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Annual Public Health Report of the Province of Assam for the year 1938

BY

LIEUT.-COLONEL A. M. V. HESTERLOW, M.B., CH.B. (EDIN.),
B.SC., P.H. (EDIN.), D.T.M. & H. (EDIN.), I.M.S.,
DIRECTOR OF PUBLIC HEALTH, ASSAM

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GOVERNMENT OF ASSAM

OFFICE OF THE DIRECTOR OF PUBLIC HEALTH, ASSAM

LETTER No. 11386.

FROM

LIEUT.-COLONEL A. M. V. HESTERLOW, M.B., CH.B., (EDIN.),
B.SC., P.H. (EDIN.), D.T.M. & H. (EDIN.), I.M.S.,
DIRECTOR OF PUBLIC HEALTH, ASSAM

To

THE SECRETARY TO THE GOVERNMENT OF ASSAM
IN THE EDUCATION AND LOCAL SELF-GOVERNMENT
DEPARTMENTS.

Dated Shillong, the 8th August 1939.

SUBJECT :—PUBLIC HEALTH REPORT FOR THE YEAR 1938.

SIR,

I HAVE the honour to submit herewith the Annual Public Health Report for the year 1938.

Your obedient servant,

A. M. V. HESTERLOW,
Lieut.-Colonel, I.M.S.,
Director of Public Health, Assam.

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TO BE SUBSTITUTED FOR THE INDEX OF CONTENTS OF THE PUBLIC HEALTH REPORT FOR 1938

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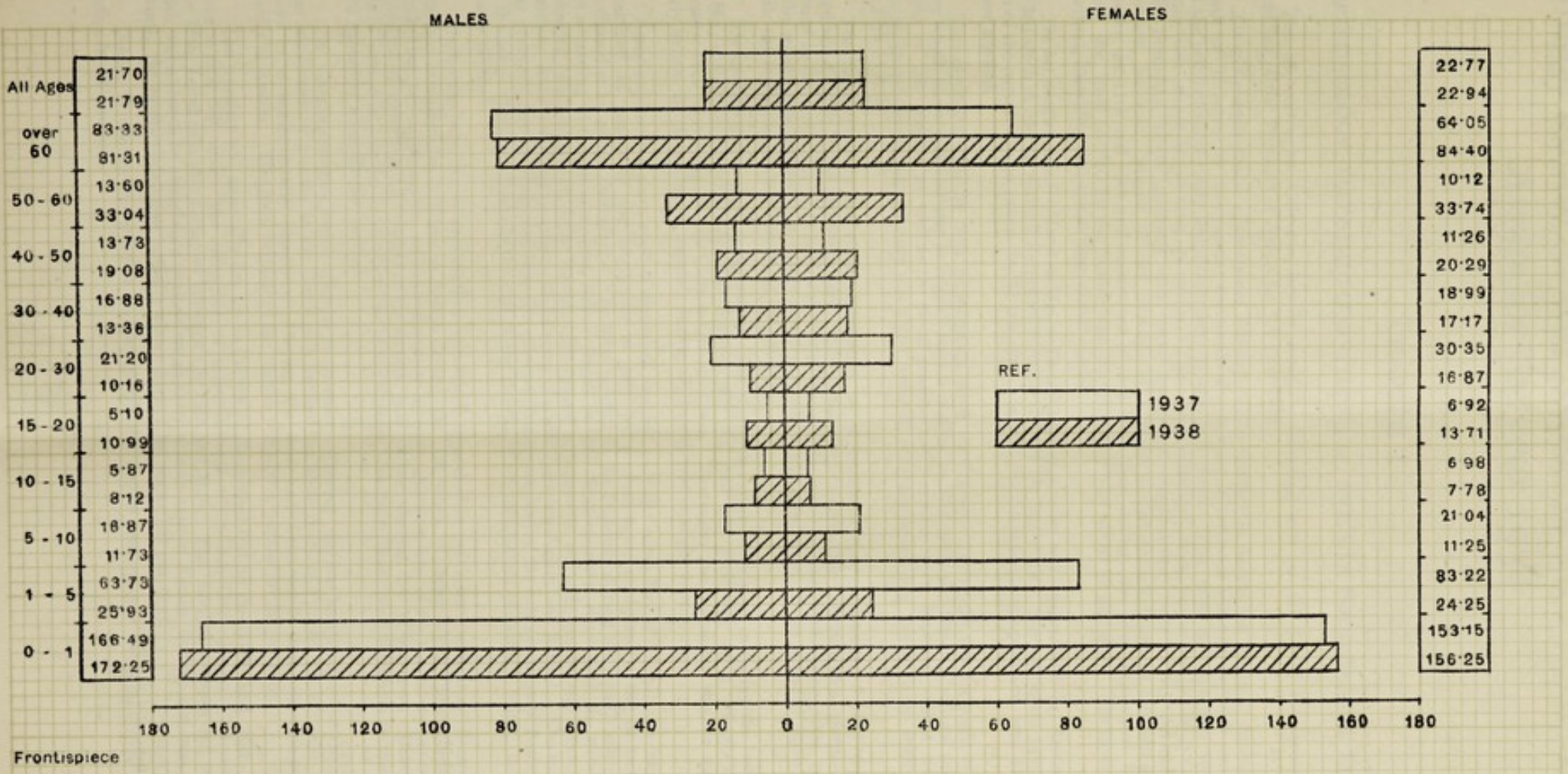

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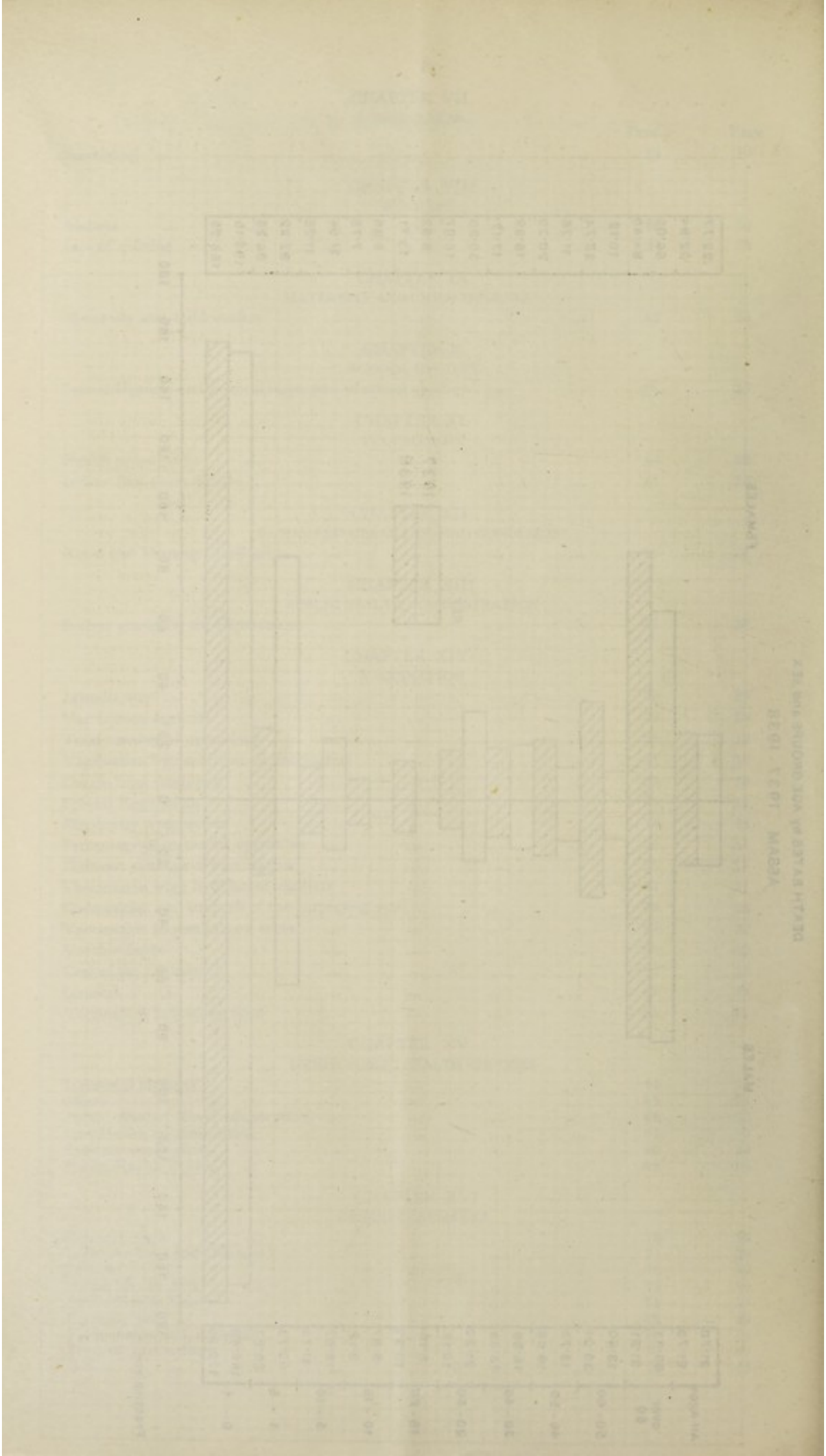


Annual Public Health Report of the Province of Assam for the year 1938

CHAPTER I

METEOROLOGY, ECONOMIC CONDITIONS, *i.e.*, PRICE OF FOOD GRAINS, ETC.

The Meteorologist, Calcutta, has furnished the following note on the Chief Meteorological conditions of the Province of Assam for the year 1938.

The cold weather period—January and February.—The weather in Assam was affected during the month of January by the passage eastwards of a western disturbance between the 13th and 17th and the occurrence of many thundershowers in the last week. The total p ecipitation for the month was about 66 per cent. in excess. The mean minimum temperatures were above normal while humidity, cloud amounts and mean maximum temperatures were nearly normal. In February, however, inspite of the passage of a western disturbance causing a few falls of rain between the 11th and 15th and occurrence of thundershowers during the first, third and fourth weeks the total rainfall for the month was in actual defect by about 60 per cent. The mean temperatures, humidity and cloud were about normal.

The hot weather period—March to May.—Thunderstorm activity was maintained in Assam till the 3rd week of March while it decreased considerably by the last week. The aggregate precipitation of the month was in excess by 31 per cent. and the mean minimum temperature was slightly above normal.

Thunderstorm activity was pronounced over the Province during the first fortnight of April after which there was decrease in rainfall with a marked revival after the 18th. The total precipitation of the month as well as the cloud amount and humidity were, however, about normal. The mean maximum temperature was above normal, temperatures being particularly high from the 11th to 20th.

The rainfall in May was chiefly influenced by intermittent thundershowers during the first three weeks while in the last week fairly widespread rain fell under the influence of a storm which formed in the north Bay of Bengal and crossed the Sundarbans on the 26th. The total rainfall of the month was, however, in defect by 19 per cent. The skies were more clouded than usual while the temperatures were more or less normal.

The monsoon period—June to September.—The monsoon rainfall which set in during the last week of May suffered a temporary decrease between the 6th and 8th June due to a trough of low pressure area appearing off the Circars-Orissa coast. Thereafter the monsoon was, in general, fairly active. In consequence, rainfall during the month was in slight excess.

Associated with a short spell of disturbed weather over the north Bay of Bengal the monsoon weakened in Assam in the beginning of July but revived again at the end of the 1st week and continued to be active thereafter. The total rainfall in the Province during the month was normal but according to the press reports, heavy floods in the Brahmaputra river and its tributaries, following continuous rain in the Bhutan hills caused submersion of wide areas and breaches in Railway lines resulting in serious dislocation of traffic between Assam and Bengal. The monsoon was generally strong along and near the eastern Himalayas during the first ten days of August and in the whole Province towards the end of the month, the total amount of rainfall being, however, nearly normal.

Under the influence of two shallow lows which appeared in quick succession over Bengal, the monsoon remained fairly strong in Assam during the 1st week of September. Then there was a weakening of the monsoon, and thunderstorm activity, characteristic of the transition period, was pronounced and the total rainfall of the month was above normal by 21 per cent. During the whole period of June to September, the cloud amount was more than usual although temperatures and humidity were almost normal.

The retreating monsoon period—October to December.—During the first half of October the rainfall was influenced by a storm in the Bay which crossed the coast south of Puri on the 9th and moved away in a northwesterly direction. During the 2nd half of the month thunderstorms occurred locally in Assam. The total rainfall of the month was above normal by 28 per cent.

The weather was generally dry up to the 9th of November but on the 11th and 12th nearly general rain fell under the influence of a Bay disturbance which filled up near Chittagong on the 13th, Local rain also occurred between the 13th and 16th. The rainfall between the 9th and 16th was so much in abundance that although there was no rain in Assam during the rest of the month the total rainfall was actually above normal by about 103 per cent.

During December the weather was practically dry and in consequence the total rainfall was in defect by 81 per cent.

2. *Economic conditions, prices of food grains, etc.*—The report deals with the plains districts of the Province. Rice is the staple diet of the Province. The average quantity of common rice sold per rupee in 1938 and in the previous 5 years is shown in the appended table :—

Districts	1933	1934	1935	1936	1937	1938
1	2	3	4	5	6	7
	S. ch.	S. ch.	S. ch.	S. ch.	S. ch.	S. ch.
Cachar	14 11	12 0	15 10	13 10	14 10	12 10
Sylhet	13 12	11 10	12 7	12 3	12 12	11 11
Goalpara	16 1	12 5	13 7	12 0	11 12	11 0
Kamrup	15 7	11 4	11 15	12 3	11 4	10 14
Darrang	14 8	13 6	13 10	14 11	14 0	13 12
Nowgong	15 7	12 10	15 5	14 4	13 6	13 11
Sibsagar	11 13	11 7	11 14	11 14	11 15	12 8
Lakhimpur	11 13	11 1	11 12	11 11	11 15	11 15

It will be seen from the figures given in the above table that except in the districts of Nowgong, Sibsagar and Lakhimpur there was a tendency for the price of rice to rise during the year under report. The provincial birth and death rates, were 29·92 and 22·42 respectively in 1938 against 31·31 and 22·21 respectively in 1937.

CHAPTER II

VITAL STATISTICS

(*Including population and Emigration and Immigration*).

3. *General Census figures.*—This report deals with the plains district of the Province, the population of which according to the census of 1931, was 7,927,953 (4,187,085 males and 3,740,868 females.)

As in previous years, the birth and death-rates have been calculated on the population enumerated at the census of 1931 without taking into consideration the growth of population during the year. The table below drawn up in accordance with the orders of Government shows the corrected population of each district under registration and indicates what the birth and death rates would have been if they were calculated on the corrected population :—

Table "D" for the year 1938

Districts	Mid year population	Number of births	Birth-rate per mille based on the intercensal population	Birth-rate per mille based on the present method	Number of deaths	Death-rate per mille based on the intercensal population	Death-rate per mille based on the present method	Difference in the birth-rates (5)—(4)	Difference in the death-rates (8)—(7)
1	2	3	4	5	6	7	8	9	10
Cachar ...	585,410	18,315	31·29	33·99	11,565	19·76	21·46	+2·70	+1·70
Sylhet ...	2,967,732	91,056	30·68	33·42	74,865	25·23	27·48	+2·74	+2·25
Goalpara ...	943,410	30,182	31·99	34·19	23,756	25·18	26·91	+2·20	+1·73
Kamrup ...	1,028,775	22,979	22·34	23·52	15,076	14·65	15·44	+1·18	+0·79
Darrang ...	620.623	17,774	28·64	30·39	12,275	19·78	20·99	+1·75	+1·21
Nowgong ...	589,287	9,792	16·62	17·40	6,635	11·26	11·79	+0·78	+0·53
Sibsagar ...	998,741	25,971	26·00	27·83	16,429	16·45	17·60	+1·83	+1·15
Lakhimpur ...	770,744	21,111	27·39	29·14	17,142	22·24	23·66	+1·74	+1·42
Total for the Province.	8,504,722	237,180	27·89	219·92	177,743	20·90	22·42	+2·03	+1·52

Registration continues to be carried out in the same areas of the Hill districts as before and its results are shown separately in paragraph 12 of this report.

The birth-rate of the province for the year under report was 29·92 against 31·31 in 1937. A statement showing the comparison of the birth-rate of this province with that of other provinces is appended below :—

Province	Birth-rate		
	1938	1937	1933-37
1	2	3	4
Assam	29·92	31·31	30·69
Bengal	30·48	34·20	31·87
Bihar	34·48	34·13	34·48
Orissa	33·76	34·75	...
Central Provinces	43·19	40·65	43·43
Madras	38·87	38·72	37·47
Bombay	42·22	40·68	40·30
United Provinces	36·79	35·92	37·38
Punjab	49·50	46·49	45·42
North West Frontier Province	30·56	50·74	31·30
Sind	19·93	19·96	20·08
Burma	34·59	34·55	32·38

The birth-rate of Assam was lower than that of any other province except Sind.

4. *Birth registration General.*—The total number of births registered during the year 1938 was 237,180 against 248,224 in 1937 thus yielding a birth-rate of 29·92 against 31·31 in the year 1937. The number of births registered during the year under report was less than that recorded in the preceding year by 11,044. The average birth-rate for the previous 5 years was 30·69. The highest birth-rate was recorded in the district of Goalpara (34·19) followed by Cachar (33·99) Sylhet (33·42) and Darrang (30·39). These four district returned birth rates above and the other four districts below the provincial average (29·92). The lowest rate was recorded in the district of Nowgong (17·40).

The highest birth-rate of 39·88 in December was followed by 39·45 in November. The lowest rate (20·92) was recorded in July. During the year under review births exceeded deaths by 59,437 or 7·49 per mille of population. The number of males to every 100 females born was 107.

5. *Birth registration in urban areas.*—The total number of births registered in urban areas during the year 1938 was 6,538 as compared with 6,705 in 1937 and the birth rate per mille of population was 33·35 and 34·21 respectively. The highest rate was recorded in the town of Barpeta (59·74) in the Kamrup district followed by Hailakandi (54·44) in the Cachar district, Polashbari (40·82) in the Kamrup district, Sunamganj (38·30) in the Sylhet district, Nowgong (37·74) in the Nowgong district, Jorhat (36·48) in the Sibsagar district, Tinsukia (34·88) in the Lakhimpur district Dhubri (34·44) in the Goalpara district, and Karimganj (33·73) in the Sylhet district. The lowest rate (14·21) was recorded in the town of Doom Dooma in the Lakhimpur district. As noted in the previous year, the proportion of females to males residing in this town is very low. The birth rate exceeded the death-rate in all towns. The excess varied from 27·00 in Barpeta to 2·34 in Golaghat.

6. *Birth registration in rural areas.*—The total number of births registered in rural areas during 1938 was 230,642 or 29·82 per mille of population against 241,519 and 31·24 respectively in 1937. Considering registration circles individually, the highest rate was recorded in the Gossaingaon circle (64·63) in the Goalpara district followed by Kalaigaon (50·29) in Darrang, Lakhai (44·37) in Sylhet, Bilasipara (41·73) in Goalpara, Katigora (41·72) in Cachar, Baniachong (40·48) in Sylhet and Hailakandi (40·26) in Cachar. Low birth rates were reported from Kuarital (6·56) in Nowgong, Sorbhog (7·68) in Kamrup and Digboi and Margherita (9·71) in Lakhimpur. The low rates are probably due to defective registration.

7. *Deaths and death-rates.*—The death-rate of the province for the year under report was 22·42 as compared with 22·21 in the preceding year and is compared below with rates of other provinces in India and Burma.

Provinces	Death-rate		
	1938	1937	1933-37
1	2	3	4
Assam	22·42	22·21	20·64
Bengal	26·36	24·70	23·89
Bihar	23·59	22·53	22.70
Orissa	29·49	28·63	...
Central Provinces	41·07	32·63	33·12
Madras	23·46	23·99	24·16
Bombay	30·47	27·50	27·76
United Provinces	25·82	21·38	22·84
Punjab	26·44	23·71	25·68
North West Frontier Province...	22·89	21·27	20·19
Sind	12·40	12·09	12·65
Burma	25·73	24·76	21·27

The death-rate of Assam was lower than that of other provinces except Sind.

8. *Death registration-General.*—The total number of deaths registered in the Province during year under review was 177,767 against 176,054 in the preceding year. The death-rate per 1000 of the population being 22·42 and 22·21 respectively. The number of deaths registered in 1938 was higher than that recorded in 1937 by 1689. The quinquennial average was 20·64. The districts, of Cachar, Sylhet Goalpara, Darrang and Lakhimpur returned death-rates above and the other three districts below the quinquennial average. The highest death-rate was registered in the district of Sylhet (27·48) followed by Goalpara (26·91) and Lakhimpur (23·66). Nowgong district returned the lowest death-rate (11·79).

The table below shows the number of deaths reported from each district in comparison with that of 1937 :—

Districts	1937	1938	Increase or decrease in 1938
1	2	3	4
Cachar	13,813	11,565	—2,248
Sylhet	72,758	74,865	+2,107
Goalpara	20,186	23,756	+3,570
Kamrup	11,570	15,076	+3,506
Darrang	13,439	12,299	— ,140
Nowgong	7,701	6,635	—1,066
Sibsagar	19,240	16,429	—2,811
Lakhimpur	17,347	17,142	— 205
Total	176,054	177,767	+1,713

The number of male deaths to every 100 female deaths was 106.

9. *Death registration in urban areas.*—The total number of deaths recorded in 1938 in urban areas in which registration is compulsory was 3,897 yielding a death-rate of 19·88 as compared with 3,798 and 19·38 in 1937. The quinquennial average was 18·46. The highest death-rate was returned from Barpeta (32 74). The increase is due to a large number of deaths under "Fevers" "All other causes" and Dysentery and Diarrhoea". High rates were also recorded in Hailakandi (31·47) and Golaghat (27·52) "Fevers" and "All other causes" were responsible for high death rates in these towns.

