.—368 from syphilis and 366 from gonorrhoea, giving a percentage of 67% infected.

The increase in the percentage of infected pregnant women was due partly to the fact that the cases referred to the clinic from the Antenatal clinics were either clinical cases of V.D. or cases in whom the Kahn or smears were positive.

General

The most striking feature in the figures which follow is the one of 8,481 attendances in the year by patients suffering from syphilis. This is over 3,000 less than the figure in 1951.

The decrease can be ascribed, in part, to the 60 fewer syphilitic patients attending the clinic in 1952 and also in part, to the fact that 185 cases were treated with the single dose of penicillin and tended not to return for follow-up.

It must, however, be a fact that a number of syphilitic patients were deterred from attending the clinic at all because they expected to be charged for their treatment. This is borne out by the big decline of 35% in the number of syphilitic cases attending the clinic since 1949—the year in which charges were introduced. During the same period the percentage of cases of acute syphilis seen rose from 50% in 1949 to 59% in 1952—the higher figure suggesting that the incidence of syphilis was not declining.

The diagnosis of cases of sero-negative syphilis is made clinically at this centre because there is not a microscope. There are three weeks during which patients with infectious primary lesions have a negative blood test and during those three weeks they have a 20% better chance of being cured of the disease if they are treated. It would, therefore, be wrong to wait for the blood test to become positive, before treating them. The only confirmation of the clinical diagnosis is from dark-ground examination of a fresh smear and this must be done on the spot. Microscopic examination also differentiates at once between cases of primary syphilis and soft sore. For these reasons, it is again urged that a microscope should be provided for use in the V.D. clinic.

TABLE 31

Work at Pumwani V.D. Clinic During 1952

				1951	1952
1. Attendances					
Number of consultations				23,141	19,995
Number of afternoon treatments				1,565	2,155
Total attendances for the year				24,706	22,150
Number of clinics				251	246
Average per clinic				92	83
Decrease on 1951 average attendance of 9 per clinic.					
2. Consultations					
				1951	1952
By patients with syphilis				11,692	8,481
By patients with Gonorrhoea				6,692	6,232
By patients with yaws				34	15
By patients with soft chancre				—	28
Total by patients with V.D.				18,421	14,756
By other patients not V.D.				4,720	5,239
Total consultations				23,141	19,995
3. Analysis of Cases					
No. of cases of Syphilis:					
	1952	1951	1950	1949	
Primary	156	101	88	163	
Secondary	404	417	463	565	
Total Acute Syphilis	560	518	551	728	
Latent	284	314	442	531	
Tertiary	1	—	1	5	
Congenital	99	172	167	188	
Total Syphilis	944	1,004	1,161	1,452	
	1952	1951	1950	1949	
Gonorrhoea	1,036	1,190	1,620	993	
Yaws	1	3	1	12	
Soft Chancre	2	—	—	1	
Total V.D.	1,983	2,187	2,782	2,458	
Other cases not V.D.	1,176	1,199	1,240	1,746	
Total Cases	3,159	3,396	4,022	4,204	

	1951	1952
4. Injections given		
Intravenous (N.A.B.)	5,359	3,618
Intramuscular (Bismuth and Acetylarsan)	6,220	4,989
Penicillin	1,393	2,137
	<hr/>	<hr/>
	12,972	10,744
	<hr/>	<hr/>

904 penicillin injections were given to syphilitic cases; and 1,336 to cases of gonorrhoea.

An average of 44 injections were given at each morning clinic compared with an average of 52 injections daily in 1951. The average number of injections received by each syphilitic patient having the combined treatment was 14.

5. Specimens taken for Laboratory Tests.

(a) Specimens for Kahn tests:

Total Taken	Positive	Doubtful	Negative
5,438	1,431	658	3,349

An average of 22 Kahns were taken at each morning clinic compared with an average of 21 Kahns in 1951.

(b) Smears for Gonococcal Examination:

Smears from urethra	6,105	Number positive	38
Smears from cervix	6,219	Number positive	316
Smears from vagina	137	Number positive	23
Smears from eye	339	Number positive	38
Total smears taken	12,800	Total positive	415

An average of 52 smears were taken per clinic compared with an average of 55 in 1951.

6. Home Visits to Patients

The total home visits paid was 1,710. The patients was contacted on 874 visits and there were 359 return visits to the clinic after these visits had been made.

7. Examination of Ayahs

The number referred for examination was — 121

Those found with syphilis were 60

Those found with gonorrhoea were 25

Those found to be negative 36

121

85 = 70%

8. Examination of Pregnant women

The number examined was — 1,099.

Those found with syphilis were	...	...	368
Those found with gonorrhoea	366
Those found to be negative	365

734 = 67%

Total	1,099
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Section 19.

STAFF CLINIC AND INOCULATION CENTRE**Staff Clinic**

The number of African employees varies almost from day to day but on an average there are 3,250 working for Council each day. In 1952 the sickness figures were:—

Total New Cases	5,692	Fit	13,747
		Unfit	7,789
Admitted to hospital	208		

These figures give an attendance rate of 2.4% and a sickness rate of 0.64%. Both these figures are highly satisfactory. It would be wrong to assume, of course, that the majority of the African staff are in first class physical condition, or anything approximating first class health. It must be kept in mind that these figures represent only those who actually attend because of illness.

Complaint	No. of Cases	% New Cases
Respiratory	1,906	34%
Wounds	1,648	29%
Abdominal	617	11%
Influenza	471	8%

The above list of illnesses in order of occurrence is the same as last year.

