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City Council of Nairobi

Kenya



The Twenty-fourth Annual Report

of

The Medical Officer of Health



1953

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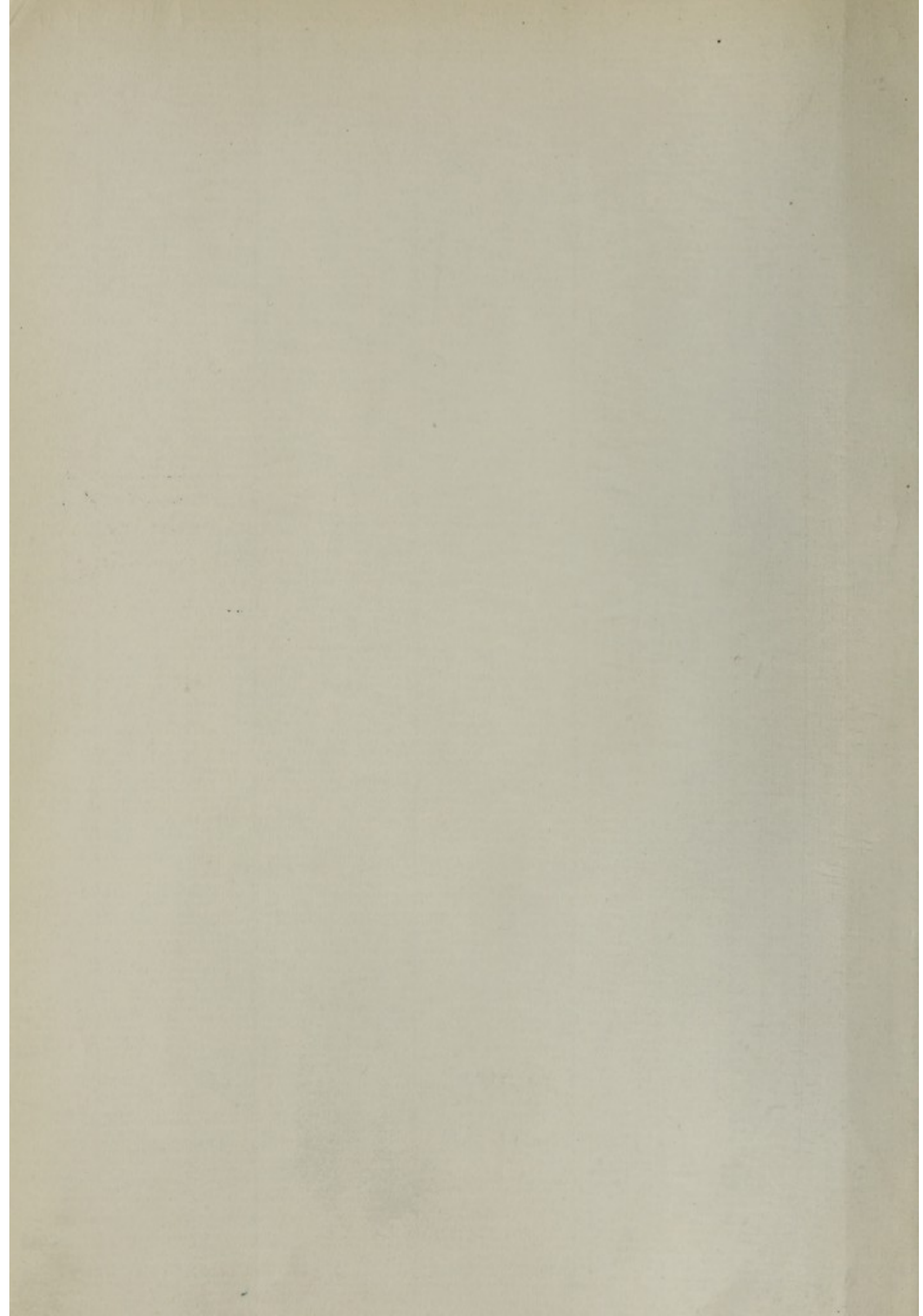
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**The Twenty-fourth Annual Report
of**

The Medical Officer of Health



1953



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Town Hall,
NAIROBI.

5th June, 1954.

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 1953, 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.

Yoon Hall
7/1/1901
2nd June 1954

The Honorable the Mayor
Honorable and Councilors
City Council of Nairobi

Dear Sirs:-

I have the honor to acknowledge the receipt of your letter of the 27th inst. regarding the matter of the public health of the City of Nairobi and the state of the public health of the City of Nairobi for the year 1953 as required by the "Nairobi City Ordinance 1947" and the Medical Officers of Health under Section 12(4).

A. E. THOMAS
M.D., D.S., D.P.H.
Medical Officer of Health

PUBLIC HEALTH COMMITTEE

DECEMBER 1953

Alderman J. R. Gregory, O.B.E.	...	...	Chairman.
Councillor Mrs. E. M. Rayner	...	...	Deputy Chairman.
H. W. The Mayor, Alderman H. Travis			
The Deputy Mayor, Councillor R. S. Alexander			
Alderman H. E. Nathoo, M.B.E.			
„ C. Udall, C.B.E.			
Councillor J. H. Couldrey			
„ Ganga Singh Matharu			
„ M. D. Gautama			
„ Kairu Ngure			
„ Mrs. M. Needham-Clarke			
„ S. Pandit			
„ W. E. Powell, F.R.C.S.			
„ Karanja Mutuota			

PUBLIC HEALTH COMMITTEE

DECEMBER 1953

Chairman	Alderman J. R. Gregory, O.B.E.
Deputy Chairman	Councillor Mrs. E. M. Kayser
	H. W. The Mayor, Alderman H. Travis
	The Deputy Mayor, Councillor R. S. Alexander
	Alderman H. E. Nathan, M.B.E.
	C. Udall, C.B.E.
	Councillor J. H. Coulbrey
	Ganga Singh Matharu
	M. B. Gadhani
	Kalim Nigam
	Mrs. M. Noobham-Jones
	A. Pankaj
	W. E. Powell, F.R.C.S.
	Ratna Matharu

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Section 1

INTRODUCTION

Events in the closing months of 1952 had given rise to mounting anxiety in both the City and outside, and unhappily this proved to be well founded. It is out of place here to comment on such events as the Lari massacre and the murders of European settlers, but it is appropriate to record the effects which the increasing emergency had upon health and social welfare in the City.

As the months passed, murder, especially in the African Locations became a daily commonplace, and the climax was reached by the assassination of one of the Council's European officers in Ziwani and on the same day an attempt on another. The problem had to be faced as to whether it was possible to continue the African Maternity and Child Welfare Service. After careful consideration it was found possible to do so by cutting out health visiting and reducing the number of clinics in use so that they could receive some protection.

One service which was considerably disrupted was that of the African midwives. Owing to the obvious danger both to them and their supervisors it was not possible to maintain proper control, and official sponsorship had to be withdrawn. The women were, however, allowed to continue practice if they wished, and in any case the Maternity Hospital was capable of dealing with all cases so that no hardship to mothers resulted. The Maternity Hospital, although in a particularly troubled district and short of staff, continued its work as usual.

Another factor at work in the locations besides violence was the constant movement of the population, at no time very stable. One result of this was an influx of persons even less civilised than usual and the development in some areas of abominably insanitary conditions. These were greatly aggravated by an acute shortage of sweepers owing to arrest and desertion, a shortage of water, and an increase in the already formidable amount of sabotage to sanitary fittings. The upshot of this, of course, was flies, filth and dysentery. These circumstances demonstrated only too clearly once again the astonishing backwardness and inability or unwillingness to cooperate of some of the location dwellers. They would scatter garbage broadcast, foul their gardens and abuse the latrines and then watch their babies die of dysentery.

The cleansing staff did their best but they were faced with an almost impossible task.

In the middle of all this anxiety and tension it is most satisfying to observe that by a curious paradox the emergency brought some quite significant benefits. Early in the year it was found necessary for security

reasons to tackle some of the unauthorised shanty towns which had grown up in the City and they were razed to the ground with bulldozers. The horrors, both sanitary and criminal, which were revealed are now history. Corpses of murdered Africans were buried in shallow graves only a few yards from occupied dwellings and the scene when the demolitions had revealed the numerous bodies is unforgettable. However, the important thing was that the shanty towns disappeared, so also the filthy old Kariokor Market.

Stimulated by these clearances the Council authorised direct action by the Public Health Department, in cooperation with the Engineers, in sweeping away a huge accumulation of junk, which has disfigured Race-course Road for years. Over 500 tons were removed in "Operation Clatter" which lasted for over a week, and the total cost of the work was recovered from the owners.

Council also authorised direct action in the case of a decrepit slum which, by the ingenuity of the advocates, had resisted our attempts to compel demolition by the owner for years.

These satisfactory operations were followed by a renewed drive to clean up junk scattered through the City and to discourage the dealers, and no less than 312 demolitions and unsound buildings were dealt with under the Public Health Ordinance or Emergency Regulations and 2,386 tons of junk were removed.

On the credit side too, were the long awaited developments towards African housing, both in the direction of the construction of traditional houses, and also a scheme for Africans to build their own on suitably regulated plans and in an area properly serviced.

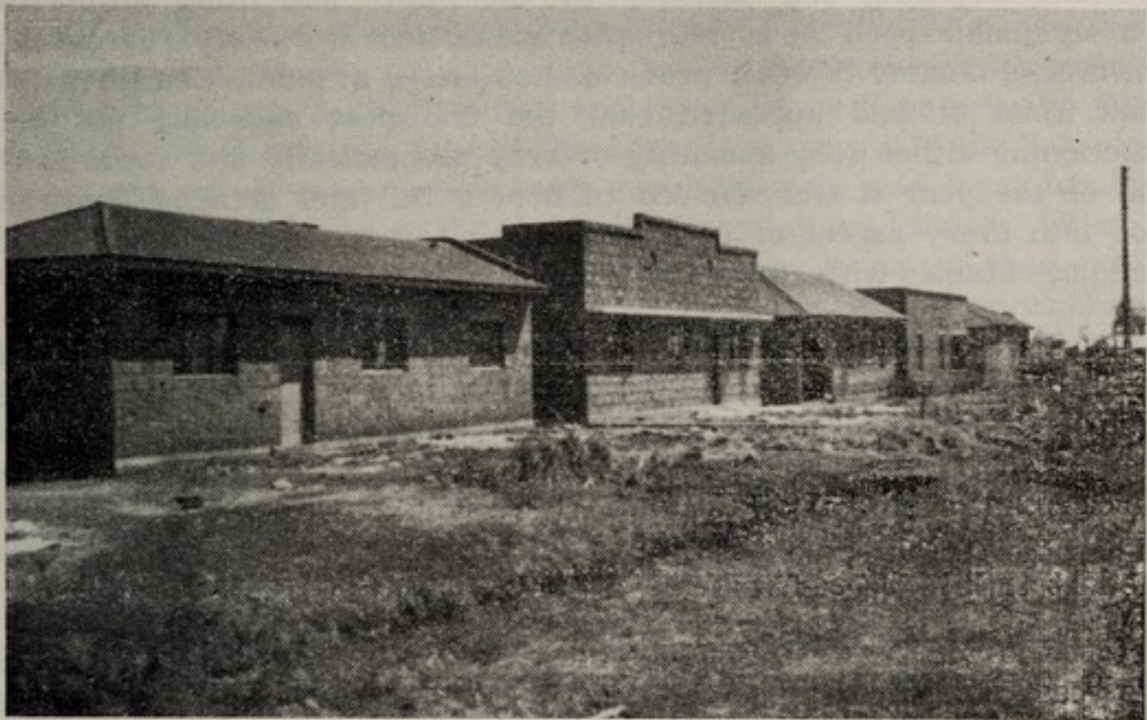
It is also pleasing to be able to say that the emergency did not seriously interfere with our plans for the future expansion and development of either African or Asian welfare services. An excellent new clinic was opened at Bahati and two more are planned. Improvements and extensions were started on the Asian clinic at Ngara. An Asian Day Nursery was started, and the new wholesale market, completed at a cost of £16,000, was opened at Mincing Lane to cater for vegetable traders.

Early in the year, the possibility of violence on a large scale pointed out the need for the establishing of a strong and efficient emergency first aid service, and this, consisting of six mobile units, was organised with the cooperation of the St. John Ambulance Brigade.

The effects of the emergency were naturally reflected in the vital statistics for the year, the interference with the public sanitary services, the movements to and from the reserves of an uneasy African population

helped to cause an African infant mortality rate of 280.6. The figures for homicide (and these probably err on the low side) were 109 with 44 attempted murders. Deaths by judicial hanging at the Nairobi prison were 113. These figures require no comment.

Looking at the situation as a whole as far as our African Maternity and Child Welfare services are concerned some consolation can perhaps be derived from the fact that the service could well have been interfered with to a greater extent and in more serious ways than it was during the year. After all, these services have been built up over a period of nearly thirty years by the devoted efforts of European workers. It has taken years to break down ignorance, hostility and suspicion amongst the local population and it would be tragic for this work to be undone by the evil conduct of what amounts to only a small section of the community. That



Owner Built African Housing at Bahati.

such a destruction of effort would be desirable to these people, would agree with their policy of relapsing deliberately to the primitive conditions of bush life in filth and savagery, and dragging all others down with them.

As the year closes it is difficult to see what the future holds but at least it can be said with confidence that our work has by no means so far suffered anything like such a serious setback as might have been anticipated.

Good progress was made during the year in other aspects of the work of the department. Although propaganda and health education work in the African locations was very seriously handicapped, progress was made in other directions. The latest training material was obtained from the Central Council for Health Education in London and a system of over stamping all correspondence leaving the Town Hall with health slogans was introduced. This is a very simple and economic way of infiltrating health ideas.

Another branch of the Public Health Department gave rise to some anxiety. It was inevitable that since all the labour connected with public cleansing belongs either to the Meru or Embu/Kikuyu sub tribes that the Emergency should have considerable repercussions. It was early evident that the labour was just as deeply under the influence of Mau Mau as any other in the City, probably a good deal more so, and the constant screening and checking by the Police and other authorities gravely handicapped the smooth operation of their work. Apart from this, however, a number of other problems had arisen in public cleansing. For some time, it had appeared that the transport side had not been functioning either very smoothly or very economically and towards the end of the year it was decided to hold a full and detailed investigation into every aspect of public cleansing to see how higher efficiency could be obtained with reasonable economy.

The scheme for making compost out of all the City's refuse proceeded very well, although it received a setback owing to a fire which destroyed quite a large quantity. Precautions were taken to prevent a recurrence of this, and it seems unlikely that this can happen when we have installed the network of pipes which will artificially water the compost heaps so as to make us independent of rain. The demand for this product at Shs. 15/- per ton has vastly exceeded the supply.

One administrative change of some importance took place during the year. Some years ago the Council became concerned at the way in which the City's retail market was conducted. There was little discipline amongst stallholders, litter was abundant, and food was handled in a way which was most unsatisfactory. For this reason, the market was placed under the control of the Public Health Department, and during the intervening period there has been a very thorough cleanup. Stallholders have been called to order, the market buildings thoroughly cleansed and re-decorated, new stalls added and existing ones improved, special refuse removal arrangements instituted, and a large number of detailed improvements effected.

Most importantly, the opening of the new wholesale market at Mincing Lane has removed a great deal of disorder, filth and crime from the retail market.

Towards the end of the year it became evident that the market had now reached a stage when its administration was rather a matter of finance and commerce than a direct concern of the Public Health Department and it was accordingly transferred to the department of the City Treasurer. This change will pave the way for the acceptance by this Department of the heavy responsibilities which will appear when the City's medical dispensary and ambulance service are taken over by the Council.

While Council have agreed to the principles involved, progress in negotiations with Government on the financial aspects of the change made unfortunately slow progress during the year, but it is hoped that the matter may reach some finality in 1954. The growth of the City unaccompanied by any development in the dispensary services has produced serious problems which urgently await solution.

I have said previously that despite the disturbing aspects of the emergency as it affected our services in the City, there were some respects in which there was a brighter side and in which we have actually made progress beyond normal. One of these brighter aspects is the behaviour of the staff of all races, particularly the Europeans and loyal Africans working in the locations, in the Maternity Hospital and Clinics. Although constantly exposed to anxiety and real risk for months on end these people have carried on cheerfully and without regard of the circumstances around them and I would like to pay the highest possible tribute to their devotion to duty.

As in previous years it is also my pleasant duty to acknowledge with thanks the loyal service of my staff generally, the cooperation of Members of the Council, and the Hon. Director of Medical Services and his staff.

Section 2

METEOROLOGY

SOME METEOROLOGICAL DETAILS — EASTLEIGH AERODROME, 1953.

(From the E.A. Meteorological Department.)

	1953	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Mean Maximum	81.0	82.3	81.2	79.7	76.0	78.3	74.3	74.1	77.5	78.9	76.8	78.2	78.2
Mean Minimum	56.4	54.7	58.9	60.3	58.6	54.7	51.0	54.1	55.7	57.5	58.9	57.1	57.1
Mean	68.7	68.5	70.1	70.0	67.3	66.5	62.7	64.1	66.6	68.2	67.9	67.7	67.7
RAINFALL (inches) NAIROBI Rly. Stn.	21.36	0.72	0.00	2.66	3.67	4.62	1.11	0.32	0.62	1.37	1.79	3.66	0.82
DAYS OF RAIN	4	—	9	12	13	5	3	6	7	9	15	9	9
AVERAGE RAINFALL OVER 37 YEARS	1.42	1.90	4.93	8.06	5.01	1.66	0.58	0.97	0.87	2.12	3.90	2.67	2.67
RELATIVE HUMIDITY %	0830 E.A.S.T.	74	76	84	87	86	79	80	83	82	80	85	78
	1430 E.A.S.T.	36	32	41	48	55	48	44	47	41	42	51	45
MEAN ATMOSPHERIC	0830 E.A.S.T.	840.3	840.1	839.8	839.9	841.2	841.1	842.4	842.7	841.6	841.1	840.8	839.8
PRESSURE (mbs.)	1430 E.A.S.T.	837.1	836.9	836.9	837.2	838.5	838.6	840.1	839.9	838.4	837.6	837.5	836.8

SOME FIGURES OF NAIROBI RAINFALL — 1897-1953

Readings taken at Nairobi Railway Station

Average yearly rainfall 1897—1900	...	...	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.
Total rainfall for 1953	...	...	21.36 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 morn-

ing, 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: —

	<i>Hrs.</i>		<i>Hrs.</i>		<i>Hrs.</i>
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—June (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 cloudy 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.

Section 3

VITAL STATISTICS

GENERAL

Area of City	20,480 acres or 32 sq. miles
Population (estimate)	176,000
Birth Rate (per 1,000 population)	29.4
Still Birth Rate (per 1,000 live and still births)	38.5
Maternal Mortality Rate (per 1,000 live and still births)	1.6
Infant Mortality Rate (deaths under one year per 1,000 live births)	119.9
Death Rate (corrected; per 1,000 population)	13.3

The estimated population has increased by 9,500 over the figure for 1952. It must be stressed once again that the population figure is not based on a census and is consequently only a very rough approximation as far as the Asian and African populations are concerned. Until the African population is more stable and under better control, and until the Asian population becomes aware of the value and necessity for notification and the registration of such things as births and deaths, the vital statistics of Nairobi will be of little value except as a very rough guide to trends.

There is no marked variation of the vital statistics figures over those of 1952. The European Maternal Mortality rate decreased from 3.3 to 0 but the 3.3 represented only 1 maternal death. The Asian Maternal mortality rate has also decreased from 2.5 to 0.6.

The most significant figure of all is the African Infant Mortality rate of 280 (299 in 1952). Surely this points to the immense public health and educational problem of Nairobi.

Causes of Death

A summary of the principal causes of death is as follows: —

			European	Asian	African	All races
Total Of All Deaths			111	376	1,760	2,247
Disease Group (a)	Total deaths in (a)	% age of all deaths	Main Causes in Group (b)	No. of deaths in (b)	% age of deaths of (a)	% of all deaths
Ill-defined causes	435	19.31	Unknown	187	43	8
			"Natural Causes"	149	34	6
Infectious and parasitic	405	18.02	Tuberculosis	188	45	8
			Dysenteries (not amoebic)	97	24	4
Respiratory	371	16.55	Pneumonias	321	80	14
Digestive	250	11.12	Infantile and childrens "enteritis"	149	59	6

The large number of deaths coming under the "ill-defined" classification points to the inaccuracy of statistics, except for comparative purposes, in Nairobi at the present stage of its public health development. In many cases it is possible that more specific reasons for the cause of death could be given. On the other hand, when the greater part of the population is shifting and illiterate it is inevitable that a great many deaths will be recorded in a statistically unsatisfactory manner. The danger lies in accepting this too complacently. It is necessary to pursue the desire for accuracy and detail and to ensure that the "inevitable" does not become an excuse for slovenly and lazy work.

Pneumonia was the greatest single cause of death, accounting for 14% of the total number of deaths. Tuberculosis (all forms) was responsible for 8% of all deaths. This disease shows no signs of diminishing—nor will it until drastic measures are taken.

The dysenteries and diarrhoeas, classed together, caused 246 deaths—10% of all deaths. Clinically, it is wrong to classify them together but from inquiries made it is obvious that no clear cut distinction is made on death certificates. Whatever, no difference is made to the main principle and lesson, namely that here is a public health problem of some magnitude.

There were 241 deaths of infants under one month and 381 deaths of infants between one month and one year. The detailed figures are:—

Deaths		European	Asian	African	Total
Under one month	... ..	6	100	135	241
One month to one year	...	5	58	318	381

Of the infants who died under 1 month, 44% (55 Asian and 50 African) died from prematurity.

Of the infants who died between 1 month and 1 year, 28% died as a result of enteritis or dysentery, 35% as a result of respiratory tract infection, and 15% as a result of malnutrition, anaemias and allied conditions.

These figures must provide the best possible argument for the need for expansion of public health services in the City.

TABLE 1

Population Figures 1949 to 1953

(Estimated by East African Statistical Department).

		1949	1950	1951	1952	1953
Europeans	...	12,000	14,500	15,000	15,500	16,000
Asians	...	50,000	52,000	54,000	56,000	60,000
Africans	...	66,000	70,000	80,000	95,000	100,000
TOTALS	...	128,000	136,500	149,000	166,500	176,000

TABLE 2

Summary of Vital Statistics 1953

	Esti- mated Popu- lation	Deaths	Death rate per 1,000	Live Births	Birth rate per 1,000	Infant Deaths	Infant Mort- ality rate	Live and Still Births	Maternal Deaths	Death rate per 1,000 Births
Europeans	16,000	111	7	295	18	11	20.3	298	—	0
Asians	60,000	276	6	3,278	54	158	48.5	3,360	2	0.6
Africans	100,000	1,760	17	1,614	16.14	453	280.6	1,736	7	4.5
TOTALS	176,000	2,247	13	5,187	29	622	119.9	5,394	9	1.6

TABLE 3

Number of Births Notified in 1953

	RESIDENTS			NON-RESIDENTS		
	Births	Still-Births	Total	Births	Still-Births	Total
Europeans	295	3	298	276	2	278
Asians	3,256	81	3,337	56	5	61
Africans	1,614	122	1,736	660	53	723
Seychellois	20	1	21	3	—	3
Comorian	1	—	1	—	—	—
Cingalese	1	—	1	—	—	—
Mauritian	—	—	—	1	—	1
TOTALS	5,187	207	5,394	996	70	1,066

TABLE 4

Birth rates over the Past Five Years

		1949	1950	1951	1952	1953
Europeans	...	27.2	19.7	20.2	21.03	18.4
Asians	...	53.1	55.6	57.7	61	54.4
Africans	...	25.8	25.6	24.7	18.1	16.1

TABLE 5

Infant Mortality Rate Over Past Five Years

		1949	1950	1951	1952	1953
Europeans	...	25	39	52	24	20
Asians	...	57	58	52	56	49
Africans	...	168	170	180	299	281

TABLE 6

Maternal Deaths and Maternal Mortality Rate 1953

				Rate/1,000
		Live and Still Births	Maternal Deaths	Births
Europeans	...	298	0	0
Asians	...	3,360	2	0.6
Africans	...	1,736	7	4.5
TOTALS		5,394	9	1.6

TABLE 7

Death Rates Over Past Five Years

		1949	1950	1951	1952	1953
Europeans	...	9.8	8.6	9.9	9.3	6.9
Asians	...	6.6	7.0	8.0	7.8	6.26
Africans	...	13.8	14.0	16.8	15.3	17.60

Summary of the Causes of Death

	Europeans	Asians	Africans	Totals	Percentage of all deaths in 1953.	Percentage of all deaths in 1952.	Death Rate 1953.	Death Rate 1952.
1. Infectious & Parasitic Diseases	4	14	387	405	18.02	20.75	2.3	2.5
2. Cancer and other Tumours	11	10	19	40	1.78	2.23	0.22	0.24
3. Rheumatism, Diseases of Nutrition, etc. ...	2	12	28	42	1.86	2.23	0.24	0.26
4. Diseases of the Blood, etc.	1	10	36	47	2.10	1.49	0.26	0.18
5. Chronic Poisoning and Intoxications ...	—	—	1	1	0.04	0.04	0.005	0.006
6. Diseases of the Nervous System	21	20	60	101	4.49	4.52	0.57	0.54
7. Diseases of the Circulatory System ...	23	25	20	68	2.02	3.13	0.38	0.37
8. Diseases of the Respiratory System ...	4	64	303	371	16.55	20.40	2.1	2.46
9. Diseases of the Digestive System	8	32	210	250	11.12	10.90	1.4	1.31
10. Diseases of the Genito-Urinary System (non-venereal).	6	9	19	34	1.06	1.34	0.19	0.16
11. Diseases of Pregnancy, Childbirth, etc. ...	—	2	7	9	0.40	0.69	0.05	0.08
12. Diseases of the Skin	—	1	4	5	0.22	0.09	0.02	0.01
13. Diseases of Bones and Joints	—	1	2	3	0.13	0.14	0.01	0.01
14. Congenital Malformations	1	8	7	16	0.71	1.19	0.09	0.14
15. Diseases peculiar to the First Year of Life ...	5	88	90	183	8.14	8.86	1.03	1.06
16. Senility, old age ...	1	9	5	15	0.66	0.59	0.08	0.07
17. Death from Violence	15	34	174	223	9.92	7.11	1.26	0.85
18. Ill-defined Causes ...	9	37	388	434	19.31	14.13	2.46	1.10
Total of all Deaths	111	376	1760	2247	100.0	100.0	12.76	12.06