The number of deaths registered under each of the main heads of mortality in towns in the years 1937 and 1938 are noted in the appended table :—

Head of mortality	1937	1938	Increase or decrease in 1938
1	2	3	4
Cholera	28	139	+111
Small-pox	34	8	— 26
Fevers	1,139	1,002	—137
Dysentery and Diarrhœa	507	534	+ 27
Respiratory Diseases	477	495	+ 18
Injuries	109	125	+ 16
All other causes	1,504	1,594	+ 90
Total ...	3,798	3,897	+ 99

10. *Death registration in rural areas.*—A total of 173,870 deaths or a death-rate of 22·48 was recorded in 1938 in rural areas as compared with 172,256 or 22·28 in 1937. The quinquennial average was 20·69.

The number of deaths in rural circles under each of the main heads of mortality in the years 1937 and 1938 and is compared in the table below :—

Head of mortality	1937	1938	Increase or decrease in 1938
1	2	3	4
Cholera	5,412	11,768	+6,356
Small-pox	2,153	1,641	— 512
Fevers	108,236	104,685	—3,551
Dysentery and Diarrhœa	12,375	11,391	— 984
Respiratory Diseases	6,225	6,379	+ 154
Injuries	1,801	1,906	+ 105
All other causes	36,054	36,100	+ 46
Total	172,256	173,870	+1,614

The highest rate was returned from Gossaigaon circle (47·37) in the Goalpara district Other circles which returned high rates were Lakhai (41·25) and Jaintiapur (40·22) in Sylhet Kalaigaon (39·23) in Darrang, Baniachong (38·68) and Ajmiriganj (38·52) in Sylhet, Panery (36·75) in Darrang, Mankachar (36·72) in Goalpara, Jagannathpur (36·67) and Kanaighat (36·15, in Sylhet, Dhakuakhana (34·97) in Lakhimpur, Derai (34·26) Nabiganj (33·98) and Madhabpur (33·38) in Sylhet. The lowest rate was reported from Sorbhog (4.74) in Kamrup. The other circles reporting low rates were Kuarital (5·88) in Nowgong and Boko (6·82) in Kamru p

"Fever" was mainly responsible for the high death-rates in the above mentioned areas Other contributory causes being Cholera in Ajmiriganj, Baniachong, Derai and Jagannathpur and Small-pox in Jaintiapur and Kanaighat.

11. *Seasonal incidence of mortality.*—Mortality was highest (30·06) in the month of November and lowest (17·94) in March. "Cholera" and "Fever" were responsible for the highest death-rate in November.

12. *Registration in hill districts.*—Registration of births and deaths continues to be carried out in the same limited areas as in previous years. The birth and death rates in these areas in 1938 are compared in the sub-joined table with those of 1937 :—

Districts	Population under registration	1937		1938	
		Birth-rate	Death-rate	Birth-rate	Death-rate
1	2	3	4	5	5
Garo Hills	190,911	29·46	20·85	29·16	21·40
Khasi and Jaintia Hills ...	64,128	29·88	19·60	26·91	18·20
Lushai Hills	124,404	45·36	25·39	46·10	24·91
Naga Hills	3,974	58·68	41·19	63·33	49·16
Sadiya Frontier Tract	21,118	29·50	22·26	30·64	23·58

It will be seen from the above table that the birth-rate was higher in the Lushai Hills, Naga Hills and Sadiya Frontier Tract and lower in the Garo Hills and Khasi and Jaintia Hills in 1938 than in 1937. The death-rates were higher in the Garo Hills, Naga Hills and Sadiya Frontier Tract and lower in the Khasi and Jaintia Hills and Lushai Hills than in the preceding year.

Garo Hills.—The total number of births and deaths recorded in the Garo Hills during the year under review was 5,567, and 4,085. respectively. The birth-rate was lower and the death rate was higher in the year under report than in 1937. As in the previous year the prominent diseases were malaria and *Kala-azar* and they were prevalent in the northern and western borders of the district. Both the diseases were on the increase during the year under review. There were 188 deaths from cholera against 10 in the year 1937. A total of 14,785 persons was inoculated with cholera vaccine. There were 1016 deaths from fevers during 1938 against 990 in the previous year. During 1938 a total of 378 cases of Yaws was treated. In the Tura Leper colony 124 lepers were treated. Sixty-two packets of quinine were sold in 1938 against 42 in the previous year.

Khasi and Jaintia Hills.—The total number of births and deaths recorded in the Khasi and Jaintia Hills during the year under report was 1726 and 1167 respectively.

Thirty-six attacks and 25 deaths from cholera were reported from the rural areas and one case occurred in the Shillong Municipality. The case was imported from the United Provinces. A total of 56 attacks and 15 deaths from small-pox was reported from rural areas during 1938. A total of 23,815 cases of malaria was treated in the dispensaries of the district in 1938 against 25,308 in 1937. Six hundred and nine boxes of quinine treatment were sold in 1938 in comparison with 611 boxes in 1937.

The total number of births and deaths registered in Shillong during the year under review was 763 or 35·82 per mille and 366 or 17·18 per mille repectively against 766 or 35·96 per mille and 363 or 17·04 per mille respectively in 1937.

The appended table shows the number of cases and deaths from infectious diseases registered by the Shillong Municipality during the year under report :—

Disease	Attacks	Deaths
Cholera	1	...
Diphtheria	4	...
Enteric fever	32	4
Kala-Azar	7	3
Leprosy	2	...
Other diseases	14	7
Tuberculosis	47	19
Total	107	33

The sanitation of Shillong was not good. Dysentery and diarrhœa were prevalent in the station throughout the whole year. There were several cases of pneumonia in the first part of December. There were many cases of chickenpox, measles, sore throat, tonsillitis, whooping cough, and mumps during the year.

Lushai Hills.—The total number of births and deaths was 5,735 and 3,099 respectively during the year under review. The general health of the district was fair. There was no epidemic of cholera or smallpox in the district. There was however an epidemic of german measles throughout the hills. Malaria is the chief disease from which the people of the district suffer most. A total of 1,048 packets of quinine was sold in 1938 against 1,389 packets in the preceding year. Thirty two cases of syphilis were treated during the year against 27 in 1937. A total of 88 cases of yaws was treated in 1938 against 49 in the preceding year.

Naga Hills.—Although the population of the Naga Hills is 178,844, registration of Births and Deaths is effected for a population of 3,974 only, *i.e.*, in Kohima town and Dimapur rural circle. The Birth rates and Death rates therefore are for this small population amounting to about 2·22 per cent. of the population of the district. The district was free from cholera and smallpox as in the previous year. Cerebrospinal meningitis and anthrax appeared in an epidemic form. Cerebrospinal meningitis broke out in 14 villages. There were 233 attacks with 168 deaths. An Assistant Surgeon was appointed for 3 months to deal with the epidemic. He surveyed 25 villages, and preventive measures were taken to check the spread of the disease. The cases were treated by lumbar puncture and serum injections at the beginning of the epidemic and then with prontosil both by mouth and by intra-muscular injections. A Sub-Assistant Surgeon was entertained for 3 months to deal with the anthrax out-break. The disease first appeared in Lazami village in the month of March 1938. Sixty-seven boxes of quinine were sold during the year against eighty-eight in the previous year.

Sadiya Frontier Tract.—The total number of births and deaths registered in 1938 was 647 and 498 respectively. There were 333 deaths from fevers alone. There was only one attack from Small-pox in the Pasighat Subdivision and 481 vaccinations were performed in the infected area. Seventy-two boxes of quinine were sold against seventy-five in the preceding year.

Manipur State.—Births and deaths are not recorded in this State. There were 1,100 attacks and 585 deaths from cholera and 63 attacks with 24 deaths from small-pox. Eight packets of quinine treatments were sold against three in 1937.

13. *Registration in Tea Gardens.*—The subjoined table shows the birth and death rates reported from Tea Estates during the year under review in comparison with those of the previous year :—

Districts	Birth-rate		Death-rate	
	1937	1938	1937	1938
1	2	3	4	5
Cachar	34·85	11·57	22·72	7·40
Sylhet	25·37	28·50	14·08	15·66
Goalpara	39·11	44·12	37·43	36·54
Kamrup	32·32	38·21	20·91	25·35
Darrang	25·20	32·40	17·02	20·51
Nowgong	27·35	21·50	19·63	15·15
Sibsagar	37·43	35·76	27·10	24·32
Lakihmpur	42·35	34·01	31·16	27·69
Total	34·18	26·21	23·58	17·95

The total number of births and deaths on Tea Estates during the year under report was 33,868 and 23,197 respectively against 33,500 and 23,114 respectively in the preceding year. As in the previous year, the largest number of deaths was registered under " Other causes " (9,650) and this was followed by " Fevers " (4,931). Respiratory diseases (4,368) and Dysentery and Diarrhœa (3,804). A total of 150 deaths from Cholera and 21 deaths from Smallpox was registered during the year. There were 133 deaths from *Kala-azar* in 1938 against 113 in the preceding year.

14. *Registration on railways.*—The total number of births and deaths within railway limits during 1938 was 286 and 229 as compared with 428 and 330 respectively in 1937. As usual the largest number of births and deaths was reported from Lakhimpur district. The largest number of deaths was recorded under " Other causes " (83) and this was followed by " Fevers " (65).

15. *Mortality according to sex.*—A total of 91,589 males and 86,154 females died during the year under review against 90,875 males and 85,179 females in the preceding year. The death-rate for males was 21·87 and that for females was 23·03. The rates are higher than the corresponding rates in 1937 by 0·17 and 0·26 respectively. They were also higher by 1·48 for males and by 2·11 for females than the rates of the previous quinquennium. The female death-rate exceeded the male death-rate in all the districts except Sylhet and Goalpara. The highest death-rate for males was returned from Goalpara (24·16) and the highest death-rate for females was returned from Cachar (24·53).

The lowest death-rates for both the sexes were reported from the Nowgong district. *viz.*, 12·01 for males and 12·36 for females.

16. *Mortality according to classes.*—The number of deaths according to classes during the year 1938 was as follows:—

Hindus 97,229, Muhammadans, 69,388, Christians 1,933, Budhists 134; other classes 9,059. The death-rates per mille by classes are noted in the table below:

Classes	Ratio of deaths per mille, 1937	Ratio of deaths per mille, 1938	Difference
1	2	3	4
Hindus	20·35	20·14	—0·21
Muhammadans	23·72	25·30	+1·58
Christians	24·45	24·58	+0·13
Budhists	13·42	12·24	—1·18
Other classes	39·95	33·90	—6·05

The district of Sylhet as in previous year returned the highest mortality rate both among the Hindus (24·53) and Muhammadans (29·52). The lowest rates (12·94 and 8·13) for these two communities were recorded in the Nowgong district.

17. *Mortality according to age.*—The table below shows the rate of mortality by sexes and different age groups, and the excess or defect of the female death-rates:—

Age periods	1938		Excess or defect of female death-rate
	Male	Female	
1	2	3	4
Under one year	172·25	156·60	—15·65
1 and under 5	25·94	24·25	— 1·69
5 and under 10	11·73	11·25	— 0·48
10 and under 15	8·12	7·78	— 0·34
15 and under 20	10·99	13·71	+ 2·72
20 and under 30	10·15	16·87	+ 6·62
30 and under 40	13·35	17·17	+ 3·82
40 and under 50	19·06	20·29	+ 1·23
50 and under 60	33·04	33·74	+ 0·70
60 and upwards	81·30	84·40	+ 3·10
Total	21·79	22·94	+ 0·15

It will be seen from the above table that the highest mortality was recorded amongst infants under one year of age and lowest amongst both males and females between 10—15 years of age.

The following table shows the deaths and death-rates amongst infants calculated on the births for the last 10 years:—

Year	Births			Death of infants			Death-rate of infants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	2	3	4	5	6	7	8	9	10
1928	110,774	103,283	214,057	20,233	16,587	36,820	182·65	160·50	172·01
1929	116,177	108,417	224,594	19,374	15,987	35,361	166·76	147·46	157·44
1930	110,400	104,345	214,835	20,166	17,310	37,476	182·66	165·75	174·44
1931	115,139	107,867	223,006	18,465	15,624	34,089	160·37	144·84	152·86
1932	122,845	115,474	233,319	20,398	16,918	37,316	166·05	146·51	156·58
1933	126,882	119,236	246,118	21,903	18,328	40,231	172·62	153·71	163·46
1934	125,740	117,016	242,756	21,893	18,250	40,143	174·11	155·96	165·36
1935	123,668	116,230	239,898	21,015	18,140	39,155	169·93	156·07	163·22
1936	123,839	115,865	239,704	19,630	16,522	36,152	158·51	142·59	150·82
1937	128,233	119,991	248,224	21,350	18,377	39,727	166·49	153·15	160·04
1938	122,346	114,834	237,180	21,074	17,983	39,057	172·25	156·60	164·67

The infant mortality in Assam in the year under report was higher than that of 1928, 1929, 1930, 1931, 1932, and 1936, but lower than that of the other years. A total of 39,057 infants died during the year and of these 18,554 or 47·51 per cent died within one month of birth, 13,485 or 34·53 per cent. died between one to six months and 7,017 or 17·97 died between six months to twelve months.

The infant mortality of Assam for 1938 is compared in the table below with that of the other Provinces in India and Burma :—

Provinces	Rates
Assam	164·67
Bengal	184·66
Bihar	119·86
Orissa	221·90
Central Provinces	238·20
Madras	166·04
Bombay	174·16
Burma	222·57
United Provinces	148·61
Punjab	173·45
North West Frontier Province	154·08
Sind	121·33

The infant mortality rate in Assam for the year under review compares favourably with that in Bengal, Orissa, Central Provinces, Madras, Bombay, Burma and the Punjab. The heavy mortality amongst infants is due in large measure to immaturity and ignorance on the part of the mother, improper feeding, and exposure of infants to insanitary surroundings. Vigorous educational measures are necessary in regard to the care of infants.

A total of 9233 still births was recorded during the year under report, *viz.*, Hindus (4,342). Muhammedans (4413), Christians (83) and other classes (395). Out of 9,233 still births 5,202 were males and 4,031 females.

The percentage of still births to live births was 3·89 in the year 1938 as compared with 3·83 in 1937.

A chart showing the infant mortality rate in Assam from 1912 to 1938 is attached (see chart No. 1).

18. The defects in the registration of vital occurrences during 1938 in compulsory urban areas, as ascertained by the vaccination inspecting staff, are shown in the appended table :—

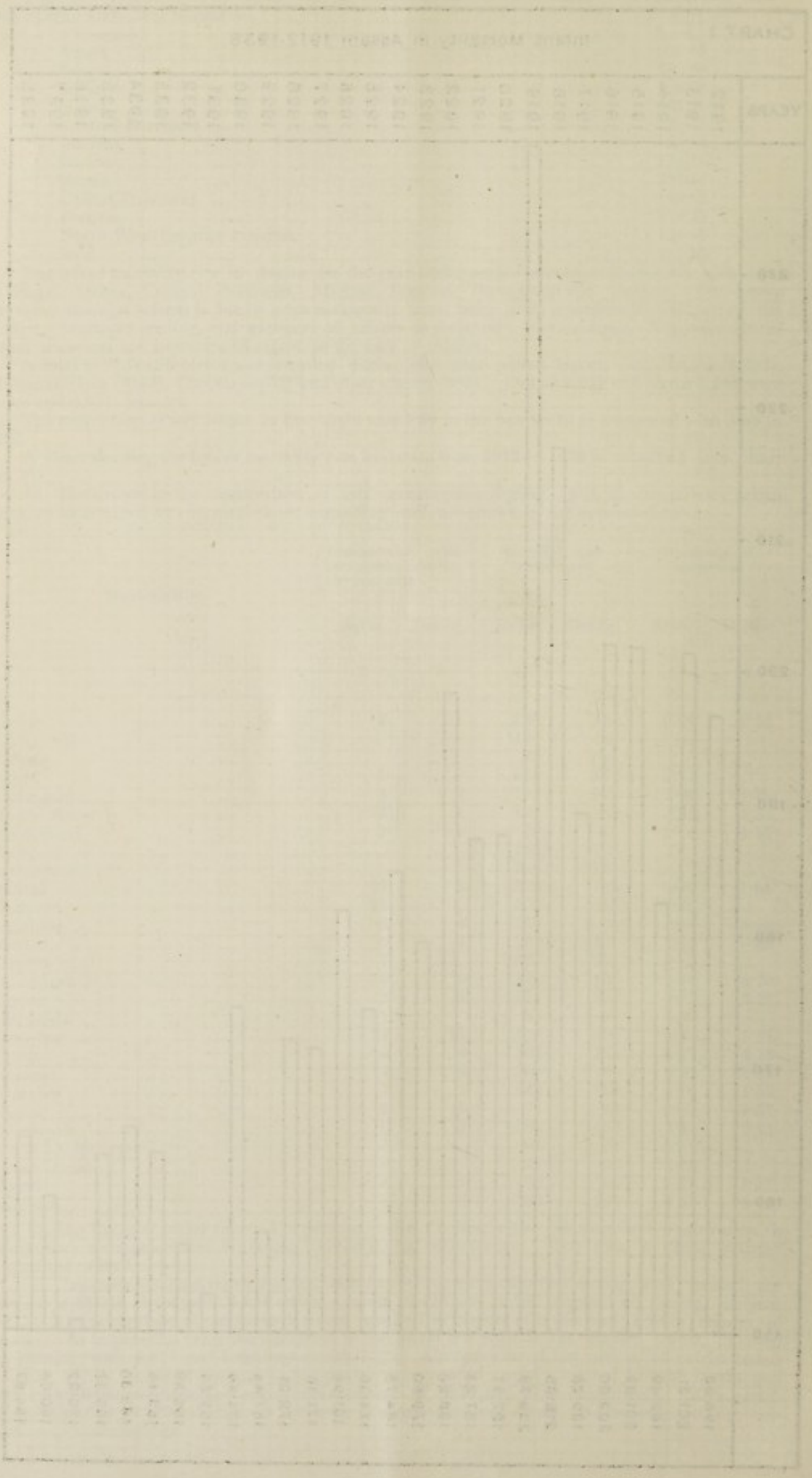
Municipalities	Unregistered vital occurrences during the year 1938		Recorded vital occurrences		Percentage of omissions	
	Births	Deaths	Births	Deaths	Births	Deaths
1	2	3	4	5	6	7
Silchar	2	1	289	180	0·69	0·55
Hailakandi	...	...	109	63	...	...
Haflong	...	...	32	24	...	...
Sylhet	5	...	670	337	0·75	...
Karimganj	4	2	192	112	2·08	1·78
Maulvi Bazar	4	1	138	65	2·89	1·54
Sreemangal	1	1	39	24	2·56	4·17
Habiganj	...	...	233	182	...	...
Sunamganj	...	...	204	133	...	...
Dhubri	13	3	325	183	4·00	1·64
Goalpara	16	...	203	143	7·88	...
Gauripur	3	3	147	94	2·04	3·19
Gauhati	9	2	723	301	1·24	0·66
Barpeta	1	...	823	451	0·12	...
Polashbari...	9	4	141	85	6·38	4·70
Tezpur	3	5	315	222	0·95	2·25
Mangaldai	1	...	53	47	1·88	...
Nowgong	21	11	393	196	5·34	5·61
Jorhat	15	8	304	188	4·27	4·25
Sibsagar	12	3	203	90	5·91	3·33
Golaghat	7	2	140	129	5·00	1·55
Nazira	2	1	71	44	2·81	2·27
Dibrugarh	18	2	523	462	3·44	0·43
North Lakhimpur	4	...	61	38	6·55	...
Doom Dooma	6	...	27	20	22·22	...
Tinsukia	4	1	180	84	2·22	1·19
Shillong	4	3	763	366	0·52	0·82

During the year under report 170 persons in the 27 municipal towns where registration is compulsory were prosecuted for failing to report vital occurrences. The total of fines inflicted amounted to Rs.119-4-0.

19. *Inspection of village registers of vital statistics.*—The vaccination inspecting staff verified the records of 43,048 births and 24,204 deaths against 39,490 and 20,997 respectively during the year 1937. The percentage of omissions detected was 2·07 in respect of births and 1·18 in respect of deaths. As in previous years the district of Sylhet stood first with 20,521 entries tested, followed by Darrang with 9,677 and Lakhimpur with 7,221. Goalpara stood last with 4,766 entries tested in 1938. Only 43,048 births and 24,204 deaths were verified out of a total of 237,180 births and 177,767 deaths yielding the percentages of omissions of 18·15 and 13·61 respectively. More extensive verification of vital statistics is necessary in order to correct errors and omissions in the collection of vital statistics.

CHART I

Infant Mortality in Assam 1912-1938



20. *General accuracy of vital statistics and improvement made during the year.*—During the year under review there was no change in the agencies engaged in the collection of vital statistics either in urban or rural areas. As usual, weekly epidemic reports and monthly returns of vital statistics were regularly published in the Provincial Gazette and also sent to certain newspapers for the information of the general public.

21. *Emigration and Immigration.*—A statement showing month by month the number of labourers entering Assam by different routes during the year 1938 is appended below :—

Month	Total number of immigrants entering Assam during 1938
January	7,195
February	9,667
March	9,135
April	5,127
May	2,592
June	1,100
July	399
August	166
September	116
October	73
November	204
December	601
Total	36,375

There were 214 cases of sickness among immigrants of whom 16 died.