Relationship Between Departments and Illness

	No. Employed	% Total Employed	% Total Illnesses
Roads	812	25%	26%
Cleansing Department	812	25%	29%
Parks	520	16%	16%
Other Public Health	325	10%	7%
Water	182	5%	5%
Garage	182	5%	4%

TABLE 32

Inoculations and Vaccinations, 1952

	Europeans	Asians	Africans	Total
Smallpox	4,174	9,660	1,448	15,282
Yellow Fever	4,310	8,671	559	13,540
T.A.B.	1,054	954	36,375	38,383
Cholera	210	2,177	4	2,391
Diphtheria	167	30	21	218
Diphtheria/Whooping Cough	118	23	—	141
Whooping Cough	109	41	408	558
Plague	26	5	9	40
Typhus	6	—	—	6
Totals	10,174	21,561	38,824	70,559

The total number of injections given in 1952 was 6,035 less than in the previous year, the difference being caused by the big drop in African T.A.B. injections which were 10,315 less this year. The emergency is the most probable explanation for this. The article entitled "Dawa ya Sindano" in the 1951 Annual Report will be recalled, when, in an investigation, it was found that only one African out of 500 knew the purpose of the injection. Educationally speaking, then, this decrease cannot be regretted, but as a mass protective measure, the T.A.B. inoculation of such large numbers is of some value. This was particularly so during the latter part of the year when Nairobi was more dangerously overcrowded than ever from the Public Health point of view.

In the African Child Welfare Clinics the policy of attempting to educate the population about T.A.B. inoculation was continued and the medical officer has made an interesting report on page 88. Because of the dangerous overcrowding in the city the possibility of mass inoculating at clinics instead of educationally inoculating was considered but the idea was abandoned as being diametrically opposed to the African mind. The mass inoculations at the staff and inoculation centre were carried on along with school inoculations by the Government Medical Department school's medical officer.

The increase from no whooping cough vaccine injections amongst Africans in 1951 to 408 in 1952 is interesting as are the figures for African deaths from whooping cough—26 in 1951 and 131 in 1952. An adequate explanation of this is impossible but the figures are worthy of note.

It is unfortunate that complete agreement cannot be reached internationally about the period of validity for yellow fever inoculations. While on paper the situation looks comparatively satisfactory, the practical side, from the point of view of the traveller and the people who deal directly with the traveller is not quite so satisfactory. It is not easy to persuade travellers in their own interest, to have a four year validity certificate if their plane is passing through a four year country and their destination is a six year one. This department has had experience of travellers who have been inconvenienced from both time and financial angles and although these are few and far between it must be remembered that such inconvenience means much to the individual.

Once more an appeal is made to the public to keep at least their smallpox and yellow fever certificates up to date. Everyone knows nowadays that certain international requirements are laid down for travellers and there is no excuse for not enquiring about these some time before travelling. This department must abide by international rules and cannot assist those who have left things till too late.

Section 20

MUNICIPAL MARKET

During the year progress was made towards concentrating trades of a similar kind into suitable parts of the market.

The construction of stalls on the balconies leading from the main centre hall, made it possible to confine egg and dead-poultry merchants to this part, and vacancies which occurred in the court nearest Market Lane were given to butchers and fishmongers, whilst greengrocers taken from this court were allocated stalls in the centre part of the main market.

Despite lack of co-operation by some African vegetable merchants, who organised a boycott of the market during July, and the subsequent emergency which at times completely disorganised the flow of vegetables to Nairobi, commission from the wholesale yard again increased from Shs. 57,988/05 in 1951 to Shs. 61,325/60.

The construction of new stalls in the centre of the main hall and on the balconies increased the number of stalls available from 82 to 104. This increase in the number of stalls, together with a higher revenue from the wholesale yard and some rents being raised, combined towards an overall revenue of Shs. 237,658/50 for 1952 compared with Shs. 208,803/- for 1951.

Discipline inside the market improved greatly, due to a better spirit of co-operation with our staff towards keeping the market tidy and clean by the majority of stallholders. The same cannot, however, be said about African users of the wholesale yard, where the continual bad behaviour of many ruffians who at that time frequented both the yard itself and the car park facing onto Stewart Street, made it exceedingly difficult for our staff to keep the place in a clean and orderly state. Improvement was only obtained after the Kenya Police had been called in to make visits in some strength, to persuade the rough element to desist from visiting the market.

During this year the Asian and African staff who are on duty in this section of the Market daily, displayed great patience and tact in handling what was at times a very difficult situation. It is thought that a special mark of credit is due to them.