Causes of Infant Deaths

International					(Under one month)			
List No.	Cause				Europeans	Asians	Africans	Total
12.	Tetanus	...	...	...	—	—	4	4
27.	Dysentery	...	...	...	—	—	1	1
30.	Congenital syphilis	...	...	...	—	1	1	2
81.	Pyogenic meningitis	...	...	...	—	—	1	1
83.	Cerebral haemorrhage	...	...	...	—	1	1	2
106.	Acute capillary bronchitis	...	...	...	—	—	1	1
106.	Bronchitis	...	...	...	—	2	—	2
107.	Broncho-pneumonia	...	...	...	—	—	7	7
107.	Aspiration pneumonia	...	...	...	—	2	—	2
108.	Bilateral pneumonia	...	...	...	—	2	1	3
108.	Lobar pneumonia	...	...	...	—	2	2	4
109.	Pneumonia—undefined	...	...	...	—	6	5	11
118.	Haematemesis	...	...	...	—	1	—	1
119.	Diarrhoea	...	...	...	—	1	—	1
119.	Enteritis	...	...	...	—	—	2	2
119.	Gastro-enteritis	...	...	...	—	—	1	1
135.	Pyogenic cystitis	...	...	...	—	1	—	1
141.	Shock at birth	...	...	...	—	—	1	1
143.	Ante-partum haemorrhage	...	...	...	—	1	—	1
147.	Cerebral injury	...	...	...	—	—	1	1
157.	Hirschsprung's disease	...	...	...	—	1	—	1
157.	Monster	...	...	...	—	1	—	1
157.	Other congenital malformations	...	...	...	—	1	—	1
157.	Congenital heart disease	...	...	...	—	2	1	3
157.	Spina bifida	...	...	...	—	—	1	1
158.	Marasmus	...	...	...	—	1	11	12
158.	Inanition	...	...	...	—	1	—	1
159.	Prematurity	...	...	...	2	55	50	107
159.	Immaturity	...	...	...	—	2	1	3
160.	Birth injuries	...	...	...	—	1	2	3
161.	Neonatal septicaemia	...	...	...	1	—	—	1
161.	Atelectasis	...	...	...	2	4	1	7
161.	Icterus neonatorum	...	...	...	—	2	—	2
161.	Delay in second stage	...	...	...	—	—	3	3
161.	Asphyxia neonatorum	...	...	...	—	7	—	7
161.	Asphyxia	...	...	...	—	2	—	2
200.	Unknown	...	...	...	—	—	17	16
200.	Natural causes	...	...	...	1	—	1	2
200.	Cardiac failure	...	...	...	1	—	1	2
					6	100	135	241

Causes of Infant Deaths

International

(From one month to one year)

List No.	Cause	Europeans	Asians	Africans	Total
9.	Whooping cough	—	1	7	7
13.	Broncho-pneumonia, tuberculous	—	—	3	3
13.	Pulmonary tuberculosis	—	—	11	11
14.	Tuberculous meningitis	—	—	5	5
22.	Miliary tuberculosis	—	—	1	1
24.	Pyæmia	—	—	1	1
27.	Bacillary dysentery	—	1	9	10
27.	Dysentery	—	—	5	5
28.	Malaria	—	—	4	4
28.	Cerebral malaria	—	1	1	2
33.	Influenzal pneumonia	—	1	—	1
33.	Influenzal meningitis	—	—	2	2
37.	Virus encephalitis	—	—	1	1
45.	Sarcoma	—	—	1	1
64.	Enlarged thymus	—	—	1	1
73.	Anaemia	—	1	8	9
80.	Encephalitis	—	1	—	1
81.	Meningitis	—	—	2	2
81.	Streptococcal meningitis	1	—	—	1
81.	Pneumococcal meningitis	—	—	6	6
86.	Convulsions	—	1	—	1
89.	Otitis media	—	—	1	1
91.	Acute endocarditis	—	1	—	1
105.	Laryngitis	—	—	2	2
106.	Respiratory tract infection	—	—	1	1
106.	Bronchitis	—	—	7	7
107.	Acute bronchiolitis	—	—	2	2
107.	Broncho-pneumonia	1	8	43	52
108.	Lobar pneumonia	—	1	11	12
108.	Bilateral pneumonia	—	1	—	1
109.	Pneumonia, undefined	—	6	23	29
115.	Septic pharyngitis	—	—	1	1
118.	Pyloric stenosis	—	—	1	1
119.	Enteritis	1	—	10	11
119.	Gastro-enteritis	—	10	44	54
119.	Diarrhoea	—	6	8	14
125.	Infective jaundice	—	1	—	1
129.	Polyserositis	—	—	1	1
152.	Cellulitis	—	1	—	1
153.	Dermatitis	—	—	1	1
154.	Osteomyelitis	—	—	1	1
157.	Spina bifida	—	—	1	1
157.	Congenital recto-vaginal fistula	—	—	1	1
157.	Congenital heart disease	—	—	1	1
157.	Congenital deformity	—	—	1	1
158.	Malnutrition	—	1	6	7
158.	Weakness	—	—	1	1
158.	Marasmus	—	8	9	17
158.	Debility	—	1	1	2
159.	Prematurity	—	3	1	4
161.	Massive atelectasis	—	—	1	1
186.	Accidental fall	—	1	—	1
199.	Syncope	1	—	—	1
200.	Cardiac failure	1	2	—	3
200.	Unknown	—	—	32	32
200.	Natural causes	—	—	39	39
		5	58	318	381

Causes of Deaths

Group I.—Infectious and Parasitic Diseases

International

List No.	Cause	Europeans	Asians	Africans	Total
1.	Typhoid	—	—	25	25
6.	Post basic meningitis	—	—	1	1
7.	Anthrax	—	—	2	2
9.	Whooping-cough	—	1	20	21
10.	Diphtheria	—	1	1	2
12.	Tetanus	—	1	12	13
13.	Tuberculosis jaw	—	—	1	1
13.	Clinical pulmonary tuberculosis	—	—	8	8
13.	Tuberculous broncho-pneumonia	—	—	13	13
13.	Primary tuberculosis	—	—	2	2
13.	Pulmonary tuberculosis	2	1	107	110
13.	Tuberculosis, lungs	—	—	3	3
14.	Tuberculous meningitis	—	—	26	26
15.	Tabes mesenterica	—	—	1	1
15.	Tuberculous peritonitis	—	—	7	7
15.	Renal tuberculosis	—	—	1	1
16.	Tuberculosis of spine	—	1	—	1
19.	Tuberculous adenitis	—	—	1	1
20.	Urogenital tuberculosis	—	—	1	1
21.	Tuberculous liver	—	—	1	1
21.	Tuberculous pericarditis	—	—	2	2
22.	Miliary tuberculosis	—	—	9	9
22.	Generalised tuberculosis	—	—	2	2
24.	Pyaemia	—	—	1	1
24.	Septicaemia	1	1	4	6
27.	Bacillary dysentery	—	1	51	52
27.	Amoebic dysentery	—	—	2	2
27.	Dysentery	—	—	21	21
28.	Cerebral malaria	—	2	5	7
28.	Malaria	—	1	16	17
29.	Kala-azar	—	—	1	1
30.	Congenital syphilis	—	1	2	3
30.	Cerebral vascular syphilis	—	—	1	1
30.	Syphilitic aortitis	—	—	1	1
30.	General paralysis of the insane	—	—	7	7
30.	Tabes dorsalis	—	1	—	1
33.	Influenzal meningitis	—	—	4	4
33.	Influenzal pneumonia	—	1	—	1
33.	Influenza	—	1	1	2
35.	Measles	—	—	17	17
36.	Poliomyelitis	—	—	2	2
37.	Virus encephalitis	1	—	2	3
38.	Chicken pox	—	—	1	1
42.	Ascariasis	—	—	1	1
44.	Mumps	—	—	1	1
		4	14	387	405

Group II.—Cancer and other Tumours

International

List No.	Cause	Europeans	Asians	Africans	Total
45.	Carcinoma of maxilla ...	—	—	1	1
45.	Sarcoma ...	—	—	1	1
46.	Cancer of the stomach ...	2	1	—	3
46.	Cancer of the oesophagus ...	—	—	4	4
46.	Cancer of liver ...	1	1	6	8
46.	Cancer of colon ...	—	1	1	2
46.	Cancer of sigmoid ...	—	1	—	1
47.	Cancer of lung ...	1	—	1	2
48.	Cancer of uterus ...	1	2	—	3
49.	Carcinoma of ovary ...	—	1	1	2
50.	Cancer of breast ...	1	1	—	2
51.	Cancer of testicles ...	1	—	—	1
52.	Hypernephroma ...	1	—	—	1
53.	Carcinoma of lower jaw ...	—	1	—	1
55.	Carcinoma of thyroid ...	—	—	1	1
55.	Sarcoma, osteoid ...	—	1	—	1
55.	Cancer, unspecified ...	3	—	—	3
56.	Sub-dural haematoma ...	—	—	1	1
56.	Meningioma ...	—	—	1	1
57.	Mid-brain tumour ...	—	—	1	1
		11	10	19	40

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 endocarditis ...	—	—	1	1
58.	Rheumatic carditis ...	1	2	2	5
59.	Rheumatoid arthritis ...	—	1	—	1
61.	Diabetes ...	—	5	—	5
61.	Hypoglycaemia ...	—	—	1	1
63.	Thyrotoxicosis ...	—	1	—	1
63.	Myxoedema ...	—	1	—	1
64.	Enlarged thymus ...	—	—	1	1
65.	Addison's disease ...	—	1	—	1
66.	Toxaemia ...	1	1	1	3
66.	Hepato-renal syndrome ...	—	—	1	1
69.	Kwashiokor ...	—	—	20	20
71.	Onyali ...	—	—	1	1
		2	12	28	42

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

International

List No.	Cause	Europeans	Asians	Africans	Total
72.	Thrombocytopenia	—	1	—	1
72.	Haemophilia	—	1	—	1
73.	Sickle cell anaemia	—	—	2	2
73.	Anaemia	—	7	22	29
73.	Megalocytic anaemia	—	—	4	4
73.	Haemolytic anaemia	—	—	2	2
74.	Leukaemia	1	1	2	4
74.	Myeloid leukaemia	—	—	2	2
75.	Ruptured spleen	—	—	2	2
		1	10	36	47

Group V.—Chronic Poisoning and Intoxication

International

List No.	Cause	Europeans	Asians	Africans	Total
79.	Acute poisoning	—	—	1	1
		—	—	1	1

Group VI.—Diseases of the Nervous System

International

List No.	Cause	Europeans	Asians	Africans	Total
80.	Encephalitis	1	3	5	9
81.	Meningitis	—	2	15	17
81.	Meningitis, (streptococcal)	1	—	—	1
81.	Meningitis, (pneumococcal)	—	—	12	12
81.	Meningitis, (pyogenic)	—	—	1	1
82.	Sub-acute combined degeneration	—	1	—	1
83.	Paraplegia	—	—	2	2
83.	Paralysis	—	1	—	1
83.	Hemiplegia	—	1	1	2
83.	Cerebral haemorrhage	10	1	3	14
83.	Cerebral thrombosis	6	4	1	11
83.	Sub-arachnoid haemorrhage	1	—	2	3
83.	High blood pressure	—	2	—	2
83.	Cerebral embolism	1	1	—	2
83.	Hyperaemia	—	1	—	1
83.	Intra cranial haemorrhage	—	—	1	1
83.	Meningeal haemorrhage	—	—	1	1
83.	Sub-dural haemorrhage	—	—	1	1
84.	Chronic mania	—	—	1	1
84.	Exhaustion from mania	—	1	—	1
84.	Schizophrenia	—	—	4	4
84.	Mania	—	—	2	2
85.	Status epilepticus	—	—	1	1
85.	Epilepsy	—	1	3	4
86.	Convulsions (under 5)	—	1	—	1
86.	Convulsions	—	—	1	1
87.	Huntingdon's chorea	1	—	—	1
89.	Otitis media	—	—	2	2
		21	20	59	100

Group VII.—Diseases of the Circulatory System

International

List No.	Cause	Europeans	Asians	Africans	Total
90.	Pericarditis	—	—	1	1
90.	Pericardial haemorrhage	—	—	1	1
90.	Hydro-pericardium	—	—	1	1
91.	Endocarditis	2	1	1	4
92.	Mitral incompetence	—	—	1	1
92.	Aortic incompetence	—	—	1	1
92.	Valvular heart disease	—	1	—	1
92.	Aortic regurgitation	—	—	1	1
93.	Heart block	—	—	1	1
93.	Myocardial disease	2	—	—	2
93.	Myocarditis	1	—	5	6
93.	Myocardial degeneration	—	1	—	1
93.	Myocardial infarction	2	—	—	2
94.	Coronary thrombosis	5	11	1	17
94.	Coronary occlusion	3	—	—	3
94.	Angina pectoris	—	1	—	1
95.	Disease of the heart	—	1	—	1
95.	Rheumatic heart disease	—	—	1	1
97.	Arterio-sclerosis	5	—	—	5
98.	Gangrenous ulcer	—	—	1	1
99.	Thrombosis	—	2	—	2
101.	Cervical adenitis	—	—	1	1
102.	Hypertension	3	6	—	9
103.	Haemorrhage	—	1	—	1
103.	Internal haemorrhage	—	—	3	3
		23	25	20	68

Group VIII.—Diseases of the Respiratory System

International

List No.	Cause	Europeans	Asians	Africans	Total
105.	Respiratory obstruction	—	—	1	1
105.	Laryngeal oedema	—	1	—	1
105.	Laryngitis	—	—	3	3
106.	Bronchial obstruction	—	—	1	1
106.	Respiratory tract infection	—	—	1	1
106.	Acute capillary bronchitis	—	—	1	1
106.	Bronchitis	—	3	18	21
106.	Bronchiectasis	—	—	2	2
107.	Aspiration pneumonia	—	2	—	2
107.	Broncho-pneumonia	3	18	113	134
107.	Acute bronchiolitis	—	—	2	2
108.	Double pneumonia	—	—	3	3
108.	Bilateral pneumonia	—	5	2	7
108.	Lobar pneumonia	—	5	53	58
109.	Pneumonia, unspecified	1	25	87	113
110.	Haemothorax	—	—	1	1
110.	Hydrothorax	—	—	1	1
110.	Pleurisy	—	1	—	1
110.	Pleural effusion	—	—	1	1
111.	Pulmonary embolism	—	1	1	2
111.	Congestion of lung	—	—	1	1
111.	Pulmonary infarction	—	1	—	1
111.	Hypostatic pneumonia	—	—	2	2
111.	Acute oedema of lung	—	—	1	1
112.	Asthma, bronchial	—	1	—	1
112.	Asthma	—	1	1	2
114.	Lung abscess	—	—	4	4
114.	Mediastinal tumour	—	—	1	1
114.	Gangrene of right lung	—	—	1	1
114.	Septic ulcer chest	—	—	1	1
		4	64	303	371

Group IX.—Diseases of the Digestive System

International

List No.	Cause	Europeans	Asians	Africans	Total
115.	Septic pharyngitis ...	—	—	1	1
116.	Haemorrhage from oesophagus ...	—	—	1	1
118.	Pyloric stenosis ...	—	—	1	1
118.	Vomiting ...	—	—	1	1
118.	Haematemesis ...	—	2	—	2
118.	Gastritis ...	—	—	1	1
119.	Enteritis (under 2) ...	2	—	20	22
119.	Acute enteritis ...	—	—	7	7
119.	Gastro-enteritis ...	1	13	67	81
119.	Diarrhoea (under 2) ...	—	8	11	19
120.	Acute enteritis ...	—	—	7	7
120.	Diarrhoea (over 2) ...	—	—	16	16
120.	Gastro-enteritis ...	—	1	23	24
120.	Enteritis (over 2) ...	—	—	3	3
120.	Acute colitis ...	—	—	5	5
122.	Intussusception ...	—	—	2	2
122.	Gangrenous volvulus ...	—	—	1	1
122.	Volvulus of large & small intestine ...	1	—	1	2
122.	Intestinal obstruction ...	1	1	2	4
122.	Strangulated hernia ...	—	—	1	1
123.	Septic diverticulosis ...	—	—	1	1
123.	Gangrenous appendix ...	—	1	—	1
123.	Colic ...	—	—	1	1
124.	Chronic hepatitis ...	—	—	1	1
124.	Hepatic cirrhosis ...	—	—	1	1
124.	Cirrhosis of liver ...	1	2	18	21
125.	Primary hepatoma ...	—	—	1	1
125.	Rupture of liver ...	—	—	1	1
125.	Liver abscess ...	—	—	1	1
125.	Hepatitis ...	—	—	1	1
125.	Infective jaundice ...	—	1	—	1
125.	Liver failure ...	1	—	—	1
125.	Acute yellow atrophy ...	—	—	3	3
125.	Cholaemia ...	—	1	—	1
126.	Toxic hepatitis ...	—	—	1	1
126.	Hepatic degeneration ...	—	—	1	1
127.	Cholecystectomy ...	1	—	—	1
127.	Obstructive jaundice ...	—	1	1	2
128.	Acute pancreatitis ...	—	—	1	1
129.	Polyserositis ...	—	—	1	1
129.	Peritonitis ...	—	1	5	6
		8	32	210	250

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

International					Europeans	Asians	Africans	Total
List No.	Cause							
130.	Acute nephritis	...	...	...	—	1	1	2
131.	Chronic nephritis	...	...	...	—	1	3	4
132.	Nephritis	...	...	...	—	1	4	5
132.	Uraemia	...	...	...	5	5	8	18
133.	Urinary infection	...	...	...	—	—	1	1
135.	Vesico-vaginal fistula	...	...	...	—	—	1	1
135.	Cystitis, pyogenic	...	...	...	—	1	—	1
137.	Prostatectomy	...	...	...	1	—	—	1
139.	Pelvic peritonitis	...	...	...	—	—	1	1
					6	9	19	34

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

International					Europeans	Asians	Africans	Total
List No.	Cause							
141.	Shock at birth	...	...	...	—	—	1	1
143.	Ante-partum haemorrhage	...	...	...	—	1	—	1
144.	Toxaemia of pregnancy	...	...	...	—	—	1	1
146.	Puerperal haemorrhage	...	...	...	—	1	—	1
147.	Cerebral injury	...	...	...	—	—	1	1
147.	Puerperal sepsis	...	...	...	—	—	1	1
147.	Neurological infection	...	...	...	—	—	1	1
149.	Difficult delivery	...	...	...	—	—	1	1
149.	Ruptured cervix	...	...	...	—	—	1	1
					—	2	7	9

Group XII.—Diseases of the Skin and Cellular Tissue

International					Europeans	Asians	Africans	Total
List No.	Cause							
152.	Cellulitis	...	...	...	—	1	1	2
153.	Septic scabies	...	...	...	—	—	1	1
153.	Scabies	...	...	...	—	—	1	1
153.	Dermatitis	...	...	...	—	—	1	1
					—	1	4	5

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

International					Europeans	Asians	Africans	Total
List No.	Cause							
154.	Osteomyelitis	...	...	...	—	—	1	1
155.	Fractured base of skull	...	...	...	—	1	—	1
155.	Fracture of fibia	...	...	...	—	—	1	1
					—	1	2	3

Group XIV.—Congenital Malformations

International

List No.	Cause	Europeans	Asians	Africans	Total
157.	Mitral stenosis	1	—	—	1
157.	Cerebral tumour	—	—	1	1
157.	Hirschsprung's disease	—	1	—	1
157.	Spina bifida	—	—	2	2
157.	Congenital heart disease	—	4	2	6
157.	Monster	—	1	—	1
157.	Syringomelocele	—	1	—	1
157.	Congenital enlargement of liver	—	1	—	1
157.	Congenital deformity of rectus	—	—	1	1
157.	Congenital recto-vaginal fistula	—	—	1	1
		1	8	7	16

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

International

List No.	Cause	Europeans	Asians	Africans	Total
158.	Marasmus	—	9	20	29
158.	Inanition	—	1	—	1
158.	Debility	—	1	1	2
158.	Malnutrition	—	1	6	7
158.	General weakness	—	—	1	1
159.	Prematurity	2	58	52	112
159.	Immaturity	—	2	1	3
160.	Birth injuries	—	1	2	3
160.	Haemorrhage following birth	—	—	1	1
161.	Neo-natal septicaemia	1	—	—	1
161.	Icterus neonatorum	—	2	—	2
161.	Atelectasis	2	4	1	7
161.	Massive atelectasis	—	9	1	10
161.	Delayed in 2nd stage	—	—	1	1
161.	Asphyxia	—	—	1	1
		5	88	90	183

Group XVI.—Senility, Old Age

International

List No.	Cause	Europeans	Asians	Africans	Total
162.	Senility	1	9	5	15
		1	9	5	15

Group XVII.—Death from Violence

International

List No.	Cause	Europeans	Asians	Africans	Total
163.	Poisoning	—	—	1	1
164.	Suicide by firearms	4	—	1	5
164.	Burns (suicide)	—	1	—	1
164.	Hanging (suicide)	—	—	9	9
166.	Homicide by firearms	1	9	67	77
167.	Homicide by stab wounds	—	—	14	14
168.	Asphyxia, strangulation	—	—	17	17
169.	Train accident	—	—	1	1
170.	Traffic accident (road)	6	11	22	39
175.	Multiple wounds (Crocodile bites)	1	—	—	1
177.	Poisoning	—	1	—	1
178.	Suffocation by inhalation	—	—	1	1
178.	Petrol poisoning	—	—	1	1
179.	Alcoholic poisoning	—	—	1	1
181.	Burns	—	7	5	12
182.	Respiratory obstruction	—	—	1	1
182.	Asphyxia (accident)	—	1	—	1
182.	Accidental suffocation	1	—	—	1
183.	Drowning	—	—	3	3
184.	Gunshot wounds (accident)	2	2	—	4
185.	Puncture of skull	—	—	1	1
186.	Cerebral injuries	—	1	—	1
186.	Accidental fall	—	1	—	1
195.	Fracture of ribs	—	—	1	1
195.	Fractured skull	—	—	10	10
195.	Fractured femur	—	—	1	1
195.	Shock from multiple injuries	—	—	1	1
195.	Compound fracture	—	—	1	1
198.	Judicial hangings (residents only)	—	—	15	15
		15	34	174	223

Group XVIII.—Ill Defined Causes of Death

International

List No.	Cause	Europeans	Asians	Africans	Total
199.	Cardiac syncope	2	—	—	2
200.	Natural cause	—	1	148	149
200.	General debility	—	—	1	1
200.	Unknown, ill defined	1	3	183	187
200.	Heart failure	6	15	9	30
200.	Malnutrition (over 1 year)	—	—	23	23
200.	Coma	—	—	2	2
200.	Post-operative shock	—	2	4	6
200.	Cardiac failure	—	15	15	30
200.	Generalised anasarca	—	1	—	1
200.	Cachexia	—	—	3	3
200.	Inanition	—	—	1	1
		9	37	389	435

Section 4

NOTIFIABLE DISEASES

Notifiable Diseases, by Races

DISEASES	Europeans	Asians	Africans	Total 1953	Totals 1952	for 1951	previous 1950	years 1949	
Anthrax	...	1	1	5	7	10	16	10	25
Beri-beri	...	—	—	—	—	—	1	—	—
Blackwater Fever	...	—	—	—	—	4	2	1	3
Cerebro-spinal Fever	...	—	1	—	1	2	11	2	5
Chickenpox	...	221	9	8	238	55	531	279	340
Diphtheria	...	1	8	4	13	30	16	12	12
Dysentery, Amoebic	...	4	1	51	56	75	57	25	43
Dysentery, Bacillary	...	34	11	519	564	344	316	198	289
Erysipelas	...	2	—	—	2	1	1	5	2
Glanders	...	—	—	—	—	5	—	—	—
Kala-Azar	...	—	—	—	—	1	—	—	—
Malta Fever	...	—	—	4	4	6	4	1	4
Ophthalmia Neonatorum	...	—	—	23	23	19	11	20	5
Para-typhoid	...	—	—	—	—	10	1	1	4
Poliomyelitis	...	11	1	8	20	32	9	16	21
Puerperal Fever	...	—	—	1	1	6	5	4	4
Relapsing Fever	...	—	—	—	—	5	8	1	—
Scarlet Fever	...	4	—	—	4	2	1	2	1
Smallpox	...	—	—	—	—	—	1	—	—
Tick Typhus	...	4	—	—	4	24	15	18	27
Trypanosomiasis	...	—	—	—	—	1	2	—	—
Tuberculosis	...	6	17	449	472	361	405	387	305
Typhoid	...	2	11	138	151	38	74	97	130
Leprosy	...	—	—	9	9	—	13	19	4
	290	60	1219	1569	1039	1500	1101	1221	

There is no very significant alteration in the incidence of notifiable diseases, generally speaking. Tuberculosis and dysentery maintain, unfortunately, their former positions as the two commonest of the diseases. Tuberculosis is dealt with later.

It is believed that the figures for dysentery do not reflect at all accurately the incidence of the disease in the town and that to regard these figures as a true picture is to blind oneself to a serious public health problem. It is known that many cases occur which are not notified by doctors who attend the patients. Even institutional outbreaks have remained un-notified and have come to the notice of the department accidentally.

There is some justification for suggesting that antibiotics have so reduced the dangers of the severe diarrhoeas and dysenteries that doctors are inclined to be complacent about these diseases and to regard them as being not serious, except in exceptional circumstances, and con-

sequently not worth notifying. This attitude, of course, completely ignores the basic principle and design of notification. A public health department is not interested in whether a case is serious or not but in whether the disease occurs or not. The public health problem of the causative circumstances—particularly in institutions—remains, even if the patients are rapidly cured by antibiotics or any other drug. Dysentery is a disease of dirty habits and its occurrence should be used to impress the virtue of cleanliness rather than the virtue of modern drugs.

The institutional outbreak referred to above came to the notice of the department accidentally and after many sporadic cases had occurred. Investigation showed that the outbreak was caused by a dysentery carried. While it must be admitted that all such investigations do not have so fortunate a result, this one does demonstrate that investigation can be of value and preventive cure can be more effective, more efficient and more pleasant than cure by drugs.

If calculated in terms of lost working days, it would be found that the economic loss to the colony because of dysentery and diarrhoea would be enormous. It is not a question solely of inconvenience and illness to the patient—the problem is much greater than that. While progress in the diminution of the trouble must be very slow indeed—for much depends on educating the citizen—such progress can be helped considerably by notification. The greater co-operation of doctors will be much appreciated in this.

TUBERCULOSIS

The figures for Tuberculosis amongst Africans show some increase over those for 1952. Looked at in the light of the general problem and the overall figures of attack rate and death rates since 1948, the increases for the past year are insignificant.

There are two sides to this problem—one lies in the general domestic and living conditions of the people, the other in the pursuit of active public health measures. The main points of the latter lie in the diagnosis of tuberculosis, the segregation of sputum positive people and the follow up of patients discharged from hospital as cured or incurable. During the past year, in co-operation with the Senior Medical Officer, Nairobi, a small scheme was begun whereby cured patients who lived in Nairobi reported to the public health department after discharge from hospital. The City African Affairs Department was most helpful in providing these people with good housing and this department has endeavoured to keep an eye, generally speaking, on their way of living and the type of work which they do. The contribution to the tuberculosis problem and the welfare of patients is minute. But it is a beginning and the only active action which the local public health authority takes.

The time has come when much more serious consideration must be given to the tuberculosis problems of the city. The financial implications are great, but so are the economic implications of permitting the disease to run rampant. Much has been written and talked about methods whereby the productivity of the African may be increased. It is suggested that one of the answers to which too little attention is paid—lies in improving the health of the African.