The following statement shows the number of sick labourers treated month by month in the Emigration Hospital at Gauhati during the year 1938 :—

Names of diseases	January	February	March	April	May	June	July	August	September	October	November	December	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Abscess	...	1	...	1	...	...	...	...	...	...	...	...	2
Ankylostomiasis	...	...	1	...	...	...	...	...	...	...	...	...	1
Bronchitis	2	3	2	1	...	...	...	...	...	...	...	...	8
Broncho-Pneumonia ...	...	1	3	...	...	...	...	...	...	...	1	...	5
Burns	...	...	1	...	...	...	...	...	...	...	...	...	1
Chicken-pox	...	...	1	1	...	...	...	...	...	...	...	...	2
Colic-Intestinal	...	...	...	...	1	...	...	...	...	...	...	...	1
Conjunctivitis	11	10	14	14	5	8	6	1	...	...	...	...	69
Diarrhœa	1	4	1	...	1	...	...	...	...	1	...	...	8
Dysentery	...	1	...	...	...	...	...	1	...	...	1	...	3
Inflammation of glands ...	...	...	...	...	...	1	...	...	...	...	...	...	1
Labour-Normal	...	...	1	...	...	...	...	...	...	...	...	...	1
Malaria	12	16	9	1	4	...	...	1	2	1	...	...	46
Measles	3	1	5	3	...	...	...	...	...	...	...	...	12
Menorrhagia	1	...	...	...	...	...	...	...	...	...	...	...	1
Neurasthenia	...	...	...	...	1	...	...	...	...	...	...	...	1
Post-dysenteric anæmia ...	...	...	...	...	...	...	...	...	...	...	1	...	1
Pernicious Anæmia ...	...	...	...	...	1	...	...	...	...	...	...	...	1
Pneumonia	1	...	...	...	...	...	...	...	...	...	...	...	1
Scabies	1	...	...	...	...	...	...	...	...	...	...	...	1
Small-pox	...	1	...	...	...	...	...	...	...	...	...	...	1
Soft sore	...	...	1	...	...	...	...	...	...	...	...	...	1
Wounds	...	...	1	...	...	...	...	...	...	...	...	...	1
Total	32	38	40	21	13	9	6	3	2	2	3	...	169

22. *Railway Labour Camps.*—During the year 1938 no new railway construction was undertaken either by the Assam-Bengal or Eastern Bengal Railways. Eight labour camps were however maintained by the Assam-Bengal Railway during the year, *viz.*, Dittockcherra Ballast siding and Boulder siding camp. Six camps in connection with relaying MP—B×P section at Manipur Road and one camp at Bahubar quarry in Sibsagar district. The population of these camps ranged from 450 to 1,303. The surroundings of the camps were maintained in a sanitary condition. There was no epidemic of cholera or small-pox but malaria was prevalent in the Dittockcherra Ballast and Boulder siding camps. One Sub-Assistant Surgeon and one compounder were kept for treatment of illness in the camp. An adequate number of sweepers was employed for conservancy. Filtered water also was provided in most of the camps and trench latrines provided in most places. The Eastern Bengal Railway maintained one labour camp at the Aie Bridge in the Goalpara district. The strength of the labourers varied from 200 to 600. One Sub-Assistant Surgeon, one medicine carrier and 9 sweepers were employed. A temporary dispensary was opened on the 20th July 1938. Water supply to the camps was from 6 shallow tube wells. Suitable latrines were provided, the night-soil was trenched. All the labourers and supervisory staff were vaccinated against small-pox and cholera. A total of 999 cases of general illness, 205 being malaria and 96 minor injuries were treated in the dispensary. There were no deaths in the camp.

CHAPTER III

THE STATE OF PUBLIC HEALTH AND HISTORY OF THE CHIEF DISEASES

23. *State of Public Health in the Province.*—From the information recorded in the previous chapter it may be inferred that the state of Public Health in the Province during 1938, as shown by the death-rate and the increases in certain of the causes of death, was not satisfactory. This apparent deterioration, however, is due to unusual circumstances, but for which there would have been an improvement over the previous year. The unusual circumstances which caused this, were the exceptional floods that prevailed in all parts of the Province. These resulted in considerable outbreaks of cholera which accounted in large part for the unfavourable result. If the deaths due to cholera from the above cause were excluded it will be found the state of public health was better than in the past year, for there was less of "Small-pox", less of "Fever" and less of "Dysentery and diarrhœa"—all important causes of death, while the number of deaths from the other causes remained more or less the same.

During the year under review 177,767 deaths were recorded of which 11,907 were from cholera, 1,649 from small-pox, 105,687 from fevers, 11,925 from dysentery and diarrhœa, 6,874 from respiratory diseases, 2,031 from injuries and 37,694 from all other causes.

The appended table shows the death-rates per mille from chief causes of death during 1938, as compared with the decennium ending 1937 :—

Diseases	1938			1928-37		
	Urban	Rural	Combined	Urban	Rural	Combined
1	2	3	4	5	6	7
Cholera	0·71	1·52	1·50	0·36	0·71	0·70
Small-pox	0·04	0·21	0·21	0·12	0·21	0·21
Plague	...	...	...	...	...	...
Fevers	5·11	13·54	13·33	4·96	12·46	12·27
Dysentery and Diarrhœa	2·72	1·47	1·50	2·19	1·21	1·23
Respiratory Diseases ...	2·53	0·82	0·87	2·33	0·72	0·76
Injuries	0·64	0·25	0·25	0·56	0·24	0·25
All other causes ...	8·13	4·67	4·75	6·93	4·15	4·22
Total	19·88	22·49	22·42	17·44	19·71	19·65

The death-rate for the year 1938 was higher than the decennial average by 2·77. A noticeable increase was recorded in the number of deaths from "Cholera" (6,465). The increase in the number of deaths from cholera was the principal factor in raising the death-rate in 1938.

24. *Cholera.*—The number of deaths from cholera in 1938 was 11,907 against 5,440 in 1937. The death-rate per 1,000 of population was 1·50 as compared with 0·69 in 1937. The decennial average was 0·70 as shown in the appended table :—

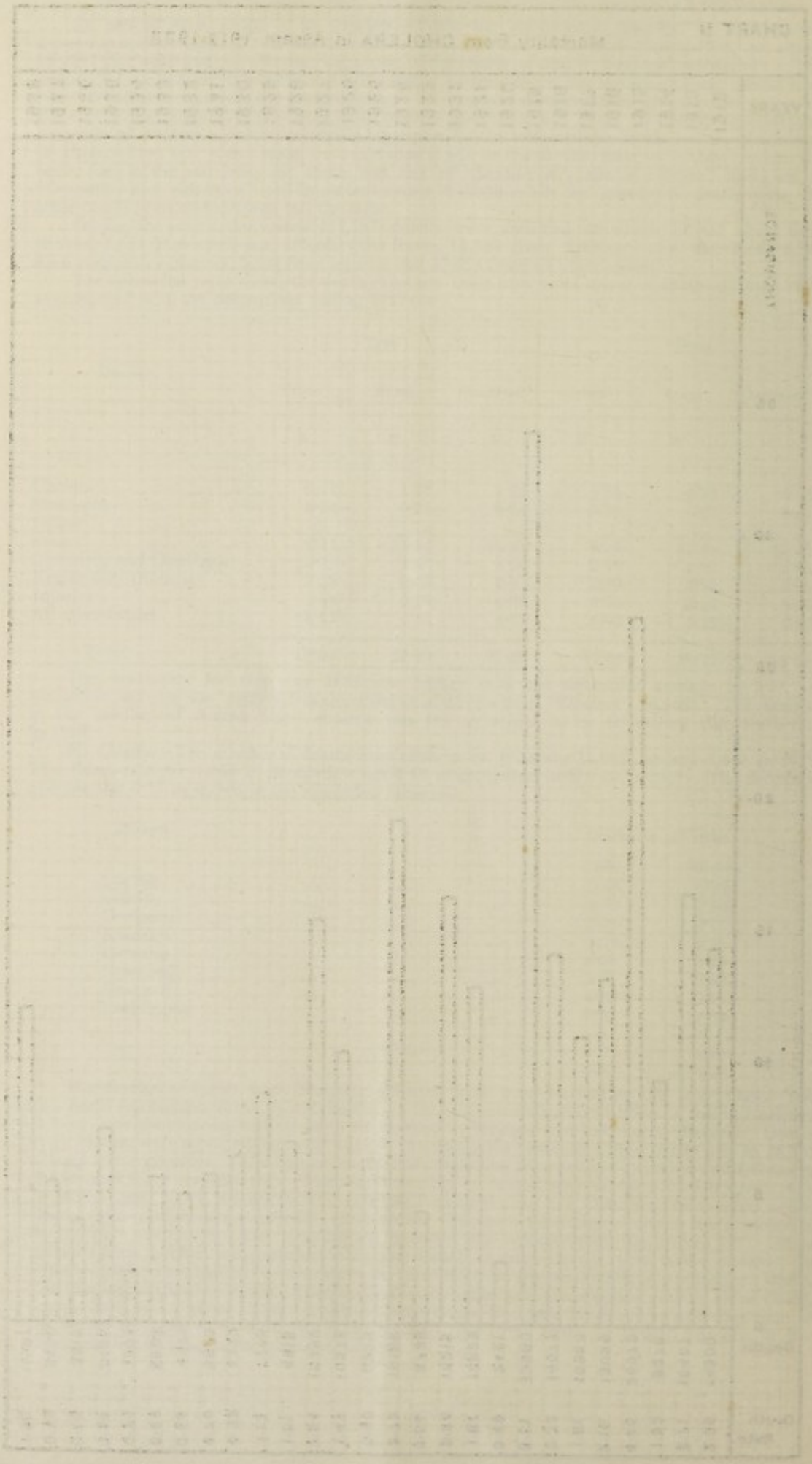
Districts	Death-rate per mille	
	1938	1928-37
Cachar	0·49	0·55
Sylhet	2·78	1·12
Goalpara	2·26	0·77
Kamrup	1·92	0·96
Darrang	0·24	0·50
Nowgong	0·07	0·18
Sibsagar	0·02	0·15
Lakhimpur	0·02	0·08
Total ...	1·50	0·70

The districts of Sylhet and Goalpara suffered most from cholera in the year 1938. The death-rate was highest in the Sylhet district (2·78). The next highest death-rate was in Goalpara (2·26). The lowest death-rate (0·02) was recorded in Sibsagar and Lakhimpur districts. Deaths from cholera were reported from 100 out of 148 registration circles and from 2,629 out of 28,333 villages in the province. The highest number of deaths was recorded in November and December (2,552 and 2,719 respectively). The lowest number of deaths was recorded in February (163). In 1938 a total of 11,768 deaths was reported from rural areas and 139 deaths from urban areas. Deaths from cholera were recorded in 12 towns. The highest number of deaths was recorded in the Barpeta town (58). The next highest number was reported from Sunamganj (17). As in previous years cholera was prevalent in Sylhet district throughout the year under review. In Sylhet district the highest death-rate was returned from the rural circle of Ajmiriganj (10·05). The other circles in the district reporting high death-rates were Baniachong (8·93), Derai (8·66), Sulla (7·42) and Lakhai (7·34). Cholera broke out in Goalpara district in an epidemic form in the month of August and continued till November. The rural circle of South Salmara in the Goalpara district reported a death-rate of 6·95.

CHART II

Mortality from CHOLERA in Assam 1912-1938

YEARS	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Deaths	14300	16407	9270	26979	13099	10953	14077	33980	2421	12829	16219	3728	19182	6233	10275	15392	6915	7765	6332	5523	4971	5508	1904	7436	3816	5440	11907
Death Rate	2·36	2·71	1·53	4·46	2·16	1·81	2·32	5·61	0·40	1·87	2·36	0·54	2·72	0·90	1·49	2·24	1·01	1·13	0·92	0·70	0·68	0·69	0·24	0·94	0·48	0·69	1·50



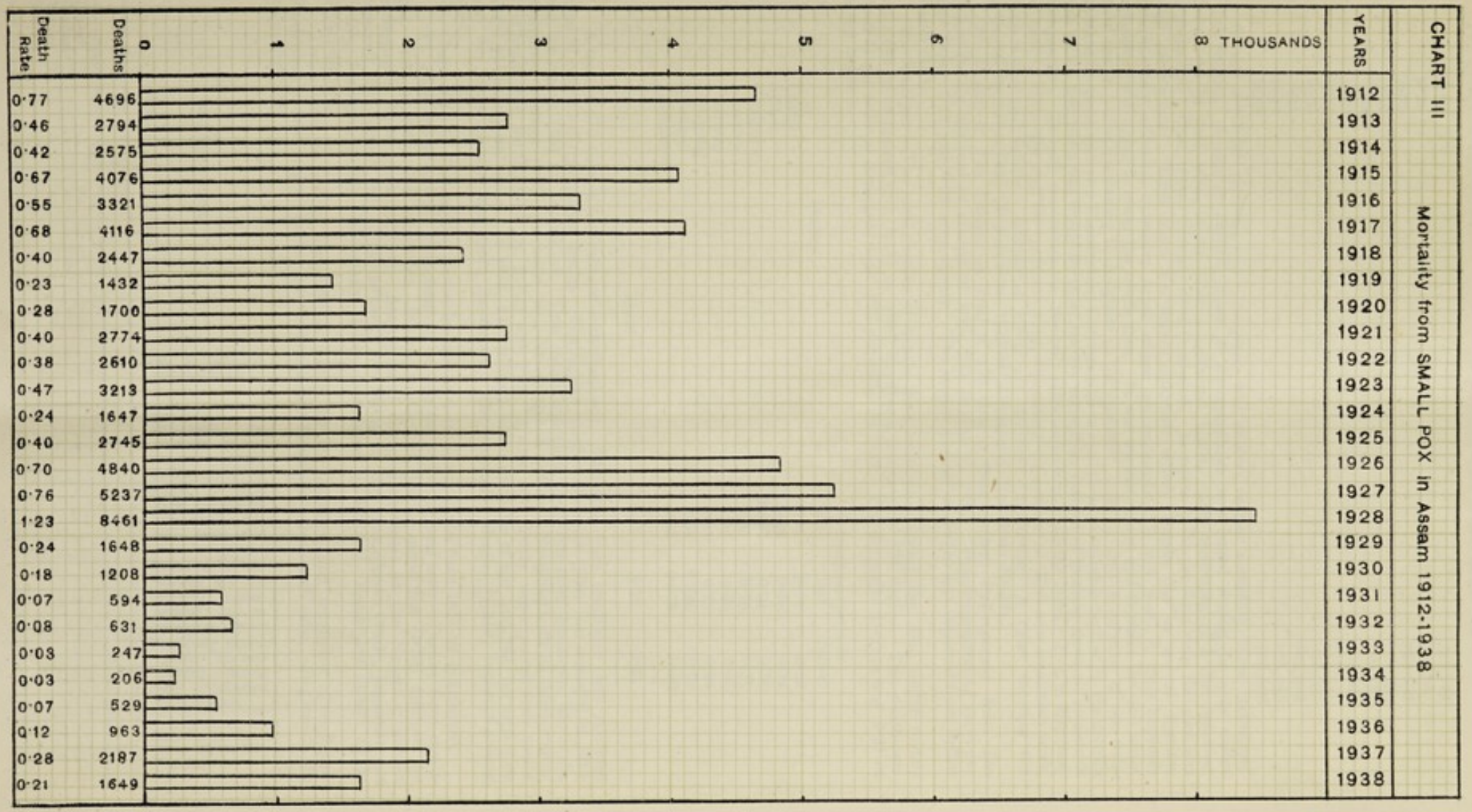
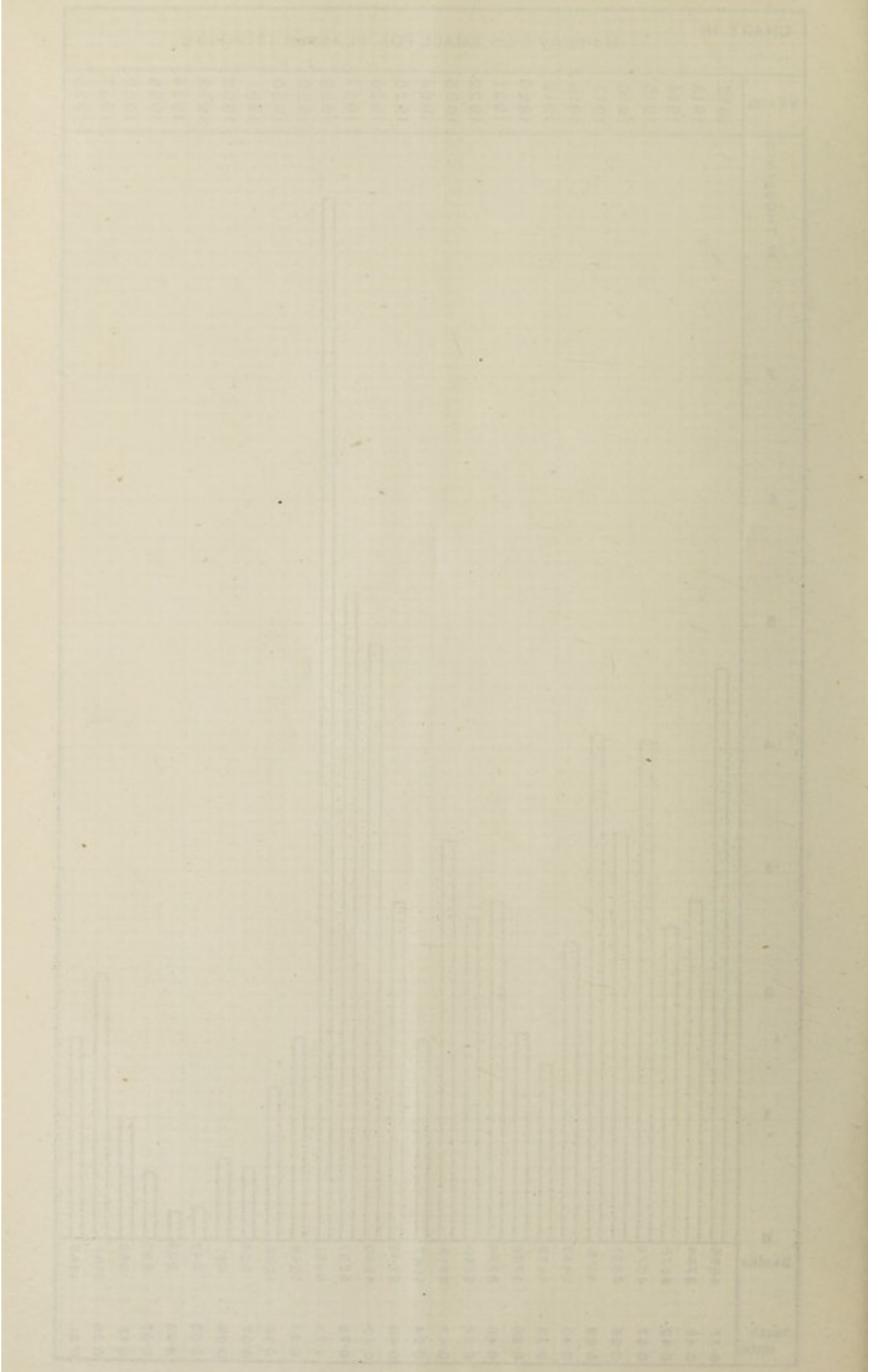


CHART III
Mortality from SMALL POX in Assam 1912-1938
YEARS
Death Rate
Deaths
0
1
2
3
4
5
6
7
8 THOUSANDS
1912 0·77 4696
1913 0·46 2794
1914 0·42 2575
1915 0·67 4076
1916 0·55 3321
1917 0·68 4116
1918 0·40 2447
1919 0·23 1432
1920 0·28 1700
1921 0·40 2774
1922 0·38 2610
1923 0·47 3213
1924 0·24 1647
1925 0·40 2745
1926 0·70 4840
1927 0·76 5237
1928 1·23 8461
1929 0·24 1648
1930 0·18 1208
1931 0·07 594
1932 0·08 631
1933 0·03 247
1934 0·03 206
1935 0·07 529
1936 0·12 963
1937 0·28 2187
1938 0·21 1649



The amount of cholera vaccine issued in the province since 1928 is noted below :—

	c.c.
1928	237,773
1929	356,047
1930	220,532
1931	170,820
1932	169,317
1933	451,884
1934	171,117
1935	47,595
1936	368,898
1937	425,443
1938	986,568

A total of 972,696 persons was inoculated with cholera vaccine excluding those inoculated in Tea Estates. A total of 495,872 doses of Bacteriophage was issued during the year under report. As in past year, seven mobile Epidemic Units, each consisting of 3 Sub-Assistant Surgeons and 6 Disinfectant Carriers were employed. As noted in the previous year, this staff was found inadequate. When there is a severe epidemic which breaks out in several districts simultaneously, affecting extensive areas where communication is not good, it then becomes impossible for the staff to cover the whole area. It was for this reason and to make the unit more useful that it is now customary to designate as the epidemic unit—a unit consisting of one Sub-Assistant Surgeon and two Disinfectant Carriers and to post these in suitable centres in the district from which infected areas would be more readily accessible, instead of locating them all at district headquarters. In such circumstances, the only alternative is to close the Public Health dispensaries and to utilise the staff for epidemic duty, dislocating the system of *Kala azar* treatment work, which is very undesirable. Additional Units are therefore imperative. A chart showing the provincial mortality from Cholera from 1912-38 is attached (See chart No.II).

25. *Cholera in Tea Estates.*—A total of 150 deaths from cholera was reported from Tea Estates during the year as compared with 220 deaths in 1937. The corresponding ratio per mille being 0·12 and 0·22 respectively. The largest number of deaths was reported from Sylhet district (103).