Section 21

SCHEDULE OF STAFF

POST	NAME OF OFFICER	Established Non-Established Temporary
Medical Officer of Health	A. T. G. Thomas, M.D., B.S., D.P.H.	E.
Deputy M.O.H. ...	J. W. McAllan, M.B., Ch.B., D.P.H.	E.
Staff & Inoculation Clinic:		
Assistant Medical Officer	F. S. Gillespie, M.D., B.Ch., B.A.O.	T.
Sister/Storekeeper ...	Mrs. E. M. Sullivan, S.R.N.	E.
Sanitary Inspection:		
Senior Sanitary Inspector	Mr. R. C. Forster, M.B.E., Cert. R.S.I. & Meat Cert. San. Sc.	E.
Sanitary Inspectors ... (European)	Mr. D. Mackintosh, Cert. R.S.A.S.	E.
	Mr. S. White, Cert. R.S.I.	E.
	Mr. P. Cairns, Cert. R.S.I. (retired Dec.)	E.
	Mr. A. Ramshaw, Cert. R.S.I. and Meat	E.
	Mr. H. T. Beechey, Cert. R.S.I. and Meat.	
	Dip. R.I.P.H.H. (Hons).	E.
	Mr. P. H. Burge, Cert. R.S.I. and Meat Cert. San. Sc., Cert. Trop. Hy., A.M. Cert. I.S.E.	E.
	Mr. K. E. Kendray, Cert. R.S.I. and Meat	E.
Sanitary Inspectors ... (Asian)	Mr. R. D. Belsare, Cert. R.S.I. (India) & Meat Cert. (Eng.) Cert. Trop. Hy.	E.
	Mr. Mohd. Din, Cert. R.S.I. (India)	E.
Sanitary Inspectors ... (African)	Mr. J. Tsonzaka, Cert. R.S.I. (E.A.) (resigned Jan.)	E.
	Mr. N. Mimano, Cert. R.S.I. (E.A.)	E.
	Mr. T. Mboya, Cert. R.S.I. (E.A.)	E.
	Mr. T. L. O. Muganda, Cert. R.S.I. (E.A.)	E.
	Mr. J. A. Nagaruiya, Cert. R.S.I. (E.A.) (from Oct.)	E.
Stenographer ...	Mrs. A. M. Alexander	E.
Clerk/Typists ...	Mrs. D. I. Butcher	N.E.
	Mrs. G. H. Millership	T.
Cleansing Department:		
Cleansing Superintendent	Mr. R. A. McDonell, M. Inst. P.C.	E.
Deputy Superintendent	Mr. C. L. Eager, A. Inst. P.C.	E.
Foremen ...	Mr. T. N. Pienaar (left Nov.)	E.
	Mr. A. Savy	E.
	Mr. M. Esparon	N.E.
	Mr. G. W. Hatton	N.E.
	Mr. M. A. Rene	E.
	Mr. L. H. Clough (transferred April)	N.E.
	Mr. M. D. Luther (left January)	N.E.
	Mr. M. V. Sauvage (began Jan.)	N.E.
	Mr. L. Rene (began Dec.)	T.
	Mr. Fazal Illahi Malik (began Mar.)	N.E.

POST	NAME OF OFFICER	Non-Established Established Temporary
	Mr. R. P. M. Godley (began May)	N.E.
	Mr. R. V. McDonell (Kenya Regiment, Sept.)	N.E.
	Mr. R. C. Fuchs (resigned Oct.)	N.E.
	Mr. R. L. Stevenson (began Nov.)	T.
Clerk/Typists ...	Mrs. M. Trowsdale	E.
	Miss W. van Rosi	T.
Infectious Diseases Control Department:		
Chief Mosquito Officer	Mr. J. Morrill	E.
Mosquito Inspectors ...	Mr. E. P. Aspinall	N.E.
	Mr. M. I. Shah	E.
	Mr. Y. Ahmedi	E.
	Mr. A. K. Suleman	E.
Rodent Officer ...	Mr. L. H. Clough (from April)	E.
Assistant Rodent and Vermin Overseer ...	Mr. J. Karebe	
Clerk/Typist ...	Mrs. J. Dodd, S.R.N., S.C.M., H.V. Cert. (resigned Nov.)	T.
	Mrs. G. H. Millership (from Dec.)	E.
Laboratory Technicians	Mr. W. Ongare Mr. J. Randiki	
European Child Welfare:		
Medical Officer ...	Dr. P. Gaffikin, M.B., Ch.B.	E.
Locum	Dr. B. Hordern, M.B., Ch.B. (locum - six months)	T.
Health Visitor ...	Mrs. P. Graham, S.R.N.	E.
Parklands Day Nursery:		
Matron ...	Miss I. Watson, Princess Louise Children's Nurse	E.
Locum ...	Mrs. Salmon	T.
Assistants ...	Mrs. Pelling	T.
	Mrs. Simpson	T.
	Mrs. Somen	T.
	Mrs. Plunkett	T.
	Mrs. Hill	T.
	Mrs. McGrath	T.
Woodley Day Nursery: (opened 15th Sept. 1952)		
Matron ...	Miss P. Shepherd, R.S.C.N., N.S.C.N., (began Dec.)	E.
Assistants ...	Mrs. J. Chambers	T.
	Mrs. C. Beaumont, S.R.N. (Psychiatry)	T.
	Mrs. G. Whipp	T.
	Mrs. D. M. McCarthy	T.
	Mrs. M. Millar	T.
	Mrs. C. M. Mercer, S.R.N.	T.
	Mrs. J. Miller	T.