In 1953, 449 cases were notified. But this does not mean that of the 100,000 Africans living in Nairobi only 449 suffered from tuberculosis. Possibly several thousands of those who do not do "a good day's work" have got active undiagnosed tuberculosis. To take active measures about this scourge would not be entirely philanthropic.

TABLE 8
Tuberculosis Attack Rate and Death Rates, 1952

Race	Cases	Attack Rate per 10,000 persons.	Deaths	Death Rate per 10,000 persons.
Europeans ...	6	3.7	2	1.2
Asians ...	17	2.8	2	0.66
Africans ...	449	44.9	184	18.4

**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
1953	44.9	18.4

Section 5

MALARIA AND YELLOW FEVER CONTROL

The department was fortunate in obtaining in June the services of a fully trained European to fill one of the vacancies in the depleted Malaria Control Staff and this, with the return from overseas leave of Mr. M. I. Shah in June, relieved a very critical situation.

Malaria Control

Vector Anopheline catches were again very low and the figures were at first viewed with a certain amount of suspicion particularly in view of the lack of adequate supervision during the first half of the year. Consequently on the advent of a trained supervisor the old method of catching by hand with the aid of torches was abandoned and the more efficient method of spray catching introduced. The figures remained low!

Up to the beginning of the Emergency many of the best adult mosquito catching stations were native huts at points on or near the perimeter of the control area. The majority of these, however, have been demolished or abandoned so that for this and other reasons, change of station was necessary in a total of 16 cases or 30% of the total number of stations. In many instances considerable difficulty was experienced in finding another room or hut suitable to our needs but no lapse in catches was allowed to occur and it is considered unlikely that these changes can be said to reflect in the low catches.

The reorganisation of the control applied in 1952 continued to work smoothly with minor adjustments to detail where necessary. Maps of each section, which were quite out of date, were completely renewed and proved a great help to the mosquito searchers when reporting trouble spots etc. Most of the spraying apparatus had reached such a stage of disrepair as to become almost unserviceable and certainly not efficient. This was due in the main to the numerous changes of inspectors and lack of anyone sufficiently experienced to effect minor repairs when necessary. Advantage was therefore taken of dry spells to overhaul the whole of this equipment which by the end of the year could be said to be once more 100% efficient. This work was carried out by the Malaria Control Staff with the exception of any soldering or welding which was found necessary.

Anti-Malarial Drainage. The position regarding maintenance of anti-malarial drainage deteriorated considerably during the year. Most of the rivers were not cleared of vegetation at all with consequent blockages and heavy Culicine mosquito breeding. Stone pitched anti-malaria drains became overgrown, blocked and damaged. All this was due to inadequate maintenance staff. The nett result was that at the end of the year a

serious backlog of such work had accumulated despite the large amount undertaken by our oiling boys during the dry seasons.

Some progress was, however, made in the provision of new drainage but it is hoped that adequate maintenance staff will be available in order that the money so spent will not be wasted.

Malaria. The number of cases of malaria contracted in Nairobi again showed a decrease, there being a total of 134 cases as against 375 in 1952 and 751 in 1951. Of these 134 cases, 103 were sub-tertian infections, 3 quartan and 9 benign tertian, the remainder being diagnosed on clinical symptoms only.

It is suggested that a more accurate view of the position in Nairobi is obtained by comparing the figures for cases diagnosed on a positive blood smear rather than the total cases notified, as the latter figures, of course, include those cases where no blood smears were examined. The total cases notified in which a positive blood smear was obtained were as follows—1952—236, 1953—115. This shows a reduction of 50% whereas the total figures of 375 and 134 respectively show a decrease of 64%.

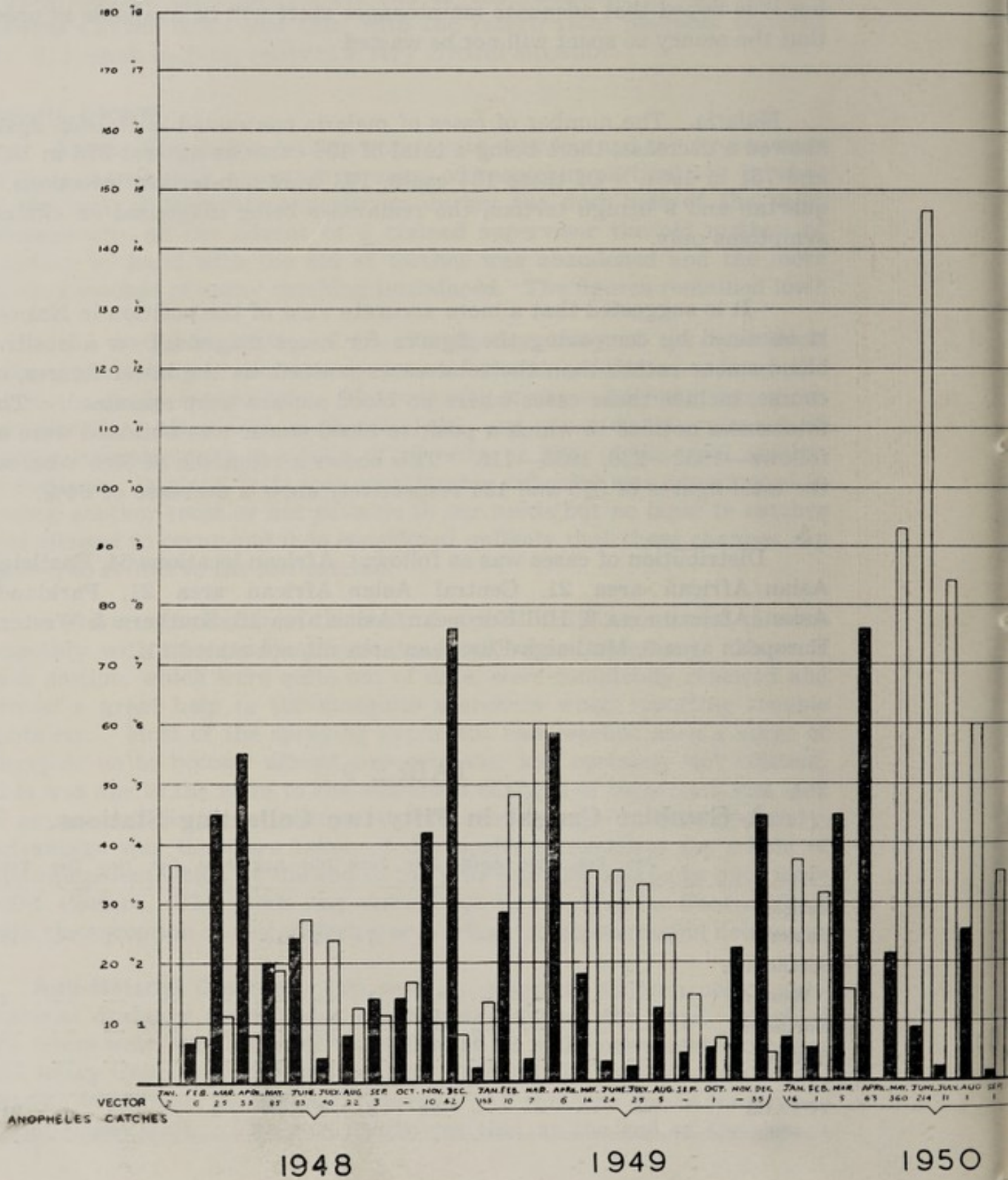
Distribution of cases was as follows: African locations 54, Eastleigh Asian/African area 21, Central Asian/African area 21, Parklands Asian/African area 6, Hill European/Asian area 16, Southern & Western European area 5, Muthaiga European area nil, not stated 11.

TABLE 9
A Gambiae Caught in Fifty-two Collecting Stations.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Stations													
Eastern	—	—	—	—	9	7	1	—	1	—	1	—	19
Southern &													
Western	—	—	—	—	1	1	—	—	—	—	—	—	2
Northern	—	—	—	—	—	—	—	—	—	—	—	—	—
Central	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTALS	—	—	—	—	10	8	1	—	1	—	1	—	21

N A I
I 9 4 8

MALARIA CASES RAINFALL
(RESIDENTS CONTRACTING IN NAIROBI) (EASTLEIGH AERODROME)



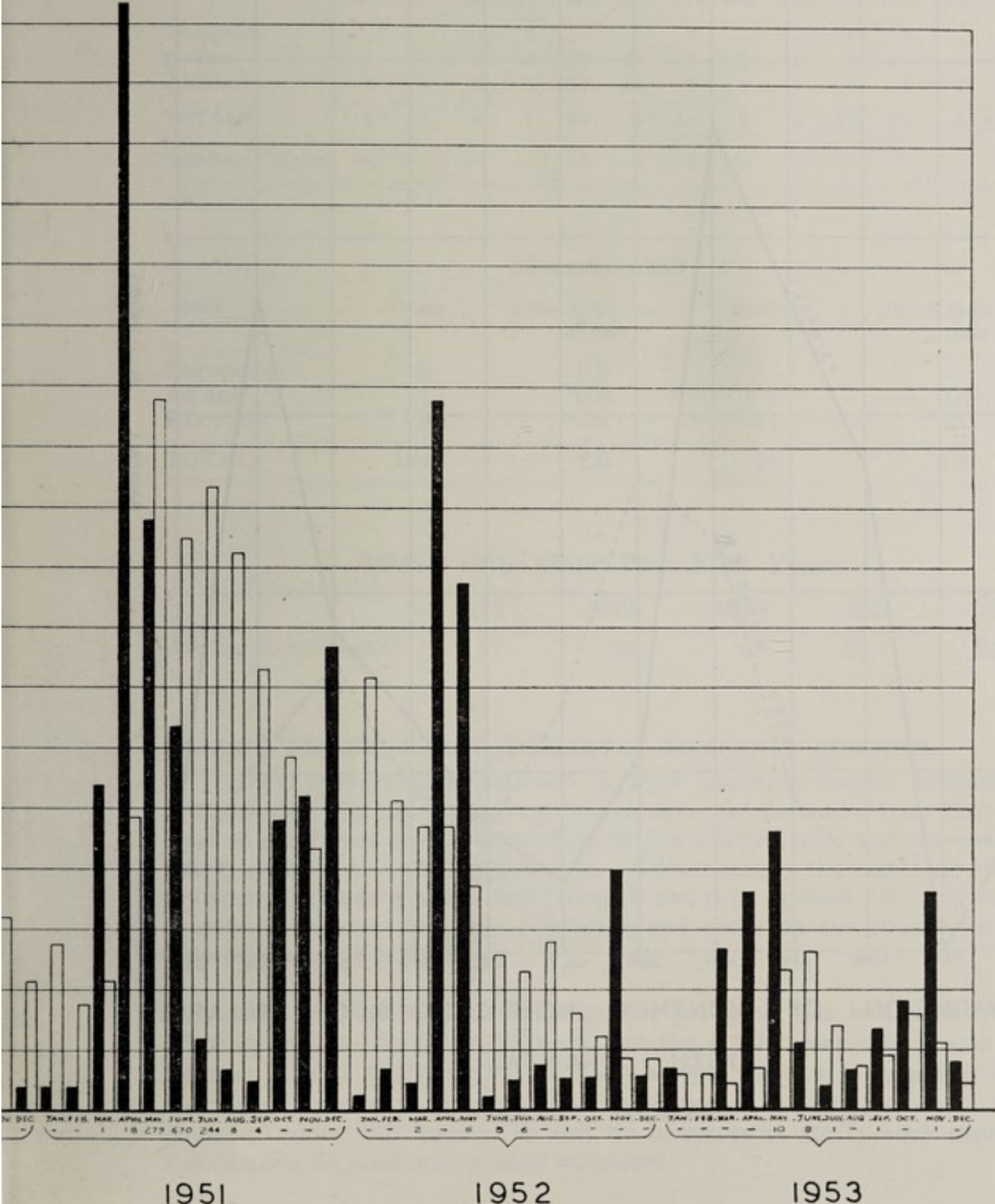
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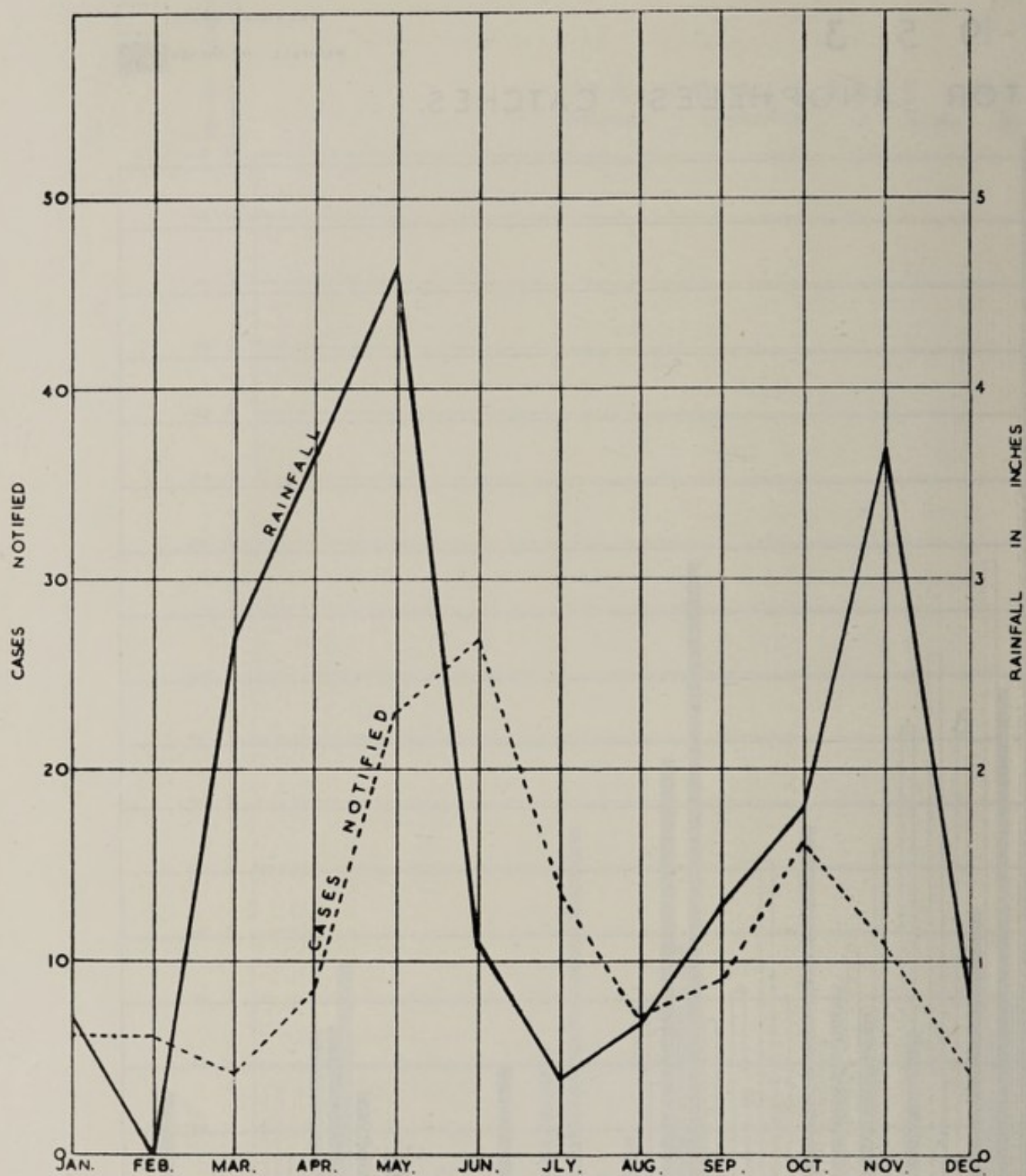
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MALARIA CASES

RAINFALL IN INCHES

VECTOR ANOPHELES CATCHES.





VARIATION OF MONTHLY NOTIFICATIONS OF MALARIA
WITH RAINFALL
NAIROBI 1953

TABLE 10

Malaria Cases and Adult Gambiae Catches by Months

(Residents contracting in Nairobi.)

Stations	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Europeans	—	—	—	1	—	2	1	—	—	8	3	—	15
Asians	1	2	1	2	10	13	5	3	2	2	—	—	41
Africans	5	4	3	4	13	12	8	4	7	6	8	4	78
TOTALS	6	6	4	7	23	27	14	7	9	16	11	4	134
Gambiae Catches	—	—	—	—	10	8	1	—	1	—	1	—	21

Malaria 1953

<i>Race</i>	<i>Cases</i>	<i>Attack Rate per 10,000</i>	<i>Deaths</i>	<i>Death Rate per 10,000</i>
Europeans	15	9.3	—	—
Asians	41	6.8	3	0.5
Africans	78	7.8	21	2.1
TOTAL	134	7.6	24	1.3

Attack Rate Over Past Five Years

	1948	1949	1950	1951	1952
Attack Rate 10,000	17	24	45	50.4	22.5

YELLOW FEVER—AEDES (DOMESTIC) MOSQUITO CONTROL

This organisation continued to work smoothly despite difficulties brought about by the emergency, for example, the detention from time to time of employees who are members of the Kikuyu tribe and the consequent necessity to train replacements. Unfortunately the searching staff is barely adequate when at full strength and fully trained: it is obvious therefore that to train new employees and carry on the routine work creates great difficulties.

The number of premises inspected per cycle has increased from 5,210 in 1948 to 10,853 in 1953 and yet the staff remains the same in number. These figures therefore denote a 100% increase in output by the staff over a period of 5 years. Further increases in premises, which are bound to come, will have to be met by increases in staff; work cannot indefinitely be piled onto willing shoulders.

Control of Spring Valley Estate was discontinued in April. This estate of 146 houses lies outside the City boundary and was the subject of a special arrangement with the District Council for yellow fever control to be carried out by this department from early 1951. This number of premises is not included in the total of 10,853.

Collections of *Aedes aegypti* larvae numbered 66 during the year, a decrease of 21 on the 1952 figure. As is usual, most of these collections were made from temporary foci such as tins, bottles, motor tyres etc.: 19 collections were from rainwater tanks and 9 from surface water gullies. Collections of Anopheline larvae from private premises also showed a happy reduction from 27 in 1952 to 8 in 1953.

The position regarding Culicine breeding however was not so happy, collections of larvae increasing by 2,207 over the 1952 figure and totalling 6,604. In connection with these, 2,775 warning notices were served and 63 persons prosecuted under the by-laws. Convictions were obtained in all cases and fines imposed totalled 2,115/— plus costs of 644/—. Individual fines varied between 5/— and 50/— and in five cases only costs were imposed, amounting to 10/— in each case.

Aedes Permanent and Temporary Breeding Foci and Indices

		Larvae species found (times)				Larvae species found (per cent)			
		Aedes	Ano-		All				
No. examined		aegypt	pheles	Culex	Species	Aedes	Ano-	Culex	All
		aegypti	pheles			aegypti	pheles		Species
PERMANENT FOCI:—									
Septic Tanks	114,368	—	—	1,784	1,784	—	—	1.559%	1.559%
Rain Water Tanks	21,035	19	—	71	90	0.090%	—	0.337%	0.427%
Gullies	269,967	9	—	186	195	0.003%	—	0.069%	0.072%
Earth Drains	112,991	—	—	389	389	—	—	0.344%	0.344%
Concrete Drains	478,530	—	—	243	243	—	—	0.050%	0.050%
Soakage Pits	58,577	—	—	1,855	1,855	—	—	3.166%	3.166%
Bath Pits and Sunken Drums	43,302	—	—	1,007	1,007	—	—	2.325%	2.325%
Water Meters	880	—	—	121	121	—	—	13.750%	13.750%
TOTAL									
Permanent Foci	1,099,650	28	—	5,653	5,684	0.002%	—	0.514%	0.517%
TEMPORARY FOCI									
	638,230	38	8	948	994	0.006%	0.001%	0.148%	0.157%
GRAND TOTAL									
	1,737,880	66	8	6,604	6,678	0.003%	0.0004%	0.380%	0.384%

Section 6

RODENT AND VERMIN CONTROL

Rodent Control

The Rodent Officer Mr. L. H. Clough went on overseas leave in May, returning in November. During this period work in the enforcement of rat proofing measures in food premises was much curtailed, but during the remainder of the year good progress was made. Demolition of many old buildings has helped considerably to reduce the number of heavily infested premises and modern construction methods do not provide the harbourage for rats which was the rule rather than the exception in old types of buildings. Too often, however, simple rat proofing measures are neglected in new buildings, doors are badly hung, leaving large gaps at the base and windows left unprotected. In most cases of new construction attention to these two items can render the premises completely rat proof.

Eight notices to rat proof premises under the provisions of the Rat and Mice Destruction Rules, 1928 were served during the year. Of these, 7 were complied with within the time allowed but the remaining one was complied with only after prosecution and the imposition of a fine of Shs. 300/—.

Plague. No cases of Plague occurred in the City during the year.

Rat Examination. Routine examination of a selection of each batch of rats caught was continued, 6,119 rats being examined with results negative for *P. Pestis*.

Rodent destruction. The total result of the year's work is shown—

TABLE 11

Total Kill

Rattus rattus	...	...	...	4397
Mastomys coucha panya	...	...	...	2715
Arvicanthis abyssinicus	...	...	...	4731
Otomys angoniensis	...	...	...	106
Mice (all)	...	...	...	7436
Others	...	...	...	537
All species (Railway admin.)	...	...	...	2643
Total	...	...	...	22565
Estimated kill, gas & poison	...	...	...	7000
Total	...	...	...	29565

Poisoning was again seriously curtailed due to the Emergency. The majority of the staff of this section are members of the Kikuyu tribe, having been found the most suitable for this type of work, and it is unfortunate that some of them have sympathies towards Mau Mau and therefore cannot be trusted with anything which might be used to further that cause. All rat poisons had therefore to be kept strictly under lock and key and used only when reliable supervision was available.

Gassing was also much curtailed, mainly because of the difficulty in keeping trained staff.

Trapping continued under some difficulty but with the usual success as will be seen by the tables on the following pages.

TABLE 12
Trapping in Native Locations

	Rooms Trapped	Houses Trapped	Rooms or Houses Infested	Index	Rattus rattus	Mice	Others	Totals	Days Trapping
Kariakor & Ziواني	1.884	—	140	7.4%	100	159	—	259	64
Pumwani & Gorofani	—	303	127	41.7%	145	241	7	393	72
Shauri-Moyo	—	231	108	46.7%	18	453	7	478	40
Kaloleni	509	—	84	16.5%	38	179	—	217	52
Bahati	884	—	46	5.2%	30	54	—	84	44
Starehe	583	—	17	2.9%	1	40	—	41	20
Totals					332	1126	14	1472	

Private and Special Trapping and Handcatching

Rattus rattus	...	...	...	359
Mastomys	...	...	...	2
Arvicanthis	...	...	...	4
Otomys	...	...	...	2
Mice	...	...	...	71
Others	...	...	...	3
Totals	...	...	...	441

Trapping—Commercial Area

Premises Trapped	Infested	Index	Trapping Days	Rattus rattus	Mice	Others	Totals
1,848	392	21.2%	188	564	558	—	1,122

Hand catching in buildings suffered because of natural suspicion of gangs of Kikuyu entering rooms. The same applies to some extent in open areas, particularly European and Asian, although the total catch in open areas was greater than in the previous year.

Anti-Rat work for the public on repayment was carried out in 48 private premises with results as shown in tables. Charges for this work amounted to Shs. 1,106/—.

TABLE 13
Hand Catching in Buildings

	Commercial Area	Kariakor & Ziواني	Pumwani & Gorofani	Shauri-Moyo	Kaloleni	Bahati	TOTALS	
							1953	1952
Rattus rattus	70	49	—	88	1	—	208	730
Mice	124	204	—	1280	23	—	1631	1745
Others	76	—	—	1	1	—	78	57
Totals	270	253	—	1369	25	—	1917	2532

OPERATION "CLATTER."



A Typical corner of the Dumps.



A sample of the Vermin unearthed.

Hand Catching in Open Areas

	Kariakor	Pumwani	Shauri-Moyo	Kaloleni	Bahati	Abattoir	Swamp	Ngara & Pangani	Other Areas	Totals
<i>Rattus rattus</i>	77	420	255	44	1055	142	630	111	200	2934
<i>Mastomys coucha panya</i>	23	130	988	114	396	3	524	462	73	2713
<i>Arvicanthis abyssinicus</i>	108	794	886	589	302	118	549	652	729	4727
<i>Otomys angoniensis</i>	—	5	19	4	23	—	35	7	11	104
Mice	284	15	281	153	1344	2	1217	446	308	4050
Others	1	25	184	5	58	2	72	71	24	442
TOTALS	493	1389	2613	909	3178	267	3027	1749	1345	14970

VERMIN CONTROL

Requests by the public for disinfestation of premises numbered 334 as against 209 in 1952, an increase of 50%.

Infestations were as follows:—bugs 158, cockroaches 56, fleas 69, ticks 2, mites 1, flies 24, others 24. In addition 6,800 blankets, 3,400 sleeping mats and all cells at H.M. Prison were disinfested of lice and bugs. Disinfestations were also carried out in the African locations on repayment, for the City African Affairs Department and at Sasamua Dam, African and European Quarters, for the City Engineer's Department.

Total receipts from this type of work amounted to £ 786.

Flies at the municipal market in Stewart Street were a constant nuisance but were kept under control after one vermin worker was stationed there with a pump and insecticide to spray as required, and to assist in preventing fly breeding by helping in the supervision of sweepers. It was found that reasonable control was obtained by operating this scheme for 1 week in every three.

Various insecticides prepared by the department, and sold to the public at cost, to aid in vermin and mosquito control, found increased popularity, resulting in the sale of 11,828 pints. This scheme was started in 1950 when 2,500 pints were sold. Sales for 1951 & 1952 were 5,000 pints and 8,000 pints respectively.

Bulk sales to Government and City Council Departments realized £ 1,042.

Section 7

SANITARY ADMINISTRATION

It would be idle and deceptive to report on the administration of the department in such a way as to cause readers to imagine that the work throughout the year proceeded along normal lines. Conditions, mainly indirect, have been such that much of the effort of the staff was nullified. Although the personnel was almost at full strength numerically, the effective staff position at times caused some anxiety. Many hours were lost because of the detention of members of the African staff and of guard and other extra duties of the Asian and European staff.

As may be expected, the emergency led to a diminution in the labour force and consequent grossly insanitary conditions which could not be removed as quickly as one would have liked. In a city like Nairobi, with its scarcity of sewers and a system of separate sewerage in those sections outside the central area where sewers do exist, many serious nuisances were bound to arise, mainly because of the ignorant and indifferent attitude of a considerable number of citizens and their African employees. These employers and employees gave little or no assistance to the sanitary authorities during the times when labour was very scarce; this was no doubt due to customs which dictate that in the field of communal hygiene cleansing processes should be left entirely to other people.

Advice and example in the practice of hygiene have little or no effect on a considerable section of the community. If the sanitary circumstances of Nairobi are to be worthy of the City's importance, hygiene education, theoretical and practical, must begin in the schools with the very youngest pupils and every endeavour must be made to rid them of those antiquated ideas and habits which have been allowed to persist and which make living conditions unhealthy and the people miserable.