26. *Small-pox.*—The total number of deaths from small-pox during the year under review was 1,649 as compared with 2,187 in 1937 showing a decrease of 538 deaths. The death-rate was 0·21 per mille as compared with 0·28 per mille, in 1937. The decennial average was 0·21 as shown below :—

Districts	Death-rate per mille		
	1938	1937	1928-37
Cachar	0·03	0·13	0·22
Sylhet	0·44	0·66	0·34
Goalpara	0·003	0·01	0·28
Kamrup	0·05	0·16	0·21
Darrang	0·03	0·06	0·06
Nowgong	0·63	0·21	0·04
Sibsagar	0·01	0·008	0·05
Lakhimpur	0·01	0·003	0·08
Total ...	0·21	0·28	0·21

A total of 618 villages was infected with small-pox. Mortality from small-pox was reported from 67 out of 148 registration circles. The highest number of deaths (280) was recorded in May and the lowest (46) in September. Two districts yielded death-rate from small-pox above the provincial average (0·21) per mille, *viz.*, Nowgong and Sylhet. Nowgong with its death-rate o 0·63 heads the list followed by Sylhet with 0·44. A total of 8 deaths was reported from towns and 1,641 from rural areas. In 1938, 146 children below one year of age and 284 between one and ten years of age died from Small-pox. The remaining deaths (1,219) occurred among adults.

Chart No. III showing the provincial mortality from small-pox from 1912-38 is attached.

27. *High rate of mortality from Small-pox in individual towns and rural areas.*—Deaths from small-pox were reported from 4 towns. Silchar in Cachar district stood first (0·38) followed by Habiganj in Sylhet district (0·13). Among rural circles Lahorighat in the Nowgong district reported the highest rate (2·94) followed by Dhing in the same district (2·62), Jagannathpur (1·59), Habiganj (1·50), Biswanath (1·25), Jaintiapur (1·10) and Kanaighat (1·02) all in Sylhet district.

There were no special hospitals in Assam for the isolation and treatment of small-pox. Particulars of cases treated in the Infectious Diseases Hospitals, where such exist, are given in the appended table :—

Municipal towns	No. of small-pox patients treated	Vaccinated as evidenced by presence of one or more vaccination cicatrices	Stated to have been successfully vaccinated but no vaccination cicatrices present	Stated to be vaccinated but vaccinated unsuccessfully and no cicatrices present	Previously un-vaccinated but vaccinated during the incubation of Small-pox	Stated to have been successfully vaccinated
1	2	3	4	5	6	7
Dhubri	1	1	..	..	..	..
Gauhati	7	4	..	3	..	..
Tezpur	..	..	..	..	..	..
Shillong	..	..	..	..	..	..

28. *Plague.*—No case of plague was reported from any district in 1938.

29. *Fevers.*—A total of 105,687 deaths occurred in 1938 as compared with 109,375 in 1937. This shows a decrease of 3,688. The death-rate per mille was 13·33 as compared with 13·80 in the preceding year and 18·27 during the last decennium as shown in the table below :—

Districts	Death-rate per mille 1938	1937	1928-37
Cachar	10·43	2·79	11·25
Sylhet	14·28	14·70	12·34
Goalpara	23·09	21·84	20·90
Kamrup	10·68	8·88	9·69
Darrang	13·54	15·26	13·19
Nowgong	8·81	10·52	10·14
Sibsagar	9·64	11·85	9·91
Lakhimpur	11·70	11·84	9·70
Total	13·33	13·80	12·27

Fevers were responsible for 59·46 per cent. of the total provincial mortality as compared with 62·13 per cent. in the previous year. These figures include deaths from malaria, *kala-azar* and also from various diseases, which have fever as their predominant symptom. The largest number of deaths was recorded in June (10,277) and the smallest in March (6,878). As in previous years, the highest mortality rate from " Fevers " was recorded in the district of Goalpara (23·09). The lowest rate (8·81) was recorded in Nowgong. As in previous years Quinine and Cinchona Febrifuge were distributed free to indigent malaria patients throughout the province.

Chart No. IV showing the provincial mortality from " Fevers " from 1924 to 1938 is attached.

30. *Dysentery and Diarrhoea.*—A total of 11,925 deaths was registered from dysentery and diarrhoea during the year as compared with 12,882 deaths in the year 1937. The corresponding death-rates for the two years were 1·50 and 1·62 respectively. The decennial average was 1·23 as shown in the table below :—

Districts	Death-rate per mille 1938	1937	1928-37
Cachar	1·89	2·14	2·00
Sylhet	1·66	1·55	1·11
Goalpara	0·27	0·16	0·24
Kamrup	0·52	0·48	0·50
Darrang	1·80	2·06	1·61
Nowgong	0·66	0·92	0·58
Sibsagar	2·15	2·97	2·25
Lakhimpur	3·01	3·33	2·22
Total	1·50	1·62	1·23

The highest number of deaths (1,442) was recorded in December and the lowest (600) in March. The highest mortality rate was returned from Lakhimpur district (3·01) followed by Sibsagar (2·15) and Cachar (1·89). The lowest rate was recorded in the Goalpara district (0·27).

31. *Respiratory Diseases.*—A total of 6,874 deaths was registered from these diseases during the year under report as compared with 6,702 in the preceding year yielding death-rates of 0·87 and 0·81 respectively. The quinquennial average was 0·81. The highest mortality rate from respiratory diseases was registered in January (708) and the lowest (430) in August. As in previous years, Lakhimpur district heads the list with a death-rate of 2·39 followed by Cachar (1·79). The lowest death-rate (0·23) was recorded in the Goalpara district.

32. *Influenza.*—The mortality from influenza is included under " Fevers ". The total number of deaths from sporadic cases of influenza during the year under report was 628 as compared with 481 in 1937. The death-rates per mille of population were 0·07 and 0·06 respectively.

33. *Injuries and Other Causes.*—During 1938, 2,031 deaths from injuries and 37,694 deaths from " Other causes " were recorded against 1,910 and 37,558 respectively in the year 1937. The death-rates per mille of population were 0·25 and 4·75 respectively in 1938 against 0·24 and 4·74 respectively in the previous year.

Typhoid Fever.—During the year under review a total of 70 deaths was reported from 13 towns, *viz.*, Dibrugarh (16), Karimganj (10), Dhubri (8), Tinsukia (7), Gauhati (7), Sibsagar (4), Tezpur (4), Sylhet (4), Nowgong (3), Jorhat (2), Silchar (2), Goalpara (2) and Habiganj (1).

Cerebrospinal fever.—During the year under review 235 deaths from Cerebrospinal fever were reported form 3 districts, *viz.*, Sylhet (1), Naga Hills (168) and Manipur State (66).

34. *Yaws.*—During the year under report 3,234 cases of yaws were treated against 2,607 in 1937. In each of the districts of Goalpara and Nowgong, three more centres undertook the treatment of Yaws. Two Sub-Assistans Surgeons received training in the diagnosis and treatment of yaws in each of the districts of Kamrup and Nowgong. The treatment with Neosalvarsan has proved very successful.

35. *Minor eye complaints.*—During the year 1938, a total of 9,700 cases of minor eye complaints was treated by the Public Health Department Dispensaries against 8,965 in 1937.

36. *Naga-sore.*—A total of 25 cases of naga-sore was treated in the Kamrup district during the year under report against 73 in 1937.

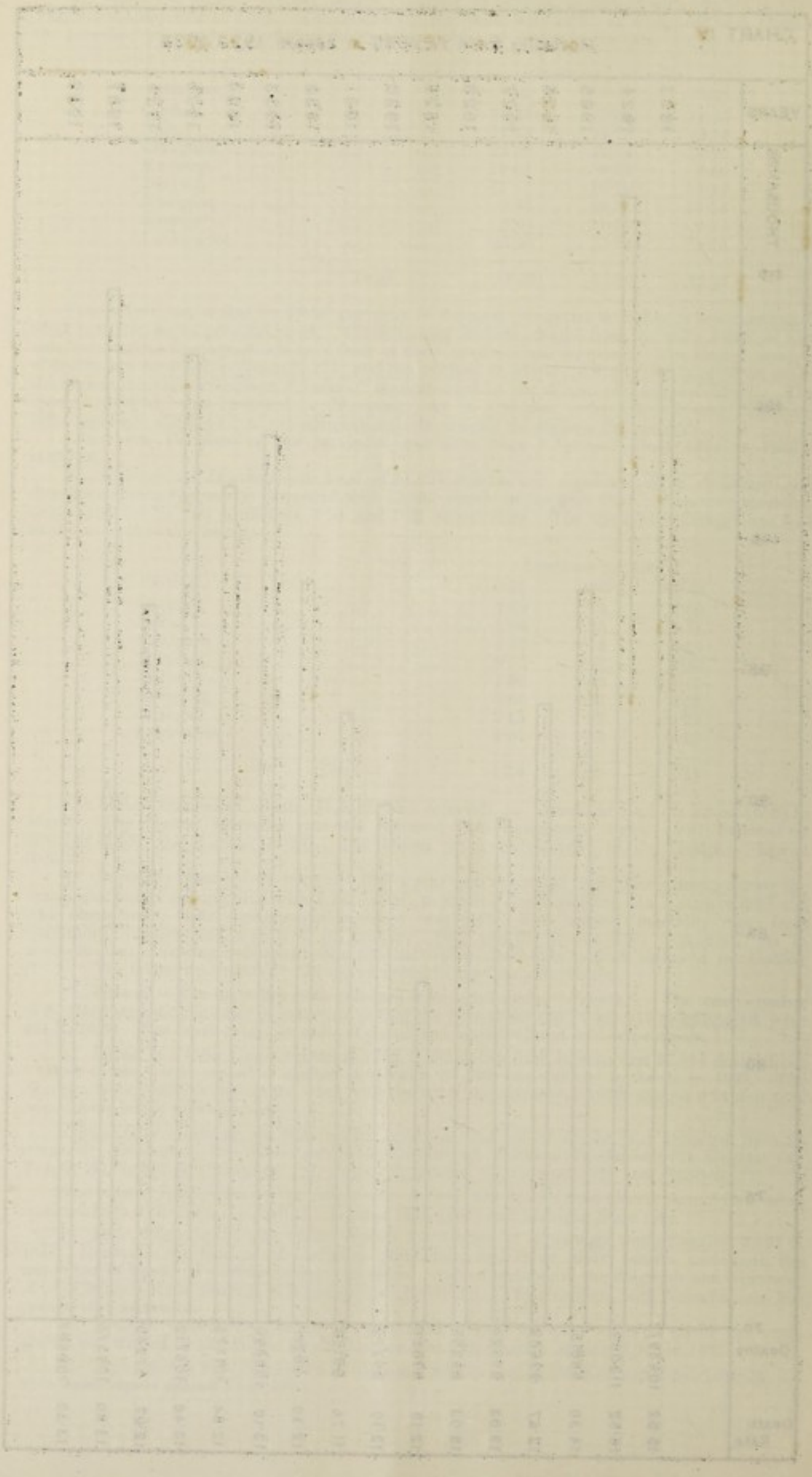
CHART IV

Mortality from FEVERS in Assam 1923-1938

YEARS	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Deaths	106397	113089	98015	93689	89324	89255	83520	89772	93189	98211	103890	101779	106712	97240	109375	105687
Death Rate	15·52	16·52	14·30	13·67	13·03	13·03	12·19	13·10	11·76	12·39	13·10	12·84	13·46	12·27	13·80	13·33

THOUSANDS

110
105
100
95
90
85
80
75
70



37. *Kala-azar.*—The following tables show the number of deaths and cases of *kala-azar* treated from 1928 to 1938 :—

Table showing deaths from Kala-azar *from 1928 to 1938*

Districts	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
1	2	3	4	5	6	7	8	9	10	11	12
Cachar ...	2	3	2	4	4	2	6	7	2	4	5
Sylhet ...	482	429	74	246	296	146	227	260	173	207	268
Goalpara ...	166	135	112	121	122	92	61	100	84	135	106
Kamrup ...	241	180	102	160	152	129	151	176	61	77	104
Darrang ...	258	241	185	222	155	167	136	91	155	256	256
Nowgong ...	260	178	132	129	132	110	78	52	121	196	191
Sibsagar ...	86	87	58	71	78	64	84	101	99	126	447
Lakhimpur ...	5	1	2	...	2	4	...	...	...	...	...
Khasi and Jaintia Hills.	4	...	...	...	...	...	4	...	10	5	5
Naga Hills ...	...	1	1	...	1	1	...	...	...	...	...
Lushai Hills ...	1	...	...	...	1	...	...	...	...	...	...
Garo Hills ...	154	149	84	64	43	34	23	58	47	51	46
Sadiya Frontier Tract.	1	1	...	...	1	...	...	...	1	...	...
Manipur State ...	...	...	1	...	...	...	...	...	...	...	...
Total ...	1,660	1,405	953	1,017	987	749	770	845	753	1,057	1,338

Table showing cases of Kala-azar *treated from 1928 to 1938*

Districts	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
1	2	3	4	5	6	7	8	9	10	11	12
Cachar ..	394	470	376	370	391	472	529	478	574	445	716
Sylhet ..	8,988	9,162	6,726	5,512	4,719	4,210	4,612	3,869	3,645	3,672	4,622
Goalpara ..	2,316	2,389	1,439	992	1,089	1,159	1,107	1,245	1,276	2,046	2,541
Kamrup ..	3,577	2,598	1,814	1,690	2,061	2,223	2,197	1,465	1,309	918	1,189
Darrang ..	2,228	1,399	1,106	942	665	757	876	738	636	514	989
Nowgong ..	2,614	2,433	1,440	1,057	1,075	1,663	1,726	1,651	1,471	2,317	3,265
Sibsagar ..	1,555	2,387	1,495	1,095	1,269	1,251	1,372	938	864	1,396	3,050
Lakhimpur ..	28	23	23	3	12	13	18	12	6	2	13
Khasi & Jaintia Hills.	6	..	..	..	..	1	5	..	..	..	..
Naga Hills ..	5	9	21	5	16	12	14	7	5	15	39
Lushai Hills..	1	..	..	4	2	1	..	..	..	..	..
Garo Hills ..	1,690	2,905	1,905	882	605	850	927	690	793	717	824
Sadiya Frontier Tract.	8	3	2	2	1	2	1	..	..	2	..
Manipur State	166	35	83	38	53	36	14	7	8	7	20
Total ..	23,576	23,804	16,430	12,592	11,958	12,650	13,398	11,100	10,587	12,051	17,268

The number of deaths from *kala azar* was greater in 1938 by 281 than that of the preceding year. The number of patients treated was larger by 5,217. The increase in deaths is shared by the districts of Sylhet, Kamrup and Sibsagar and the increase of cases treated is shared by all districts. The method of diagnosis and treatment of *kala azar* was the same as in previous years. Neo-Stibosan is again being used in urban areas only at the discretion of the medical officers. The price of this drug has now been reduced.

In Cachar district 422 villages were surveyed and 331 suspected cases were discovered of which 104 were found to be positive. All these cases were brought under treatment.

Two *kala azar* treatment centres one at Ratanpur and the other at Matijuri in the Hailakandi subdivision were opened during the year under review.

In Sylhet district villages within dispensary areas were surveyed by the medical officers in charge of dispensaries and Public Health Department Sub-Assistant Surgeons were specially deputed to survey other areas where recrudescence of *kala azar* was suspected or where Public Health Department Dispensaries do not exist. Special attention was paid to extensive and detailed surveys to find fresh cases. A new treatment centre was started at Moglabazar in the North Sylhet subdivision during the year.

In Goalpara district, the Assistant Surgeon and the Sub-Assistant Surgeons on survey duty devoted their attention to the detection of *kala azar* cases.

In Kamrup district, the Ambari Public Health Dispensary was closed and two sub-centres one at Ghograpara under the Rangiya Local Board Dispensary and the other at Bornihat was started during the year under report. Special surveys were done in some areas by Sub-Assistant Surgeons of the Public Health Department deputed for the purpose. Medical Officers in charge of dispensaries carried out surveys within their respective jurisdiction.

In Darrang district, Barchola, Jamuguri, Goraimari, Dhekiajuli, Ambagaon, Sipajhar and Bhakalpara were thoroughly surveyed during the year under review.

In Nowgong district all dispensary areas of the district were surveyed and resurveyed to detect the early cases of *kala azar*. Special surveys were undertaken whenever any area was suspected or reported to be *kala azar* infected. As a result of these surveys 5 new sub-centres were opened during the year under report. The Public Health Department Dispensary at Mayong was closed as the area around this dispensary was found to be free from *kala azar*.

In Sibsagar district, a special survey of the Golaghat subdivision was undertaken and 4 new treatment centres and a *kala azar* ward as a temporary measure in the newly erected Baby Clinic at Golaghat were opened during the year under review. Arrangements for the construction of a *kala azar* hospital in the compound of the Golaghat Civil Hospital are now being made.

In the Garo Hills district the disease was prevalent in the Northern and Western borders of the district.

38. *Leprosy.*—A total of 4,375 lepers received treatment in the leper asylums and other centres of treatment under the Medical and Public Health Departments during the year under review. Of these 910 lepers were treated in the leper asylums, wards and colonies. A total of 1,920 lepers received treatment in the Medical Department Dispensaries, and the Public Health Department Dispensaries treated 1,545 lepers, *viz.*, 771 in Sylhet, 310 in Kamrup, 77 in Goalpara, 145 in Darrang, 230 in Nowgong and 12 in Sibsagar. The number of outdoor clinics in the Public Health Department for the treatment of Leprosy during the year was the same as in 1937, *viz.*, 62. Ten Medical Officers of the Public Health Department were trained locally in the technique of leprosy treatment during the year. No special leprosy survey was undertaken but Sub-Assistant Surgeons of the Public Health Department undertook leprosy surveys in conjunction with *kala azar* surveys. Assistant Surgeons of the Public Health Department carried out propaganda work on leprosy with the aid of magic lanterns during the year under review.

CHAPTER IV

EPIDEMIOLOGY

39. The number of deaths from cholera for the last ten years is shown below :—

1928	6,915
1929	7,765
1930	6,332
1931	5,523
1932	4,971
1933	5,508
1934	1,904
1935	7,436
1936	3,816
1937	5,440
1938	11,905

The increase of cholera mortality in 1938 was due to an increase of the disease in the districts of Sylhet, Goalpara and Kamrup.

In these districts 7,564, 1,999 and 1,872 persons respectively died from cholera against 4,371, 37, and 347 persons respectively in the preceding year. The reason for the large epidemics was the prevalence of extensive and prolonged floods in these districts.

There were two floods in the Brahmaputra, the first beginning on 14th June 1938 and lasting up to 17th July 1938 and second followed immediately after on 18th July 1938. The first flood was also associated with a widespread incidence of malaria in the Goalpara district. This was unusual and the immediate onset of the second flood made any investigation impossible. During the first flood there was much ill-health. The disease treated being malaria, coughs and colds and dysentry and diarrhoea, and it is reported that 40,704 persons were treated in the dispensaries during this period. With the commencement of the second flood the malaria outbreaks rapidly declined and in its place came the widespread outbreak of cholera.