POST	NAME OF OFFICER	Established Non-Established Temporary
African Maternity and Child Welfare:		
Medical Officer	... Dr. Henry, M.B.E., M.B., Ch.B., D.T.M. & H.	E.
Sup. Health Visitors	... Mrs. E. T. Dugmore, S.R.N., S.C.M.	E.
Health Visitors	... Mrs. A. G. Gibb, S.C.M.,	E.
	... Mrs. B. Brooks, S.R.N., S.C.M.	E.
	... Mrs. Davis, S.R.N., S.C.M., H.V. Cert.	E.
	... Mrs. M. Taylor, S.R.N., S.C.M.,	E.
	... Mrs. H. R. Hobden (locum June—Nov.)	T.
African Health Visitor	... Marion Wanzila	E.
Indian Maternity and Child Welfare:		
Medical Officer	... Dr. P. Gaffikin, M.B., Ch.B.	E.
	... Dr. B. Hordern, M.B., Ch.B., (locum—six months)	T.
Sup. Health Visitors	... Miss Benjamin, P.C.M.B., H.V. Cert. (Delhi)	E.
Health Visitors	... Mrs. S. Chadda, S.C.M., H.V. (Lahore) (study leave from Oct.)	E.
	... Mrs. M. R. Pachecos, S.R.N. (Karachi)	
	... D.H.V. (Kenya)	E.
	... Miss E. de Mello, S.R.N., S.C.M., (Hyderabad), D.H.V. (Kenya)	E.
	... Mrs. N. K. Nayar, D.H.V. (Kenya)	E.
	... Miss K. Inamdar, D.H.V. (Kenya) (from Feb.)	N.E.
	... Miss J. K. Gabri, D.H.V. (Kenya) (from Feb.)	N.E.
	... Miss S. H. Noormohammed, D.H.V. (Kenya) (from Nov.)	N.E.
	... Miss M. K. S. B. Singh, D.H.V. (Kenya) (from Nov.)	E.
Health Assistants	... Miss K. B. Ramzan (from Mar.)	E.
	... Mrs. S. K. K. K. Pallan (resigned Nov.)	T.
	... Mrs. J. K. B. Singh, (resigned Dec.)	T.
	... Mrs. M. K. B. Singh, (resigned Sept.)	T.
V.D. Clinic:		
Medical Officer	... Dr. L. O. Hunter, M.R.C.S. (Eng.) L.R.C.P. (London)	E.
European Sisters	... Mrs. V. Hook, S.R.N., S.C.M.	E.
	... Mrs. M. K. Adams, S.R.N., S.C.M., H.V. Cert.	E.
	... Mrs. S. Laxton, S.R.N., S.C.M. (locum)	T.
Lady Grigg Maternity Hospital:		
Med. Superintendent	... Dr. E. Weller, M.B., B.S., (Wit.) (resigned Aug.)	E.
	... Dr. A. W. Watts, M.B., B.S., (from Aug.)	E.
Matron	... Miss K. Foord, S.R.N., S.C.M.	E.

POST	NAME OF OFFICER	Established
		Non-Established Established
European Sisters	... Miss Pippett, S.R.N., S.C.M.	E.
	Miss J. P. Koppert, S.R.N.	E.
	Miss F. E. A. Greening, S.R.N., S.C.M.	E.
	Miss M. H. Dicks, S.R.N., S.C.M.	E.
	Miss E. M. Sanctuary, S.R.N., S.C.M.	N.E.
	Miss S. C. M. Bridges, S.R.N., S.C.M., (locum)	T.
Municipal Market:		
Market Master	... Mr. S. W. Sprague	E.
Clerks	... Mr. M. A. Khan	E.
	Mr. A. Butt	E.

Section 22

An Analysis of Four Groups of Patients under Treatment for Syphilis

by

Dr. L. O. Hunter,
M.O. i/c V. D. Clinic.

GROUP A

2nd deg. Syphilis — Penicillin Only.

Group A consisted of 51 cases of sero-positive primary syphilis who attended the clinic during the period May, 1951 to December, 1952 and who were treated with a single shot of 1.2 mega units of procaine.

Of these 16 cases did not return for the Kahn which is taken one month after the penicillin injection. This gave a default rate of 31%, to begin with.

The remaining 35 cases were analysed and the following facts derived from them:—

In 26 cases, the Kahn became negative in an average of 1.7 months.

In 9 cases, the titre of the Kahn was reduced or remained unchanged.

- (a) In 7 cases the titre was reduced in the period during which the patient attended. This varied from 1 month to 4 months.
- (b) In 2 cases there was no improvement in the titre in 6 weeks and 4 months respectively.

Remarks.

On the whole these patients did not attend well for follow-up Kahns and examinations.

- I. As already mentioned 16 patients (31% of the total) did not return for the Kahn taken 1 month after the penicillin.
- II. Of the 26 cases whose Kahns became negative in 1.7 months:—
 - (a) 7 of these did not attend again, after the Kahns became negative.
 - (b) In 19 cases, the average attendance was 4 months.
 - (c) In one of these 19 cases whose Kahn became negative at 2 months, and was still negative at 3 months, the patient returned 5½ months after the penicillin with Secondary Syphilitic condylomata and a positive Kahn. There was no sign of a new chancre nor of a recent scar when the Kahn was examined 3 months after the injection of penicillin, but it cannot be definitely excluded that she had a new infection between the 2nd and 3rd month Kahn.
- III. The remaining 9 cases whose Kahns remained unchanged and whose titres decreased during their attendance, attended the Clinic for periods varying from 1 month to 4 months. In all 35 cases, the attendance for follow-up averaged 4 months.

GROUP B.

2nd deg. Syphilis — Penicillin, Arsenic and Bismuth

Group B consisted of 30 cases of sero positive primary Syphilis who were treated with combined penicillin, arsenic and bismuth, during the same period. The arsenic, and bismuth were given together weekly beginning the week after the penicillin injection.

- I. Three of these cases did not return for the Kahn taken one month after beginning treatment. This gave a default rate of 10% to begin with.

The remaining 27 cases were analysed, and the following facts ascertained:—

- II. 17 cases became negative during their attendance:

- (a) In 14 cases who did not default during the course of treatment, the Kahn became negative in an average of 1.8 months.
- (b) In 3 cases, all chronic defaulters, the Kahn did not reverse until an average of 3.3 months.

- III. In 10 cases the titre was reduced or remained unchanged.

- (a) In 6 cases, the titre was reduced in the periods during which the patients attended. These varied from 3 weeks to 5 months; the last being a chronic defaulter.
- (b) In 4 cases, the titre remained unchanged in the periods during which they attended. These varied from 1 week to 3 months — the last being a chronic defaulter.