From time to time requests are made to modify our drainage by-laws to permit of a reduction in the amount of piping used and, to that end, to adopt a method known as the one pipe or the single stack system. Much as one would like to agree to new methods, discretion is advocated because sanitary engineers in highly developed countries such as England or the United States of America cannot come to anything like agreement on the adoption of these systems. Some parts of both countries permit of modifications of the old two pipe system, but even experts are not satisfied that the knowledge possessed by the average plumber is sufficient to guarantee the safety of such installations. There are many fine points which, as yet, are not sufficiently understood even

by experts and, in order to ensure safety, it is necessary to give greater thought to the scientific side of such plumbing and sanitary works. On the face of it, the change from a two pipe to that of a one pipe system might appear a simple matter, but to those who have studied the hydraulics of waste removal there is more to the question than merely providing special fittings or extra ventilation. The whole lay-out of installations and the positioning of the various fittings become all important and if modified methods are to be adopted the practice of placing the smallest room in the house in any odd corner will need revision. Until architects and sanitary engineers thoroughly understand these questions, it would be unsafe to meddle with a drainage system which is known to be safe, and, in the long run, perhaps as economical as an ill-designed one-pipe method.

The maintenance of a reasonable standard of sanitation continued to be hampered by the insidious sabotage of sanitary fittings which are provided to make easier the work of cleansing. It is not for the taps and valves, as such, that this thievery takes place, but for the metal alone; proof of this is found in the cemeteries where the brass plates and lettering is removed from gravestones. While there are receivers of brass and copper fittings and other articles, this form of thieving will continue.

In the meantime the staff must needs invent and scheme ways and means of defeating these pilferers and if it continues, it will become necessary at considerable expense to design and manufacture fittings made of less valuable materials.

Despite all that has been said and written about housing—and the subject continues to be one of major importance—progress appears to be exasperatingly slow. The City Council, the East African Railways and Harbours Administration and Government Departments have all shown most commendable vigour in alleviating a situation which has persisted for many years. But there are firms and individuals who continue to fail in their moral, if not legal, duty to provide houses for their employees. It should be a legal requirement from all employers that they should provide accommodation for a proportion of their employees, and a large proportion at that.

One of the most poorly accommodated sections of the African community is that of builder's labourers. These employees go through life in the meanest conditions, for their homes are constructed in a very temporary manner. It has become the custom to accommodate most, if not all, of the labourers in hovels on the various building sites and to move on to new ground when a transfer becomes necessary. There are probably two reasons for this, the first, is the dearth of permanent housing and the second is one of economics. If the labour is not

accommodated on the building site the employer is bound by law to pay a housing allowance but he would also be obliged, though not legally, to transport the men to and from work if he wished to retain their services. Attempts have been made for many years to design a portable hut which would provide some measure of comfort for the unfortunate inhabitants; but even the best of these structures deserve no better description than "shelters". These hovels may, with reluctance, be permitted in face of the economic and practical difficulties, but these people should have permanent homes into which they may move from time to time or in which their families can live.

Constant existence in a windowless shack with an earth floor is not conducive to good health and physical fitness, but to some employers this becomes a matter of little importance for as one man falls a victim to disgraceful conditions there are always others ready to take his place.

Two wars with their Rent Restriction Ordinances have made property owning for renting almost a thing of the past. People no longer build houses as an investment as the risks and high costs of repairs are too great—combined with the freezing of rents during war time—while the cost of almost everything else rises with worrying speed—a sufficient deterrent to private building. But houses must be built for employees and one of the permanent changes in our social structure should be a recognized obligation on employers to provide housing for their workers. There is stark incongruity in a system which requires people to provide housing for their domestic servants and at the same time compels those same people—be it indirectly—to provide the principal financial resources for the housing of employees of business concerns. This, of course, is done through the City Council and in the past, at any rate, it has been subsidized housing at that. New concerns could be granted a moratorium until such time as they become fully established. For firms of many years standing there can be no excuse for requiring the general body of rate-payers to provide housing for their labour. In a broad sense, if industry provided for its own labour such accommodation would be "tied" and privately controlled, while the housing built by the public would be available for casuals and seasonal workers.

The locations of the East African Railways and Harbours Administration are a good example of "tied" housing and these settlements, fenced as they are, and situated cheek-by-jowl with the municipal locations, illustrate quite clearly the differences between the two systems. Nevertheless, it must be admitted that "tied" housing costs money, more perhaps than the average business man is prepared to pay. Yet the money must be found if one of the greatest causes of unrest is to be removed, and incidentally, but equally, if not more important, healthier

conditions are to be gained. The fencing of the locations, a measure taken in order to have more effective control, could go a long way towards maintaining better conditions for the approved inhabitants. Overcrowding, by the indiscriminate infiltration of unemployed and by persons whose employers show a complete disregard for their welfare is bad enough in itself but it has more far-reaching effects. The locations, of course, are not intended to accommodate more people than those for which allowance was made by the architects and any surplus reduces the water supply per caput, increases the refuse and puts a considerable strain on all sanitary accommodation.

Surrounding the locations with fences has been adversely criticized but from the sanitary point of view it is only necessary to look at the great contrast between the conditions which exist in fenced areas and those in the free-for-all compounds to find some justification for fencing. The idea that a hedge or fence is a cage or concentration camp needs to be crushed. Most people like to have the protection of a hedge around their plot or homestead and it is difficult to understand the reasoning of people who object to such communal protection, for defence against the deliberate sabotage of the means to a healthier way of life has become a necessity, and people who eschew such safeguards will suffer for their false reasoning.

From a public health angle the justification and need for isolating areas of the locations is that many idle and marauding people wander around the compounds using or misusing sanitary conveniences, leaving them in an indescribably filthy state. If communal latrines are to continue it is obvious that the only way in which they can be maintained in a reasonably clean condition is by the attendance of sweepers at intervals of not more than one or two hours.

The provision of conveniences to serve the *expected* population would bring about much healthier conditions than have existed for the past two or three decades. Special arrangements should also be made for children who, being without conveniences suitable for their use, foul the floors of closets designed for adults. Even in established locations the sanitary accommodation has been provided for the legitimate number of occupiers only. This seems wrong when it is well known that the number of people served is greatly in excess of the approved population. It is obvious that where pail closets are in use or water closets exist with an intermittent or scanty water supply serious nuisances are bound to arise. This is aggravated in the case of communal conveniences or where semi-private latrines exist which are accessible to passers-by.

Food Premises and Food Inspection

Much advice and many directions have been given to various food producers, restaurant proprietors and bakers, yet it would seem that

stronger action than warnings will have to be taken in future. The law also may need amendment and strengthening if the public is to be guaranteed a pure and wholesome food supply.

During the year it was necessary to prosecute bakers for selling bread which contained dangerous or disgusting substances and owing to the wording of the appropriate section of the Public Health Ordinance it was possible for defendants to satisfy the magistrate that they had taken "adequate measures" to guard against the contamination of their products. Carelessness on the part of employees or even the deliberate insertion of foreign matter has been put forward as an excuse for this contamination. There is no evidence to support the accusation that malicious employees in a fit of pique deliberately try to damage the business of their own employer. When dirt, which is visible in the dough, large nails or other large metallic articles find their way into bread stuffs, there should be no question but that these are due to negligence which should be met only by a conviction.

In a different category are the questionable methods of preparing food stuffs in restaurants, eating houses and the like. Extra powers will be sought to control such premises more effectively. In the past we have had to contend with restaurants and tea rooms which have been established in converted shops. No ordinary shop premises can be satisfactorily altered to provide the proper means for the cooking and the storage of food or for the installation of sufficient sanitary accommodation. The aim must be to licence only those restaurants and tea rooms which are established in premises specifically designed for the purpose.

In the meantime the adoption and enforcement of a system of grading to which all food premises and food preparing establishments would be subject should impress on the minds of proprietors and customers alike that attention given to matters of hygiene will earn a grade 'A' certificate while the careless, the slovenly and indifferent would suffer de-grading and prosecution.

The argument that strict compliance with the law would render grading unnecessary cannot be supported for the reason that owners show degrees of indifference, and, although by-laws may be complied with for a while in the case of a new business, there are many instances of backsliding which put in jeopardy the health and well being of the customers and staff. Individually these instances might not be serious enough to warrant prosecutions in the courts, but collectively they would justify the lowering of the certified grade.

Again, there are cases where food is handled in old and badly designed buildings in which even the most conscientious proprietor finds

it practically impossible to prevent contamination of his products. Such a business would of necessity have to be placed on a low grade pending the construction of more modern premises.

Liquor Licences

There was a further reduction in the number of applications for the year, the total figure showing a notable decrease of more than half that of the previous year. There was, however, an increase in applications for licences for restaurants. With the continued refusal of the majority of the African population to buy European liquor the number of licences to sell non-spirituuous liquor which could be proved necessary was reduced.

Liquor Licence Applications

Non-Spirituuous	...	...	...	...	49
Wine merchants and grocers	...	...	...	...	44
General retail	...	...	...	...	8
Wholesale	...	...	...	...	6
Restaurants and hotels	...	...	...	...	17
Others	...	...	...	...	2
					<hr/> 126 <hr/>

There are no figures available to show how the trade has decreased commercially, but the records in the case of sales in the African Locations are illuminating in one sense and gloomy in another—for the African beneficiaries will, in time, suffer from the loss of profits, money, which, through the African Trust Fund helps the social services of the Africans to a degree perhaps not sufficiently appreciated by those who benefit or those who criticise. The consumption for the year, including sherry, was approximately one third of that for 1951 (the last normal year). This will mean a considerable diminution in money available for social benefits.

Although the sales from the Council's beer shops have dwindled and private sales likewise, it must be remembered that some losses were bound to occur as a direct result of the licencing of shopkeepers enabling them to sell to Africans bottled beer of European manufacture.

Before this amendment to the liquor laws took place, the Council held a monopoly and a considerable switch over to private dealers with a diversion of profits took place with a consequent indirect loss to the Africans themselves. The boycott which is only partially successful may at the moment amount only to a social indisposition, but if it should increase in its effectiveness, it may lead, conjointly with other misdirected restrictions, to social suicide, in the sense that many good works designed by the Council for the pleasure and recreation of the African inhabitants will be very considerably reduced if not brought to the point of extinction.

Then there is the ever present trade in the preparation and sale of illegal liquor, a trade which has no doubt been given a fillip as a result of the boycott. This liquor is often made and stored under the most filthy conditions and the harm which is done may be irremediable.

City Mortuary

The old mortuary continued in use throughout 1953 and the bylaws which were drafted to effect better control were under consideration at the end of the year. There is a possibility that such bylaws may be unnecessary if new proposals regarding the provision and maintenance of mortuaries are adopted.

As was to be expected during such a troubled period there was an increase in the number of bodies deposited—an increase of 79 over the previous twelve months and of 100 or 40% over the figure for 1951, the last normal year. Nevertheless, on one occasion only was the mortuary used to capacity and this following on an occasion when a Mau Mau burial ground was discovered by the police.

The number of cadavers received into the City mortuary were: -

Africans	...	...	...	235
Asians	...	...	...	21
Europeans	...	...	...	43
				<hr/>
				349
				<hr/>

Two hundred and eighty nine of these were recorded as of residents and the remainder (60) non-residents but with such a fluctuating population it is difficult to say with any degree of accuracy who is a resident and who is not. The great majority of those dying within the City are recorded as residents although it is known that a large number come in for medical treatment.

The City Council is the burial authority and, as undertakers, disposed of 1078 or 61.2% of the Africans dying in the City. This is a decrease of 19 below the figure for the previous year. The institutions from which they were removed are: —

	1953	1952
King George VIth Hospital	478	560
Pumwani Maternity Hospital	164	193
City Mortuary	151	120
Prison	138	24
Mathari Mental Hospital	99	28
Infectious Diseases Hospital	48	172
	<hr/>	<hr/>
	1,078	1,097
	<hr/>	<hr/>

The most notable differences in comparison with the figures for the previous year are a reduction of 124 in the case of the Infectious Diseases Hospital, and increases of 71 in the case of the Mathari Mental Hospital, and 114 from the Prison.

Sanitation

SUMMARY OF WORKS PERFORMED

Summary of Works Performed

Nuisances:

Inspections made to:—

Dwelling Houses	...	...	...	4,930
Laundries	...	...	...	202
Offensive Trades	...	...	...	62
Stables and Cattle Sheds	...	...	...	43
Trade Premises and Offices	...	...	...	1,649
Public Buildings	...	...	...	223
Open Spaces, Streets etc.,	...	...	...	1,639
Barbers	...	...	...	393
Camps	...	...	...	32
Second Hand Clothing Dealers	...	...	...	51
Miscellaneous	...	...	...	178
				<hr/> 9,402 <hr/>
Complaints Investigated	...	...	...	620

For inspections of food premises see separate table.

Defects Remedied:

Latrines	...	...	...	430
Drainage	...	...	...	651
Refuse Accumulations	...	...	...	415
Unauthorised Buildings	...	...	...	339
Dirty Premises	...	...	...	223
Unfit dwellings including huts	...	...	...	117
Taxi Cabs	...	...	...	8
Mosquito Breeding	...	...	...	41
Premises rat infested	...	...	...	11
Yards unpaved	...	...	...	33
Miscellaneous	...	...	...	1,602
				<hr/> 3,870 <hr/>

Defects Remedied in:

Dwellings and Offices	...	...	...	612
Public Buildings	...	...	...	7
Food Factories	...	...	...	14
Laundries	...	...	...	17
Open Spaces—Vacant Plots	...	...	...	222
Eating Houses	...	...	...	339
Restaurants and Tea Rooms	...	...	...	39
Grocers and Provision Dealers	...	...	...	458
Hotels and Bars	...	...	...	10
Barbers	...	...	...	68
Bakeries	...	...	...	25
Butchers	...	...	...	108
Dairies	...	...	...	45
Vegetable Dealers	...	...	...	32
Food Carrying Vehicles	...	...	...	19
Swimming Baths	...	...	...	12
Unspecified	...	...	...	1,933
				<hr/> 3,870 <hr/>

Inspections of Premises subject to special control:

Aerated water factories	...	...	...	247
Bakeries	...	...	...	184
Butchers and Fishmongers	...	...	...	1,520
Dairies and Milkshops	...	...	...	395
Eating Houses	...	...	...	1,302
Food Factories	...	...	...	270
Groceries and Provisions	...	...	...	3,104
Restaurants	...	...	...	271
Hotels and Bars	...	...	...	358
Market (stalls)	...	...	...	412
Vegetable Dealers	...	...	...	569

Licences:

Trade premises inspected	...	...	...	1,675
Taxi cab inspections	...	...	...	294
Food Carts: Milk, meat, bread, etc.,	...	...	...	263

Erection and Alteration of Buildings:**(public health department supervision only).**

Plans scrutinized (including sub-divisions)	...	...	...	501
Inspections made	...	...	...	808
No. of premises connected to sewers	...	...	...	75
No. of new water closets discharging into sewers	...	...	...	305
No. of new septic tanks installed	...	...	...	18
No. of new water closets discharged into septic tanks	...	...	...	70
No. of new pail closets	...	...	...	132
No. of conversions	...	...	...	57
Completion Certificates issued	...	...	...	160

Unauthorised Buildings:

Inspections made	...	...	...	439
Notices served	...	...	...	75
Reference to other departments	...	...	...	120
Structures demolished (P.H.D.)	...	...	...	312

Notices Served:

Intimation (Verbal)	...	...	...	3,068
Intimation (Written)	...	...	...	399
Public Health Ordinance	...	...	...	781
By-laws	...	...	...	887
Others	...	...	...	62

Prosecutions:

	Cases	Convicted	Acquitted	Withdrawals
Public Health Ordinance	90	64	1	25
By laws	53	45	—	8
Milk and Dairies Regulations	3	3	—	—
Others	2	2	—	—

Total Fines Shs. 9,020/- with cost of Shs. 664/-.

Three sentences to the detention camp were awarded: one of two months and two of three months.

TABLE 14
Unsound Food Condemned

Article	lb.
Biscuits	39
Breakfast Foods	40
Cheese	123
Fish—tinned	893
Fruit—tinned	6,900
Fruit—dried	6,658
Jam	88
Meat—illicit	120
Meat—tinned	21
Milk—tinned	74
Patent Medicines	391
Potatoes	4,860
Provisions	204
Sweets	834
Tinned Foods (other)	7,747
Tomatoes	468
	<hr/> 29,460 <hr/>
Milk—gallons	310

Section 8

FOOD INSPECTION

Milk

The most significant development during the year was the implementation of the Nairobi Municipality (Milk and Dairies) Amendment Bylaws referred to in last year's Annual Report. Since the beginning of May it has been an offence to sell milk otherwise than in a container which has been filled and sealed on registered or licensed dairy premises. It was to be expected that such a radical reform as this could not be carried through without criticism, but it was somewhat surprising to find that much of the criticism came from the consumer. The public had become all too accustomed to the delivery of milk in open cans, which, though cheaper, frequently gave rise to adulteration and inevitably led to gross contamination, and it was appreciated by the department that the obscure benefits of a purer milk supply would in some quarters be insufficient to



The retail shop which forms part of the new Oriental Dairy.

offset the disadvantages of higher cost. What was and continues to be surprising, however, is the fact that a very high percentage of consumers are unwilling to accept bottled milk even at the same price as milk sold from bulk. The reason for this is that they do not wish to be held responsible for losses and breakages, and it has become a common practice for customers to purchase their bottle of milk at the dairy and

immediately pour the milk into their own container before taking it away. The customs of generations are neither quickly nor easily changed, but it is hoped that the carrying of milk about the streets in open jugs and sufurias will soon be only a memory.

One means of popularising bottled milk has been established during the year. On the 13th October, 366 bottles of locally pasteurised milk, each containing one-third of a pint were delivered to two European Primary Schools. The scheme was experimental and voluntary but at the end of the year three European Primary Schools and one Asian School were participating and the daily consumption was 957 bottles. Further extensions particularly among the Asian children will be reviewed in the next Annual Report. The source of the milk has been carefully selected and the pasteurisation is closely supervised. The result has been a steady rise in popularity and there has been no evidence of any prejudice against the so-called "cooked" flavour of pasteurised milk.



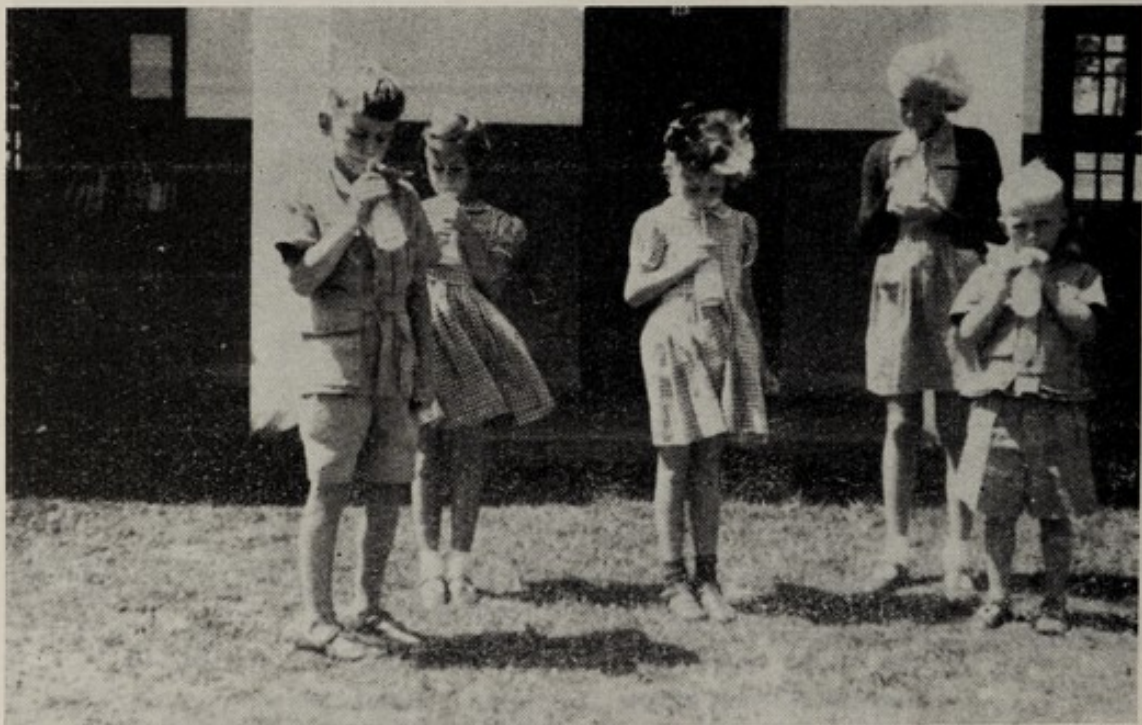
**A portion of the new Oriental Dairy showing the "IN-CRATE"
bottle washer, bottle filler and cabinet cooler.**

The standard of milk supplies generally has been maintained and even somewhat improved, with 86% category A samples as against 81% for the previous year. The number of producers sending milk individually to Nairobi decreased slightly owing to a rearrangement whereby some supplies were diverted to creameries for bulking and pasteurising prior to being made available to the Nairobi market. Of the 89 whose milk was tested regularly only 7 failed to maintain a standard of Category A.

The Woodley Cup award for 1953 was made to the Oriental Dairy, for the new premises opened in Grogan Road. The dairy is well laid out and provided with up to date equipment for sterilizing bottles and cans, filling and capping, pasteurising and cooling, while the retail dairy is also very attractive. It is hoped that a standard has now been set in the dairy industry which will be the aim of others engaged in this important trade.

Other Foods

The regular sampling of water and aerated waters has been continued, but there has been a disappointing decline in the bacterial quality of the latter. There are two factors mainly responsible for this, the first being the inadequacy of the bottle washers in many cases and the second being the general deterioration in the condition of the factories, especially in the syrup rooms, giving rise to the growth of wild yeasts. Not until manufacturers realise the need for scrupulous cleanliness in this type of business will there be any marked improvement in the quality of their products.



Pasteurised milk—a popular drink during the school 'BREAK'.

The City's main water supply has maintained a high standard of purity, but borehole supplies have shown a somewhat alarming rise in the fluorine content, as a result of which, in some cases, alternative arrangements have had to be made for supplies of drinking water.

Again it has to be reported that it has not been possible to carry out systematic sampling of foodstuffs under the Food and Drugs (Adulteration) Ordinance, but one particular commodity, namely vinegar, has received attention. There is no legal definition of vinegar and no legal standard, although it has long been accepted that it should contain not less than 4% acetic acid. This criterion alone, however, is inadequate as it is quite legal to sell acetic acid, which has been sufficiently diluted, as vinegar. Even so 11 of the 18 samples of locally bottled vinegar were found to be deficient and warning notices were served on the individuals concerned. It would seem, however, that some means of differentiating between various grades of vinegar should be available to the public and it may well be that such designations as "Malt vinegar", "Vinegar" and "Artificial vinegar" (which would include diluted acetic acid) with suitable legal definitions and standards, would meet the case.

Food Preparation

The efforts made during the past few years to bring about improvements in premises where food is prepared have not been entirely unfruitful, but it is evident that the general standard is still too low. Nowhere is this more obvious than in the case of hotel and restaurant kitchens. In many instances the premises were never designed for the purpose for which they are now being used, the available space is inadequate and the equipment is obsolete by modern standards. Furthermore the establishments are largely staffed by employees with insufficient appreciation of the standards of hygiene required. It is realised that a long term approach is necessary towards this problem and a plan has therefore been designed to take effect over a period of up to five years. To begin with, a detailed survey of existing conditions is being made. When this has been completed a standard of desirable requirements will be drawn up. This standard will be high, but premises which comply with it will be given a certificate—Category A. Publicity will be given to the scheme and it is expected that the public will be quick to realise the advantage of patronising Category A restaurants. Other premises will be granted Category B or C certificates. While the grading scheme is in operation it will be made clear that at a future specified date bylaws will be introduced with the effect of requiring all premises to attain Category A standard.

TABLE 15
Milk Samples Examined by Food Inspector

1. Resazurin Tests

<i>Month</i>	<i>Category</i>			<i>Total</i>
	A 4—6	B 1—3½	C 0—½	
January	348	23	39	410
February	334	14	19	367
March	301	31	32	364
April	228	36	35	299
May	323	32	22	377
June	324	27	23	374
July	344	6	5	355
August	328	19	13	360
September	304	15	11	330
October	364	20	31	415
November	271	35	37	343
December	302	22	49	373
TOTAL	3771	280	316	4367

2. Phosphatase Tests

Efficiently Pasteurised	Inefficiently Pasteurised	Not Pasteurised	Total
9	12	1	22

NOTE:- With the exception of school milk, no milk is sold under the designation of "Pasteurised milk". The five samples of school milk tested for phosphatase are included in the above figures and all were found to be efficiently pasteurised.

3. Estimation of Fat and Total Solids

	<i>Satisfactory</i>	<i>Unsatisfactory</i>	<i>Total</i>
Milk	641	92	733
Cream	3	5	8

Samples Submitted by Food Inspector to Government Chemist

<i>Article</i>	<i>Satisfactory</i>	<i>Unsatisfactory</i>	<i>Total</i>
Aerated waters ...	—	7	7
Bread ...	1	—	1
Coffee ...	3	—	3
Custard ...	1	—	1
Canned Pears ...	—	1	1
Edible oil ...	—	1	1
Gin ...	1	—	1
Margarine ...	2	—	2
Methylated spirit ...	2	—	2
Salt ...	1	—	1
Squashes and cordials	9	—	9
Sugar ...	1	—	1
Sweets ...	1	—	1
Vinegar ...	7	11	18
Water (town main) ...	4	1	5
Water (other sources) ...	4	2	6
TOTAL	37	23	60

Samples Submitted by Food Inspector to Government Bacteriologist

<i>Article</i>	<i>Satisfactory</i>	<i>Unsatisfactory</i>	<i>Total</i>
Aerated waters ...	178	29	207
Bottle rinses (aerated waters) ...	4	3	7
Water (town main) ...	249	14	263
Water (other sources)	9	7	16
Sweets ...	1	—	1
Quarternary Ammonium Compounds ...	2	—	2
Other bacteriological examinations ...	3	1	4
Totals	446	54	500

Legal Proceedings Instituted by Food Inspector

<i>Nature of Offence</i>	<i>Prosecutions</i>	<i>Convictions</i>	<i>Acquittals</i>	<i>Penalties</i>	<i>Costs</i>
Milk and Dairies Regulations.					
(a) Using unregistered premises as dairy.	2	2	—	500/—	20/—
(b) Selling or conveying adulterated milk.	2	2	—	6 months imprisonment	
Public Health Ordinance.					
(a) Exposing unsound food for sale	4	3	1	1500/— 2 months imprisonment	22/—
Nairobi Municipality (General) Bylaws.					
(a) Exposing uninspected meat for sale	5	4	1	2080/—	52/—
(b) Selling milk from open cans	2	2	—	490/—	10/—

Section 9

MEAT INSPECTION

The Nairobi Abattoir, taken over by the Kenya Meat Commission at the end of 1950, almost ceased to function as a slaughter house towards the end of the year. Slaughtering of all animals, except for poultry and some goats was done at Athi River, the old buildings being used as a distribution centre.