CHART V

KALA AZAR in Assam 1912-1938

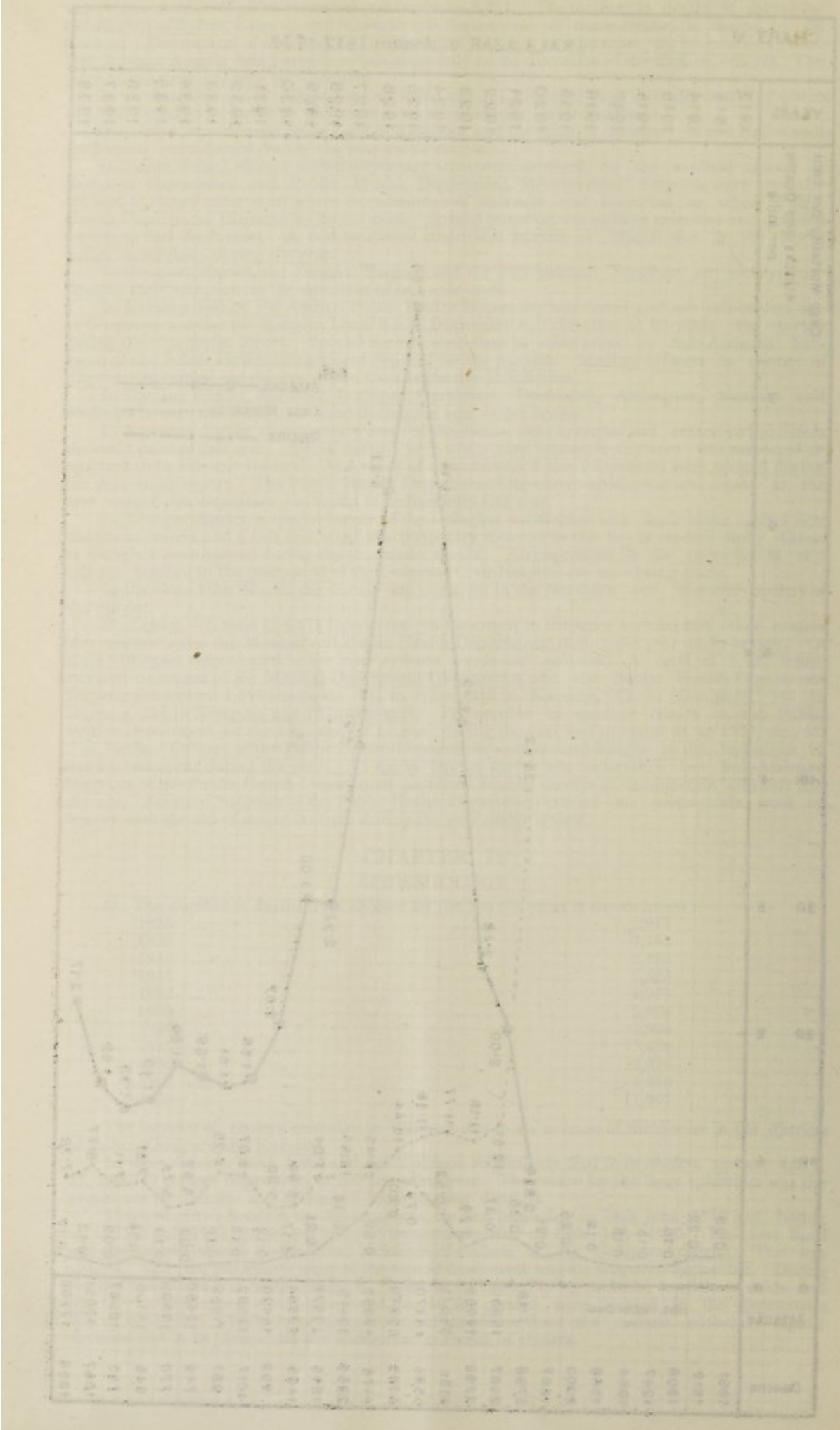
YEARS	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Attacks	not recorded								7118	15880	19659	35071	48770	60940	49385	33415	23576	23804	16430	12592	11958	12650	13398	11100	10587	12051	17268
Deaths	1891	1812	1308	1247	1254	1508	2003	1667	2798	2987	2292	4131	5585	6365	4176	2859	1660	1405	953	1017	987	749	770	845	753	1057	1338

Case Mortality per cent
Attacks and Deaths per mille

Ref.
Attacks
Case Mortality
Deaths

0·23 0·22 0·16 0·15 0·15 0·18 0·25 0·21 0·89 0·35 0·37 0·29 0·52 0·74 0·80 0·52 0·36 0·21 0·17 0·12 0·13 0·11 0·09 0·10 0·16 0·09 0·13 0·17

38·92 2·00 12·51 2·48 11·15 4·42 11·77 6·15 11·45 7·68 10·44 6·22 8·45 4·21 8·55 2·97 7·04 3·00 5·90 2·07 5·80 1·58 8·07 1·51 8·25 1·59 5·92 1·69 5·74 1·40 7·61 1·33 7·11 1·52 8·77 2·17 7·75



A vigorous mass inoculation campaign was carried out in all the infected areas, and cases of the outbreak were treated with bacteriophage and a mixture of essential oils. To meet the situation dispensaries had to be closed and the staff moved to the affected areas. Twenty-seven doctors worked in the affected areas of the Goalpara district and the Assistant Director of Public Health, Assam Valley Division, supervised the operations. All possible steps were taken to prevent the spread of the outbreak. Four additional doctors were appointed to cope with the work as the regular staff was insufficient. The subdivisions of Habiganj and Sunamganj of the Sylhet district were visited by severe epidemics of cholera during the year 1938. There were two outbreaks of cholera in Habiganj subdivision, the first one from January to June and the second one from the last week of August to the end of December. The source of origin of the first epidemic was traced to Khowai subdivision of Hill Tippera district and the infection spread among the villages along the river. This epidemic was prevalent mainly in the river bank villages and was confined to the South Eastern portion of the subdivision. A second and more severe epidemic broke out in the subdivision by the end of August on account of the extensive floods. All sources of water-supply in practically all parts of the subdivision were flooded and there could not have been any water-supply that was not polluted. The outbreak affected mainly the area inundated during these high floods. During this outbreak, 41 doctors worked in the subdivision. The Assistant Director of Public Health, Surma Valley and Hill Division, Assistant Surgeon, Public Health Department, Sylhet, and Assistant Surgeon, Public Health Department, Nowgong, supervised the anti-cholera campaign. The Inspector-General of Civil Hospitals and the Director of Public Health also visited the subdivision. A total of 213,315 inoculations was given, which means about two-fifths of the population of the whole subdivision were inoculated during this epidemic and in the infected areas the proportion would be very much larger.

Simultaneously with second outbreak of cholera in the Habiganj subdivision an outbreak of cholera broke out in Sunamganj subdivision in a severe form and continued till January 1939. Sunamganj subdivision is a low-lying area, and it was also visited by unusual floods during the months of August and September. Cholera assumed a severe epidemic form from the last week of October. The epidemic became prevalent practically all over the subdivision within a short time and altogether 489 villages were infected. The source of infection was mainly local although infection in certain instances could be traced to the neighbouring Habiganj subdivision where cholera was prevalent at that time. During this epidemic 168,796 inoculations were given, *i.e.*, one-third of the population of the subdivision was protected and a much higher proportion if the infected areas were considered. The Assistant Director of Public Health, Surma Valley and Hill Division and the Assistant Surgeon, Public Health Department, supervised the campaign.

The deplorable condition of water-supply in rural areas of the Sylhet district is mainly responsible for the frequent cholera epidemics in Sylhet.

Assam is seldom free from cholera. The seasonal occurrence of cholera has been attributed to factors, which are mainly dependent on the onset and progress of the monsoon, and there appears to be much proof to support this supposition. Although it may not be possible to control these conditions, yet it may be possible to modify their results and to avoid whatever adverse effect they may have on the health of the people ; for although the direct cause of the infection of cholera may be favoured by these climatic factors, things may be so ordered that the infecting agent may not have an opportunity of causing infection, or may be neutralised before it can cause disease, or the natural environment may even be rendered so unfavourable to it that charges of season fail to produce their wonted results.

The factor which appears to be most adversely affected by the climatic conditions in the cholera affected areas, is the water-supply. Practically all the affected areas, are low-lying and readily flooded in the normal course of events. The usual water-supply is from "Protected" and other tanks. These tanks are not usually spring fed, but are merely storage reservoirs having a catchment area equal to the area of the tank, and depend for their supply on the rain falling directly on this area. The normal rainfall is usually enough to provide a sufficiency of water to tide over periods of drought. If therefore these tanks are made of suitable capacity and are really protected there would be no difficulty about providing a reasonably safe water-supply in practically every case. There is no difficulty about providing a tank of sufficient capacity to tide over the normal periods of drought—a tank with a three months' supply will usually fulfil these conditions. The difficulty arises when the protection of the tanks is considered. To protect one of these tanks, in the accepted sense of the term is a simple matter, and there are many tanks so protected. The problem, however, is how to protect these tanks from the floods which prevail in these areas. Even the normal floods rise far above the protecting bunds round the tanks, and bunds will have to be raised two or three or even more times their present height and correspondingly strengthend to withstand the pressure and currents of the flood. Wells are of little help, as they also are flooded in the same way as the tanks. This also is the case with tube wells and pumps. The problem to protect the tanks, wells and pumps againts floods is therefore an insurmountable task, apparently, as there appears to be no economical way of doing this. The task of preventing outbreaks of cholera is therefore a very difficult one, for although the infection may be diluted to the point of being innocuous, the deterioration of the quality of water-supply may be sufficient to affect injuriously the digestive system and thus provide a possibility of successful infection from some other source and this may account for peculiarities in the distribution of cholera in these outbreaks. In the inter-monsoon period possibilities of infection arise from the drying up of tanks and rivers, forcing people to use questionable sources of supply. This can be dealt with by improving tanks and wells and providing pumps to tap underground supplies. These methods are being employed in a more or less systematic manner in connection with the schemes for village improvement and development of rural areas. A method, therefore, that has fair prospects of keeping epidemics in check was introduced during the year. This consists of two parts. The first is the carrying out, preferably before any epidemic occurs, of an intensive inoculation of the population in the areas most subjected to cholera, so that a large proportion of the people will have acquired a fair degree of immunity before the expected outbreak, that, when infection is introduced, the soil will not be favourable and no serious outbreak will occur. As such an inoculation campaign is not easy to

carry out when there is no outbreak or imminent threat of one, every endeavour is made to act vigorously on the first appearance of infection and to smother the infection by a blanket of prophylactic inoculation in the community, the aim then being to inoculate from 70 per cent.—80 per cent. of the people in the infected areas within a period of about 10 days. This result has been attained on so many occasions (up to 90 per cent. to even 100 per cent. of communities at risk) that it is confidently recommended as being a reasonable method of prophylaxis. With further experience and spread of the knowledge of its benefits, it is hoped to be able to carry out inoculation campaigns systematically during the inter-epidemic periods. The other part of this method of preventing cholera epidemics, is to carry out improvements in the village water-supplies, so that during the dry weather, at least in the first instance, when water is normally scarce, a reasonably pure supply will be available, thus avoiding predisposing derrangements of the digestive tract, which lay the body open an easy prey to cholera when infection is present. This, of course, is in addition to the other methods of prevention of spread of infection during an epidemic, such as the detection and treatment of cases, disinfection of infected material and attention to general sanitation of the infected localities.

CHAPTER V

FAIRS AND FESTIVALS

40. In the Cachar district two *melas, viz.*, Sidheswar and Bhuban Hill *melas* were held as in previous years. One other *mela* was held at Lalabazar during the year under review. About 10,000 people attended the Sidheswar *mela* which lasted for a fortnight. The Bhuban Hill *mela* lasted for 3 days and about 4,000 people attended. About 1,000 people attended the Lalabazar *mela* and it lasted for 4 days.

A section of an epidemic unit attended the Sidheswar and Bhuban Hill *melas*. Satisfactory sanitary arrangements were made and no case of any epidemic disease was reported from any of them.

In the Goalpara district there was a gathering of about 6,000 to 8,000 people in the town of Dhubri during the Brahmaputra bathing festival. Suitable sanitary arrangements were made by the Dhubri Municipal Board. A medical camp was stationed in the *mela* ground and the Health Officer was deputed to look after the sanitary arrangements and to render medical aid. Temporary latrines were constructed and arrangements were made for the supply of piped water.

In the Kamrup District.—The Darranga fair was held, as usual. There was also a gathering of about 10,000 pilgrims at Kamakshya hills on the occasion of Hindu festival "Ambubachi." A Sub-Assistant Surgeon of the Epidemic Unit with Disinfectant Carriers was deputed to render medical aid.

In the Panathirtha *mela* in the Sunamganj subdivision of the Sylhet district about 5,000 people assembled on the occasion of Baruni. One epidemic doctor looked after the sanitary condition of the *mela*.

In the Nowgong District.—The annual *Astami mela* was held at Silghat in April where about 12,000 people gathered. In addition to the Sub-Assistant Surgeon, Silghat, another Sub-Assistant Surgeon of the Public Health Department was deputed to render medical aid. The Assistant Surgeon of the Public Health Department was also present and looked after the sanitary arrangements.

In the Sadiya Frontier Tract.—There was a pilgrimage at Parasuram Kunda on the 14th and 15th January. The Sub-Assistant Surgeon, Sunpura Dispensary, was deputed to the pilgrimage to look to sanitation and to treat cases.

CHAPTER VI

URBAN SANITATION

(Including notified areas)

MUNICIPAL WATER-SUPPLIES

41. The number of Municipal Boards and Town Committees remained the same as in the previous year, *viz.*, 18 Municipal Boards and 10 Town Committees. The total income of these Boards and Town Committees in 1938 was Rs.13,03,409 as against Rs.12,84,175 in the previous year. A sum of Rs.5,79,735 or 44·47 per cent. was spent on sanitary works, original and recurring as compared with Rs.5,77,212 or 45·25 per cent. in 1937.

As usual, the Director and Assistant Directors of Public Health inspected the Municipalities and small Towns and offered advice on health matters. As pointed out in the inspection notes on various Municipalities, there is still much room for improvement in every direction in the matter of improving the sanitary conditions of the towns in the Province.

The Public Works Department incurred an expenditure of Rs.7,079-10-0 on the maintenance of water-supplies, drainage and town improvement as compared with Rs.9,676-2-0 in the previous year.

CHAPTER VII

RURAL SANITATION

42. The total expenditure of 19 Local Boards on public health during the year 1938 amounted to Rs.1,77,479 as compared with Rs.1,61,160 in 1937.

The health and prosperity of the rural population is a matter of vital importance. Local Boards should pay special attention to the provision of adequate and safe water-supplies. These are either really unsatisfactory, or liable to gross pollution at times of the rains or during the dry weather. Until these risks are removed it will not be possible to prevent epidemics of cholera and of other bowel diseases, which impure water-supplies make possible.

The public health measures which are extensively carried out in rural areas are protection against cholera by inoculation, the use of bacteriophage in the treatment of cholera cases and protection against small-pox by vaccination. *Kala azar* treatment measures continue to be carried out on the usual lines as in previous years. Tablets of quinine reinforced cinchona febrifuge for the treatment of malaria are sold in all village post offices and through other accredited agents. Quinine and cinchona febrifuge are also supplied free to indigent patients in all districts. Treatment of yaws, leprosy, malaria, influenza, minor eye complaints, dysentry and diarrhoea also continues to be undertaken by Public Health Department dispensaries in the rural areas. Adulteration of foodstuffs is reported to be increasing in the province. This can be controlled by the more earnest application of the Assam Pure Food Act, by strict supervision, by regular inspection, the regular submission of samples to the Public Analyst for analysis, and taking vigorous action on the detection of cases of adulteration.

It is hoped that Local Boards will take more active and deterrent action to prevent adulteration.

CHAPTER VIII

MALARIA

43. *Malaria.*—Malaria fever is the greatest scourge of the province. It is prevalent throughout the province almost constantly throughout the year. As compared with 819,845 cases of malaria treated in the previous year, 813,667 cases were treated during the year under review in the hospitals and dispensaries in the plains districts. There were 662,694 cases treated in dispensaries under the Medical Department and 150,973 cases treated in the Public Health Department dispensaries. To this number must be added the number of persons who purchased quinine reinforced cinchona from the post offices and other agents. The number of treatments sold during the year was 7,931 parcels the total number of patients treated therefore comes to 158,620. There are large areas in every district where there are no dispensaries and quinine reinforced cinchona is not easily available. The number of patients estimated above must therefore be a fraction of the actual number of cases suffering from malaria. Separate figures of mortality from malaria are not available. As noted in paragraph 29 the deaths from " Fevers " in 1938 amounted to 105,690 against 109,375 in 1937. A large percentage of deaths is attributable to malaria fever. Malaria may be controlled in two ways by attack on the malaria mosquito, and by the treatment of the patient. Both methods must be employed. The latter gives a fair amount of immediate success while the former having a long range effect cannot be neglected on account of its difficulties. Anti-mosquito measures if judiciously and efficiently carried out will sooner or later relieve the community of the danger of infection and bring about a degree of permanent freedom from malaria which no amount of treatment can effect. Quinine and its derivatives are still unrivalled in the treatment of malaria on a large scale in the rural areas, but as a prophylactic measure in such circumstances their value is limited, human nature being what it is. The difficulties on this account are greater than those with which the largely mechanical methods of mosquito control may be confronted.

It is much easier to free permanently at comparatively small cost extensive areas from the risk of malaria infection than it is to persuade or force individuals (and with communities it is still more difficult) to swallow prophylactic doses of quinine regularly for the rest of their lives. As in the previous year quinine reinforced cinchona febrifuge was used as a general preventive and curative agent against malaria and was sold at two annas per tube of ten tablets of four grains each. As in the previous year the Government of Assam gave a grant of Rs.20,000 to the Assam Medical Research Society for purposes of research and the conduct of anti-malaria work. The Society's activities are confined mainly to work on malaria at present. The activities are summarised in the following paragraphs from information supplied by the Research officer.

During the surveys carried out in the year 69,103 larvae were collected and examined of which 9,892 were larvae of A. minimus. More than half of these (55·01 per cent.) were found breeding in the streams and another quarter (26·27 per cent,) was found breeding in the bheels. A negligible percentage (0·34 per cent.) was found in seepages in paddy fields while in the paddy fields there were none.

During the year 85,011 anopheline larvae were collected and examined, of these 10 per cent. were larvae of A. minimus ; 10,932 anopheline mosquitoes were collected and examined, of which 1,558 or 14·25 per cent. were A. minimus, 3,808 or 34·83 per cent. were dissected including 565 A. minimus, and 26, all A. minimus were found infected. The percentage of A. minimus found infected was 4·77 per cent. and the percentage found infected was 3·18 per cent.

The total number of blood films examined in the year was 11,133 of which 1,662 or 14·94 per cent. showed the presence of malaria parasites. Of the positive films 59·44 per cent. showed P. falciparum parasites, 28·15 per cent. showed P. vivax parasites and 10·64 per cent. showed P. malariae, while mixed infections were found in 1·74 per cent.

The number of spleens examined was 11,134 and the number found enlarged was 1,764 giving a spleen index of 15·84.

The table below shows the results of the treatment over the whole period :—

Dharamtul Treatment Scheme. — *Cinchona Febrifuge Treatment.* (*Bangaldora, Barghat, Kataguri, Cobhaligaon, Bargaon, Majgaon, Aligaon, Bhagharaligaon, Dighalbari, Bihubari*).

—	Number examined	Number Positive	Species of Parasites	Patients with Parasites	Patients with Gametocytes	Per cent. of different species of infection	Per cent. of Gametocyte infection	Number of patients treated	Number of patient treated with reference to parasites	Number of cases examined 15 days after treatment	Patients with Parasites 15 days after 1st Treatment		Per cent. of patients free from parasites after 1st treatment	Number of cases examined 30 days after 1st course of treatment	Patients with parasites 30 days after 1st treatment	
											Tot.	Gam.			Tot.	Gam.
			M.T.	..	..	..	..	..	..	..	..	..	..	..	..	..
Under 2 years	11	3*	B.T.	2	..	50·0	..	4	2	4	..	..	100	..	..	..
		4	Q.T.	2	..	50·0	..	..	2	..	..	..	100	..	..	..
		46*	M.T.	19	10	23·7	12·6	..	19	..	6	6	67·8	..	3	3
2 to 10 years	187	80	B.T.	42	6	52·5	7·5	80	42	80	11	4	73·8	21	3	1
		19	Q.T.	19	1	27·7	1·2	..	19	..	2	..	89·4	..	..	..
		22*	M.T.	13	11	27·6	24·4	..	13	..	8	7	38·4	..	5	5
11 to 16 years	117	47	B.T.	20	1	2·1	2·1	47	20	47	7	3	65·0	17	3	2
		14	Q.T.	14	..	..	..	..	14	..	2	..	85·7	..	..	..
		16*	M.T.	8	6	19·04	14·2	..	8	..	4	4	50·0	..	1	1
Adults ..	117	42	B.T.	19	4	45·2	9·5	42	19	42	3	1	84·2	9	2	1
		15	Q.T,	15	..	35·7	..	..	15	..	2	..	86·6	..	..	..
		87*	M.T.	40	27	23·1	15·6	..	40	..	18	17	89·5	..	9	9
Total ..	432	173	B.T.	83	11	47·9	6·3	173	83	173	21	8	87·9	..	8	4
			Q.T.	50	1	28·9	0·5	..	50	..	6	..	96·5	..	..	..

* Number of spleens enlarged.

74 per cent. 63·87 per cent. free from parasites.

Dharamtul Treatment Scheme — *Quinine Treatment*

Dharamtul	Number examined	Number Positive	Species of Parasites	Patients with Parasites	Patients with Gametocytes	Per cent. of total infection	Per cent. of Gametocyte infection	Number of patients treated	Number of patients treated with reference to parasites	Number of cases examined 15 days after treatment	Patients with Parasites 15 days after treatment		Per cent. of patients free from parasites after 1st treatment	Number of cases examined 30 days after 1st treatment	Patients with Parasites 30 days after treatment
											Tot.	Gam.			
			M.T.	..	..	..	..	..	..	..	..	..	..	..	..
Under 2 years ..	2	..	B.T.	..	..	..	..	..	..	..	..	..	..	..	..
			Q.T.	..	..	..	..	..	..	..	..	..	..	..	..
	7*	..	M.T.	4	1	25·0	6·2	..	4	..	1	1	93·7	..	..
2 to 10 years ..	31	16	B.T.	9	1	56·2	6·2	16	9	16	2	1	87·5	3	..
			Q.T.	3	..	12·5	..	..	3	..	..	..	..	..	..
	2*	..	M.T.	..	..	..	..	..	..	..	..	..	..	..	..
11 to 16 years ..	9	5	B.T.	2	..	40·0	..	5	2	5	..	..	100·0	..	..
			Q.T.	3	1	60·0	20·0	..	3	..	..	..	..	..	..
	1*	..	M.T.	..	..	..	..	..	..	..	..	..	..	..	..
Adults ..	8	2	B.T.	2	..	100·0	..	2	2	2	..	..	100·0	..	..
			Q.T.	..	..	..	..	..	..	..	..	..	..	..	..
	10*	..	M.T.	4	1	17·3	4·3	..	4	..	1	1	95·6	..	..
Total ..	50	23	B.T.	13	1	56·5	4·3	23	13	23	2	1	91·3	3	..
			Q.T.	6	1	26·08	4·3	..	6	..	..	..	100·0	..	..

* Number of spleen enlarged.

87 per cent- 100 per cent. without parasites.

Dharamtul Treatment Scheme — *Parasite and Spleen Surveys*

Age group	Number examined	Number Positive	Per cent. Positive	M.T.		B.T.		Q.T.		Spleen	
				Tot.	Gam.	Tot.	Gam.	Tot.	Gam.	Number enlarged	Per cent. enlarged
Under 2 years ..	25	10	40·0	2	2	5	..	3	..	3	30·0
2 to 10 years ..	295	144	48·8	31	17	77	12	36	4	85	28·8
11 to 16 years ..	150	67	44·6	17	14	31	4	19	..	38	25·3
Adults ..	175	70	40·0	9	6	44	9	17	..	35	20·0
Total ..	645	291	45·1	59	39	157	25	75	4	161	24·9

Kalain Treatment Scheme.—Blood smears and spleen of 744 individuals examined showed 191 or 25·6 per cent. with parasites and 237 or 31·8 per cent. with enlarged spleen.

Out of 191 malaria cases treated with cinchona febrifuge tablets blood smears of 139 cases were examined 15 days after the course of treatment which showed 74·9 per cent. of cases to be free from parasites. Blood smears of 98 cases were examined 30 days after the course of treatment and 88·8 per cent. of the cases were found to be free from parasites.