Remarks

- I. The patients in Group B attended better than those in Group A. They had a default rate of 10% at the beginning of the treatment, compared with a 31% default rate in Group A, at the same time.
- II. The reversal of the Kahn in both groups occurred at about the same time after the penicillin injection (1.7 and 1.8 months).

The 17 cases in Group B, in whom the Kahn reversed, attended for an average of 6.5 months, compared with an average attendance of 4 months in Groups A.

- III. The effect of defaulting on the reversal of the Kahn was most noticeable.

In patients who were chronic defaulters:

- (a) it took longer for a reduction in the titres of their Kahns; and
- (b) it took $1\frac{1}{2}$ months longer for the reversal of the Kahn in those cases whose Kahns became negative (3.3 months as against 1.7 months).

GROUP C

3rd deg. Syphilis — Penicillin Only

Group C consisted of 48 cases of early secondary Syphilis treated with penicillin given in a single dose of 1.2 mega units.

- I. 14 cases did not return for the Kahn 1 month after receiving penicillin — a default rate of 29% to begin with. The remaining 34 cases were analysed as follows:—
- II. In 24 cases the Kahn became negative in an average of 2 months. In one of these cases in which the Kahn had reversed at 2 months, the patient was found to have new Secondary syphilitic condylomata 3 months after the injection of penicillin and her Kahn was + + + + This was a definite case of relapse.

In another case in which the Kahn was negative in 2 months the Kahn became positive (+ + +) again, 4 months after the penicillin, without any clinical signs of re-infection. It was therefore thought that the disease had progressed and needed more treatment.

- III. In 10 cases the titre of the Kahns remained unchanged, or were reduced.
 - (a) 6 cases showed a reduction of titre in an average of 2 months.
 - (b) 4 cases showed no change in titre at the end of 1 month.

Remarks.

The follow-up attendances of these 48 cases were examined.

- I. As already mentioned 14 cases defaulted permanently before the Kahn taken 1 month after the injection — a default rate of 29%.
- II. Among the 24 cases whose Kahns became negative:—
 - (a) In 16 cases, the follow-up period averaged 5 months.
 - (b) In 6 cases, the patients did not attend after their Kahn became negative.
 - (c) In 2 cases, the Kahns became positive again, and the patients were re-admitted for more treatment.

GROUP D

3rd deg. Syphilis — Penicillin, Arsenic and Bismuth

Group D consisted of 83 cases of early secondary Syphilis treated with combined penicillin, arsenic and bismuth.

- I. Of this number 23 patients did not return for the Kahn taken 1 month after beginning treatment. This gave a default rate of 28% to start with — very much the same as that of Group C (29%).

In one case of relapsed secondary syphilis; the Kahn was still strongly positive (+ + +) at the end of the course of treatment even though the patient had received the whole course without defaulting once.

The remaining 59 cases were analysed and the following points noticed:—

- II. In 40 cases the Kahn became negative while the patients were receiving the course, these patients being 2/3rd of the cases who did not default at the beginning. The 40 cases consisted:—
 - (a) 21 patients who did not default during their course of treatment and in whom the Kahn was reversed in an average of 1.85 months.
 - (b) 19 patients who defaulted on and off during their courses of treatment, did not get negative Kahns until an average of 3.8 months.
- III. In 19 cases the titre showed no reduction or was reduced as follows:—
 - (a) 11 cases showed no reduction in titre in an average of 6 weeks after beginning the course. They defaulted after this.
 - (b) 8 cases showed a reduction in titre at the end of 2 months—after which they defaulted.

Remarks.

- I. The default rate, at the beginning of the treatment was very much the same in group C (29%) and in Group D (28%).
- II. The Kahn became negative in 50% of group C in 2 months; and in 48% of Group D in 1.85 months.

There was, however, no case in Group D of relapsed secondary syphilis, or of the Kahn becoming positive again.

- III. (a) In the group of 21 cases who did not default during their courses of treatment — 13 of them completed their treatment in 4 months, attending on an average for $6\frac{1}{2}$ months (the remaining 8 cases defaulted finally, after $2\frac{1}{2}$ months without completing their treatment).
- (b) In the group of 19 cases who defaulted on and off during their courses of treatment, 8 of them eventually completed their treatment, attending on an average for $6\frac{1}{2}$ months, (the remaining 11 cases defaulted finally at $3\frac{1}{3}$ months, without completing treatment).

Combining these figures, there were 21 patients who completed their courses of combined penicillin, arsenic and bismuth — attending on an average for $6\frac{1}{2}$ months. In all cases the Kahn remained negative once it had reversed, and no case of relapsed syphilis or of the progression of the disease was seen.