The old Abattoir functioned for over 20 years and was begun when the Municipal population was about 47,000. The modern Meat Factory at Athi River is excellently designed for the humane treatment and slaughter of animals, and for the hygienic preparation of meat for human consumption.

All inspections are done by the Kenya Veterinary Department. There has been the closest association between the Veterinary Department and Council authorities concerning meat inspection standards—an association which has been very pleasant indeed.

Cold storage facilities now make it possible for carcasses lightly infested with *cysticercus bovis* to be kept for a fixed period, thus rendering the meat suitable for consumption without danger to consumers. This means a marked improvement in standards.

The attached tables show considerable reductions in slaughtering over previous years, as the work was gradually transferred to Athi River:—

			Carcases Inspected	Carcases condemned	% Condemned
Grade Oxen	...	...	12,257	1,375	11.21
Native Oxen	...	...	1,832	298	16.27
Calves	...	...	653	111	16.99
Grade Sheep	...	...	17,459	1,365	7.81
Native Sheep	...	...	12,151	2,597	21.38
Goats	...	...	19,039	3,430	18.02
Pigs	...	...	5,190	11	0.21
TOTALS			68,581	9,187	13.39
Poultry	...	...	133,324	497	0.37

“Measle” (*Cysticercus bovis*) Rate

	No : Inspected	Condemned for Cyst. bovis	Rate %	Cyst. bovis carcasses passed	Rate %
Grade Oxen	12,257	734	5.9	590	4.8
Native Oxen	1,832	218	11.9	91	4.9
Calves	653	101	15.4	27	4.1
TOTALS	14,742	1,053	7.1	708	4.8

Section 10

CLEANSING DEPARTMENT

During 1953 the troubles which started in 1952 became acute, and throughout the year owing to the fact that the main tribes used are Kikuyu/Embu, there was much subversive activity amongst them, and arrests of very large numbers by the police were made throughout the year. This resulted in services being given in an unsatisfactory manner as it was almost impossible to know what labour would be available from day to day. At one period no fewer than 400 out of the cleansing department's 800 employees had been arrested. Owing to further labour difficulties, conservancy in the African Locations had to be performed in the daylight hours.

The labour difficulties were in part got over by recruiting in the African reserve and the bringing of labour into Nairobi under a special arrangement made for the obtaining of additional labour for cleansing work. The turnover of employees was higher than normal but the fact that a lack of knowledge of the work in the case of the new labour meant that much of the work was not satisfactorily performed even when the labour was available.

Drunkenness and absenteeism showed a marked increase towards the end of the year leading in its turn to justifiable complaints from those householders who had reason to feel that they were neglected. These factors resulted in what has probably been the most difficult year that the department has had. The way in which troubles were overcome reflects credit on the staff who were kept working under great strain during this time.

Mention should be made here of those people who were employed in this department and lost their lives or were injured as a direct result of their loyalty. Karanja Mutuota, realising the difficulties in which the department was placed, volunteered to return to duty and was shot dead shortly after he rejoined the department. Wanyoiki Karioki, returned to duty early in the year after recovering from a murderous attack in which he was shot and wounded. He has since been killed. Mbaraka, one of our oldest headmen was strangled and killed. Mbogo Mwangi, was shot and wounded in four places in an ambush. When this list of killed and wounded is considered it is surprising that any of these people have remained reasonably loyal.

Conservancy

A total of 7,707 buckets were in use at the end of December and the contents of these buckets totalling approximately 10,950 tons were collected and disposed of. There has been very little variation in this section of the work since 1951.

Refuse Removal

A total of 48,852 estimated tons were collected and disposed of. In the main this material was put down for compost, but owing to the lack of water, the breakdown has been very slow. There was a fire in the compost site in January which prevented any of the compost being sieved and sold. The total revenue was Shs. 13,050/- which was below the figure which should have been reached had there been no fire. The average daily tonnage was estimated to be 133.6 but test weighings taken at the end of the year suggest that this figure is much too high.

The night collection in the Central Area proved very satisfactory as there is no obstruction by traffic at night which means that the work can be completed much more expeditiously and in a more satisfactory manner than formerly. The practice of searching bins for scraps of food etc., continues to cause bad littering of the streets at night. There seems to be no remedy for this.

Many changes occurred during the year. There were days on which no refuse labour could be turned out as all the labour was held by security forces for screening which prevented refuse being removed for periods of a day or more.

Street Cleansing

Street cleansing was very badly hit as, when crews were short in any other section such as refuse removal and conservancy, this work was robbed to make up crews. As a result the streets were frequently in a much worse condition than ever before. As fast as labour was found to replace those who had been arrested, further arrests took place necessitating the spreading of the scavenging labour in order to cover more area than they normally would have been expected to attend to.

Sweeper Service

The sweeper service was making good progress at the beginning of the year, but labour difficulties adversely affected the ultimate income from this section. Cancellations took place, as many people objected to the erratic operation of this service.

As a result of an instruction from Council Shs. 2,000/- worth of work per month had to be cancelled in order that men could be transferred to the locations to reinforce the inadequate number of sweepers in that area. This service was again increasing towards the end of the year.

Compost

At the beginning of 1952 there was a disastrous fire at the tip which stopped production for several months. Sales of compost totalled 1,703 tons which showed a slight decrease on the previous year.

TABLE 16
STATISTICS

Conservancy

		1952	1953
Estimated total tons night soil	..	10,080	10,950

Exhausters

Total conserving tanks emptied	...	6,474	7,275
Total septic tanks emptied	...	876	871
Total waste water pits emptied	...	14,167	15,701

Refuse

Total estimated tons refuse	...	48,426	48,852
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Junk

Total estimated tons removed	...		2,385
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Compost

Total tons sold	...	1,407	1,703
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Section 11

SEWERAGE AND SEWERAGE DISPOSAL

(From the Annual Report of the City Engineer)

General: In 1953 the bulk of the sewerage constructed has been in the Industrial Area. Here, a £230,000 scheme is being carried out under the control of Consulting Engineers, and work is well up to schedule. Parts of this sewerage system will be in operation in February 1954, and the whole scheme completed late in 1954.

A sewerage scheme to serve the new African Housing development has started in recent months and, if machinery deliveries are satisfactory, this £ 96,000 scheme should be completed in 1955.

The first phase of the extensions to the Sewage Disposal Works is nearly complete, and a further contract has been advertised. In all, the extensions will cost £ 325,000 and require another two years to complete.

A considerable amount of sewerage has been constructed in L.R. 37/60 off Aerodrome Road by a private developer, opening up a new area for Asian residents. The Council are constructing the trunk sewer necessary to link up with this.

Apart from these larger schemes, a certain amount of other work has been done by direct labour and contract.

New Construction: A total of 58,884 lin. feet of sewers were constructed during the year, compared with 36,724 in 1952 and 35,264 lin. feet in 1951.

The main works were as follows: —

	Lin. Feet.
Industrial Area Sewerage:	40,986
Aerodrome Road Estate:	10,000
Employers' Housing Sewerage:	2,430
Churanjilal Road Sewerage:	2,330
Other smaller works:	3,038
Total	58,884 lin feet.
Sewers existing at the end of 1952 ...	64.66 miles
Sewers constructed during 1953 ...	11.15 miles
 Sewers existing at the end of 1953	 75.81 miles

Sewage Disposal Works: The existing works are operating under conditions of overload, creating many operational problems. Although the extensions designed to more than double the capacity of the works are well in hand, it is unlikely that conditions will become satisfactory before 1955.

Maintenance: In some areas of town, it has not been found possible to keep sewer maintenance to a satisfactory standard. The gross misuse of the sewerage system appears to increase rather than decrease.

The only type of labour prepared to undertake this work is of the poorest order and difficult to obtain, and lacks the initiative necessary to carry out the duties satisfactorily.

Connections: During the year, 378 connections were made to the sewers, compared with 376 in 1952.

Section 12

WATER SUPPLY

(From the Annual Report of the City Engineer)

General: The year 1953 was one of the poorest years on record for rainfall, and approached the record low rainfall of 1949. The result of this exceptionally low rainfall, allied to the poor rainfall of 1952, was that the Ruiru Dam did not fill, and restrictions on the use of water for gardens, washing of cars, etc. had to be imposed just after the close of the year. A considerable amount of extensions to African Locations were carried out, and the necessity of providing water supply to these and to the general extension in building development, caused severe strain on the available water resources.

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.
- (b) Ruiru Reservoir: Due to two consecutive years of low rainfall, this reservoir failed to fill during the rains of 1953, and at the close of the year the water level in the reservoir was almost 16 feet below the spillway level. Due to the drop in the reservoir level, the flow through the pipe lines was also slightly reduced so that the City has been faced with an increased demand, but a slightly reduced available supply, which has added to the difficulties of the position.
- (c) Nairobi Dam: Owing to reduction in supplies from Ruiru Dam and increase in demand throughout the locations and industrial area, the Nairobi Dam has been in service throughout the year, and an average supply of 200,000 gallons per day has been obtained from this source. With this constant use, high evaporation and very little inflow during the rains, the level in this dam has also fallen considerably, and it is doubtful whether this source will suffice throughout 1954 unless there are good rains and plentiful run-off.

Services: The demand for new services, except in the new African Locations, has fallen off during 1953 due to a slight recession in building development.

Purity of Water: The quality of water delivered to the City has been maintained at a very satisfactory standard throughout the year. One hundred and eighty four samples were taken and only five unsatisfactory reports were received.

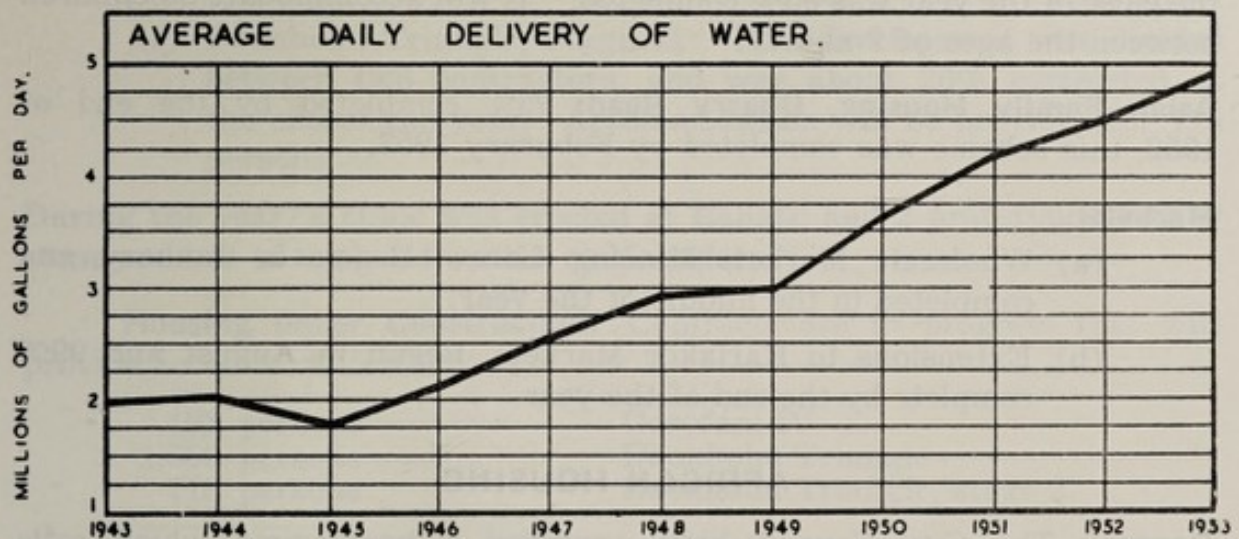
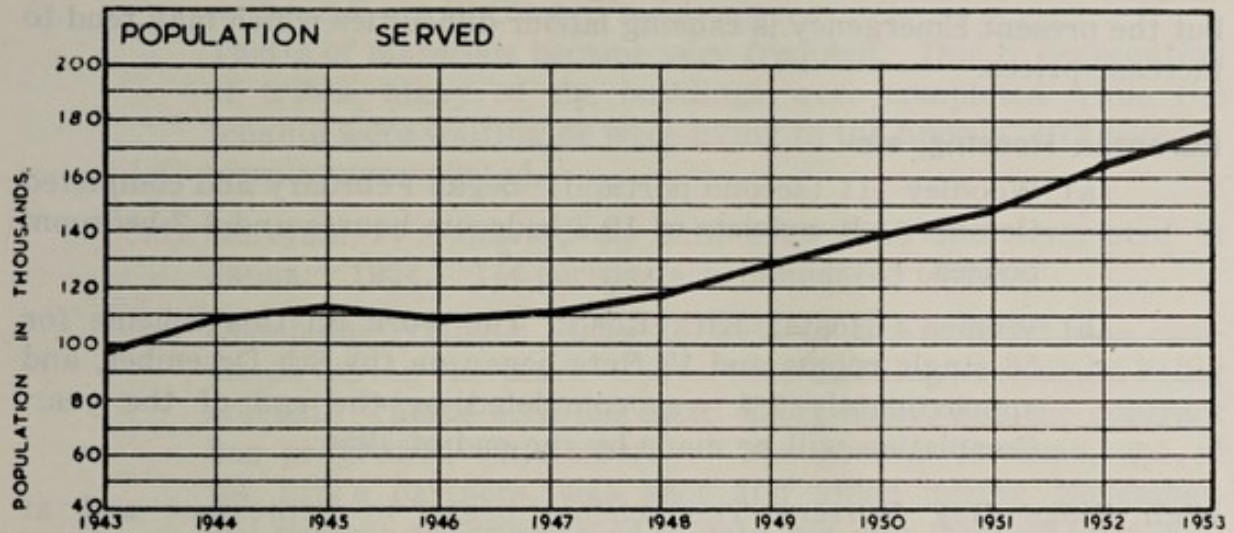
New Works:

- (a) Chania Sasumua Scheme: Progress on this scheme was so far from satisfactory that the contractors were expelled from the job and the completion of the dam is now being carried out by the City Council by direct labour. This has naturally considerably retarded the date by which it was originally anticipated that water would be available to Nairobi from the Sasumua Dam, and the position regarding water supply for the years 1954 and 1955 is likely to be extremely difficult. Due to the Emergency, the work on the pipeline has been in abeyance for the whole of 1953, and work on the Treatment Plant commenced towards the close of the year.
- (b) New 6,000,000 gallons reservoirs, Kabete: The structural work on these reservoirs was practically completed during the year, and one section was successfully tested. Putting these reservoirs into service is only awaiting receipt of special inter-connecting pipework.
- (c) New Mains & Reticulation Schemes: Approximately 21 miles of new mains from 16" diameter to 2½" diameter were laid during the year, mainly to serve new African Locations, L.R. 37/R development scheme, and the French Mission and Parklands areas.

Statistics:

	1949	1950	1951	1952	1953
Total deliveries (million gallons)	1105	1314	1555	1676	1809
Average daily deliveries (million gallons) ...	3.048	3.772	4.250	4.600	4.950
Population (estimated in thousands) ...	130	140	149	166	176
Average daily delivery per head (gallons) ...	23.5	26.0	28.5	27.6	28.1

NAIROBI CITY WATER SUPPLIES



Section 13

ARCHITECTURAL WORK

(From the Annual Report of the City Engineer)

General: The amount of building work carried out during the year showed an increase over the previous year's figures, both in value and volume. Prices have not shown any appreciable change over the last year, but the present Emergency is causing labour difficulties which may tend to increase prices.

European Housing, etc:

- (a) Woodley 111 (second portion): began February and completed October. It consists of 10 3-bedroom houses and 4 2-bedroom houses.
- (b) Women's Hostel, Kirk Road: The work on this scheme for 56 single rooms and 18 flats began on the 8th December, and approximately 1% was completed by the end of the year. Completion will be made by the end of 1954.

High Ridge Day Nursery: The scheme began in September and at the close of the year was 95% completed. It will accommodate 50 children between the ages of 2 and 7.

Asian Family Housing, Quarry Road: 75% completed by the end of 1952, this scheme was completed by February 1953.

Markets:

- (a) Wholesale Market, Mincing Lane: Began in January and completed in the middle of the year.
- (b) Extensions to Kariakor Market: Began in August and 99% complete by the end of the year.

AFRICAN HOUSING

General: The City Council have approved a programme which calls for an expenditure of over £ 2,000,000 in the period 1953 to 1957. The importance and magnitude of the task is such that it has been deemed advisable to establish a separate section devoted entirely to this work. The section was set up during 1953, and is devoting itself to the design and construction of all the requirements of the African Housing Estates.

Housing Completed and Occupied:

- (a) Bahati IV: This contract, which was started on 16th October, 1952, was completed by 22nd May 1953. Accommodation was provided for 478 persons in 1953.

- (b) **Prototype:** This scheme was an attempt to find out if any new forms of construction held advantages over the traditional. The latter, however, proved more successful in both cost, time and durability. 20th April to August 1953. Accommodation for 170 persons.
- (c) **Bahati V:** The majority of buildings in this scheme were designed so as to be easily convertible to 2-room family units with separate W.C's and wash spaces. Thefts of materials became very frequent. Due to segregation of tribes, many of the buildings were completed while the tenants were waiting or were living in the houses. 978 persons were accommodated.
- (d) **Gorofani IV:** Started on 11th May 1953 and completed in January 1954. 114 persons accommodated to date.
- (e) **Doonholm Triangle, Stage 1:** 50% of the contract was completed during the year. Convertible dwellings are again being erected. Thefts here increased enormously, but the contract has progressed satisfactorily. The general foreman, one of the firm's partners, was shot and killed during November. 264 persons accommodated to date, out of a total of 1,914.
- (f) **Doonholm Triangle, Stage 11:** This development was divided between two contractors, and was about 20% completed at the end of the year. Accommodation will be provided for 714 persons.

During the year, a clinic was erected at Bahati, and 2 prototypes, one of stone and one of mud and wattle, at Makadara.

Housing under Construction: Contracts are in progress that will provide accommodation for:

192 persons	Gorofani IV
1,650 persons	Doonholm Triangle
716 persons	Doonholm Triangle, stage 2.
<hr/> 2,556 persons	

Housing Designed: Drawings were completed that will provide accommodation for 5,400 persons, when land is available.

Housing other than Council excluding Government and High Commission:

(a) **Completed:**

- 7 Houses were completed during the year at the African Built Housing Scheme. 105 persons.
- 60 persons were housed by employers in the locations.

39 mud and wattle houses were completed at Makadara and 1 stone house—720 persons.

7 shops were completed at Bahati shopping centre—42 persons.
Total—927 persons.

(b) In Progress:

African Built Housing Scheme:	5 Houses	—	30 persons.
Employers' Schemes:	Accommodation for 482.		
Makadara:	120 houses	—	2,160 persons.
	10 shops	—	60 persons.
	2 hotels	—	12 persons.
Bahati Shopping Centre:	2 shops	—	12 persons.
<hr/>			
			2,756 persons.
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Summary:

(a) Council:

Site	Persons Housed in 1953	
Bahati IV	478
Prototypes	170
Bahati V	978
Gorofani IV (incomplete)		114
Doonholm Triangle		
(incomplete)	114
		<hr/>
		2,004
		<hr/>

(ii) Under Construction:

Site	Persons Housed in 1953	
Gorofani IV	192
Doonholm Triangle	2,364
		<hr/>
		2,556
		<hr/>

(iii) Designed:

Drawings completed for additional 5,400 persons.

(b) African Built and Employers:**(i) Completed:**

African Built, Bahati	...	105
Makadara Houses	...	720
Employers' Schemes	...	60
Bahati Shopping Centre	...	42
		<hr/>
		927 persons

(ii) Under Construction:

African Built, Bahati	...	30
Makadara Houses	...	2,160
Makadara Shops	...	60
Hotels	...	12
Employers' Schemes	...	482
Bahati Shopping Centre	...	12
		<hr/>
		2,756

Section 14

EUROPEAN CHILD WELFARE

The entire year has been lived under the shadow of violence and public insecurity, but the work of the department went on despite risk and uneasiness. Babies were born, children kept on growing, and their safety and welfare were the first concern of their parents: yet economic necessity still forced many families to accept less than the ideal in child care and child security. The European Child Welfare Department could not provide security—though the Health Visitor constantly advised against leaving children alone with servants in isolated houses—but did all in its power to supplement whatever care the parents provided, and to agitate for improvement when such care was seriously deficient.

Staff

Dr. Philippa Gaffikin returned from overseas leave and resumed charge of the European Child Welfare service in January 1953, continuing as medical officer throughout the year.

Mrs. Graham was Health Visitor from January to the end of November, when she went on overseas leave and to our great regret informed us that she would not be resuming duty on her return. Mrs. Graham had worked in the European Child Welfare Department since 1950, and it is very largely due to her unstinted enthusiasm and tireless activity that the department has come so far so fast. In particular, she built up the home visiting service singlehanded from the very beginning, overcoming difficulties, apathy and opposition, and was responsible for bringing this side of the work to its present considerable stature.

During December the department had the excellent help of Mrs. Arthur, who, though acting in a temporary capacity, carried on the work with interest and efficiency. Mrs. Arthur has been a health visitor for many years in the United Kingdom, and viewed the work in Kenya with fresh eyes yet against a background of long experience. In these circumstances her impression of the European Child Welfare service is valuable and interesting—"that such a service is urgently necessary, is capable of immense expansion, and there is work for at least two whole-time health visitors".

Buildings

Parklands Clinic: For the fourth year in succession it is necessary to record that Parklands Clinic still has no separate building, and that clinic activities are still carried out in "compromise" accommodation in the day nursery, to the detriment of both nursery and clinic services. The clinic sessions frequently last from 2.30 p.m. to 6 p.m. taking up, on two days each week, a full half of the accommodation in a day nursery whose

buildings, designed for 48 children, normally house 70. The persistence of this unfortunate arrangement causes constant and unnecessary exhaustion of the day nursery staff.

Woodley Clinic: The accommodation provided for clinic activities, a waiting room and examination room within the Woodley Day Nursery, has proved very satisfactory. These rooms being wholly reserved for clinic use makes it possible to leave the equipment permanently in position, to have provision for clerical work, records and stores, and to enable the clinic activities to be carried out with no unnecessary effort or delay.

Clinic Activities

The weekly programme of child welfare sessions has now become stabilised at two each week in each area, at Woodley on Mondays and Tuesdays, and at Parklands on Wednesdays and Thursdays. The clinic hours still tend to be disregarded; Woodley 2 p.m. to 4 p.m. is often 1.45 p.m. to 4.30 p.m. and Parklands 3 p.m. to 3.30 p.m. is particularly abused.

Routine weighing and general baby care were supervised as formerly by the health visitor, the medical officer seeing all new registrations, any child in whom parent or health visitor noted abnormality, and any "problem" children—of whom there were not a few. The health level of the regular clinic attenders was very good indeed, and the rate of progress in many instances quite amazing. A weekly gain of half a pound—instead of the text book "4 to 6 oz"—is now standard rather than exceptional. The policy of early introduction of solid food is now in its 4th year, and to those enquiring into its worth we can only say "just you look at our babies". Incidentally it is a method of infant feeding with a reputation extending beyond the immediate circle of clinic contacts. Having advocated "cereal at 6 weeks" against a fair amount of prejudice and apathy it caused the health visitor a good deal of amusement to have her words returned to her with interest when one mother greeted her with the remarks "baby is 3 week old now, don't you think it's time he had some solids"? And he did, and thrived mightily.

The health of "clinic" toddlers was also very satisfactory. Many of the older ones are now attending one or other of the nursery schools, where also their well-being continued to be regularly supervised. The numbers at nursery schools were such that it was necessary again to institute separate nursery school sessions, fitting them in when and where possible, as the regular sessions were already at capacity. There were outbreaks of measles and chickenpox in the Woodley Nursery School during the year, of moderate severity but happily without serious sequelae.

Home Visiting

The policy of paying the first visit to the mother and baby in hospital is now firmly established and of vast value—and here we delight to pay tribute to the staff of the Maternity Block in the Princess Elizabeth Hospital who are unfailingly helpful and cooperative. At this initial visit, an appointment was made for the first visit after the mother's return home, and repeat visits thereafter were made when the mother wished or the health visitor thought necessary. With the happy decision in May to abolish charging for visits, it became possible to advise and arrange visits without thought of financial repercussion in families at any income level. Home visiting is the most important part of child welfare work, and removal of the burden of fees enabled the health visitor to expand her visiting programme far more widely. She also undertook a very valuable survey of economic status in relation to child health, particularly in lower-income homes with a working mother. This survey proved that many Nairobi households were at or below the borderline of healthy living and threw into sharp relief the importance of thorough and widespread child welfare work. Throughout the year particular attention was given to the children of mothers in fulltime employment, with repeat visits as often as might be necessary, and instruction and supervision of ayahs and domestic staff until the care of such children was as satisfactorily organised as the circumstances would permit.

In conclusion, it is interesting to quote a piece of evidence which suggests that the efforts of the staff to promote better baby-raising are successful. A London firm, specialising in clothes-by-mail recently sent representatives to Nairobi, and one of them remarked "we shall clearly have to revise our ideas of sizing in children's clothes. Age for age, your children are evidently a good deal bigger than ours."

PARKLANDS DAY NURSERY

The matron, Miss Watson, returned from a well earned overseas leave on the 9th February. Our thanks are due to Mrs. Salmon who performed the work of acting matron so admirably during Miss Watson's absence.

Attendances during the year were high except in January because of an outbreak of mumps and in May and June because of measles. The resources and accommodation of the nursery were taxed to the full particularly during April when, because of the emergency, 140 additional children were temporarily admitted. Two nursing sisters were drafted from another section to help the staff for a short time but they soon had to be withdrawn to return to their clinics.

Generally the health of the children was good during 1953 and there were only 62 cases of infectious diseases.

The routine running of the nursery went very smoothly throughout the year. The children always appeared to be extremely happy and well cared for. Everything possible was done to keep them interested in various activities and a very full timetable was maintained the whole time so that the children were kept free from boredom and indulged in various activities such as free play, physical training, the learning of nursery rhymes and poetry and so on. Full credit must be given to the matron and all other members of the staff who worked so hard and so satisfactorily for the well-being of the children under their care.

The highlights of the year were a Coronation Sports Day organised by the staff and a Christmas concert and party. The former was well attended by many "old girls and boys" as well as the nursery children and parents. It was unfortunate that rain marred the proceedings but the tea which was laid out in the nursery was enjoyed by all and the children were entertained uproariously by two clowns. All events could not be completed because of the rain on the day of the sports but sports day was continued on the following Saturday when the prizes were distributed. Such was the success of this meeting that it is intended to make the sports day an annual event.

The Christmas concert and play becomes more elaborate each year. Mrs. Simpson produced a Nativity scene which was excellent and Miss Watson produced a pantomime, "Cinderella". All the children taking part entered into the spirit of the occasion with enthusiasm and acquitted themselves admirably. Pupils of Madam Zerkovitz performed a delightful minuet scene. Mr. and Mrs. S. J. Grant painted the scenery and to them was due much of the success of the stage productions.