Dharamtul Treatment Scheme.—Blood and spleen examinations of 645 individuals showed a spleen rate of 24·9 and parasite rate of 45·1.

Cinchona febrifuge tablets were given to 173 malaria cases, the blood examination of which cases 15 days after the course of treatment showed 74 per cent. of the cases to be free from parasites Blood smears of 47 cases were examined 30 days after the course of treatment and 63·87 per cent. of cases were found without parasites in their blood.

Quinine sulphate tablets were given to 23 malaria cases the blood examinations of which 15 days after the course of treatment showed that malaria parasites were not found in 87 per cent. of the cases. Of these cases blood smears of three individuals were examined 30 days after the course of treatment and all of them were found to be negative.

The people of the locality were much benefitted by this treatment scheme. If the treatment scheme is continued further improvement can be expected.

SALE OF QUININE

44. The following statement shows the quantities of quinine re-inforced treatments sold, district by district, during the year 1938 as compared with 1937 :—

Districts	Treatment parcels sold in—		Difference	
	1937	1938	Increase	Decrease
1	2	3	4	5
Cachar	478	346	...	132
Sylhet	2,169	1,685	...	484
Goalpara	653	699	46	...
Kamrup	1,241	1,018	...	223
Darrang	637	596	...	41
Nowgong	775	653	...	122
Sibsagar	1,217	776	...	441
Lakhimpur	369	292	...	77
Khasi and Jaintia Hills	611	609	...	2
Naga Hills	96	67	...	29
Lushai Hills	1,386	1,048	...	338
Garo Hills	42	62	20	...
Sadiya Frontier Tract	75	72	...	3
Manipur	3	8	5	...
Total	9,752	7,931	...	1,821

The total number of parcels of quinine reinforced cinchona febrifuge sold during the year was 7,931 against 9,752 parcels sold in the preceding year, showing a decrease of 1,821 parcels. The decrease is shared by all districts except Goalpara, Garo Hills and Manipur State. The decrease in sale is due to the fact that malaria did not occur in an epidemic form during the year under review. As in previous years, the following quantities of quinine and cinchona febrifuge were obtained and allotted to Civil Surgeons for free distribution to indigent malaria patients in the badly effected areas of the undernoted plains districts :—

TABLE SHOWING AMOUNT OF QUININE AND CINCHONA FEBRIFUGE FOR FREE DISTRIBUTION BY CIVIL SURGEONS

	Qunine Sulph.	Cinchona Febrifuge
Cachar	6 lbs.	... 9 lbs.
Sylhet	48 „	... 72 „
Goalpara	24 „	... 36 „
Kamrup	26 „	... 39 „
Darrang	6 „	... 9 „
Nowgong	20 „	... 30 „
Sibsagar	20 „	... 30 „
Total	150 „	... 225 „

The balance of 1,500 lbs. of quinine out of the Government of India's free gift of 4,500 lbs. was distributed as follows during the year under review :—

Cachar	... 105 lbs.
Sylhet	... 495 „
Goalpara	... 135 „
Kamrup	... 171 „
Nowgong	... 144 „
Darrang	... 120 „
Sibsagar	... 120 „
Lakhimpur	... 60 „
Garo Hills	... 54 „
Khasi and Jaintia Hills	... 30 „
Naga Hills	... 30 „
Lushai Hills	... 36 „
Total ...	1,500 „

A statement showing separately quantities in lbs. of (*a*) quinine and (*b*) secondary alkaloids of cinchona distributed free or at reduced price by the Public Health and Medical Departments and other sources during 1938 is appended :—

Districts	Public Health Department				Medical Department				Jail Department			
	Quinine		Cinchona		Quinine		Cinchona		Quinine		Cinchona	
	Free	On payment	Free	On payment	Free	On payment	Free	On payment	Free	On payment	Free	On payment
	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.
Cachar	86 8 2 40	..	20 14 1 30	..	5 2 1 51	..	4 2 0 0	..	2 8 0 0	..	..	..
Sylhet	48 0 0 0	..	72 0 0 0	..	295 0 0 0	..	..	..	..	..	..	..
Goalpara	43 6 3 0	..	22 5 3 0	..	276 2 1 0	..	212 14 4 0	..	11 2 0 0	..	..	..
Kamrup	26 0 0 0	..	16 0 0 0	..	23 0 0 0	..	41 5 2 40	..	..	..	..	..
Darrang	23 10 0 0	..	14 8 0 0	..	2 12 0 0	..	..	..	3 8 0 0	..	4 0 0 0	..
Nowgong	110 15 3 0	..	4 2 2 0	..	89 14 4 15	..	39 6 1 0	..	2 0 0 0	..	1 0 0 0	..
Sibsagar	19 0 0 0	..	22 0 0 0	..	20 8 0 0	..	2 0 0 0	..	..	..	..	..
Lakhimpur	53 14 0 0	..	10 14 0 16	..	83 8 0 0	4 0 0 0	25 0 0 0	1 0 0 0	7 13 0 0	..	0 6 0 0	..
Khasi and Jaintia Hills	26 0 0 0	..	..	..	50 0 0 0	3 0 0 0	34 0 0 0	4 0 0 0	3 0 0 0	..	2 0 0 0	..
Naga Hills	..	..	..	..	84 0 0 0	..	78 0 0 0	..	..	..	..	..
Lushai Hills	36 0 0 0	..	..	..	55 7 0 0	..	48 0 0 0	..	0 8 0 0	..	0 4 0 0	..
Garo Hills	65 6 4 0	..	7 0 0 0	..	22 13 11 12	..	..	..	2 12 0 0	..	..	..
Sadiya Frontier Tract ..	..	..	..	..	85 9 0 0	7 8 0 0	12 2 0 0	..	..	..	..	..
Total ..	538 12 4 40	..	189 11 6 46	..	1,093 13 2 18	14 8 0 0	496 13 7 40	5 0 0 0	33 3 0 0	..	7 10 0 0	..

Districts	Police and Assam Rifles Hospitals				Local Fund				Other Departments			
	Quinine		Cinchona		Quinine		Cinchona		Quinine		Cinchona	
	Free	On payment	Free	On payment	Free	On payment	Free	On payment	Free	On payment	Free	On payment
	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.	Lbs. oz. dr. gr.
Cachar	6 12 0 0	..	..	..	51 13 0 0	..	48 10 0 0	..	..	..	..	..
Sylhet	..	..	..	..	225 8 0 0	..	..	..	..	..	..	..
Goalpara	20 2 0 0	..	..	..	110 10 4 0	..	110 15 0 0	..	17 9 0 0	..	3 12 0 0	..
Kamrup	..	..	..	..	158 0 0 0	..	119 0 0 0	..	..	..	..	..
Darrang	10 5 0 0	..	1 8 0 0	..	111 5 0 0	..	98 5 0 0	..	..	..	..	..
Nowgong	7 0 0 0	..	20 0 0 0	..	..	..	..	..	2 9 5 20	..	..	..
Sibsagar	..	..	..	..	..	..	..	..	..	..	..	..
Lakhimpur	5 9 0 9	..	0 9 0 0	..	..	..	..	..	..	..	..	..
Khasi and Jaintia Hills	..	..	..	..	..	..	..	..	16 0 0 0	..	4 0 0 0	..
Naga Hills	..	..	..	..	..	..	..	..	..	..	..	..
Lushai Hills	15 15 0 0	..	2 10 0 0	..	..	..	..	..	..	..	..	..
Garo Hills	21 4 0 0	..	..	..	..	..	..	..	..	..	..	..
Sadiya Frontier Tract ..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	86 15 0 9	..	24 11 0 0	..	567 4 4 0	..	376 14 0 0	..	36 2 5 20	..	7 12 0 0	..

CHAPTER IX

MATERNITY AND CHILDWELFARE

45. During the year under review the maternity and childwelfare centre at Jorhat was closed for lack of public support.

A total of 39,057 infants died during 1938 giving a death-rate of 164·67. During the year 107 infants died daily in the province. This large number of deaths can be reduced if maternity and childwelfare centres are opened throughout the province and a larger number of properly trained midwives is made available. The infant mortality rate recorded in rural and urban areas was 165·89 and 121·75 respectively. The number of deaths from child birth is collected through Chaukidars and Gaonburas. Beyond the usual verification of vital statistics no special enquiries have been made to verify and check these statistics. The death-rate of children under 5 years was 73·98. Maternity and childwelfare organisation is in the hands of the Red Cross Society. There is no Health Visitor Training School in the province and there is no provision for the inspection of welfare centres. No other attempt except propaganda with the aid of magic lantern demonstrations was made to reach rural areas with maternity and childwelfare work. Figures are not available regarding proportion of births delivered in hospitals, by private doctors, by trained midwives, by untrained midwives and without attendants. The Nari Sikshasram at Silchar provides a course lasting for a year to class of 15 students. The course is in accordance with the syllabus of the Victoria Memorial Scholarship Fund. Facilities for the training of *dhais* exist in the towns of Sylhet, Karimganj, Goalpara, Dhubri and Nowgong. Public examinations are held at Dibrugarh, Sylhet and Karimganj. Midwives are not registered in the province and there is no provision for inspection of midwives. There is no bye-law in any Municipality for controlling the practice of midwives. The position in respect of midwives is improving in the Province. Salaried midwives are employed by Municipalities and Local Boards.

There is no recognised institution for the training of midwives, assistant midwives and nurse *dhais* in the province. The services of doctors attached to hospitals and maternity homes are available for domicilary midwifery. There is no provision for the supervision of salaried midwives, assistant midwives and nurse *dhais* either in domicilary or in private practice. The Assam Births and Deaths Registration Act, 1935 controls the registration of births and deaths in the province. There is no provision for the control of the training, registration and supervision of nurses, health visitors, assistant midwives, nurse *dhais* and trained *dhais*, and there is no prohibition of practice by unregistered midwives and *dhais*. No regulation exists regarding qualifications and appointment of staff in maternity and childwelfare work and the inspection of maternity hospitals and homes. The Indian Factories Act controls the conditions of women and children in industry. There is no Children's Act in this province.

Ignorance and prejudice on the part of the bulk of the population and lack of funds are held to be the chief hindrance to the advancement of childwelfare and maternity work.

Two statements giving the strength and distribution of the health services and maternity and childwelfare centres, in urban and rural areas in Assam during 1938 are attached.

TABLE SHOWING MATERNITY AND CHILDWELFARE CENTRES, HEALTH VISITORS AND TRAINED MIDWIVES IN RURAL AND URBAN AREAS IN ASSAM DURING 1938

District	Maternity and Childwelfare Centres maintained by—						Staff—					
	Government		Local and Municipal bodies		Other agencies		Trained visitors		Trained Midwives		Trained Dhais	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
1	2	3	4	5	6	7	8	9	10	11	12	13
Cachar ...	1	...	3	3	...	...	...	...	1	1	2	3
Sylhet ...	...	...	5	...	1	...	...	...	5	1	...	...
Khasi and Jaintia Hills.	...	...	...	...	1	...	1	...	...	...	...	...
Naga Hills ...	1	...	...	...	...	...	...	...	1	...	...	...
Lushai Hills ...	...	...	...	...	1	...	...	...	3	...	4	...
Goalpara ...	...	...	1	1	...	...	...	...	1	1	...	...
Kamrup ...	...	...	1	...	...	...	...	...	1	...	...	...
Darrang ...	...	...	...	...	2	...	...	...	2	...	...	...
Nowgong ...	...	...	...	...	1	...	...	...	1	...	1	...
Sibsagar ...	...	...	2	...	1	...	1	...	2	...	...	...
Lakhimpur ...	1	...	1	...	...	...	1	...	1	...	...	...
Garo Hills ...	...	...	...	...	1	...	...	...	1	...	...	...
Manipur ...	...	...	...	...	...	...	...	...	...	...	...	...
Sadiya Frontier Tract ...	...	...	...	...	...	...	...	...	...	...	...	...
Balipara Frontier Tract ...	...	...	...	...	1	...	...	...	...	1	...	...

TABLE SHOWING PUBLIC HEALTH SERVICES IN RURAL AND URBAN AREAS IN ASSAM DURING 1938

Districts	Rural areas										Urban areas									
	Medical Officers of Health				Epidemic staff	Sanitary Inspectors	Vaccinators		School Medical officers	Other Health staff	Medical Officers of Health				Sanitary Inspectors	Vaccinators		Inspectors of Vaccination and Sub-Inspectors of Vaccination	School Medical officers	Other staff
	Holding D. P. H.		Licentiates (L. P. H.)				Male	Female			Holding D. P. H.		Licentiates (L. P. H.)			Male	Female			
	Whole time	Part time	Whole time	Part time							Whole time	Part time	Whole time	Part time						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Cachar	..	..	..	..	2 S. A. S.s 4 D. C.s	..	30	..	..	..	..	..	..	..	1	1	..	I. V.—1 S. I. V.—2 } 3	..	One Sub-Assistant Surgeon employed on Public Health duty.
Sylhet	..	..	..	..	7 S. A. S.s 14 D. C.s	..	119	1	..	..	..	..	..	..	3	7	..	I. V.—1 S. I. V.—8 } 9	..	One Assist nt Surgeon and 35 Sub-Assistant Surgeons employed on Public Health duty.
Khasi and Jaintia Hills ..	..	..	..	..	..	..	8	..	..	..	1	..	..	..	2	1	..	I. V.—1 S. I. V.—1 } 2	..	One Assistant Surgeon at Public Health Laboratory, 1 Bio-Chemist and 1 Sub-Assistant Surgeon at Vaccine Depôt.
Naga Hills	..	..	..	..	..	..	4	..	..	..	..	..	..	..	..	2	..	S. I. V.—1	..	....
Lushai Hills ..	..	..	..	..	..	..	8	..	..	..	..	..	..	..	..	..	..	S. I. V.—1	..	....
Goalpara	..	..	..	..	3 S. A. S.s 6 D. C.s	..	48	..	..	..	..	..	..	..	1	3	..	I. V.—1 S. I. V.—4 } 5	..	One Assistant Surgeon and 5 Sub-Assistant Surgeons employed on Public Health duty.
Kamrup	..	..	..	..	2 S. A. S.s 4 D. Cs.	..	63	..	..	..	..	..	..	..	1	3	..	I. V.—1 S. I. V.—3 } 4	..	One Assistant Surgeon and 12 Sub-Assistant Surgeons employed on Public Health duty.
Darrang	..	..	..	..	2 S. A. S.s 4 D. C.s	..	41	..	..	..	..	..	..	..	1	2	..	I. V.—1 S. I. V.—2 } 3	..	One Assistant Surgeon and 4 Sub-Assistant Surgeons on Public Health duty.
Nowgong	..	..	..	..	1 S. A. S. 2 D. C.s	..	26	..	..	..	..	..	..	..	1	1	..	I. V.—1 S. I. V.—1 } 2	..	One Assistant Surgeon and 12 Sub-Assistant Surgeons on Public Health duty.
Sibsagar	..	..	..	..	3 S. A. S.s 6 D. C.s	..	46	..	..	..	..	..	..	..	1	4	..	I. V.—1 S. I. V.—3 } 4	..	One Assistant Surgeon and 6 Sub-Assistant Surgeons on Public Health duty.
Lakhimpur	..	..	..	..	1 S. A. S. 2 D. C.s	..	32	..	..	..	..	..	..	..	1	4	..	I. V.—1 S. I. V.—2 } 3	..	....
Garo Hills	..	..	..	..	..	..	7	..	..	..	..	..	..	..	..	..	..	S. I. V.—1	..	Five Sub-Assistant Surgeons on Public Health duty.
Manipur	..	..	..	..	..	..	9	..	..	..	..	..	..	..	..	..	..	S. I. V.—2	..	....
Sadiya Frontier Tract ..	..	..	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	S. I. V.—1	..	....
Balipara Frontier Tract ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	....

CHAPTER X

SCHOOL HYGIENE AND MEDICAL INSPECTION OF SCHOOL CHILDREN

46. The Assistant Directors of Public Health could not pay the usual attention to the hygienic conditions of Schools during the year under review as they were engaged on cholera epidemic work.

Periodical medical inspections of selected institutions were carried out and recommendations made for the improvement of health of pupils and general sanitation of the schools and hostels attached thereto by the medical officers in charge.

CHAPTER XI

HEALTH PROPAGANDA

47. Public Health propaganda with the aid of magic lanterns was carried out by the Assistant Surgeons of the Public Health Department in the course of their inspection of dispensaries. The subjects dealt with included common prevalent diseases such as malaria, *kala azar*, tuberculosis, small-pox, leprosy, cholera and also general sanitation and food. The expenditure was partly met from the Public Health Budget and partly from the King George Thanks giving (Anti-Tuberculosis) Fund.

KING GEORGE THANKSGIVING (ANTI-TUBERCULOSIS) FUND

48. The anti-tuberculosis clinic opened in Shillong in 1937 continued its work during the year under review. A woman Tuberculosis Health Visitor was entertained for the clinic from the 5th June 1938 in addition to the Sub-Assistant Surgeon Tuberculosis Home Visitor. Two Medical graduate doctors were trained in tuberculosis work at Calcutta at the expense of the Fund and they are now working in the clinic as Honorary Physicians. A total of 754 patients attended the clinic of which 148 were new cases. Another tuberculosis clinic has been opened at Nowgong by the Anti-Tuberculosis Sub-Committee there. Not much progress has been made with this clinic owing to paucity of funds. Tuberculosis slides, posters and charts were supplied to the Civil Surgeons and the Childwelfare and Maternity centres. Advantage was taken of the Shillong Health Exhibition and other exhibitions and meetings to conduct a propaganda campaign during their course. Exhibition stalls were set up and lectures and demonstrations given.

CHAPTER XII

RURAL AND URBAN HOUSING CONDITIONS

49. In urban areas housing conditions continue to be not satisfactory. The houses are generally ill-designed and there is a great deal of overcrowding. The standard of housing in towns and villages is far below what would be necessary to make for even moderately healthy living.

In rural areas the conditions become worse during the rainy season and particularly in low-lying areas owing to floods. Poverty, ignorance and apathy stand in the way of improvement.

There were no building societies or co-operative schemes for the improvement of urban and rural housing during the year under report.

In the Industrial centres the housing conditions are reported to be improving. In urban areas the housing conditions can be improved if municipal executive authorities make use of their powers to carry out schemes for the relief of congestion and for town planning in areas under development. In rural areas housing conditions may be immediately improved by the simple expedient of keeping the houses clean, and of clearing the rank vegetation from their compounds, thus ensuring at all times a clear open space round the house which will encourage ventilation and dry conditions. The local bodies should take the initiative to demonstrate to the people in selected areas how simple it may be thus to improve the housing conditions of both the urban and rural population in the Province.

CHAPTER XIII

50. *Budget grants for the Department.*—No new schemes for the development or improving of the public health administration in the province were initiated or carried out during the year under review. The budget allotments for the years 1937-38 and 1938-39 amounted to Rs.8,79,200 and Rs.9,49,450 (including supplementary grant) respectively. While those for the heads administered directly by the Director of Public Health amounted to Rs.5,92,004 and Rs.6,89,502 respectively. The receipts of the Departments for the years 1937-38 and 1938-39 were Rs.1,09,046 and Rs.1,61,349 respectively.

The strength of the Public Health Department during the year was as follows :—

1. Director of Public Health	1	
2. Assistant Directors of Public Health	2	
3. Assistant Surgeons	7	
4. Urban Health Officers	9	
5. Sub-Assistant Surgeons...	110	(83 permanent and 27 temporary. General Public Health duty—79. Malaria duty—9. Epidemic duty—21. Vaccine Depôt—1).

6.	Vaccination inspecting staff	39 (Inspector of Vaccination—9. Sub-Inspectors of Vaccination—30).
7.	Clerks	27 (Director of Public Health's office—14. Assistant Director of Public Health's offices—2. Civil Surgeon's offices—10. P. I.—1.)
8.	Biochemist	1.
9.	Compounders	4 (temporary).
10.	Literate packers	2 (1 in Public Health Laboratory. 1 in the Vaccine Depôt).
11.	Loaders	2 (in the Vaccine Depôt).
12.	Disinfectant Carriers	42 (30 permanent and 12 temporary).
13.	Sample Taker...	1.
14.	Laboratory Assistants and Media Makers	16 (Public Health Laboratory 3, Vaccine Section 5, Bacteriophage Section 8).
15.	Vaccinators appointed by Government in Hill Districts.	43.
16.	Vaccinators appointed by Local Boards	397 (appointed by Local Boards and paid by them).
	Ditto by Municipalities	26 Ditto by Municipalities.
	Ditto by Development Boards	2 Ditto by Development Board.
17.	Magic Lantern Operators	6 (temporary).
18.	Servants	126 (Duftry 1, Orderlies 3, Chaprasis 122).

The Shillong Municipal Board entertains a fully qualified Health Officer whose salary is met in part by contribution from Government.

CHAPTER XIV

VACCINATION

This chapter and all statistical tables connected with it refer to the period from April 1st, 1938 to March 31st, 1939.

INTRODUCTORY

51. Vaccination was performed as usual, throughout the province among a total population of 9,247,857.

VACCINATION AGENCIES

52. Vaccination among the general population was performed by 477 vaccinators, *viz.*, 397 Local Board, 26 Municipal Board, 2 Development Board, 40 Government vaccinators and by 12 vaccinators in Manipur State. The labour force of the Tea Estates was vaccinated by the Garden Medical Officers. Railway employees were vaccinated by the Railway Medical Officers and in Jails vaccination was performed by Sub-Assistant Surgeons in Medical charge.

When their services were not required for cholera or other epidemic duty 42 Disinfectant Carriers of Epidemic Units were also employed, as in the previous year, as vaccinators.

The average number of persons vaccinated by each vaccinator was 1,793 during the year under report as compared with 1,831 in the preceding year. There was a decrease in the average number of persons vaccinated by each vaccinator by 38.