Section 23

REVENUE ACCOUNT FOR THE YEAR
PUBLIC HEALTH

EXPENDITURE

	£.	s.	cts.	£.	s.	cts.
Public Health Administration :						
Salaries	12,965	8	67			
Cost of Living Allowances	3,064	6	57			
Housing Allowances	113	19	50			
Superannuation Fund Contributions	1,334	1	82			
Provident Fund Contributions	59	0	94			
Wages, etc. — African Staff	606	3	52			
Uniforms	49	15	36			
Locomotion	839	4	50			
Medical Attention — Staff	161	17	41			
Rent of Offices	1,192	0	42			
Printing, Stationery and Advertising	425	7	35			
Telephones	209	10	70			
Postages	212	10	45			
Passages — New Appointments	198	9	43			
Food and Drug Analysis	1,330	6	78			
Food and Meat Inspection	15	7	90			
Public Health Propaganda	227	19	34			
Demolition of Buildings	31	3	78			
Electrical Recording Apparatus	99	4	50			
Miscellaneous	3	0	00			
Administration Expenses	1,815	0	00			
	24,953	18	94			
Less: Charged to Cleansing Department, Clinic and Inoculation Centre	625	0	00	24,328	18	94
Infectious Diseases Prevention:						
Salaries	3,287	12	42			
Cost of Living Allowances	836	2	09			
Housing Allowances	99	19	96			
Superannuation Fund Contributions	131	6	58			
Provident Fund Contributions	82	8	44			
Wages etc. — African Staff	9,414	7	50			
Uniforms	126	5	31			
Locomotion	570	1	02			
Medical Attention — Staff	4	16	54			
Transport — General	1,790	3	20			
Transport — T.I.F.A. Unit	523	7	48			
Stores and Equipment	3,305	17	25			
Laboratory Equipment	52	18	32			
Carried/Forward ...	20,225	6	11	24,328	18	94

ENDED 31st DECEMBER, 1952.

SERVICES

INCOME

		f.	s.	cts.	f.	s.	cts.
Public Health Administration:							
Government Grant 1950 and 1951 arrears	...	6,807	9	71			
Government Grant 1952	... ..	48,549	18	15			
Food and Drug Analysis Fees	... ..	337	11	28			
					55,694	19	14

Infectious Diseases Prevention:

Vermin Destruction	... ..	1,935	4	65			
Rodent Destruction	... ..	81	16	50			
Malaria Control	... ..	891	16	00			
Malaria Control Contribution towards research	... ..	100	0	00			
					3,008	17	15

Carried/Forward

58,703 16 29

EXPENDITURE

	f.	s.	cts.	f.	s.	cts.
Brought/Forward ...	20,225	6	11	24,328	18	94
Infectious Diseases Prevention (Continued).						
Rent of offices ...	485	15	09			
Printing, Stationery and Advertising ...	496	15	86			
Telephone ...	11	19	99			
Rent of Store ...	25	0	00			
Hospital Fees ...	3,581	4	48			
Notification Fees ...	88	17	45			
Miscellaneous ...	2	12	00			
Capital Expenditure from Revenue—						
Construction of New Store, Landhies Road	262	3	25			
				25,179	14	23

Staff Clinic and Inoculation Centre:

	Inoculation Centre.	Staff Clinic
Salaries ...	803 11 11	401 15 55
Cost of Living Allowances ...	201 3 11	100 11 56
Provident Fund Contributions ...	18 5 34	9 2 66
Wages etc. — African Staff ...	427 10 55	213 15 28
Uniforms ...	35 7 36	17 13 68
Locomotion and Transport ...	6 7 25	3 3 62
Medical Stores and Equipment	429 18 89	214 19 45
Refrigerator ...	84 7 88	— — —
Rent of Offices ...	125 0 00	125 0 00
Electricity ...	28 12 19	14 6 09
Printing, Stationery and Advertising	15 10 55	7 15 27
Telephone ...	7 19 99	3 19 99
Miscellaneous ...	4 11 00	2 5 50
Administration Expenses ...	62 10 00	62 10 00
	2,250 15 22	1,176 18 65

3,427 13 87

Venereal Diseases Treatment:

Salaries ...	2,083 5 33
Cost of Living Allowances ...	514 15 18
Superannuation Fund Contributions ...	64 17 72
Provident Fund Contributions ...	85 10 00
Wages etc. — African Staff ...	772 10 98
Uniforms ...	39 17 17
Locomotion ...	16 13 82

Carried/Forward ... 3,577 10 20 52,936 7 04

INCOME

	£.	s.	cts.	£.	s.	cts.
Brought/Forward ...	58,703	16	29			

Staff Clinic and Inoculation Centre:

Vaccination and Inoculation Fees ...	170	3	08
Government Contribution—Inoculation ...	900	0	00

1,070 3 08

Venereal Diseases Treatment:

Fees ...	64	15	00
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Carried/Forward ...

59,838 14 37

EXPENDITURE

		f.	s.	cts.	f.	s.	cts.
Brought/Forward	...	3,577	10	20	52,936	7	04
Venereal Diseases Treatment — (Continued) :							
Maintenance of Buildings	... ..	269	0	42			
Medical Stores and Equipment	... ..	714	9	19			
Electricity and Fuel	... ..	58	7	44			
Water and Conservancy	... ..	18	3	60			
Printing, Stationery and Advertising	... ..	53	4	88			
Telephones	... ..	14	18	01			
Miscellaneous	... ..	1	17	20			
					4,707	10	94

Maternity and Child Welfare:

European Day Nurseries:	Woodley (Part Year)	Parklands
Salaries	552 12 67	1,759 12 95
Cost of Living Allowances	160 5 36	463 17 63
Superannuation Fund Contributions	3 4 92	44 18 60
Wages etc. — African Staff	102 17 95	232 6 11
Uniforms	27 9 96	26 12 39
Locomotion	14 19 56	11 8 29
Provisions	202 9 64	544 19 31
Maintenance of Buildings & Grounds	75 13 26	111 8 41
Maintenance of Equipment	6 16 34	109 3 38
Electricity and Fuel	32 3 86	118 10 77
Water and Conservancy	18 6 80	17 9 00
Rates	48 17 50	105 3 75
Insurance	4 12 26	6 4 00
Printing, Stationery and Advertising	32 1 81	14 8 85
Telephone	5 8 87	25 1 06
Miscellaneous	10 1 50	1 16 25
Renewals Reserve Contribution	35 0 00	75 0 00
Loan Charges	694 16 26	251 15 37
	2,027 18 52	3,919 16 12

5,947 14 64

Carried/Forward ...