WOODLEY DAY NURSERY

The past year has been the first complete year of the nursery's existence. Many of the difficulties which confronted the staff have been overcome and many improvements have been made.

The numbers built up very slowly at first, and then seemed to remain stationery at 80 to 90 children. After advertising vacancies and stating that children from any area could be admitted, the numbers immediately rose and well over 100 children have been entered on the nursery register. At the present time the complement of children is almost complete.

It is possible that people were at first influenced adversely by the unattractive layout of the nursery but this could not be avoided when the Parks Department is so dependent upon satisfactory rains for the laying out of their grounds. When the opportunity occurred the grounds were laid out and planted and the nursery is now looking extremely attractive. This, too, made of course a great difference to the children

as, when the grounds were completed and the garden equipment installed, they were able to spend a great deal of time in the open air. The tarmacadamming of the drive has also improved the surroundings considerably and reduced the dust nuisance which was at one time very bad.

The nursery was unfortunate in that there were two heavy epidemics, one of measles in March and April, and the other of chickenpox from August to October. These cut down the attendances drastically as very few of the children had previously had either disease.

The staff has settled down well and has worked willingly and happily throughout the year. Unfortunately, several members were from time to time taken ill but the additional duties thus thrown upon the remaining members were always accepted without complaint.

It can be said with confidence that the nursery has got into its stride and should progress very satisfactorily.

DAY NURSERY ATTENDANCES

				Parklands	Woodley
Regular:	full day	...	...	12,990	18,001
„	mornings	...	...	5,309	3,339
„	afternoons	...	...	—	54
Casuals:	full day	...	...	947	813
„	mornings	...	...	621	445
„	afternoons	...	...	107	127
Totals				19,974	22,779

Section 15

ASIAN MATERNITY AND CHILD WELFARE

This year of emergency 1953 has been a year of stress and uneasiness but nevertheless a year of real progress. Though there have been "incidents" on our doorsteps—fortunately not yet inside our doors—yet the general uncertainty has interfered with progress much less than might have been expected.

Staff

Dr. Philippa Gaffikin returned from long leave at the end of 1952, and in January 1953 resumed duty as medical officer in charge. Dr. Blanche Hordern, who had acted as locum medical officer during July—December 1952, remained in the department until the end of March 1953. Her assistance made it possible for both administrative and routine clinic work to be given full attention and the value of the extra medical officer is reflected in the excellent attendance figures for the first three months of the year. Unfortunately it was not found possible to finance the retention of Dr. Hordern beyond March but provision has been made in the estimates for an additional part-time medical officer during 1954.

The Supervisor of Health Visitors, Miss Priscilla Benjamin, returned late in August from long leave which she had spent in a Study Tour of Public Health work in the U.S.A. She came back brimming over with enthusiasm and new ideas, which promised to be of vast interest and value in the department: but unhappily she found it necessary in November to submit her resignation in order to return to India.

Buildings

Ngara Clinic. The clinic building proved even more inadequate than before, especially for the larger attendances at child welfare sessions. Plans for alteration and enlargement were made and authorised, together with the necessary financial provision; but negotiations regarding title to the land dragged on throughout the year and the work could not be started. Building will, however, definitely begin early in 1954.

Eastleigh Clinic. This building has proved very satisfactory, well designed and strategically placed to serve a developing lower-income-group area, and was of especial value in providing adequate space—in the waiting hall—for group activities such as classes and film shows.

Sandiford Road Clinic. The clinic building is small and old-fashioned but has been adequate up to now for the limited area which it serves. A recent marked increase in child attendances caused a good deal of congestion but not yet sufficient to indicate a need for larger premises.

Victoria Street Clinic. This excellent building continued to demonstrate the worth of the basic clinic design. Here also the waiting hall was of great value as a venue for classes, demonstrations and films.

Forthall Road Clinic. This area is still without its own clinic building, the antenatal and child welfare sessions being held at Ngara thus still further increasing the congestion. Negotiations with E.A.R. & H. continued and the cooperation shown by the E.A.R. & H. Architects' Department augurs well for progress in 1954.

Training

Training of Health Visitors: A course of training — the third — for the Diploma in Health Visiting was advertised to begin in September, the number of places available being provisionally fixed at four: but the response was unexpected, twelve applications being received. Of these, seven candidates were eminently and equally suitable, and since there was no equitable way of choosing between them all seven were accepted, namely, Miss S. Ahamed, Miss G. Ahamed, Mrs. J. K. G. Singh, Miss K. B. Ramzan, Miss S. Shafi, Miss N. Shafi and Mrs. T. K. T. Singh.

The syllabus for the course is the same as in previous years but experience has shown that eighteen months is insufficient time to complete it without "cramming", and the current course is therefore designed to extend over 21 months. During the first term September—December, 1953, lectures were given in anatomy, physiology, midwifery, dietetics, sanitation and hygiene.

One lecture was given weekly on each subject in addition to practical instruction and demonstration. As usual, members of the staff of other branches of the Public Health Department have responded instantly and generously to all requests for their assistance.

Training of Midwives: The annual Refresher Course was held in November and expanded from two weeks to three in order to include the multiplicity of interesting activities which our generous friends were prepared to provide. A series of excellent papers and interesting visits and demonstrations culminated in a teaparty at which the Hon. Director of Medical Services very kindly presented Certificates of Attendance.

Training of Dais: The Dais' Course has been discontinued, for the satisfactory reason that there are now no untrained dais in Nairobi, but the professional interest and ability of practising dais was sustained by weekly lectures and demonstrations on midwifery and kindred subjects.

Training of Staff: The refresher course in first aid for health visitors was completed during the year. The department's staff were also strongly encouraged to attend as many sessions as possible of the Midwives' Refresher Course, this being regarded as of greater ultimate value to the public during those three weeks than the routine clinic work.

Clinic Activities

Antenatal Welfare: Weekly antenatal sessions were held at each clinic throughout the year, with an additional session at Ngara for the Fort Hall Road area. The total attendances were slightly less than in 1952—5034 compared with 5285—and this decrease was definitely related to the Emergency. There were several sessions at Ngara and at Eastleigh, where attendance was almost nil, one or two patients instead of the normal twenty-plus, owing to an "incident" having occurred that morning in the area and the women being understandably averse to leaving their homes. Also, in the Eastleigh area, there was a marked drop after the Police Order of 1st November removed all Kikuyu, as the women, left servantless, had more to do at home and could not get out during the mornings.

The health of pregnant women was seen to be much the same as in former years—the general condition fairly good, the dental condition rather better than last year, the prevalence of nutritional anæmia still deplorable: of 1481 pregnant women medically examined on first attendance at a clinic, 1277 were found to be anæmic, an incidence of 86.3%. Pre-eclamptic toxæmia increased still further, as shown in the following table: —

Raised blood pressure only	...	...	180
Raised blood pressure with albuminuria	...	...	37
			<hr/> 217

Of these, 13 were regarded as on the borderline of true eclampsia, and were advised immediate admission to hospital. In all these cases prompt treatment brought about a quick recovery: but one woman, who had never attended a clinic or consulted a doctor, developed eclampsia at home and died.

Maternal deaths number 3, the causes being obstetric shock 1, eclampsia 1, postpartum hæmorrhage 1, giving a maternal mortality rate of 0.76 per thousand live and still births. Investigation into these deaths showed clearly that none had been in any way preventable, and that there had been no lack of care or effort among those attending the cases.

There has been a definite and welcome fall in the stillbirth rate. Since a stillbirth is largely a reflection of maternal illhealth, the decrease is suggestive of an improved level of maternal health and antenatal care.

Could it be that our work is having some effect! Only very little, however, for, of the 76 stillbirths which occurred, 20 were due to premature delivery, a condition which ought to be preventable. The stillbirth rate, per thousand live and stillbirths, was 19.4.

Child Welfare: Five children's sessions were held each week through the year, two at Ngara and one in each of the other clinics. Despite the Emergency there was a decided rise in the attendance figures—14,403 compared with 12,513 in the previous year. The increase may even in part be due to the Emergency, since a mother who is anxious to attend the clinic with one of her children is reluctant to leave any of them in possible danger at home and consequently brings them all. There was also an increase in the number of new registrations, both infant and toddler, but the infant total is still not equal to the total of births—a situation which can only be remedied by a staff sufficiently large to be able to visit every household where there is an infant.

The general health of the older baby and the toddler remained reasonably good, but young infants arrived into a very hostile environment and the prognosis for the frailer ones was poor. The overall infant mortality rate was 62 per thousand live births. Since any relief of overcrowding is not yet in sight, the problem could only be attacked from the individual aspect, with measures to strengthen the resistance of each child. Constant reiteration of advice on a good and adequate diet from the earliest weeks did something to speed the infant's progress from the tiny vulnerable stage to a level of growth and toughening capable of withstanding bad living conditions, while guidance on personal and environmental hygiene and the prevention of infection were some degree of added safeguard.

There was a moderate epidemic of chickenpox among both children and adults; a few cases were severe enough to arouse a suspicion of smallpox, but the suspicions proved unjustified. Gastro-intestinal and pulmonary diseases were prevalent, but never epidemic, and isolated cases of diphtheria and typhoid—of mild type—were indirectly beneficial through their propaganda value which is reflected in the figures of T.A.B. and diphtheria immunisation.

Home Visiting: As the department is now wholly staffed by trained health visitors the standard of domiciliary visits paid was high, and this together with an increase in the total number of visits represents a real advance in the value of the department's work. Health visitors have been outstandingly well received in all districts. It would seem that the service was particularly appreciated when tension and public insecurity made women reluctant to leave their homes. The increased total—12,966—was achieved despite chronic understaffing and with complete disregard of risk.

Inoculations and Vaccinations: Good use was made of all facilities available for active immunisation, the total numbers thus protected being set out in table 3.

Health Education: During the year courses of instruction to small groups of women and girls in first aid, home nursing (both in cooperation with St. John Ambulance Association), sewing, knitting and preparation of layettes were given.

Classes in antenatal and postnatal exercises were held at all clinics in conjunction with the antenatal welfare sessions, and all expectant mothers, especially primiparae, were warmly encouraged to attend, learn the exercises and then practise them regularly at home. Many of the mothers later testified to the value of exercises in promoting rapid and painless delivery.

A limited number of film shows were held in the latter part of the year, exhibiting short simple films on health subjects to mothers and older children. The public response was considerable, the audiences numbering 80 to 100, which is the maximum that a clinic waiting hall can hold. Indian women, even those who do not speak English, are apparently well "conditioned" to the film medium, and it is a fruitful field for further health propaganda.

Miss Benjamin gave several radio talks and lectures to clubs on her experience in the U.S.A., and Miss Inamdar gave a series of broadcasts on "Mothercraft".

Last, but not least, students under instruction in the technique of addressing an audience on health subjects obtained practice by giving brief lectures of antenatal patients in the waiting hall—beneficial both ways!

Cooperation with Other Health Services

Private Practitioners: The same excellent liaison with general practitioners was maintained as in former years, and a total of 304 gynaecological cases were referred to the clinics for examination and opinion.

Midwives: There has been a sincere effort on the part of many midwives to cooperate fully with the department, and this has always been met more than halfway by the staff: but there remain a number who have yet to grasp the value of clinic services or to appreciate our genuine wish to help. The standard of record-keeping, as revealed by quarterly inspection of books, still leaves much to be desired; and notification of births showed very little improvement over last year. Those who sent in notifications regularly in the past continued to do so—always

the same conscientious individuals, to whom our gratitude is given—but the backsliders continued to backslide, and statistical records of the City's health are thereby made inaccurate and of uncertain value.

Enrollment of midwives under the Nursing and Midwives Council Ordinance was scheduled to become compulsory after the 31st December, and in the last quarter of the year negotiations regarding the status of Indian Midwives were carried on in an atmosphere of rather unnecessary bitterness. The midwifery training available in Kenya and the educational standard required of candidates, correspond with those for Assistant Nurses in England: Kenya trained Indian midwives were accordingly designated to be enrolled as Assistant Midwives. The word "Assistant" is a rather unfortunate term, since it would appear to imply that such midwives are not qualified to carry on an independent practice, whereas Kenya trained midwives are in fact trained for and actively engaged in private practice: it is hoped that further and calmer discussion may bring about the adoption of a less controversial term.

The inspection of private maternity homes was carried out at intervals of about two months—not on a fixed programme, but haphazard and without warning. Of the four Maternity Homes open at the beginning of the year, two were at all times found very satisfactory: one was fair to poor: and the fourth remained so unsatisfactory despite repeated warnings over many months, that it was reluctantly decided to advise against renewing the licence whereupon the Home was voluntarily closed.

Dais: In addition to the weekly refresher session already noted, the Supervisor made regular inspection of dais' equipment and maternity bags, their homes and personal hygiene; and on one afternoon per week was available to visit cases on request with any individual dai.

Conclusions

Maternal and Child Welfare is a branch of medicine which lacks dramatic moments and spectacular results: but as the years pass its effect becomes apparent and its true value can be appreciated. In this connection a very pleasant compliment quite inadvertently came our way, when a Nursing Sister who has worked among Indian mothers and children for ten years remarked of Ngara "You're getting a better class of children attending your clinic now than you used to". It was delightful to be able to point out that it wasn't a better class, not in any way a different class, but the same mothers and families who had attended for years: *but* that continued clinic contact had so improved their methods and standards of baby-rearing as to raise their whole level of child health.

TABLE 17
STATISTICAL RECORD

	<i>Ngara</i>	<i>Eastleigh</i>	<i>Sandiford Road</i>	<i>Victoria Street</i>	<i>Forthall Road</i>	<i>Total</i>
Antenatal Welfare						
Clinics Held	51	52	49	51	49	
Attendances	1,446	1,084	372	1,292	840	5,034
New Registrations	439	352	85	311	294	1,481
Child Welfare						
Clinics Held	52	52	49	51	49	
Attendances	3,341	3,695	2,358	2,935	2,074	14,403
New Registrations						
0—1 year	400	437	94	279	289	1,499
1—5 years	226	601	103	316	221	1,467
Home Visits						
Supervisor	144	—	—	—	—)	
Health Visitors	1,432	3,783	2,789	2,904	1,672)	12,966
Students	242	—	—	—	—)	
Vaccination and Inoculations						
Vaccination	424	821	237	430	299	2,211
Diphtheria antigen	11	636	112	39	20	818
Pertussis antigen	—	—	21	—	8	29
Diphtheria/Pertussis	117	870	96	154	162	1,399
T.A.B.	45	397	386	150	106	1,084
Minor Treatments	48	239	73	116	59	535

1953 total attendances, all ages, all clinics 24,979

Comparative figures, 5 year period.

		1949	1950	1951	1952	1953
Antenatal Welfare						
Attendances	...	4,560	5,126	4,817	5,285	5,034
New registrations	...	1,410	1,490	1,444	1,803	1,481

Child Welfare

Attendances	...	...	9,004	9,455	11,844	12,513	14,403
New registrations							
0—1 year	...	...	1,103	1,083	1,292	1,595	1,499
1—5 years	...	...	1,128	896	1,151	1,486	1,467
Home Visits	...	...	10,632	9,037	11,780	11,815	12,966

Notification of Births

Indian Maternity Hospital	...	...	...	585
Midwives and Dais	...	...	...	2,976
Known to have occurred, not notified	...	...	...	350
				<hr/> 3,911
Less still births			...	76
				<hr/> 3,835
Live births	...	...	...	3,835
Deaths under 1 year of age (including stillbirths)	...	...	...	238
Infant mortality rate (per thousand live births)	...	...	...	62

Causes of Stillbirth

Maldevelopment	...	...	...	3
Macerated foetus	...	...	...	5
Prematurity	...	...	...	20
Malposition	...	...	...	2
Prolapsed Cord	...	...	...	4
Eclampsia	...	...	...	1
Prolonged Labour	...	...	...	1
Asphyxia	...	...	...	4
Antepartum haemorrhage	...	...	...	1
Accidental haemorrhage	...	...	...	2
Toxaemia	...	...	...	3
Degenerate placenta	...	...	...	1
Cause not known	...	...	...	29
				<hr/> 76
				<hr/>

Causes of Death — Asian Children under 5 Years

				Under 1 year	1—5 years
Accident	...	...	...	1	2
Acute bacillary dysentery	...	...	...	1	—
Acute endocarditis	...	...	...	1	—
Anaemia	...	...	...	2	2
Anasarca	...	...	...	—	1
Antepartum haemorrhage	...	...	...	1	—
Asphyxia	...	...	...	10	—
Atelectasis	...	...	...	4	—
Bilateral pneumonia	...	...	...	1	—
Birth injury	...	...	...	1	—
Bronchial obstruction	...	...	...	—	1
Bronchitis	...	...	...	1	—
Broncho-pneumonia	...	...	...	9	10
Cellulitis	...	...	...	1	—
Cerebral haemorrhage	...	...	...	1	—
Cerebral malaria	...	...	...	1	1
Congenital cardiac abnormality	...	...	...	2	1
Congenital debility	...	...	...	1	1
Congenital malformation	...	...	...	3	—
Congenital syphilis	...	...	...	1	—
Convulsions	...	...	...	1	1
Cough and fever	...	...	...	—	1
Diphtheria	...	...	...	—	1
Encephalitis	...	...	...	1	—
Gastro-enteritis	...	...	...	12	5
Haematemesis	...	...	...	1	—
Haemophilia	...	...	...	—	1
Heart failure	...	...	...	3	5
Icterus neonatorum	...	...	...	2	—
Icterus' cirrhosis of liver	...	...	...	—	1
Infantile diarrhoea	...	...	...	6	—
Infective jaundice	...	...	...	1	—
Intestinal obstruction	...	...	...	—	1
Leukaemia	...	...	...	—	1
Lobar pneumonia	...	...	...	1	—
Malnutrition	...	...	...	1	—
Marasmus	...	...	...	7	—
Meningitis	...	...	...	1	1
Peritonitis	...	...	...	—	1
Pneumonia	...	...	...	18	9
Prematurity	...	...	...	62	—
Rheumatic endocarditis	...	...	...	—	1
Tetanus	...	...	...	—	1
Tonsillitis	...	...	...	—	1
Toxaemia of pregnancy	...	...	...	2	—
Whooping Cough	...	...	...	1	—
Total	...	...	...	162	50

Section 16

AFRICAN CHILD WELFARE**Staff**

European: Dr. J. A. T. Henry was Medical Officer in Charge throughout the year, and from April 1st was assisted by Dr. M. Brown who took up her appointment on April 1st as a medical officer and who, in addition to her medical work, assisted with lectures and demonstrations to the African clinic assistants.

Mrs. Dugmore did six months of excellent work from January 1st to June 30th when she proceeded on one month's local leave and six month's overseas leave. Her supervisory appointment was filled by Mrs. B. J. Brooks, who carried out the administrative side of the work with considerable ability and was very helpful in keeping up the morale of the staff during a difficult period.

Mrs. C. N. Davis was Supervisor of District Midwives from March 1st until August 31st when the service was suspended.

African: There was a marked increase in absence-without-pay which was due to members of staff who left work for security reasons being given an opportunity of returning by being offered a period of delay before they resigned.

Replacements for experienced staff and the aim to keep a balance of tribes within the staff for the sake of language and teaching has become increasingly difficult throughout the year and, on December 31st, of 26 names on the muster roll, 17 were Kikuyu.

It is desired to express appreciation of the loyal service given by our African Staff during the year, when they were subject to criticism and rudeness because of their loyalty to work which involved close co-operation with Europeans.

Weekly lectures have been given to clinic assistants in medical subjects and first aid.

Two senior clinic assistants attended a refresher course in hygiene at Jeanes School during five weeks in April and May.

One senior clinic assistant attended the Ear, Nose and Throat Clinic at King George VI Hospital and was instructed in the examination of ears and treatment for otorrhoea so that children from the locations can now be treated at Kaloleni Clinic.

Review of Activities

General. The total number of examinations done by the medical officer was 11,483.

Examinations of nursery school children for City and Railway Schools were recommended in April and routine quarterly F.F.I. examinations were performed on clinic and nursery school staffs.

The work in the clinics has been influenced very adversely during the whole year, both in quantity, due to movements of population to and from the City and in quality, because of home visiting having to be stopped.

Close contact with the women in their homes is the only way in which to carry out the work and teaching aims of this service. From January to March all visiting was restricted because we were not well received, and in many houses, not wanted. A period was tried when health visitors and assistants went in pairs, the health visitors being careful not to go with the Africans to embarrass their welcome; but even this modified scheme had to be cancelled, and after April 22nd no home visiting was undertaken for security reasons.

The clinics were all closed from 7th to 11th April, and again on 22nd April, but otherwise operated as shown on the attached table, with askari or home guards at each clinic.



THE NEW BAHATI CLINIC.

From 23rd April to 11th May, Maesha and Makongeni clinics operated in Kaloleni building and for the remainder of the year Maesha and Makongeni worked in the Makongeni Clinic.

Bahati (P.W.D.) Clinic operated from January 1st to March 23rd and remained closed to the end of the year. The women and children were invited to attend Kaloleni Clinic and from May 18th, half of Kaloleni building was used for Bahati people until November 9th, when the new Clinic in Bahati V was opened.

From 23rd March, the women and children from Bondeni and Gorofani sections of Pumwani were allowed to attend Kariakor Clinic as the Pumwani Clinic was closed and the building lent to the African Affairs Department, until it can be used as headquarters for the African District Midwifery Service.

Since no home visiting was allowed, all the women and children at the Posts and Telegraphs Clinic, which operated in afternoons only, from 6th May to the end of the year, were given only casual cards.

One of the sequels of no home visiting is the tendency amongst the women to give false information about their housing and the likelihood of remaining in Nairobi for some time, so that many are registered, who only attend for illness and never avail themselves of the opportunity of supervision for their children and for themselves of attending lectures and periods of instruction in hygiene, diet etc.

Many of the antenatal mothers register at a late time in pregnancy to obtain a card as it reduces the hospital fee should they go there for delivery, or allows the midwife to deliver the case if they wish to call her.

For the last three months of the year a vast amount of clerical work was done in the clinics to bring the records up to date as there were many changes of locations when tribal segregation was instituted.

An outstanding need is a dispensary in the Doonholm Road area. The ban on the African's use of the bus service has made this more obvious, but the expense of a daily bus journey to and from the General Dispensary from such a distance would exclude daily attendance for treatment, except when the child or adult is really ill even in normal times. The putting into operation of at least two dispensaries and a small hospital in this heavily populated residential African area is deserving of high priority in the plans of the Kenya Medical Service or City Council.

Christmas parties were held in each of the clinics and although attendances were smaller than previously, the mother and children enjoyed them. It has been true throughout the Emergency that, with a few exceptions, the Africans are friendly and pleased to cooperate provided we do not visit, i.e., intrude into their homes, and if we treat all their sick and do not make too many demands for attendance at lectures etc.

In spite of their ideas, we try to maintain as high a standard as possible in the clinics, so that, when home visiting is allowed, the delay in returning to normal routine will be as short as possible.

It is maintained that the clinics play a large and important educational role amongst Africans. Teaching of hygienic living is surely of the utmost significance, particularly when that teaching is directed to the women of the race. Such work is difficult at the best of times, for the lessons taught are bound to be slow of adoption; but the work is increasingly difficult when many of the people whom one is trying to impress are not given an opportunity because of insanitary conditions and bad housing to practise what is taught. It will be argued by many that the Africans themselves are responsible for their insanitary environment, but to anyone who looks at the matter dispassionately, it can only be very obvious that in many instances this is only partially true. The African is not responsible for inadequate drainage, an insufficient supply of water, washing points and water points which are too small and houses which have been built without drains. When, during the teaching of hygiene, they point to these inadequate arrangements, it is no satisfactory answer to retort that they themselves are not entirely blameless for the insanitary surroundings. These people should be given the opportunity to live hygienically; if they are given this opportunity, our teaching could be more effective and the blame, if any, for insanitary conditions can be laid at their feet more effectively.

The Deputy City African Affairs Officer and the Deputy Medical Officer of Health produced a lengthy report on sanitation and cleansing in the locations, and it is hoped that this may become available for study in due course.

A further point which is frustrating to the work of the clinics is the insistence on applying the "bedspace" idea to the housing problem. A family cannot be a healthy unit under these conditions and it can only result in the retardation of the urbanisation of the African. And how can children or the family unit thrive when living at starvation level income with the parents divided and with a continual coming and going to and from the reserves?

Ante-Natal Clinics. The total number of new cases was 1,639 and the total attendances 4,447—555 and 1,045 less than in 1952—while post natal examinations were 303—109 less than in 1952.

As well as the reasons stated in the general review of clinic activities, the suspension of the district midwifery service had a big influence in these decreases.

Child Welfare Clinics. I.W. new cases were 1,543 a decrease of 153 on 1952; P. S. new cases were 1,259 a decrease of 494 on 1952; total attendances were 13,626 a decrease of 12,282 on 1952.

Much more teaching is required in the care and feeding of the toddler child and there is a big opening for the use of well run nursery schools. A play period for toddlers was started at the clinics and although the response has not been very large, it has benefitted the children who have attended and may help to bring to the parents' notice the benefit of sending their children to nursery schools.

It is good to have the supervision of the health of the nursery school children again and we hope to maintain continuity from the ante-natal period up to primary school, though the present breakdown in the Government school medical service has stopped this temporarily.

Attendances at milk bars were 12,308.

The closing of the City Dairies in the locations caused a lot of hardship to children and adults. Unfortunately the Africans brought upon themselves the first closing of the dairies and the consequent hardship to their own people. It may have been partly because of this necessary closure that Council decided to give up running the dairies altogether. Whatever, it is a fact that many good people and many who were not of the Kikuyu tribe have suffered as a consequence and it is regrettable that this decision was made.

Some Incumbe (a South African baby food with a high vegetable protein content) has been bought by clinic mothers and used at the weaning period and, in cases of malnutrition, with good results.

Dispensary Services. Total attendances were 51,306, a decrease of 29,104 compared with 1953.

So much has been said about the non-co-operation of the African mother, that it ought to be noted that many do attend regularly and make a big effort to carry out nursing instructions for their sick children.

Home Visits. For security reasons these were modified from January to March and stopped completely on and after 22nd April with a deplorable loss in contact with the women and children in their homes.

The total numbers of visits during the above period was 4,456. As well as the above bad result from lack of visiting, it reduces our contact with problems of general sanitation and housing—the standard of which, as already stated, is so low in many estates.

Teaching. Group teaching was given to mothers in the clinics during periods of waiting for infant welfare clinics and ante-natal clinics.

Detailed teaching was given to small groups of mothers invited to attend in the afternoons by the Senior Assistants. Subjects for lectures included—health and hygiene during the ante-natal period, pre-

paration for baby, clothing, cot, etc., feeding and training of infant, post-natal care and reasons for post-natal examinations, diet—storage and cooking of food—advice to use outside kitchen, hygiene and cleanliness of home, training of children and proper use of latrines, care of sick children, and value of medical examinations and routine tests of blood and stools.

Medical Aspects. No major epidemic occurred throughout the year but measles and whooping cough were present the whole time in small numbers.

Respiratory tract infections, including pneumonia and bronchopneumonia and severe tonsillitis, gastro-enteritis and dysentery were the main illnesses.