TOTAL NUMBER OF OPERATIONS

53. The total number of vaccination operations performed in the province during the year 1938-39 by all agencies was 855,034 of which 463,800 were primary and 391,234 revaccinations, as compared with 825,907 of which 438,017 were primary and 387,890 revaccinations in the preceding year. There was an increase of 25,783 in primary vaccinations and 3,344 in revaccinations in comparison with the previous year. Variations in the district returns are criticised in paragraph 60.

The total number of operations performed by different agencies during the year 1938-39 and in the previous year is shown below :—

	1938-39	1937-38
Number of operations by—		
Local Board, Municipal and Govenment Vaccinators ...	784,750	745,723
Ditto ditto by Staffs of dispensaries ...	7,251	8,534
Ditto ditto by Tea Garden agencies ...	55,229	60,870
Ditto ditto by Jail, Asylum, Police and Emigration Hospital agencies.	3,855	5,933
Ditto ditto by Railway agencies ...	3,949	4,847
Ditto ditto by Private Medical Practitioners	...	...
	855,034	825,907

There was an increase of 29,127 operations in the year under report as compared with previous year.

VACCINATIONS AMONG THE GENERAL POPULATION

54. The number of operations performed among the general population by Local Board, Municipal and Government Vaccinators during the year shows an increase of 39,027 vaccination operations as compared with the figure of the preceding year.

DEATHS FROM SMALLPOX

55. A total of 1,736 deaths against 2,324 in the previous year from smallpox occurred in the province including the Hill districts during the year 1938-39 as shown below :—

Cachar	Nil
Sylhet	1,299
Khasi and Jaintia Hills	Nil
Naga Hills	Nil
Lushai Hills	Nil
Goalpara	2
Kamrup	74
Darrang	23
Nowgong	302
Sibsagar	24
Lakhimpur	7
Garo Hills	Nil
Manipur	5
Sadiya Frontier Tract	Nil
Balipara Frontier Tract	Nil
Total ...	1,736

As in the previous year the highest mortality from smallpox was reported from the Sylhet district. All the subdivisions of the district more or less were affected with smallpox during the year under report.

The ratio of deaths from smallpox during the year 1938-39 was 0·19 per mille of population as compared with 0·25 in the preceding year. The death-rate reported from smallpox was highest in the district of Nowgong (0·54) against (0·35) in the preceding year. The death-rate reported from Sylhet was (0·48) against (0·66) in the preceding year. The attached chart illustrates the death-rates from smallpox in each district side by side with the proportion protected against the disease by vaccination during the seven years from 1932-33 to 1938-39.

SPECIAL REGULATIONS

56. Vaccination in rural areas in Assam is not compulsory, but every encouragement is given to the people to get themselves vaccinated.

Some opposition to vaccination is met with in certain localities. To overcome this hostile attitude, regulations under the Epidemic Diseases Act, 1897 (III of 1897), are resorted to and these areas are declared to be smallpox infected areas under the Epidemic Diseases Act. During the year under report, the Dimaria, Dimoria, Rampur, Pub Chomoria, Dakhin, Sarubangsor, Luki, Borkhetri, Hajo, Ramdia, Korora, Pubpar, Betna, Panduri, Upar Borbhag, Modhoya Baska, Paschim Bonbhag and Uttar Saru Bangsar mauzas of the Gauhati subdivision, Pub Bojali mauza in the Barpeta subdivision of the Kamrup district and the whole of Goalpara district were declared as smallpox infected areas.

DISPENSARY VACCINATION

57. A total of 7,251 vaccination operations was performed by the dispensary staffs during the year under report of which 1,655 were primary and 5,596 revaccinations as compared with 8,534 operations in 1937-38 with 1,694 primary and 6,840 revaccinations.

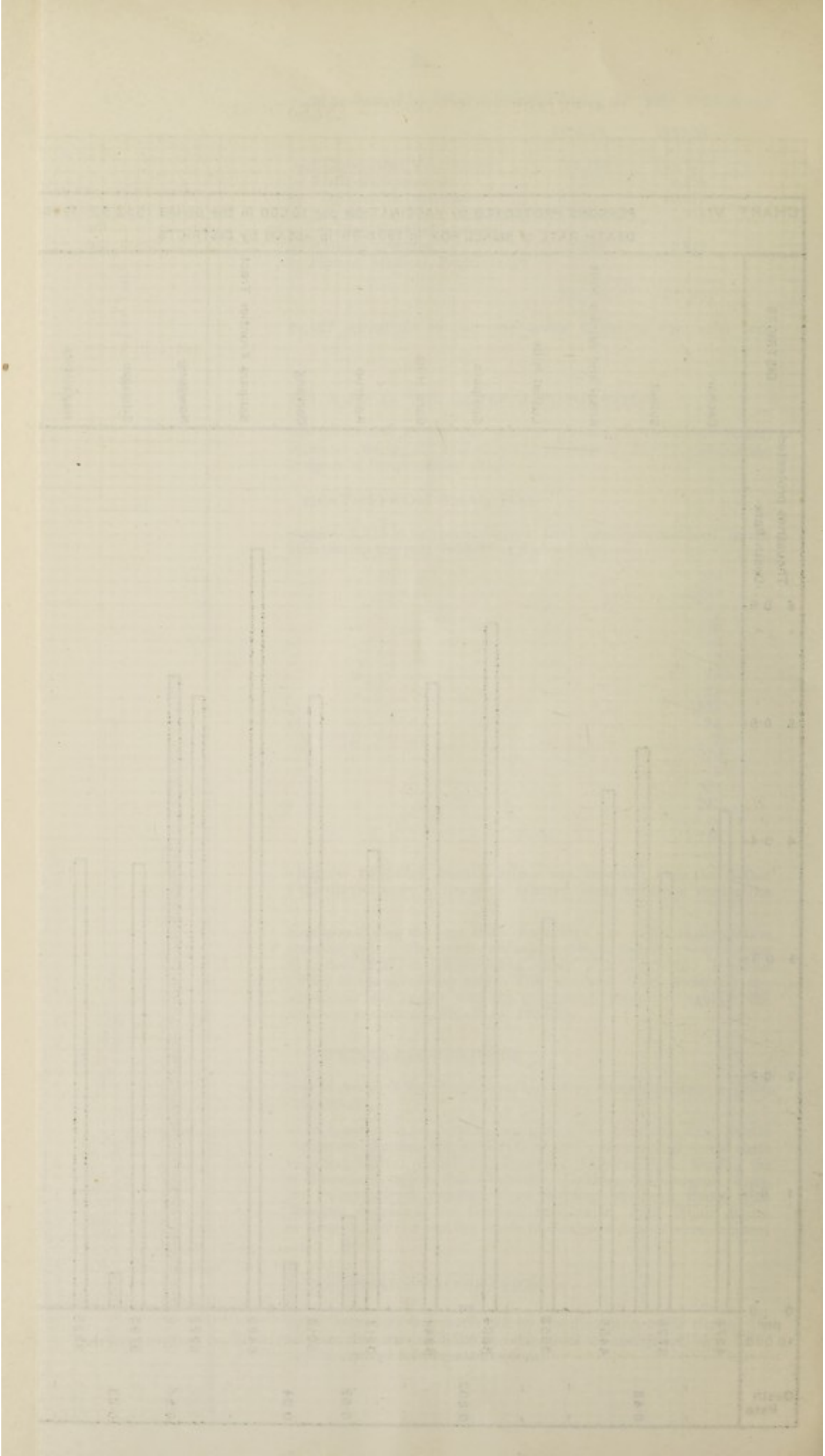
CHART VI

PERSONS PROTECTED by VACCINATION per 10 000 in the period 1932-33 - 1938-39 and the DEATH RATE of SMALL POX in 1938-39 in ASSAM by DISTRICTS

DISTRICTS	Cachar	Sylhet	Khasi and Jaintia Hills	Lushai Hills	Goalpara	Garo Hills	Kamrup	Darrang	Balipara Frontier Tract	Nowgong	Sibsagar	Naga Hills	Lakhimpur	Sadiya Frontier Tract	Manipur
per 10 000	4276	3736	4455	3353	5864	5344	3913	5218	6480	5222	3795	3825	3843	6003	3938
Death Rate	-	0·48	-	-	0·002	-	0·08	0·04	-	0·54	0·03	-	0·01	-	0·01

Thousands protected
Death Rate

6 0·6
5 0·5
4 0·4
3 0·3
2 0·2
1 0·1
0 0



PERCENTAGE OF SUCCESSFUL OPERATIONS

58. The percentage of successful operations performed by all establishments combined was 95·39 for primary vaccination and 59·57 for re-vaccination as compared with 92·41 and 57·74 respectively in the year 1937-38. The percentage of successful operations in primary vaccinations and revaccinations in case of dispensary staffs was 90·74 and 45·74 respectively as against 80·27 and 54·36 respectively in the previous year.

Complaints as regards the lack of potency of the lymph supplied were received from the Sylhet district. Investigations showed that the cause of failure was not the quality of lymph but to delay in making use of the lymph.

DIFFERENT METHODS OF VACCINATION

59. All vaccinations were performed, as in previous years, with glycerinated calf lymph manufactured in the Provincial Vaccine Depôt at Shillong.

VACCINATION WORK IN DIFFERENT DISTRICTS

60. The following table shows the increase and decrease in vaccination operations performed in individual districts as compared with the preceding year :—

Districts	1938-39	1937-38	Increase	Decrease
Cachar	53,455	71,090	...	17,635
Sylhet	282,195	272,352	9,843	...
Khasi and Jaintia Hills	27,888	21,094	6,794	...
Naga Hills	17,130	18,848	...	1,718
Lushai Hills	11,607	14,645	...	3,038
Goalpara	85,219	84,661	558	...
Kamrup	74,139	71,384	2,755	...
Darrang	78,343	43,767	34,576	...
Nowgong	59,717	57,734	1,983	...
Sibsagar	64,927	59,858	5,069	...
Lakhimpur	48,592	50,774	...	2,182
Garo Hills	19,030	20,189	...	1,159
Manipur State	27,200	34,150	...	6,950
Sadiya Frontier Tract	4,747	4,877	...	130
Balipara Frontier Tract	845	484	361	...
Total	855,034	825,907	29,127	...

The increase in the Darrang district is the highest (34,576). During the year under report six mauzas of the Darrang district were declared as compulsory areas. The fall of 17,635 operations in the Cachar district is due to the fact that there was no epidemic of smallpox in this district during the year under report. No vaccination operations were performed by the dispensary staff in the districts of Kamrup and Lushai Hills.

COMPOSITION AND STRENGTH OF THE INSPECTING STAFF

61. The subordinate Inspecting Staff was the same as in the previous years and consisted of 9 Inspectors and 30 Sub-Inspectors of Vaccination. One Inspector and 1 Sub-Inspector of Vaccination were entertained by the Manipur State during the year under report.

VACCINATION IN COMPULSORY AREAS

62. In towns where vaccination is compulsory 7,237 infants were born, of these 854 died, leaving 6,383 infants available for vaccination during the year 1938-39. Out of these 2,969 or 46·51 per cent. were successfully vaccinated as compared with 46·86 per cent. of the previous year. In Maulvi Bazar town 93·98 per cent. of the available infants were vaccinated. In other towns the percentage of vaccinated children was, Doom Dooma 81·25, Mangaldai 78·57, Silchar 77·14, Nowgong 66·85, Gauhati 66·32, Tezpur 65·22, Karimganj 63·57, Shillong 60·58, Nazira 58·06, Jorhat 57·42, Gauripur 54·89, Goalpara 53·54, Palashbari 52·80, Tinsukia 50·63, Sylhet 48·39, North Lakhimpur 47·54, Dhubri 34·89, Hailakandi 32·91, Barpeta 26·72, Habiganj 19·39, Sunamganj 18·42, Sreemangal 13·73, Golaghat 8·46, Dibrugarh 8·11 and Sibsagar 5·85. The attention of Municipal Boards is being drawn to this.

In compulsory rural areas under village authorities in Sylhet and Nowgong 4,988 and 1,375 operations were performed as compared with 5,115 and 1,026 respectively in the previous year.

During the year under report 1,539 operations were performed under village authorities in the Sibsagar district as compared with 1,682 in the previous year.

VACCINE DEPOT

63. The amount of vaccine lymph manufactured in the Vaccine Depôt, Shillong, during the year under report was 994,679 tubes against 1,004,720 tubes in the previous year. A total of 1,026,373 tubes was issued during the year under report. Each tube contains sufficient vaccine lymph to vaccinate one person. The number of calves hired and inoculated during the year under report was 572 (including 12 buffaloes), excluding 5 brought forward from the previous year, but lymph was taken from 388 calves only. A total of 125 calves was rejected, 55 on account of failure of operations, 1 on account of unsatisfactory vesicles, 64 on account of illness, and 5 on account of rinderpest, as compared with 122, 103, 4, 15 and nil, in the preceding year. Sixty-four calves were used for the potency test of lymph manufactured, all the batches tested gave good results.

The average number of tubes prepared per calf during the year under report was 2,564 as compared with 3,316 in the year 1937-38. This was due to the slightly larger bore of the capillary tubes used resulting in a slightly larger amount of lymph in each tube. Arrangements are now being made to fill the same quantity of lymph as before in each tube. The average yield per calf was 35·46 grammes during the year 1938-39, against 44·41 grammes in the year 1937-38. This was due to an alteration in the method of vaccinating the calves. In 1936-37, the lower part of the abdomen and the inner surfaces of the thighs were inoculated, and the yield was 23·19 grammes. This was considered to be too low. In 1937-38, therefore, the upper part of the abdomen was included in the inoculation area, and inoculation on the thighs was also continued to ensure a satisfactory yield if the inoculation on the upper part of the abdomen for any reason was not satisfactory. Inoculation on the thighs is not always satisfactory owing to risk of infection in the groin, and as the inoculation on the abdomen was satisfactory, inoculation on the thighs was discontinued in 1938-39, and the abdominal area alone was used. The yield in 1938-39 was 35·46 grammes and this should be compared with the yield of 23·19 in 1936-37, as inoculation on the thighs will not be resumed, thus following accepted practice. The total cost of working of the Vaccine Depôt, Shillong, was Rs.15,180 of which Rs.5,336 was on account of establishment, Rs. 2,643 on account of hire of calves, Rs.129 on account of feed of calves, Rs. 3,807 on account of purchase of capillary tubes and instruments and Rs.3,265 on account of miscellaneous expenditure, as compared with Rs.16,698 in the preceding year. Lymph was, as usual, supplied free to Civil Surgeons, Inspectors and Sub-Inspectors of Vaccination, Local and Municipal Boards, Sadiya and Balipara Frontier Tracts, Military Departments, Tea Gardens, Railways, Mission Hospitals. Manipur State and private individuals were supplied as usual on payment at the rate of one anna per tube.

Seven vaccinators including one compounder and a vaccinator from the Shillong Municipality were trained at the Vaccine Depôt, Shillong, during the year under report, in the method of vaccination with rotary lancets.

The subordinate charge of the Vaccine Depôt, was held by Dr. Sudhiranjan Bhattacharjee throughout the year.

COST OF THE DEPARTMENT

64. The total expenditure including the charges of the Vaccine Depôt on vaccination during the year under report was Rs.1,06,401-14-10 only as compared with Rs.1,07,196-15-9 in the previous year. The average cost of each successful vaccination during the year 1938-39 was three annas and one pie only as compared with three annas and four pies only in the previous year.

GENERAL

65. Primary vaccinations and re-vaccinations performed by the Dispensary staffs numbered 1,655 and 5,596 respectively, by Tea Garden Medical Officers 32,838 and 22,391 respectively, by Medical Officers in charge of Jails, Hospitals, Mental Hospitals, Police Hospitals and Infectious Diseases Hospitals 19 and 3,836 respectively, and by Railway Medical Officers 626 and 3,323 respectively. The percentage of successful vaccinations and re-vaccinations were 90·74 and 45·74, 99·77 and 73·48, 27·78 and 52·49 and 98·38 and 30·32 respectively. As in previous years no vaccination operation was performed by Private Medical Practitioners during the year under report.

CHAPTER XV

OTHER PUBLIC HEALTH SERVICES

66. *Industrial hygiene.*—The principal industry in the province is the cultivation and manufacture of tea. The sanitary conditions on tea estates are generally satisfactory. There are special regulations under the Emigration Labour Act, 1932 in regard to the supervision of sanitary conditions on tea estates. Sanitation in factories and offensive trades is controlled under the Indian Factories Act.

The Assistant Directors of Public Health are additional Inspectors of Factories within their respective jurisdictions to see that the provisions of sections 13 to 21 of the Act are properly observed in the Factories. The Assistant Director of Public Health, Surma Valley and Hill Division inspected 3 factories and the Assistant Director of Public Health, Assam Valley Division, 4 factories during the year under review.

67. *Mines.*—During year under review no inspection of mines was undertaken by either the Civil Surgeons, Lakhimpur and Naga Hills, or by the Assistant Director of Public Health, Assam Valley Division. There is no mine under the jurisdiction of the Assistant Director of Public Health, Surma Valley and Hill Division.

68. *Public Analyst (food adulteration).*—A total of 1,362 samples was examined in the Public Health Laboratory in 1938 as compared with 1,620 in 1937 as shown in the appended table :—

I. Table.—General Public Health Analyses—

	1938	1937
Water samples—		
(*a*) Chemical	232	302
(*b*) Bacteriological	395	413
Vaccine lymph	174	439
Miscellaneous examinations	14	...
Bleaching powder	...	1
Total	815	1,155

II. Table.—Food Analyses—

	1938		1937	
	Number examined	Number found adulterated	Number examined	Number found adulterated
Miscellaneous oils	4	2	...	...
Butter	2	2	1	...
Ghee	222	160	154	83
Milk	96	69	163	56
Mus ard oil	165	69	74	4
Tea	16	4	41	3
Tobacco	...	...	2	2
Turmeric	...	...	1	...
Wheat flour	33	1	29	...
Sago, Dal, Sugar, etc.	4	...	...	...
Rice	5	2	...	...
Total	547	309	465	148

As usual bacteriological and chemical examinations of all water works and of jail supplies were carried out systematically throughout the year. The Public Health Laboratory also functioned as the Provincial Depot for the supply and despatch of Urea-stibamine and spare parts of syringes for the Public Health Dispensaries.

Fourteen samples of Urea-stibamine were examined during the year to determine the antimony content. The results of these analysis showed that the antimony content ranged from 36·63 per cent. to 40·32 per cent. A sample dated 1925 on analysis showed the antimony content to be 38·34 per cent.

Statement of the working of the Assam Pure Food Act in the Municipalities during the year 1938

Name of Municipal Boards	Number of samples purchased	Number of samples sent for analysis	Number of samples found adulterated	Number of prosecutions instituted	Number of convictions secured for 1st offence	Number of convictions secured for subsequent offences	Amount of fine or imprisonment for each first offence (average)	Amount of fine or imprisonment for each subsequent offence (average)	Nature of offence	Total amount of fine realised during 1938	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
							Rs. a. p.	Rs. a. p.		Rs. a. p.	
Hailakandi Town Committee.	...	...	...	...	...	...	...	...	...	...	
Srimangal Town Committee.	...	...	...	...	...	...	...	...	...	...	
Maulvi Bazar Municipal Board.	...	...	...	...	...	...	...	...	...	...	
Sunamganj Municipal Board.	...	...	...	...	...	...	...	...	...	...	
Silchar Municipal Board	37	37	21	18	12	...	29 4 8	60 0 0	Adulterated milk, ghee, wheat flour and mustard oil.	412 8 0	Locally 628 samples of milk were examined out of which 16 were found adulterated and were destroyed under section 16 of the Assam Pure Food Act. Out of other seizures of foodstuffs numbering 20, one was destroyed under orders of the Magistrate under sections 17, and 19 destroyed under section 16.
Karimganj Municipal Board.	27	27	18	8	6	...	25 0 0	...	Adulterated ghee and mustard oil.	150 0 0	Four samples were seized under section 16 and were destroyed.
Sylhet Municipal Board...	14	14	7	7	7	...	37 13 9	...	Ditto ...	265 0 0	
Habiganj Municipal Board	1	1	1	3	3	...	20 0 0 and 1 month's R.I.	...	Adulterated ghee and milk.	20 0 0	

Haflong Town Committee	...	...	...	...	...	...	...	...	...	...		
Mangaldai Town Committee.	3	3	2	6	4	...	13 12 0	...	Adulterated tea	55	0	0
Gauhati Municipal Board	101	101	53	50	15	...	6 10 0	...	Adulterated milk, ghee, wheat flour, mustard oil and tea.	100	0	0
Tezpur Municipal Board	47	47	22	13	12	...	43 0 0	...	Adulterated milk, butter, ghee and mustard oil.	515	0	0
Dhubri Municipal Board	30	30	7	5	3	...	43 0 0	...	Adulterated ghee and mustard oil.	130	0	0	One hundred and twenty-seven samples were seized under section 16, and 24 were destroyed.
Tinsukia Town Committee	6	6	3	3	2 (1 case pending.)	...	30 0 0	...	Ditto ...	60	0	0	Eight samples were destroyed under section 16.
Dibrugarh Municipal Board.	72	72	36	32	13	4	...	...	Adulterated milk	162	0	0	
Doom Dooma Town Committee.	...	...	...	...	...	...	...	...	...	...		
North Lakhimpur Town Committee.	...	...	...	...	...	...	...	...	...	...			Two persons were prosecuted under section 6(*a*) and a total amount of Rs.10 was realised during the year 1938.
Jorhat Municipal Board...	38	38	24	12	...	...	21 10 9	...	Adulterated milk, ghee and mustard oil.	260	0	0	
Nazira Town Committee	...	...	...	...	...	...	...	...	...	...		
Sibsagar Municipal Board	18	18	11	11	10 (1 case pending).	...	18 8 0	...	Adulterated ghee, mustard oil and milk.	185	0	0	
Polashbari Town Committee.	...	...	...	...	...	...	...	...	...	...		
Nalbari Town Committee	...	...	...	...	...	...	...	...	...	...		
Nowgong Municipal Board	62	44	33	33	31	...	25 0 0	...	Adulterated ghee, mustard oil and tea.	772	0	0	Eighteen samples of milk were not sent for analysis but produced before the Magistrate.