63,591 12 62

INCOME

	£.	s.	cts.	£.	s.	cts.
Brought/Forward ...	59,838	14	37			

Maternity and Child Welfare:

Fees—Parklands Day Nursery ...	4,032	17	96			
Fees—Woodley Day Nursery ...	1,093	18	75			
						5,126 16 71

Carried/Forward

64,965 11 08

EXPENDITURE

		f.	s.	cts.	f.	s.	cts.
	Brought/Forward				63,591	12	62
Maternity and Child Welfare — (Continued) :							
European Child Welfare Clinics:	Woodley				Parklands		
Salaries	87 9 68	262	8	89			
Purchase of Infant Food	— — —	68	13	27			
Medical Stores and Equipment	20 0 16	54	12	47			
Printing and Stationery etc.	— — —	10	0	90			
Loan Charges	50 0 00	50	0	00			
	157 9 84	445	15	53			
					603	5	37
European Infant Visiting Service :							
Salaries		514	0	00			
Cost of Living Allowances		123	2	47			
Provident Fund Contributions		37	7	00			
Uniforms		3	9	46			
Locomotion		116	14	22			
					794	13	15
Asian Child Welfare Clinics :							
Salaries		4,157	11	21			
Cost of Living Allowances		1,114	18	71			
Superannuation Fund Contributions		164	14	62			
Provident Fund Contributions		128	12	44			
Wages etc. — African Staff		314	9	30			
Uniforms		80	0	20			
Locomotion and Transport		501	11	12			
Medical Attention — Staff		15	5	00			
Maintenance of Buildings		103	3	32			
Maintenance of Furniture and Equipment		165	16	07			
Medical Stores		232	2	95			
Cleaning Materials		57	2	43			
Electricity and Fuel		78	6	92			
Water and Conservancy		49	9	00			
Rates		308	2	50			
Insurance		4	8	13			
Printing, Stationery and Advertising		63	9	03			
Midwives and Health Visitors Training		3	19	22			
Miscellaneous		5	14	98			
Renewals Reserve Contribution		80	0	00			
Loan Charges		228	13	57			
Capital Expenditure from Revenue		7,857	10	72			
Construction of 4th St. Clinic		4,187	15	07			
					12,045	5	79
	Carried/Forward				77,034	16	93

INCOME

	f.	s.	cts.	f.	s.	cts.
Brought/Forward	64,965	11	08			

Maternity and Child Welfare — (Continued) :

European Child Welfare Clinics—

Sale of Infant Food	70	9	30
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European Infant Visiting Service :

Fees	37 19 00
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Asian Child Welfare Clinics :

Other Income	70 15 00
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70 7 00

African Maternity Hospitals

Fees
African Maternity Hospitals
Local Maternity Hospitals
Medical Attention — Star	...	...	...	...	...	...
Maintenance of Buildings	...	...	...	...	...	...
Construction of Hospital	...	...	...	...	...	...
Maintenance of Furniture and Equipment	...	...	...	...	...	...
Medical Supplies	...	...	...	...	...	...
Medical Staff	...	...	...	...	...	...
Medical Attention — Star	...	...	...	...	...	...
Maintenance of Buildings	...	...	...	...	...	...
Construction of Hospital	...	...	...	...	...	...
Maintenance of Furniture and Equipment	...	...	...	...	...	...
Medical Supplies	...	...	...	...	...	...
Medical Staff	...	...	...	...	...	...

Carried/Forward

65,144 14 38

EXPENDITURE

	f.	s.	cts.	f.	s.	cts.
Brought/Forward ...	77,034	16	93			
Maternity and Child Welfare — (Continued) :						
African Child Welfare Clinics :						
Salaries	4,242	14	04			
Cost of Living Allowances	1,076	1	44			
Superannuation Fund Contributions	38	14	80			
Provident Fund Contributions	225	5	28			
Wages etc. — African Staff	1,976	17	52			
Uniforms	136	11	34			
Locomotion and Transport	653	13	56			
Medical Attention — Staff	23	9	85			
Maintenance of Buildings	91	4	15			
Improvements — Kaloleni Clinic	171	16	04			
Maintenance of Furniture and Equipment	94	10	86			
New Furniture and Equipment	135	11	16			
Medical Stores — Clinics	780	13	79			
Medical Stores — Midwives	74	11	01			
Cleaning Materials	85	5	04			
Electricity	139	8	97			
Water and Conservancy	51	6	20			
Rent	130	9	25			
Rates	39	6	25			
Insurance	7	1	25			
Printing, Stationery and Advertising	100	0	05			
Telephone	52	15	99			
Christmas Parties	20	0	00			
Loan Charges	112	19	53			
	10,460	7	37			
African Maternity Hospital:						
Salaries	3,779	6	10			
Cost of Living Allowances	948	10	08			
Superannuation Fund Contributions	220	7	03			
Provident Fund Contributions	85	4	00			
Locum and Anaesthetists' Fees	25	4	00			
Wages, etc. — Nursing Staff	1,196	14	37			
Wages, etc. — Domestic Staff	1,104	0	87			
Uniforms	315	8	15			
Locomotion and Travelling	584	7	80			
Medical Attention — Staff	—	15	00			
Maintenance of Buildings	130	18	61			
Construction of Garden Shelter	164	4	76			
Maintenance of Furniture and Equipment	119	9	27			
Linen and Cutlery	391	12	66			
Medical Stores	1,430	9	22			
Carried/Forward ...	10,496	11	92	87,495	4	30

Brought/Forward ...

f.	s.	cts.	f.	s.	cts.
65,144	14	38			

Maternity and Child Welfare — (Continued) :**African Child Welfare Clinics :**

Fees	389	9	80
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African Maternity Hospital:

Fees	2,082	11	50
African Trust Fund — Grant	400	0	00
Local Native Council's Grants	...	...	...	...	...	...	15	0	00
Nakuru War Memorial Hospital — Grant	...	...	...	...	...	...	105	0	00
Trainees — Board	...	...	...	...	...	...	567	0	00
Other Income	...	...	...	...	...	...	26	0	00

3,195 11 50

Carried/Forward ...