An experiment was carried out with material supplied by Imperial Chemical Industries to compare the effect of sulphamezathine and thalazole in the treatment of undiagnosed enteritis and dysentery and from the small numbers tested the drugs appeared to be equally effective.

Lorexane solution and ointment were tried for scabies and the results were good, affording less itching when in an ointment base. Scabies occurs chiefly in children who have returned from the reserve.

Ring-worm and septic rashes are the other common occurring skin conditions, especially after shaving of heads. Chronic otorrhoea is less of a problem now that treatment can be carried out at Kaloleni Clinic.

The medical officers at King George VIth Hospital are keenly interested in primary tuberculosis in children and we hope to cooperate in the follow up of cases in the toddlers' group.

A few cases of acute poliomyelitis and typhoid occurred in the locations and were notified by the hospital authorities.

995 cases of malaria were treated in 1953.

592 cases of helminthic infections were treated in 1953.

Vaccinations 1,365.

T.A.B. inoculations 2,249.

Laboratory Tests.

Kahn specimens	...	...	1,590	...	positive	156
Cervical smears	...	...	1,575	...	positive	57
Blood slides for malaria	...	...	6,258	...	positive	931
Stools for helminths	...	...	2,562	...	positive	748

Clinic Buildings and Equipment. The buildings are in good condition and in the new Posts and Telegraph and Bahati Clinics there is a satisfactory standard design, both in building and equipment, which, with some minor modifications, will be used for the 1954 clinic to be built in the Doonholm Road Triangle.

The Welfare Department of City Council hopes to take over the present clinic in Kaloleni to use as a spinning and weaving and teaching centre and will build a standard clinic with a section for the supervisor's store and office in Kaloleni for the African Child Welfare Department during 1954.

DISTRICT MIDWIVES REPORT FROM JANUARY TO JUNE

Supervisor: Mrs. Dugmore from January to March 1st
Mrs. C. N. Davis from March to June

TABLE 18

Deliveries by District Midwives, 1953

Area	Normal with Live child	Normal with Dead child	Abnormal with Live child	Abnormal with Dead child	To African Maternity Hospital	Other Calls	Total	Postal Natal Examinations	B.B.A.	Infant Deaths to 7th day
Ziwani	43	—	—	1	1	—	45	19	—	—
Starehe	37	—	—	1	1	—	39	15	2	—
Maesha and Makongeni Cottages	64	1	4	1	1	—	71	30	7	1
Makongeni	21	—	—	—	2	—	23	16	—	—
Kaloleni	42	—	—	—	—	—	42	11	3	—
Bahati	55	—	—	—	2	—	57	14	4	1
Muthuruwa	34	—	—	—	2	—	36	20	3	—
TOTALS	296	1	4	3	9	Nil	313	125	19	2

Ziwani. Mrs. Ruth Elikani throughout the six months.
Abnormal with dead child 1 Premature B.B.A.
Mother arrived from Reserve.
To A.M.H. 1 Retained placenta
Approximate monthly earnings Shs. 140/-

Starehe. Mrs. Annah Norman from 1st January to June 5th when she had to be given police protection and relinquished her appointment.
Abnormal with dead child 1 B.B.A. breech.
To A.M.H. 1 Premature. Mother and child taken to A.M.H. the day after delivery.
Approximate monthly earnings Shs. 130/-

Maesha and Makongeni.	Miss Drucilla Agot throughout the six months.	
	Normal with dead child	1 Still born Hydrocephalic Infant.
	Abnormal with dead child	1 Still born premature with placenta praevia.
	Abnormal with live child	2 Cord presentations. Breech delivery. Cord round child's neck.
	Infants death	1 Lived two days. No definite cause found.
	Approximate monthly earnings Shs. 230/-	
Makongeni Cottages.		
	Mrs. Njoki Ruben throughout the six months.	
	To A.M.H.	1 Prolapsed cord (Without an A.N. Card)
	Midwife sick from April 2nd to May 4th when her area was divided between Perisi and Drucilla.	
	Approximate monthly earnings Shs. 80/-.	
Kaloleni.	Mrs. Perisi James throughout the six months.	
	Approximate monthly earnings Shs. 140/-	
Bahati.	Mrs. Delina Heron throughout the six months.	
	To A.M.H.	1 Primipara with no progress after 24 hours in labour. Child with large cyst on lip.
	Approximate monthly earnings Shs. 180/-	
	Resigned in June because being persecuted to take cases who had not been examined ante-natally.	
Muthuruwa.		
	Mrs. Esther Nathon throughout the six months.	
	To A.M.H.	2 Primipara with no progress after 24 hours in labour.
	Approximate monthly earnings Shs. 125/-	

General. By June most of the midwives were being called to cases who had not been examined antenatally, and persecuted and threatened when they refused to take charge of such a case. In view of this and the fact that supervision of the district midwives had been stopped in April, when all house visiting was suspended, it was decided to suspend the service until a properly supervised and controlled district midwifery service could be re-started.

Largely due to the instigation of Councillor Mrs. Rayner and Councillor Ofafa, Mrs. Ruth Elikani and Mrs. Esther Nathon started as private district midwives in the estates, working in conjunction with the City Ante-Natal Clinics and being loaned their equipment by the City Council. In spite of their services being available many cases deliver themselves because the menfolk are afraid to go out at night to call the midwife.

TABLE 19
African Child Welfare — 1953

	Pumwani 1.1.53 to 23.3.53	Karibokor 1.1.53 to 31.12.53.	Katolani 1.1.53 to 31.12.53.	Bahati 1.1.53 to 31.12.53.	Muthuruwa 1.1.53 to 31.12.53.	Bahati 1.1.53 to 31.12.53.	Maesha 1.1.53 to 21.4.53.	P. & T. 6.5.53 to 31.12.53. (afternoons only)	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953
Ante-Natal																		
New cases	52	379	353	215	279	278	47	36	470	536	771	1,184	1,178	1,379	1,735	2,038	2,194	1,633
Births at home	16	85	79	182	90	56	19	5	282	337	282	422	475	428	382	491	803	532
Births in Hospital	24	67	67	45	55	55	2	9	—	—	—	276	326	332	226	231	363	324
Total attendances	131	948	972	806	854	531	140	65	3 312	2,567	3,864	4,637	4,932	5,148	5,934	5,448	5,492	4,447
Infant Welfare																		
0—1 New cases	29	302	335	257	222	320	35	43	748	1,226	1,352	1,492	2,262	1,475	1,576	1,888	1,696	1,543
0—1 Transfers to P.S. Register	14	38	64	49	64	26	7	nil	—	—	—	247	346	397	343	363	429	260
1—5 New cases	20	299	239	180	169	223	63	66	934	1,353	1,018	1,337	1,387	1,194	1,831	2,283	1,753	1,259
Total attendances	434	2,310	2,858	3,058	2,521	1,658	552	235	40,820	59,518	33,949	33,823	32,195	29,025	33,798	37,673	25,908	13,626
Home Visits																		
By H.V.			4	82	134	220	25	111	9,212	6,612	10,384	9,292	6,712	5,278	5,012	4,751	3,603	576
(See Min. No. 5 of P.H.C. 13th Nov. 1951).																		
By African																		
Assistants	52	682	295	569	1,108	449	725	nil	10,218	10,140	11,054	15,158	16,130	15,865	15,359	22,343	16,660	3,880
Total	52	686	377	703	1,328	474	836	nil	13,430	16,752	21,438	24,450	22,842	21,143	20,411	27,074	20,269	4,456
Restricted even January to March and stopped completely after 22nd April.																		
Dispensary																		
Women—new	76	391	436	310	311	220	65	31	—	—	—	4,846	7,229	4,867	6,499	2,293	2,276	1,840
repeat	333	1,163	934	1,186	909	477	278	98	—	—	—	—	—	—	—	13,938	14,132	5,378
Children—new	167	1,544	1,386	1,269	1,034	757	274	161	—	—	—	27,927	33,861	28,163	36,763	8,341	8,457	6,592
repeat	853	5,694	6,303	8,930	4,397	3,713	1,529	807	—	—	—	—	—	—	—	53,702	52,829	32,226
Attendances for tonics	109	700	952	1,651	967	421	353	117	—	—	—	—	—	—	—	—	2,716	5,270
Total attendances	1,538	9,492	10,011	13,346	7,618	5,588	2,499	1,214	23 336	7,002	12,850	32,773	41,090	31,030	43,262	78,274	80,410	51,306

Section 17

AFRICAN MATERNITY HOSPITAL

Staff

The hospital staff remained the same as that of the previous year until August, when three of the sisters left. Sister Budge came in a temporary capacity for the three months until November, and was most efficient and helpful in her short stay.

Sisters V. M. Westall and J. L. Vaux joined the staff in October as hospital and home sisters respectively. In their short period of work, they have both settled down well to the training and supervision of African staff.

As the full complement of sisters was depleted for a few months, it was decided to abolish the duty of a night sister, and to substitute an African staff nurse in her place, with the sister remaining on call only. This change has proved very satisfactory, partly because the overnight admissions have decreased during the emergency, but also because the staff nurses have shown their capability when given further responsibility.

Trainees

The waiting list for entrants to the hospital still mounts higher than ever. There are many more candidates wishing to train than the hospital can possibly accommodate.

On the whole the general standard of the girls work has improved. This was shown by the examination results rising to a 2/3 pass list in their final examination. The preliminary midwifery and nursing examinations produced a 100% pass.

Forty-eight trainees took the full course during the year, while five additional nurses did one year's midwifery after they had completed their general training at the King George VI Hospital. There were eight staff nurses during the year.

The general standard of English has also improved.

General Work

The state of emergency has definitely had its effect on the number of patients entering the hospital during the year. It has been reduced, although not as much as might have been expected. Any kind of fortification to the hospital seemed to have the effect of scaring patients away rather than encouraging them. The posting of permanent European guards in the hospital at the beginning of the emergency, and the short stay of an armoured car in the hospital grounds, decreased

appreciably the number of admissions. The tension of unrest during the Kapenguria trial, and the erecting of a barbed wire defence around the hospital also markedly decreased the intake.

The number of antenatal patients varied considerably. The influx of women into Nairobi at the beginning of the emergency kept the number high, but the boycott of buses, and introduction of passes later lowered the attendance of patients from outside the city.

One beneficial effect that the emergency has produced in the antenatal care of the patients was that the Venereal Diseases clinic took up temporary quarters in the hospital grounds, and patients who might otherwise have defaulted could be sent straight from the antenatal clinic to the adjoining Venereal Diseases clinic.

The welcome arrival of furniture for the nurses home was greatly appreciated. Unfortunately their recreation room had to be given up to accommodate the Venereal Diseases clinic. However the present antenatal clinic was put to use as a sitting room for them in the evenings.

Mothers

The number of admissions has decreased, more so towards the end of the year, purely due to the state of unrest in the country. The number of abnormal deliveries has slightly dropped also. The mortality rate has gone up due to patients having difficulty in getting to the hospital from the reserve and outlying districts, and arriving too late for medical aid. The fear of going out in the darkness has also hindered the effective treatment of patients. The stamina of patients has also been reduced due to a certain amount of malnutrition, and there has been a resultant increase in deaths from post partum shock.

Babies

The average weight remains the same as in the previous year, being between $6\frac{1}{2}$ to 7 lbs. There has been a slight increase in the number of premature babies, but with efficient nursing care the survival rate has been high.

TABLE 20
Hospital Statistics

					1952	1953
Total Admissions	...	...	...	...	2,471	2,262
Births	...	...	...	...	2,110	1,887
Still-births	...	...	...	...	169	167
Maternal Deaths	...	...	...	...	10	24
Infant Deaths	...	...	...	...	125	81
Operations (including forceps)	...	...	...	...	110	52
Born Before Arrival	...	...	...	...	100	123
Abnormal Presentations	...	...	...	...	186	173
Twins	...	...	...	...	39	40
Ante-Natal Clinics	...	...	...	...	199	201
Attendances	...	...	...	...	13,194	11,930
Post-Natal Clinics	...	...	...	...	45	48
Attendances	...	...	...	...	516	455
Patients in hospital on the first day of the year	...	...	...	...	38	30
Admissions						
Resident	...	...	...	...	1,331	1,516
Non-Resident	...	...	...	...	1,140	746
Total	...	...	...	...	2,471	2,262
Discharges	...	...	...	...	2,464	2,254
No. in hospital last day of year	...	...	...	...	27	22
Patients Days	...	...	...	...	13,708	12,751
Baby Days	...	...	...	...	12,577	9,958
Motherless Baby Days	...	...	...	...	1,587	1,862

Admission by Districts

Kabete	321	Dagoretti	37	Machakos	12
Kahawa	11	Ruiru	14	Uplands	5
Fort Hall	33	Langata	20	Thika	10
Ngong	41	Dandora	13	Ruaraka	31
Karura	5	Athi River	14	Kiambu	84
Embu	3	Stony Athi	1	Kibwezi	1
Nakuru	1	Kikuyu	9	Kinangop	2
Mbagathi	6	Mangu	7	Limuru	22
Nyeri	20	Makindu	7	Karen	4
Magadi	2	Kitale	1	Kisumu	6
Thomsons Falls	1	Juja	2	Subukia	1
Mombasa	1	Magugu	1	Kima	1
Moshi	1				
Embakasi	1				

Admission by Tribes

			Clinic	Direct	Total
Kikuyu	...	...	940	349	1289
Jaluo	...	...	404	54	515
Other Tribes	...	...	397	118	515

Statistics, Clinic and Non-Clinic

General

		Clinic	Direct	Total
Births	...	1535	352	1887
Still-births	...	98	69	167
Born before arrival	...	76	47	123
Malpresentations	...	109	64	173
Twins	...	29	11	40

Still-births and Causes

		Clinic	Direct	Total
Anencephalic	...	0	1	1
Ante-Partum Haemorrhage	...	3	1	4
Birth Injuries	...	6	0	6
Breech Presentation	...	3	1	4
Cause Unknown	...	12	3	15
Cerebral Injury	...	1	0	1
Congenital Syphilis	...	2	0	2
Cord around Neck	...	3	2	5
Delay in 2nd Stage	...	18	9	27
Death in Uterus	...	2	3	5
Hydrocephalus	...	4	2	6
Intracranial Haemorrhage	...	1	0	1
Macerated Foetus	...	7	14	21
Maternal Sepsis	...	1	0	1
Prematurity	...	22	26	48
Prolapsed Cord	...	10	5	15
Placenta Praevia	...	0	1	1
Ruptured Uterus	...	1	0	1
Toxaemia of Mother	...	0	2	2
Uterine Inertia	...	1	0	1
Total		97	70	167

Infant Deaths and Causes

		Clinic	Direct	Total
Delayed 2nd stage	...	3	0	3
Prematurity	...	25	20	45
Marasmus	...	8	9	17
Cerebral Injuries	...	1	1	2
Birth Injuries	...	3	0	3
Ante-Partum Haemorrhage	...	0	2	2
Cerebral Haemorrhage	...	1	0	1
Cause Unknown	...	1	0	1
Spina Bifida	...	1	0	1
Heart Failure	...	3	0	3
Congenital Abnormality	...	1	0	1
Congenital Syphilis	...	1	0	1
Hydrocephalic Monster	...	1	0	1
Total		49	32	81

Maternal Deaths

			Clinic	Direct	Total
Ruptured Uterus	...	...	3	3	6
Post-Partum Shock	...	...	2	0	2
Malnutrition					
(Post-Partum Shock)	...	...	1	1	2
Debility (Post-Partum Shock)	...	...	0	3	3
Cerebral Haemorrhage	...	...	1	0	1
Congenital Heart Failure	...	...	1	0	1
Post Operative Shock	...	...	1	1	2
Ante-Partum Haemorrhage					
(with Central Placenta Praevia)			0	1	1
Heart Failure with					
disease of Lung	...	...	0	1	1
Debility with Ante-Partum					
Haemorrhage	...	...	0	1	1
Neurological Infection	...	...	1	0	1
Rupture of Cervix	...	...	1	2	3
Total			11	13	24

Operations

			Clinic	Direct	Total
Caesarean Section	...	...	27	9	36
Forceps	...	...	10	1	11
Hysterectomy	...	...	2	0	2
Internal version	...	...	0	2	2
Re-suture of Abdomen	...	...	0	1	1
Total			39	13	52

Clinics

Ante-Natal: Number held	201			
New Cases Resident	...	...	2329	
New Cases Non-Resident	...	...	2321	
Repeats Resident	...	...	3666	
Repeats Non-Resident	...	...	3614	
			11,930	
Post-Natal: Number held	48			
Resident	...	...	309	
Non Resident	...	...	146	
			455	
Total Abnormal Cases Treated	...	...	400	

Section 18

VENEREAL DISEASES CLINIC

On April 14th the clinic in Lamu Road, Pumwani, was closed on the advice of the Emergency Advisory Committee and was moved to a building at the back of the grounds of the African Maternity Hospital. This is a temporary type building and does not really provide adequate accommodation for the clinic. The staff, consequently, for a large part of the year was working under difficulties but the best was made of this inadequate accommodation and the operation of the clinic has carried on in a highly satisfactory way throughout the year.

While the new building was inadequate in some ways' the move was advantageous in others. The proximity to the hospital resulted in a much closer cooperation between the two institutions and in more patients being referred to the venereal diseases clinic from the hospital's ante natal clinic and also in a much closer and more satisfactory supervision of patients who were attending the ante-natal clinic and who were referred to the venereal diseases clinic. In addition many interesting cases were referred to the clinic from the in-patients of the hospital.

It was found impossible to continue visiting patients homes because of the emergency and home visiting was stopped altogether in April. This was unfortunate since home visiting is the most satisfactory method of chasing defaulters and persuading them to reattend the clinic in order to continue treatment.

The number of new cases (those first seen in 1953) was 3,128. The number of old cases (those who had been admitted as new patients in previous years and who attended in 1953) was 517. The total number of cases seen during the year was 3,645, an increase of nearly 500 over the 1952 figure.

Syphilis. There were 744 cases of syphilis seen at the clinic during the year, a decrease of 200 compared with 1952. Since 1949 there has been a gradual decline in the number of syphilitic patients attending the clinic, which may be due to the institution of payment for treatment in that year.

The following table illustrates the number of cases of acute, latent and congenital syphilis, attending during the past 4 years:—

		1950	1951	1952	1953
Acute Syphilis	...	551	518	560	406
Latent Syphilis	...	443	314	285	285
Congenital Syphilis	...	167	172	99	53
Total		<u>1161</u>	<u>1004</u>	<u>944</u>	<u>744</u>

Syphilis was treated with either a single shot of penicillin, or with a combined course of penicillin, bismuth and arsenic which was given over a period of 4 months. The combined course was always given to pregnant women.

The 744 cases seen were analysed and divided into groups and the following table gives a comparison with the figures for 1952: —

	1953-54	1952-53
Group 1. Cases who received no treatment at all (did not return for laboratory report, refused treatment, etc.,)	41	35
Group 2. Cases given complete courses of treatment before 1953 and who attended for follow-up only ...	109	68
Group 3. Cases whose treatment was begun in 1953 and continued in 1954 to date	81	84
Group 4. Cases whose treatment was begun in 1952 and continued in 1953 ...	91	169
(a) 50 completed their treatment in 1953		(107)
(b) 41 defaulted in 1953 without completing their treatment ...		(62)
Group 5. Cases treated with penicillin only	45	186
Group 6. Cases treated with a complete course of penicillin, arsenic and bismuth	86	117
Group 7. Cases, defaulted during the treatment	291	285
Totals	744	944

The number who received anti-syphilitic treatment during 1953 was 594 (Groups 3, 4, 5, 6 and 7). Of this number only 181 (30%) completed their treatment (Groups 4a, 5 and 6). This low percentage was very unsatisfactory and may be attributable to the disturbed state of mind of Africans generally, and to the great difficulty women had in travelling to and from the clinic owing to the Mau Mau-inspired ban on travelling in buses.

Compared with the number of 181 patients who completed their anti-syphilitic treatment in 1953 is the number of 332 (Groups 4b and 7) who did not complete their treatment. While still high and unsatisfactory, this figure does not compare too badly with the number of 347 who did not complete treatment in 1952, and of 678 in the same category in 1951.

Nineteen cases of syphilis were discharged during the year for the following reasons: —

2	had completed the full two years' follow-up period.
10	had had a complete course of treatment during pregnancy.
3	were leaving Nairobi permanently.
4	were chronic defaulters.
<hr/>	
19	Total
<hr/>	

Thirty-two cases were readmitted for the following reasons: —

12	cases on account of a subsequent pregnancy.
8	cases who had defaulted, and needed more treatment.
5	cases whose Kahns had not reversed after complete courses of treatment.
6	cases on account of re-infection.
1	case who defaulted without treatment in February and who returned 7 months later and was found to have progressed from primary to secondary syphilis.
<hr/>	
32	
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A total of 6,527 consultations were made by patients with syphilis, giving an average of 9 visits per syphilitic patient, the same as in 1952.

Gonorrhœa. The number of cases of gonorrhœa seen during 1953 was 1,269, an increase of 233 over the 1952 figure. 426 of these cases were pregnant women.

During the past four years, the number of cases of gonorrhœa was as follows: —

	1950	1951	1952	1953
Number of cases ...	1620	1190	1036	1269

On analysis, the following information was obtained: —

	1953	1952
1. Cases who received no treatment at all ...	57	26
2. Cases treated in 1953, and who continued to attend in 1954 for "follow-up" ...	50	112
3. Cases treated and discharged cured in 1953 ...	251	224
4. Cases treated in 1953, but who defaulted before being discharged cured ...	642	409
5. Cases treated in 1953, and later re-admitted with a new infection ...	269	265
<hr/>		
Totals	1269	1036
<hr/>		

The total number of consultations made by the 1269 patients amounted to 6918—an average attendance of 6 visits per patient, being the same as the average in 1952.

The number of 642 patients who did not attend until discharged cured is high and very unsatisfactory. It exceeds the 1952 figure by over 50%. No satisfactory explanation can be given for this.

Soft Chancre. Two patients suffering from soft chancre were seen at the clinic. Their Kahns were negative and they responded to treatment with sulphonamides and were discharged cured.

Non-V.D. Patients. In 1953 1,630 patients, who were not suffering from venereal disease, attended the clinic. Many of them were treated for minor gynaecological troubles and a total of 878 were discharged as cured or referred to the General Dispensary for treatment. The total for 1952 was 1,176 of whom 600 were discharged and cured.

Pregnant Women. The following table shows the number of these women who attended during the past 4 years and the number who were suffering from V.D:—

	1950	1951	1952	1953
Number of pregnant women ...	1588	1247	1099	1503
Total suffering from V.D. ...	1082	759	734	754
Percentage infected ...	61%	61%	67%	50%

The above table shows that the percentage of infection was much lower in the year under review. It also shows that over 400 more cases in this category were seen in 1953 compared with 1952. Of the number—754—who were suffering from V.D. 328 had syphilis and 426 had gonorrhoea. The big increase in the number of pregnant women admitted was largely due to the practice at the Maternity Hospital's Antenatal Clinic of referring all primiparae and all patients with suggestive histories' to the V.D. clinic.

Pregnant women treated for syphilis were all given the combined course of treatment—328 of the 377 patients so treated.

General. During 1953, 500 more patients attended the clinic than in 1952, but the incidence of V.D. among them was 55% compared with an incidence of 63% in 1952. In spite of having 500 more patients at the clinic, there were only 32 more cases of V.D. Patients with V.D. did not attend as well in 1953 as they did in 1952. They provided 68% of the visits to the clinic compared with 74% of the visits in 1952. Syphilitic patients received the same average number of injections as in 1952, but fewer completed their courses of treatment. There was an increase of over 200 in the number of cases of gonorrhoea in 1953. Of the patients

treated only 21% were discharged cured, compared with 25% in 1952. Patients attending the clinic seemed to be more uncooperative than in previous years. It was felt that this was largely due to the emergency, as the Africans were disturbed mentally, and in addition had the physical difficulty of travelling to and from the clinic without using buses.

TABLE 21

Work at Pumwani V.D. Clinic, 1953**1. Attendances**

		1952	1953
Number of consultations	... ..	19,995	19,724
Number of afternoon treatments	...	2,155	317*
Total attendances for the year	...	<u>22,150</u>	<u>20,041</u>

* *Note: No afternoon treatments were given after April 14th, 1953, when the Clinic was moved to temporary quarters.*

		1952	1953
Number of clinics	... ..	246	252
Average number of consultations per day	...	81	78

There was a small decrease (3 per day) in the average daily attendance for consultations compared with 1952.

2. Consultations

		1952	1953
By patients with syphilis	... ..	8,481	6,527
By patients with gonorrhoea	... ..	6,232	6,918
By patients with soft chancre	... ..	28	30
By patients with yaws	... ..	15	—
		<u>14,756</u>	<u>13,475</u>
By other patients not V.D.	... ..	5,239	6,249
Total consultations	... ..	<u>19,995</u>	<u>19,724</u>

3. Analysis of Cases

No. of cases, Syphilis:

		1950	1951	1952	1953
Primary	...	88	101	156	101
Secondary	...	463	417	404	305
Total Acute Syphilis	...	551	518	560	406
Latent	...	442	314	284	283
Tertiary	...	1	—	1	2
Congenital	...	167	172	99	53
Total Syphilis	...	1161	1004	944	744
Gonorrhoea	...	1620	1190	1036	1269
Soft Chancre	...	—	—	2	2
Yaws	...	1	3	1	—
Total V.D.	...	2782	2197	1983	2015
Other cases not V.D.	...	1240	1199	1176	1630
Total Cases	...	4022	3396	3159	3645

4. Injections given

				1952	1953
Intravenous					
N.A.B.	...	...	...	3618	3398
Intramuscular					
Bismuth and Acetylarsan	...	...	...	4989	3879
Penicillin	...	...	...	2137	2966
				10744	10243

An average of 41 injections was given at every morning clinic, compared with an average 44 injections daily in 1952.

2,321 penicillin injections were given to gonococcal cases, and 645 injections to syphilitic cases. The number of syphilitic patients who were treated with a single shot of penicillin was 45, leaving the balance of the 600 penicillin injections given to syphilitic cases who had the combined course with bismuth and arsenic. 377 patients having this course, received an average of 14 injections, the same as the average in 1952.

(a) Specimens for Kahn tests:

Total taken	Positive	Doubtful	Negative
5,549	1,337	488	3,724

An average of 22 Kahns were taken at each morning clinic, which was the same average as in 1952.

(b) Smears for Gonococcal Examination:

Smears from urethra	7,004	Number positive	83
Smears from cervix	6,853	Number positive	329
Smears from vagina	114	Number positive	25
Smears from eye	396	Number positive	43

Total smears taken	14,367	Total positive	480
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An average of 57 smears were taken daily compared with an average of 52 in 1952.

6. Home Visits to Patients

Home visiting was stopped after April 20th, 1953, on account of the Emergency. Up to April 20th, the total number of visits paid to patients in their homes was 568.

The patients were contacted on 273 visits, and these contacts resulted in 127 return visits to the clinic.