68,729 15 68

EXPENDITURE

	£.	s.	cts.	£.	s.	cts.
Brought/Forward ...	10,496	11	92	87,495	4	30

African Maternity Hospital — (Continued) :

Cleaning Materials ...	279	18	88
Electricity and Fuel ...	912	18	36
Water and Conservancy ...	302	17	90
Provisions ...	1,881	9	88
Insurance ...	25	14	61
Printing, Stationery and Advertising ...	103	7	67
Telephone ...	76	5	15
Recreation and English Tuition ...	2	12	00
Renewals Reserve Contribution ...	500	0	00
Loan Charges—			
Principal ...	808	16	74
Interest ...	1,212	1	21
Loans Fund Expenses ...	76	0	28

16,678 14 60

Ambulance:

Wages — Driver ...	80	17	40
Uniforms ...	5	10	22
Maintenance of Equipment ...	1	9	20
Printing and Stationery ...	14	8	00
Motor Ambulance—			
Running Expenses ...	98	18	23
Renewals Reserve Contribution ...	100	0	00
New Ambulance — Purchase	1,731	12	97
less Provision from			
Renewals Reserve	1,230	0	00

501 12 97

802 16 02

Anti-Malarial Work:

Construction of Drains —			
L.R. 214 Plot 128 ...	369	18	85
L.R. 1870 Plot 138 ...	1,020	3	55
L.R. 1870 Plots 112-173 ...	792	3	37
L.R. 1 Ring Road Reserve ...	503	17	32
L.R. 1 and L.R. 2 ...	198	0	00
L.R. 209 Plot 1050 ...	107	19	45
L.R. 209 Plot 2686 ...	191	2	82
L.R. 209 Plot 1051 ...	167	6	72
Off Gymkhana Road ...	53	17	95

3,404 10 03

Carried/Forward ...

104,976 14 92

	f.	s.	cts.	f.	s.	cts.
Brought/Forward	68,729	15	68			
Funerals and Casketing:						
Funeral Charges						
	376	1	00			
Ambulance:						
Hire Charges						
	376	1	00			
Carried/Forward	69,105	16	68			

EXPENDITURE

				f.	s.	cts.	f.	s.	cts.
	Brought/Forward	...					104,976	14	92
Anti-Malarial Work — (Continued) :									
Maintenance of Drains :									
Wages etc. — Artizans	...	...	898	13	92				
Wages etc. — African Staff			1,414	6	58				
Materials and Stores	...	...	679	6	38				
Transport	...	...	631	15	26				
						3,624	2	14	
							7,028	12	17
Funerals and Cemeteries:									
Funerals —									
Staff Allowances	...	...	582	10	00				
Cost of Coffins	...	...	1,977	18	75				
Lettering Plates	...	...	37	17	50				
Telephones	...	...	30	18	19				
Miscellaneous	...	...	52	4	32				
Motor Hearse —									
Running Expenses	...	...	227	5	07				
Renewals Reserve Contribution			150	0	00				
Wages etc. — Artizans and African Staff									
Uniforms	...	...	20	19	83				
Stores	...	...	—	15	75				
Grave Numbering	...	...	188	6	55				
Water and Conservancy	...	...	18	14	00				
Insurance	...	...	—	10	33				
City Park Cemetery Layout	...	...	119	9	62				
Loan Charges —									
Principal	...	...	6	15	22				
Interest	...	...	13	3	90				
Loans Fund Expenses	...	...	—	10	58				
						976	17	67	
Administration —									
Funerals and Cemeteries	...	...	660	0	00				
							4,695	11	50
Total							116,700	18	59

INCOME

	f.	s. cts.	f.	s. cts.
Brought/Forward ...			69,105	16 68

Funerals and Cemeteries:

Funeral Charges	3,905	0 50
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Total	73,010 17 18
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INCOME

OF THE YEAR 1900

Income from Various Sources

Interest on Bonds	100 00
Dividends on Stocks	50 00
Rent from Real Estate	200 00
Income from Savings	150 00
Gifts and Donations	100 00
Total	600 00

100 00

100 00

Expenses and Disbursements

Salaries and Wages	100 00
Office Expenses	50 00
Traveling Expenses	20 00
Telephone	10 00
Postage	5 00
Printing	10 00
Repairs and Maintenance	20 00
Insurance	10 00
Interest on Loans	10 00
Income Tax	10 00
Charitable Contributions	10 00
Gifts and Donations	10 00
Unpaid	10 00
Balance	10 00
Grave Dug	10 00
Water and Gas	10 00
Lighting	10 00
Heat	10 00
City Park Cemetery	10 00
Losses	10 00
Principal	10 00
Interest	10 00
Unpaid	10 00

100 00

Assets and Liabilities

100 00

100 00

Total 100 00

Total 100 00

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