7. Examination of Ayahs

The number referred for examination was	—	299
Those found with syphilis were	...	84
Those found with gonorrhoea were	...	50
		<hr/>
Total with V.D.	...	134
Those found to be negative	...	165
		<hr/>
		299
		<hr/>

The number infected was 45%. This compares favourably with the number of 70% found to be infected in 1952, out of 121 ayahs examined.

8. Examination of Pregnant women

The number examined was	—	1,503
Those found with syphilis were	...	328
Those found with gonorrhoea	...	426
		<hr/>
Total with V.D.	...	754
Those found to be negative	...	749
		<hr/>
		1,503
		<hr/>

There was a big increase in the number of pregnant women examined, the increase being 37% of the 1952 figure.

Section 19

STAFF CLINIC AND INOCULATION CENTRE

Staff Clinic

There were 15,111 total attendances during 1953, that is an average of about 50 patients a day attend the clinic. All are seen by the doctor. There are occasional complaints from departments about delay in men returning to work but these are few and far between and generally it is considered that the clinic must be a definite saving to Council. 75% of the patients have been treated by 10.30 p.m. which is a reasonable time considering that the staff, between 8.30 a.m. and 10 a.m. or later, are also attending to the general public in the Inoculation Centre.

The figures for 1953 are: —

Total attendances	...	...	15,011
Total new cases	...	...	5,966
Fit for duty	...	...	8,226
Unfit for duty	...	...	6,786
Daily attendance rate	...	...	1.5%
Daily off duty rate	...	...	0.64%

The principal complaints were the same as for the past three years: —

Complaint	No. of Cases	% New Cases
Respiratory	1,647	30%
Wounds	1,450	25%
Abdominal	777	14%
Influenza	495	9%

Inoculation Centre

TABLE 22

Inoculations and Vaccinations, 1953

	Europeans	Asians	Africans	Total
Smallpox	4,431	9,350	1,044	14,825
Yellow Fever	4,662	9,485	299	14,446
T.A.B.	1,648	1,090	17,857	20,595
Cholera	279	2,270	2	2,551
Diphtheria	301	49	3	353
Diphtheria/Whooping Cough	85	21	256	362
Whooping Cough	47	9	1	57
Plague	—	6	7	13
Totals	11,453	22,280	19,469	33,202

It is always a difficult and trying task to serve the public as intimately and in such large numbers as does this section but the tact and efficiency of the staff can be judged by the high praise which is invariably expressed of them. It must be remembered, too, that this work is done under very poor conditions. For the past two years improvements have been deferred because of the possibility of the new Town Hall being built. It is unfortunate that this "shopwindow" which comes of necessity before the eyes of travellers of all nations has not been dressed more attractively. However, it would appear that the foundations of the new Town Hall are soon to be dug in which case we can look forward to better working conditions and a more pleasant advertisement for Nairobi.

The main—and unfortunate—difference between the figures for 1952 and 1953 is in the T.A.B. injections given to Africans; there were 36,375 in 1952 and only 17,857 in the past year. No doubt the emergency accounts for this. Such a decrease would be unfortunate at any time but it is even more unfortunate now as the emergency has brought other related evils which could help the spread of typhoid fever. While it is known that very few Africans knew what these injections were for, there is little doubt but that mass inoculation has greatly reduced the number of possible cases of typhoid fever and has probably prevented the epidemic spread of the disease.

Section 20

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. Mr. S. White, Cert., R.S.I. Mr. A. Ramshaw, Cert., R.S.I. and Meat Mr. H. T. Beechey, Cert., R.S.I. and Meat, Dip., R.I.P.H.H. (Hons). Mr. P. H. Burge, Cert. R.S.I. and Meat Cert. San., Sc., Cert. Trop., Hy., A.M. Cert. I.S.E. Mr. K. E. Kendray, Cert. R.S.I. and Meat. Mr. J. Read, Cert., R.S.I. (Sept.) Mr. S. Daley, Cert. R.S.I. and Meat. (Dec).	E. E. E. E. E. E. E. E. E.
Sanitary Inspectors ... (Asian)	Mr. R. D. Belsare, Cert. R.S.I. (India) & Meat Cert. (Eng.) Cert. Trop., Hy. Mr. Mohd. Din, Cert. R.S.I. (India)	E. E.
Sanitary Inspectors ... (African)	Mr. N. Mimano, Cert. R.S.I. (E.A.). Mr. T. Mboya (Resigned October) Mr. T. L. O. Muganda, Cert. R.S.I. (E.A.) Mr. J. A. Nagaruiya, Cert. R.S.I. (E.A.) Mr. W. G. K. Nyawade, Cert. R.S.I. (E.A.)	E. E. E. E. E.
Departmental Clerical Staff:		
Stenographer ...	Mrs. A. M. Alexander	E.
Clerk/Typists ...	Mrs. D. I. Butcher Mrs. E. Lee (until Sept.)	N.E. T.
Cleansing Department:		
Cleansing Superintendent	Mr. R. A. McDonell, M. Inst. P.C.	E.
Deputy Cleansing Superintendent ...	Mr. C. L. Eager, A. M. Inst. P.C.	E.
Foremen ...	Mr. A. Savy Mr. G. Hatton Mr. M. A. Rene Mr. R. Godley Mr. M. V. Sauvage Mr. R. V. McDonell (Kenya Regt.,) Mr. G. C. L. Albert Mr. Z. R. Popovic Mr. W. Day (left March)	E. N.E. E. N.E. N.E. N.E. T. T. T.

POST	NAME OF OFFICER	Established Non-Established Temporary
	Mr. R. Onreat (left September)	T.
	Mr. Fazal Illahi Malik (left May)	E.
	Mr. J. E. Marsham (left December)	T.
	Mr. R. L. Stevenson (left June)	N.E.
	Mr. N. Bekker (left September)	T.
	Mr. Powell (left October)	T.
	Mr. Esparon (left July)	E.
	Mr. L. Rene (left May)	T.
Clerk/Typists ...	Mrs. M. Trowsdale	E.
	Miss W. van Rosi	T.
	Miss P. van Rosi (left September)	T.
	Mrs. E. Lee (left February)	T.
	Mr. Haria (left September)	N.E.
Infectious Diseases Control Department:		
Infectious Diseases Officer ...	Mr. J. Morrill	E.
Mosquito Inspectors ...	Mr. A Gocs (from June)	E.
	Mr. E. P. Aspinall	N.E.
	Mr. M. I. Shah, Cert. R.S.I. (India)	E.
	Mr. Y. Ahmedi	E.
	Mr. A. K. Suleman (left May)	E.
Rodent Officer ...	Mr. L. H. Clough	E.
Assistant Rodent and Vermin Overseer ...	Mr. J. Karebe	
Clerk/Typist ...	Mrs. G. H. Millership	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.	E.
Health Visitor ...	Mrs. P. Graham, S.R.N.	E.
Parklands Day Nursery:		
Matron ...	Miss I. Watson, Princess Louise Children's Nurse	E.
Assistants ...	Mrs. Pelling	T.
	Mrs. Simpson	T.
	Mrs. Somen	T.
	Mrs. Plunkett (left February)	T.
	Mrs. Rushworth (began March)	T.
Woodley Day Nursery:		
Matron ...	Miss P. Shepherd, R.S.C.N., N.S.C.N.	E.
Assistants ...	Mrs. C. Beaumont, S.R.N. (Psychiatry)	T.
	Mrs. G. Whipp	T.
	Mrs. M. Millar	T.
	Mrs. M. Owen, B.A.	T.
	Mrs. C. M. Mercer, S.R.N.	T.
	Mrs. S. Hourreau	T.

POST	NAME OF OFFICER	Established Non-Established Temporary
	Mrs. M. McIntyre	T.
	Mrs. M. Eccles	T.
African Maternity and Child Welfare:		
Medical Officers ...	Dr. J. A. T. Henry, M.B.E., M.B., Ch.B., D.T.M. & H.	E.
	Dr. M. Brown, M.B., B.Ch., Ba.O.	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. J. Brooks, S.R.N., S.C.M.	E.
	Mrs. C. M. Davis, S.R.N., S.C.M., H.V. Cert.	E.
	Mrs. M. Taylor, S.R.N., S.C.M.	E.
	Mrs. Berenger, S.R.N., S.C.M., H.V. Cert. (until August)	T.
	Mrs. H. R. Hobden, S.R.N., S.C.M. (until December)	T.
Indian Maternity and Child Welfare:		
Medical Officer ...	Dr. P. Gaffikin, M.B., Ch.B.	E.
Assistant Medical Officer	Dr. B. Hordern, M.B., Ch.B.	E.
Sup. Health Visitors ...	Miss P. Benjamin, P.C.M.B., H.V. Cert. (Delhi)	E.
Health Visitors ...	Mrs. S. Chadda, S.C.M., H.V. (Lahore) (on study leave throughout the year)	E.
	Mrs. M. R. Pachecos, S.R.N., S.C.M., (Karachi) D.H.V. (Kenya)	E.
Pumwani V.D. Clinic:		
Medical Officer ...	Dr. L. O. Hunter, M.R.C.S. (Eng.)	E.
European Sisters ...	Mrs. V. Hook, S.R.N., S.C.M.	E.
	Mrs. M. Bracken, S.R.N., R.M. (S.A.)	E.
Lady Grigg Maternity Hospital:		
Medical Superintendent	Dr. A. W. Watts, M.B., B.S.	E.
Matron ...	Miss K. M. Foord, S.R.N., S.C.M.	E.
European Sisters ...	Miss J. P. Koppert, S.R.N.	E.
	Mrs. F. E. A. Greening, S.R.N., S.C.M.	E.
	Miss G. Pippett, S.R.N., S.C.M. (until July)	
	Miss M. Dicks, S.R.N., S.C.M. (until July)	
	Miss E. M. Sanctuary, S.R.N., S.C.M. (until July)	
	Miss M. Budge, S.R.N. (Sept.-October)	T.
	Miss L. Vaux, S.R.N. (from October)	
	Miss V. M. Westall (from October)	

Section 21

REVENUE ACCOUNT FOR THE YEAR
PUBLIC HEALTH

EXPENDITURE

Public Health Administration	
Salaries and Wages	1,200 00
Special Temporary Allowances	1,500 00
Travel	100 00
Supplies and Materials	1,000 00
Printing and Stationery	500 00
Telephone	200 00
Postage	100 00
Light and Heat	1,000 00
Insurance	500 00
Medical Supplies	1,000 00
Medical Equipment	1,000 00
Medical Buildings	1,000 00
Medical Research	1,000 00
Medical Education	1,000 00
Medical Publications	1,000 00
Medical Conferences	1,000 00
Medical Exhibitions	1,000 00
Medical Lectures	1,000 00
Medical Demonstrations	1,000 00
Medical Consultations	1,000 00
Medical Investigations	1,000 00
Medical Reports	1,000 00
Medical Records	1,000 00
Medical Statistics	1,000 00
Medical Research	1,000 00
Medical Education	1,000 00
Medical Publications	1,000 00
Medical Conferences	1,000 00
Medical Exhibitions	1,000 00
Medical Lectures	1,000 00
Medical Demonstrations	1,000 00
Medical Consultations	1,000 00
Medical Investigations	1,000 00
Medical Reports	1,000 00
Medical Records	1,000 00
Medical Statistics	1,000 00

SECTION 21 - FINANCE

Section 21
REVENUE ACCOUNT FOR THE YEAR
PUBLIC HEALTH

EXPENDITURE

	£.	s.	cts.	£.	s.	cts.
Public Health Administration:						
Salaries	13,599	12	37			
Special Temporary Allowances	3,877	15	79			
Housing Allowances	141	2	29			
Superannuation Fund Contributions	1,571	18	39			
Provident Fund Contributions	66	12	88			
Passages Reserve Contribution	1,070	0	00			
Wages etc.,—African Staff	495	4	25			
Uniforms	59	14	69			
Locomotion	880	17	02			
Medical Attention—Staff	141	0	62			
Rent of Offices	1,149	14	11			
Printing, Stationery and Advertising	340	5	97			
Telephones	163	16	72			
Postages	160	11	51			
Passages—New appointments	110	14	96			
Food and Drug Analysis	675	6	73			
Food and Meat Inspection	213	17	68			
Insurance	509	0	00			
Public Health Propaganda	205	17	51			
Demolition of Buildings—proportion	500	0	00			
Printing Report	171	4	26			
Miscellaneous	11	4	00			
Administration Expenses	3,560	0	00			
	29,675	11	75			
Less: Charged to Cleansing Department, Clinic and Inoculation Centre	700	0	00	28,975	11	75
Carried/Forward				28,975	11	75

ENDED 31st DECEMBER, 1953.

SERVICES

INCOME

Public Health Administration:

		f.	s. cts.	f.	s. cts.
Government Grant 1953	...	52,323	7 54		
Food and Drug Analysis Fees	...	131	2 73		
Chicken Inspection Fees	...	318	1 21		
				52,772	11 48

Carried/Forward ...

52,772 11 48

EXPENDITURE

	£.	s.	cts.	£.	s.	cts.
Brought/Forward ...				28,975	11	75
Infectious Diseases Prevention:						
Salaries ...	3,715	16	91			
Special Temporary Allowances ...	1,181	15	49			
Housing Allowances ...	113	5	42			
Superannuation Fund Contributions ...	224	14	36			
Provident Fund Contributions ...	74	0	62			
Passages Reserve Contribution ...	455	0	00			
Wages etc.,—African Staff ...	10,550	13	55			
Uniforms ...	551	4	67			
Locomotion ...	605	17	20			
Medical Attention—Staff ...	42	19	22			
Transport—General ...	1,975	19	93			
Transport—T.I.F.A. Unit ...	568	13	44			
Maintenance of Buildings ...	15	4	82			
Stores and Equipment ...	3,148	14	09			
Laboratory Equipment ...	65	16	20			
Rent of Offices ...	521	8	97			
Printing, Stationery and Advertising ...	409	3	52			
Telephone ...	25	6	32			
Hospital Fees ...	4,692	13	00			
Notification Fees ...	28	0	00			
Miscellaneous ...	6	9	70			
				28,972	17	43
Staff Clinic and Inoculation Centre:						
	Inoculation Centre			Staff Clinic		
Salaries ...	841	6	67	420	13	33
Special Temporary Allowances ...	266	10	01	133	5	00
Provident Fund Contribution ...	19	2	22	9	11	11
Wages etc.,—African Staff ...	491	17	54	245	18	77
Uniforms ...	41	1	51	20	10	76
Locomotion & Transport ...	7	15	87	3	17	93
Medical Stores and Equipment ...	416	12	51	208	6	25
Rent of Offices ...	195	16	28	195	16	27
Electricity ...	27	15	51	13	17	76
Printing, Stationery and Advertising ...	8	4	63	4	2	31
Telephone ...	16	17	55	8	8	77
Miscellaneous ...	10	4	07	5	2	03
Administration Expenses ...	70	0	00	70	0	00
	2,413	4	37	1,339	10	29
				3,752	14	66
Carried/Forward ...				61,701	3	84

	Brought Forward	f.	s.	cts.	f.	s.	cts.
Infectious Diseases Prevention:					52,772	11	48
Vermis Destruction	...	2,454	3	89			
Rodent Destruction	...	41	5	00			
Malaria Control	...	844	0	10			
					3,339	8	99
Staff Clinic and Inoculation Centre:							
Vaccination and Inoculation Fees	...	136	2	90			
Government Contribution—Inoculation	...	900	0	00			
					1,036	2	90
Carried Forward	...				57,148	3	37

EXPENDITURE

	f.	s.	cts.	f.	s.	cts.
Brought/Forward				61,701	3	84
Venereal Diseases Treatment:						
Salaries	2,073	0	00			
Special Temporary Allowances	611	17	23			
Superannuation Fund Contributions	45	8	16			
Provident Fund Contributions	86	5	00			
Passages Reserve Contribution	100	0	00			
Wages etc.,—African Staff	970	10	98			
Uniforms	46	17	20			
Locomotion	46	13	60			
Maintenance of Buildings	36	18	33			
Medical Stores and Equipment	570	9	95			
Electricity and Fuel	16	14	43			
Water and Conservancy	10	1	04			
Printing, Stationery and Advertising	26	16	07			
Telephones	9	14	88			
Miscellaneous	2	0	50			
Rent—Lady Grigg Hospital	180	0	00			
				4,833	7	37

Maternity and Child Welfare:

	Woodley			Parklands		
European Day Nurseries:						
Salaries	2,091	5	89	1,723	9	79
Special Temporary Allowances	676	9	34	550	1	62
Superannuation Fund Contributions	39	2	76	46	11	03
Passages Reserve Contribution	50	0	00	50	0	00
Wages etc.,—African Staff	307	18	31	246	11	93
Uniforms	24	13	02	27	5	16
Medical Attention	—	—	—	—	15	75
Locomotion	25	1	14	—	—	—
Provisions	874	17	24	669	0	73
Maintenance of Buildings and Grounds	88	4	23	111	9	47
Maintenance of Equipment	238	3	49	87	8	57
Cleaning Materials	81	5	33	58	8	38
Electricity and Fuel	182	3	30	147	14	16
Water and Conservancy	96	7	55	19	9	77
Rates	48	17	50	105	3	75
Insurance	10	2	51	6	15	00
Printing, Stationery and Advertising	45	10	85	9	10	60
Telephone	38	14	54	20	6	20
Miscellaneous	19	5	65	6	10	90
Renewals Reserve Contr.	150	0	00	75	0	00
Loan Charges	1,204	12	81	249	17	22
Surfacing of Drive	—	—	—	79	17	81
Contribution—Day Nurseries Reserve	—	—	—	13	8	46

INCOME

				f.	s. cts.	f.	s. cts.
	Brought/Forward	...				57,148	3 37
Venereal Diseases Treatment:							
Fees	...	...	...	51	12 00		
Rent	...	...	...	18	0 00		
						69	12 00

Maternity and Child Welfare:

Fees—Parklands Day Nursery	...	...	4,304	16 30		
Fees—Woodley Day Nursery	...	...	4,953	5 35		
					9,258	1 65

Carried/Forward ...

66,475 17 02

	6,292 15 46	4,304 16 30	
			10,597 11 76
Carried/Forward	...		77,132 2 97

EXPENDITURE

			f.	s.	cts.	f.	s.	cts.
	Brought/Forward	...				77,132	2	97
European Child Welfare Clinics:								
		Woodley				Parklands		
Salaries	... ..	238 7 00				238 7 00		
Purchase of Infant Food	...	— — —				56 12 80		
Medical Stores and Equipment		13 2 68				49 1 77		
Scales	... ..	23 0 00				— — —		
Miscellaneous	... ..	4 3 00				4 3 00		
Loan Charges	... ..	75 0 00				50 0 00		
		353 12 68				398 4 57		
								751 17 25
European Infant Visiting Service:								
Salaries	... ..	...	...	...	553 0 33			
Special Temporary Allowances	...	...	...	...	174 10 43			
Provident Fund Contributions		...	...	...	38 17 01			
Uniforms	... ..	...	...	...	4 0 22			
Locomotion	... ..	...	...	...	159 17 07			
								930 5 06
	Carried/Forward	...				78,814	5	28

INCOME

				f.	s.	cts.	f.	s.	cts.
Brought/Forward ...							66,475	17	02
European Child Welfare Clinics:									
Sale of Infant Food	...	...	...	20	1	95	20	1	95
European Infant Visiting Service:									
Fees	...	...	...	51	1	30	51	1	30
Carried/Forward ...							66,547	0	27

EXPENDITURE

	f.	s.	cts.	f.	s.	cts.
Brought/Forward ...				78,814	5	28
Asian Child Welfare Clinics:						
Salaries	3,813	0	77			
Special Temporary Allowances ...	1,221	0	95			
Superannuation Fund Contributions ...	203	8	84			
Provident Fund Contributions	102	19	14			
Passages Reserve Contribution	190	0	00			
Wages etc.,—African Staff	368	3	64			
Uniforms	46	16	39			
Locomotion and Transport	570	16	87			
Medical Attention—Staff	46	14	55			
Maintenance of Buildings	149	1	16			
Maintenance of Furniture and Equipment ...	84	1	43			
New Equipment	46	2	30			
Medical Stores	240	11	04			
Cleaning Materials	65	7	28			
Electricity and Fuel	68	11	90			
Water and Conservancy	70	15	83			
Rates	323	12	75			
Insurance	5	14	76			
Printing, Stationery and Advertising ...	129	10	11			
Midwives and Health Visitors Training ...	12	4	90			
Miscellaneous	3	12	00			
Renewals Reserve Contribution	80	0	00			
Loan Charges	227	5	14			
Capital Expenditure from Revenue—Con- struction of 4th Street Clinic (Balance)	200	4	11			
Provision for Extension to Ngara Clinic ...	3,000	0	00			
				11,269	15	86
Asian Day Nursery:						
Provision for Capital Expenditure from Revenue				8,500	0	00
Carried/Forward ...				98,584	1	14

EXPENDITURE

	f.	s.	cts.	f.	s.	cts.
Brought/Forward ...				98,584	1	14
African Child Welfare Clinics:						
Salaries	5,067	4	27			
Special Temporary Allowances	1,598	11	57			
Superannuation Fund Contributions	99	3	38			
Provident Fund Contributions	223	1	75			
Passages Reserve Contribution	800	0	00			
Wages etc.,—African Staff	2,308	6	64			
Uniforms	163	2	04			
Locomotion and Transport	637	17	54			
Medical Attention—Staff	10	2	70			
Maintenance of Buildings	86	0	64			
Teaching Unit	2	9	63			
Maintenance of Furniture and Equipment	111	4	36			
New Furniture and Equipment	50	19	58			
Medical Stores—Clinics	833	11	51			
Medical Stores—Midwives	51	11	23			
Purchase of Infant Food	7	10	69			
Cleaning Materials	32	13	53			
Electricity	89	6	10			
Water and conservancy	88	3	54			
Rent	135	0	55			
Rates	39	6	25			
Insurance	7	15	35			
Printing, Stationery and Advertising	64	11	22			
Telephone	63	18	31			
Christmas Parties	20	0	00			
New Equipment—1. Clinic	141	9	74			
Loan Charges	95	13	05			
				12,828	15	17

Carried/Forward ...

111,412 16 31

[illegible]

EXPENDITURE

		f.	s.	cts.	f.	s.	cts.
Brought/Forward	...				111,412	16	31
African Maternity Hospital:							
Salaries	...	3,410	9	26			
Special Temporary Allowances	...	1,079	3	74			
Superannuation Fund Contributions	...	212	14	36			
Provident Fund Contributions	...	72	1	19			
Passages Reserve Contribution	...	200	0	00			
Locum and Anaesthetists' Fees	...	66	3	00			
Wages etc.,—Nursing Staff	...	1,663	15	89			
Wages etc.,—Domestic Staff	...	1,350	8	85			
Uniforms	...	174	0	33			
Locomotion and Travelling	...	644	4	35			
Maintenance of Buildings	...	181	7	20			
Maintenance of Furniture and Equipment	...	150	19	85			
Linen and Cutlery	...	364	14	14			
New Furniture and Equipment	...	36	14	00			
Medical Stores	...	1,343	5	45			
Cleaning Materials	...	325	14	46			
Electricity and Fuel	...	1,287	13	08			
Water and Conservancy	...	375	12	90			
Provisions	...	2,329	17	78			
Insurance	...	28	1	40			
New Appointments	...	103	15	00			
Printing, Stationery and Advertising	...	107	17	21			
Telephone	...	80	16	75			
Recreation and English Tuition	...	6	4	50			
Miscellaneous	...	1	10	65			
Renewals Reserve Contribution	...	500	0	00			
Layout of Grounds	...	492	2	97			
Loan Charges—							
Principal	...	1,133	8	73			
Interest	...	1,350	11	67			
Loan Fund Expenses	...	81	11	92			
					19,155	0	63
Carried/Forward	...				130,567	16	94

INCOME

	f.	s.	cts.	f.	s.	cts.
Brought/Forward ...				66,838	9	35
African Maternity Hospital:						
Fees ...	1,687	3	50			
African Trust Fund—Grant ...	400	0	00			
Local Native Councils—Grants ...	8	0	00			
Trainees—Board ...	928	16	00			
Rent—V.D. Clinic ...	180	0	00			
				3,203	19	50

Carried/Forward ...

70,042 8 85

EXPENDITURE

				f.	s.	cts.	f.	s.	cts.
	Brought/Forward	...					130,567	16	94
Ambulance:									
Wages—Driver	...	...	...	89	19	82			
Uniforms	...	...	...	15	4	88			
Maintenance of Equipment	...	...	...	18	0	83			
Motor Ambulance—									
Running Expenses	...	...	...	53	2	04			
Renewals Reserve Contribution	...	...	...	200	0	00			
							376	7	57
Anti-Malarial Work:									
Construction of Drains:									
L.R. 1 and 2	...	...	...	62	16	00			
Off Tchui Road	...	...	...	364	7	51			
Mpaka Road	...	...	...	1,350	11	31			
Off Brookside Drive	...	...	...	9	0	00			
Maguga Drive	...	...	...	9	0	00			
Brookside Lane	...	...	...	397	17	08			
							2,193	11	90
Maintenance of Drains:									
Wages etc.,—Artizans	...	...	...	970	3	80			
Wages etc.,—African Staff	...	...	...	2,343	8	25			
Materials and Stores	...	...	...	327	8	05			
Transport	...	...	...	966	0	60			
							4,607	0	70
Funerals and Cemeteries:									
Funerals:									
Staff Allowances	...	...	...	740	6	29			
Cost of Coffins	...	...	...	4,020	18	46			
Lettering Plates	...	...	...	54	19	00			
Telephones	...	...	...	30	17	01			
Miscellaneous	...	...	...	43	13	28			
Motor Hearse—									
Running Expenses	...	...	...	121	18	73			
Renewals Reserve Contribution	...	...	...	150	0	00			
							5,162	12	77
	Carried/Forward	...					142,907	9	88

INCOME

	f.	s. cts.	f.	s. cts.
Brought/Forward ...	70,042	8 85		

Ambulance:

Hire Charges ...	466	0 00	466	0 00
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Funerals and Cemeteries:

Funeral Charges ...	6,342	17 65	6,342	17 65
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Carried/Forward ...	76,851	6 50		
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			f.	s.	cts.	f.	s.	cts.
	Brought/Forward	...				142,907	9	88
Cemeteries:								
Wages etc.,—Artizans and African Staff	...		573	8	40			
Uniforms	...	...	47	6	23			
Stores	...	...	10	7	72			
Grave numbering	...	...	175	1	25			
Water and Conservancy	...	...	32	8	62			
Insurance	...	...	19	4	50			
City Park Cemetery Layout	...	...	152	10	51			
Forest Road Fencing	...	...	5	5	25			
Loan Charges—								
Principal	...	...	6	18	61			
Interest	...	...	12	18	71			
Loans Fund Expenses	...	...			9 98			
						1,035	19	78
Administration:								
Funerals and Cemeteries	...	...	280	0	00			
						280	0	00
TOTAL						144,223	9	66

INCOME

	f.	s. cts.	f.	s. cts.
Brought/Forward ...			76,851	6 50

TOTAL	<hr/> 76,851 6 50 <hr/>
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