Statement of the working of the Assam Pure Food Act in the Local Boards during the year 1938

Name of Local Board	Number of samples purchased	Number of samples sent for analysis	Number of samples found adulterated	Number of prosecutions instituted	Number of convictions secured for 1st offence	Number of convictions secured for subsequent offences	Amount of fine or imprisonment for each first offence (average)	Amount of fine or imprisonment for each subsequent offences (average)	Nature of offence	Total amount of fine realised during 1933	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
							Rs. a. p.			Rs. a. p.	
Silchar Local Board ...	...	...	...	...	...	...	...	...	...	...	
Hailakandi Local Board ...	...	...	...	...	...	...	...	...	...	...	
North Sylhet Local Board ...	...	...	...	...	...	...	...	...	...	...	
Habiganj Local Board ...	...	...	...	...	...	...	...	...	...	...	
Karimganj Local Board ...	3	3	3	3	...	...	...	...	Adulterated ghee and mustard oil.	...	Cases pending.
Sunamganj Local Board ...	...	...	...	...	...	...	...	...	...	...	Ten cases of adulteration were detected the by Sub-Assistant Surgeon, Jaganathpur and the persons were prosecuted under section 273,I.P.C. and fined Rs.26.
South Sylhet Local Board ...	1	1	1	1	1	...	20 0 0	...	Adulterated ghee	20 0 0	
Mangaldai Local Board ...	...	...	...	...	...	...	...	...	...	...	
Gauhati Local Board ...	2	2	...	...	...	...	...	...	...	...	Two samples, 1 of ghee and the other of mustard oil were sent for analysis but this could not be analysed as the labels on the bottles were removed on transit.
Dibrugarh Local Board ...	...	...	...	...	...	...	...	...	...	...	
North Lakhimpur Local Board	...	...	...	...	...	...	...	...	...	...	
Golaghat Local Board ...	...	...	...	...	...	...	...	...	...	...	
Barpeta Local Board ...	...	...	...	...	...	...	...	...	...	...	
Jorhat Local Board ...	...	...	...	...	...	...	...	...	...	...	
Nowgong Local Board ...	2	2	2	1	1	...	15 0 0	...	Adulterated ghee	15 0 0	
Sibsagar Local Board ...	...	...	...	...	...	...	...	...	...	...	
Goalpara Local Board ...	...	...	...	...	...	...	...	...	...	...	
Dhubri Local Board ...	...	...	...	...	...	...	...	...	...	...	
Tezpur Local Board ...	...	...	...	...	...	...	...	...	...	...	

69. *Port Health Administration.*—Nil.

70. *Sanitary Works.*—This is dealt with in Chapter VI, under heading " Urban Sanitation ".

71. *Public Health Board.*—There was no meeting of the Public Health Board during the year under review. The Health Board (Epidemics) functioned as in previous years.

CHAPTER XVI

GENERAL REMARKS

72. *Research work.*—The Assam Medical Research Society carries out research work in the province. The Society receives an annual contribution of Rs. 20,000 from the Government of Assam. The Director of Public Health, Assam, is *ex-officio* a member of the Governing Body. The activities of the society are concerned with malaria, cholera and dysentery, and lately, confined to work on malaria. As in previous years surveys of malarious areas were undertaken during the year under report. The work done by the society in regard to malaria is mentioned in paragraph 43 of the report.

73. *Leper Asylums and Colonies.*—The subjoined table shows the details of patients treated in the leper institutions in the province :—

—	Remaining from the previous year	Admissions during the year	Total	Discharged, cured or relieved	Discharged otherwise	Died	Remaining at the end of the year
1	2	3	4	5	6	7	8
Leper Asylum, Sylhet ...	74	35	109	15	13	6	75
Leper Hospital, Kohima ...	24	3	27	1	1	1	24
Leper Ward, Dhubri ...	9	12	21	1	12	...	8
Leper Asylum, Gauhati ...	21	17	38	9	5	1	23
Leper Colony, Tura ...	78	46	124	2	29	1	92
Leper Asylum, Barpeta ...	...	16	16	...	...	...	16

Treatment is available in out-patient clinics at all sadr and subdivisional headquarters hospitals and at many of the Public Health Department and Local Board Dispensaries. The Mission Leper Colony at Jorhat treated 92 lepers during the year under review.

74. *Famine.*—No remarks.

75. *Public Health Acts.*—No Public Health Act was passed during the year under report.

76. *Public Health Essays.*—The Secretary, Assam Red Cross Society did not submit any scheme for holding essay and poster competitions in Public Health.

77. *Bacteriophage.*—The Pasteur Institute and Medical Research Institute, Shillong issued 495,872 doses of bacteriophage during the year under review against 402,634 doses in the previous year.

78. *Plasmoquine and Atabrine.*—These drugs were tried experimentally in the treatment and prevention of malaria. No opinion was expressed as to their value.

79. *Personal Proceedings.*—Dr. S. H. Paul, L.R.C.P., M.R.C.S., D.T.M., D.P.H., was in charge of the Department from the 1st to the 15th January. I held charge of the Department for the rest of the year.

Dr. Paul inspected *kala-azar*, leprosy and vaccination work in the South Sylhet and Karimganj subdivisions. Dr. Paul proceeded on leave from 16th January 1933 to 15th September 1933.

In January, I supervised a cholera epidemic in the Sunamganj subdivision and inspected Public Health Department dispensaries and the office of the Assistant Director of Public Health, Surma Valley and Hill Division and his laboratory at Sylhet. In March, I inspected the Public Health Department dispensaries, vaccination and anti-malaria work in the Kamrup and Nowgong districts. In April and May, I conducted the examination in Hygiene in the Berry-White Medical School and also inspected municipalities and Public Health Department dispensaries in the Sibsagar district. In August, I supervised the cholera operations in the Goalpara district and inspected the hospital ; and also the drainage of the Gauhati Civil Hospital. In October, I conducted the examination in Hygiene in the Berry-White Medical School and also inspected sanitation of Tea Gardens. In November, I inspected *kala-azar* and vaccination work and the municipalities in Nowgong and Darrang districts and also supervised the cholera operations in the Habiganj subdivision. In December, I went to Madras to attend the meeting of the Central Advisory Board of Health.

The post of Assistant Director of Public Health, Surma Valley and Hill Division, was vacant up to the 5th April 1938. Dr. N. K. Ghose, M.B., D.T.M., D.P.H., took over charge of the office of the Assistant Director of Public Health, Surma Valley and Hill Division on the 6th April 1938. In April, he supervised cholera epidemics in Habiganj subdivision and inspected a Public Health Department dispensary and the Habiganj Municipality. He also inspected anti-malaria work in North Sylhet subdivision. In May, he inspected Local Board and Public Health Department dispensaries and also visited cholera and small-pox areas in Sylhet and Cachar districts. In June, he inspected Sunamganj and Maulvibazar Municipalities and visited cholera-infected villages in the Sylhet district and gave instructions to villagers, and also inspected Local Board and Public Health Department dispensaries. In July, he inspected the Municipalities of Karimganj and Silchar, Haflong Town Fund and Hailakandi Town Committee. He held an enquiry into complaints regarding the potency of vaccine lymph in the Habiganj subdivision and also inspected factories. In August, he inspected anti-malarial work at Haripur and Jaintiapur and held an enquiry into typhoid fever and epidemic dropsy in Karimganj town. He also inspected Local Board and Public Health Department dispensaries and sanitation of a school. In September, he inspected the Sylhet Municipality and some Local Board dispensaries.

On the 20th September 1938 Dr. Paul returned from leave and took over charge of the office of the Assistant Director of Public Health, Surma Valley and Hill Division. In October, he supervised and organised cholera work in the Habiganj subdivision and also inspected some dispensaries. In November, he visited Karimganj town and delivered a lecture on typhoid fever and how to prevent it. He also visited Haflong town and carried out a parasite and spleen survey of the town. He visited schools and gave discourses on diet and nutrition. He also inspected two dispensaries and one State Hospital and supervised cholera work in the Habiganj subdivision. In December, he supervised and organised cholera work in the Habiganj and Sunamganj subdivisions.

Dr. S. C. Datta, M.B., D.P.H., held the post of the Assistant Director of Public Health, Assam Valley Division, throughout the year. In January, he inspected the vaccination work and some dispensaries in the Kamrup and Goalpara districts and one Municipality and one Small Town in the Goalpara district. In February, he delivered lectures on Hygiene to the students of the Berry-White Medical School at Dibrugarh and inspected vaccination and cholera work in the Lakhimpur district. In March, he attended the Malaria Training Class at Karnal. In April, he supervised the campaign against the cholera epidemic in the Mangaldai subdivision. In May, he inspected anti-malaria centres at Kachugaon and Haltugaon and inspected Barpeta municipality in the Kamrup district. He also inspected dispensaries in the Nowgong and Kamrup districts. In June, he inspected dispensaries in the Nowgong and Sibsagar districts. He also inspected Golaghat Municipality in the Sibsagar district. In July, he inspected Municipalities and a Small Town, and dispensaries and factories in the Sibsagar district. In August, he inspected factories in the Kamrup district and a Small Town in the Lakhimpur district and supervised the campaign against cholera in the Goalpara district. In September, he supervised cholera operation in the Goalpara district. In October, he supervised the campaign against the outbreak of cholera in the Goalpara and Kamrup districts. In November, he attended a course of military training at Shillong. He supervised the cholera work in the Kamrup district. In December, he inspected vaccintion and *kala-azar* work and the Leper Asylum in the Kamrup district.

80. *Office.*—The office staff worked satisfactorily during the year. My office labours under the disadvantage of being understaffed. Work in every branch is increasing, and it has become well-nigh an impossible task to keep abreast of the increase. Attempts were made to lighten some of the routine procedures, but the real load has not been lessened. Babu Iswar Chandra Das, my Personal Assistant has worked indefatigably to bring about an improvement. The results of these attempts have been a speeding-up of work. Delays are much shorter than they have been. But a definite permanent improvement is not possible without an increase in the staff, especially in the Sections of Vital Statistics, Epidemics and Correspondence. All the staff have, in their varying capacities, co-operated in the endeavour to lighten their labour yet to overtake their work, but still more remains to be done before the work can be kept up-to-date.

A. M. V. HESTERLOW,

Lieut.-Colonel, I.M.S.,
Director of Public Health, Assam.

SHILLONG:

The 13th August 1939.

IMPERIAL STATEMENT No. I.—*Statement showing the births registered in the districts of Assam during the year 1938*

No.	Districts	Population according to the Census of 1931			Grand total number of births registered			Ratio of births per 1,000 of population			Number of males born to every 100 females born	Mean ratio of births per 1,000 during the previous five years		
		Male	Female	Total	Male	Female	Total	Male	Female	Total		Male	Female	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	SURMA VALLEY													
1	Cachar ...	284,738	254,073	538,811	9,497	8,818	18,315	17·63	16·36	33·99	108	18·25	17·38	35·63
2	Sylhet	1,407,645	1,316,697	2,724,342	47,184	43,872	91,056	17·32	16·10	33·42	108	18·33	17·03	35·36
	Total ...	1,692,383	1,570,770	3,263,153	56,681	52,690	109,371	17·37	16·15	33·52	108	18·32	17·09	35·41
	ASSAM VALLEY													
3	Goalpara ...	470,273	412,475	882,748	15,569	14,613	30,182	17·64	16·55	34·19	107	17·45	16·29	33·74
4	Kamrup ...	513,345	463,401	976,746	11,831	11,148	22,979	12·11	11·41	23·52	106	10·91	10·09	21·01
5	Darrang ...	317,103	267,714	584,817	9,082	8,692	17,774	15·53	14·86	30·39	104	15·77	15·08	30·85
6	Nowgong ...	298,585	263,996	562,581	5,093	4,699	9,792	9·05	8·35	17·40	108	9·78	9·15	18·93
7	Sibsagar ...	496,288	437,038	933,326	13,403	12,568	25,971	14·36	13·47	27·83	107	14·62	13·71	28·33
8	Lakhimpur ...	399,108	325,474	724,582	10,687	10,424	21,111	14·75	14·39	29·14	103	15·80	15·06	30·86
	Total ...	2,494,702	2,170,098	4,664,800	65,665	62,144	127,809	14·08	13·32	27·40	106	14·12	13·27	27·39
	Total for the province.	4,187,085	3,740,868	7,927,953	122,346	114,834	237,180	15·43	14·49	29·92	107	15·85	14·84	30·69

IMPERIAL STATEMENT No. II.—*Statement showing the deaths registered in the districts of Assam during the year 1938*

No.	Districts	Area in square miles	Average population per square mile	Number of deaths registered			Deaths per 1,000 of population from—											Mean ratio of deaths per 1,000 during the previous five years		
														All causes						
				Male	Female	Total	Cholera	Small-pox	Plague	Fever	Dysentery and diarrhœa	Respiratory diseases	Injuries	All other causes	Male	Female	Total	Male	Female	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	SURMA VALLEY																			
1	Cachar ...	1,972	273	5,823	5,742	11,565	0·49	0·03	...	10·43	1·89	1·79	0·29	6·54	20·45	22·60	21·46	22·13	24·53	23·27
2	Sylhet	5,478	497	38,258	36,607	74,865	2·78	0·44	...	14·28	1·66	0·51	0·28	7·54	27·18	27·80	27·48	24·10	23·26	23·69
	Total ...	7,450	438	44,081	42,349	86,430	2·40	0·37	...	13·64	1·70	0·72	0·28	7·37	26·05	26·96	26·49	23·77	23·46	23·62
	ASSAM VALLEY																			
3	Goalpara ...	3,985	222	12,640	11,116	23,756	2·26	0·003	...	23·09	0·27	0·23	0·24	0·80	26·88	26·95	26·91	24·16	23·19	23·70
4	Kamrup ...	3,844	254	7,752	7,324	15,076	1·92	0·05	...	10·68	0·52	0·25	0·26	1·75	15·10	15·80	15·44	13·38	13·55	13·45
5	Darrang ...	2,842	206	6,419	5,880	12,299	0·24	0·03	...	13·54	1·80	1·46	0·23	3·72	20·24	21·96	21·03	20·13	23·19	21·53
6	Nowgong ...	3,896	144	3,451	3,184	6,635	0·07	0·63	...	8·81	0·66	0·26	0·13	1·23	11·56	12·06	11·79	12·01	12·36	12·17
7	Sibsagar ...	5,131	182	8,471	7,958	16,429	0·02	0·01	...	9·64	2·15	1·44	0·19	4·15	17·07	18·21	17·60	18·06	19·50	18·73
8	Lakhimpur ...	4,234	171	8,797	8,345	17,142	0·02	0·01	...	11·70	3·01	2·39	0·36	6·17	22·04	25·64	23·66	19·96	23·25	21·44
	Total ...	23,932	195	47,530	43,807	91,337	0·87	0·10	...	13·11	1·36	0·97	0·24	2·92	19·05	20·19	19·58	18·01	19·08	18·55
	Total for the province.	31,382	253	91,611	86,156	177,767	1·50	0·21	...	13·33	1·50	0·87	0·25	4·75	21·87	23·03	22·42	20·39	20·92	20·64

IMPERIAL STATEMENT No. III.—*Deaths registered in the districts of Assam during each month of the year 1938*

No.	Districts	Population according to the census of 1931	January	February	March	April	May	June	July	August	September	October	November	December	Total deaths registered during the year 1938
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Surma Valley														
1	Cachar .. Urban ..	16,195	28	15	24	30	20	17	19	15	18	20	29	32	267
	Cachar .. Rural	5,22,616	1,084	947	927	749	900	1,077	941	863	730	973	1,101	1,006	11,293
	Cachar .. Total ..	5,38,811	1,112	962	951	779	920	1,094	960	878	748	993	1,130	1,038	11,565
2	Sylhet .. .. Urban ..	45,883	103	49	59	47	80	61	55	71	57	65	117	89	853
	Sylhet .. .. Rural	26,78,459	6,711	5,894	5,084	4,911	5,276	5,682	5,420	4,102	4,871	6 039	9,115	10,907	74,012
	Sylhet .. .. Total ..	27,24,342	6,814	5,943	5,143	4,958	5,356	5,743	5,475	4,173	4,928	6,104	9,232	10,996	74,865
3	Goalpara .. Urban ..	21,442	53	30	24	27	20	30	34	41	34	43	49	35	420
	Goalpara .. Rural	861,306	1,858	1,280	1,325	1,718	1,822	1,845	1,660	2,207	2,579	2,611	2,330	2,101	23,336
	Goalpara .. Total ..	882,748	1,911	1,310	1,349	1,745	1,842	1,875	1,694	2,248	2,613	2,654	2,379	2,136	23,756
4	Kamrup .. Urban ..	39,028	57	28	54	62	90	72	78	76	91	79	80	70	837
	Kamrup .. Rural	937,718	881	774	843	1,025	1,176	1,730	1,476	1,108	1,002	1,558	1,646	1,020	14,239
	Kamrup .. Total	976,746	938	802	897	1,087	1,266	1,802	1,554	1,184	1,093	1,637	1,726	1,690	15,076
5	Darrang .. Urban ..	11,964	42	19	15	21	18	28	18	16	16	23	29	24	269
	Darrang .. Rural	572,853	751	731	705	701	1,089	1,133	1,185	1,158	988	1,333	1,087	1,169	12,030
	Darrang .. Total ..	584,817	793	750	720	722	1,107	1,161	1,203	1,174	1,004	1,356	1,116	1,193	12,299
6	Nowgong .. Urban ..	10,413	14	6	21	8	26	12	12	21	9	24	25	18	196
	Nowgong .. Rural	552,168	469	447	345	513	680	717	602	502	425	485	626	628	6,439
	Nowgong .. Total ..	562,581	483	453	366	521	706	729	614	523	434	509	651	646	6,635
7	Sibsagar .. Urban ..	23,175	38	29	28	35	35	35	49	57	36	32	45	32	451
	Sibsagar .. Rural	910,151	1,383	1,108	1,109	1,172	1,251	1,662	1,339	1,391	1,439	1,378	1,547	1,199	15,978
	Sibsagar .. Total ..	933,326	1,421	1,137	1,137	1,207	1,286	1,697	1,388	1,448	1,475	1,410	1,592	1,231	16,429
8	Lakhimpur .. Urban ..	27,914	49	40	48	41	44	41	49	50	61	65	77	39	604
	Lakhimpur .. Rural	696,668	1,322	1,021	1,086	1,090	1,552	1,750	1,387	1,408	1,326	1,738	1,704	1,154	16,538
	Lakhimpur .. Total ..	724,582	1,371	1,061	1,134	1,131	1,596	1,791	1,436	1,458	1,387	1,803	1,781	1,193	17,142
	Total for the towns	196,014	384	216	273	271	333	296	314	347	322	351	451	339	3,897
	Ratio per mille for towns	..	23·83	13·41	16·95	16·82	20·67	18·37	19·49	21·54	19·99	21·79	27·99	21·04	19·88
	Total for rural circles	7,7 1,939	14,459	12,202	11,424	11,879	13,746	15,596	14,010	12,739	13,360	16,115	19,156	19,184	173,870
	Ratio per mille of population ..	..	22·75	19·20	17·98	18·69	21·63	24·54	22·05	20·05	21·02	25·36	30·14	30·19	22·49
	Total for the province	7,927,953	14,843	12,418	11,697	12,150	14,079	15,892	14,324	13,086	13,682	16,466	19,607	19,523	177,767
	Ratio per mille for the province .	..	22·78	19·06	17·95	18·65	21·61	24·39	21·98	20·08	21·00	25·27	30·09	29·96	22·42

Ratios have been calculated with reference to number of days in each month. This table includes municipalities and small towns in which registration of vital statistics is compulsory.

IMPERIAL STATEMENT No. IV.—*Deaths registered according to age in the districts (rural circles) and towns of Assam during the year 1938*

No.	A.—RURAL CIRCLES	Under 1 year												Total			1 and under 5 years		5 and under 10 years		10 and under 15 years		15 and under 20 years		20 and under 30 years		30 and under 40 years		40 and under 50 years		50 and under 60 years		60 and upwards		Total (all ages)	
		Not exceeding 1 month						Total	Over 1 month and not exceeding 6 months			Over 6 months and not exceeding 12 months																									
		Male			Female																															
		Under one week	Over one week	Total	Under one week	Over one week	Total		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
1	Cachar	520	334	854	412	247	659	1,513	417	403	820	176	171	347	1,447	1,233	2,680	792	707	276	238	169	147	187	269	453	905	492	579	440	314	390	303	1,028	849	5,674	5,624
2	Sylhet	3,164	2,107	5,271	2,465	1,679	4,144	9,415	2,977	2,439	5,416	1,377	1,317	2,694	9,625	7,900	17,525	5,136	5,041	2,476	2,162	1,477	1,287	1,528	2,189	3,108	5,433	3,163	3,254	2,950	2,314	2,871	2,229	5,452	4,417	37,786	36,226
3	Goalpara ..	684	403	1,087	592	382	974	2,061	1,129	1,013	2,142	459	429	888	2,675	2,416	5,091	1,769	1,640	1,051	875	615	429	616	830	1,168	1,501	1,313	943	1,121	739	872	700	1,191	812	12,391	10,945
4	Kamrup ..	407	347	754	294	251	545	1,299	514	482	996	288	308	596	1,556	1,335	2,891	1,390	1,322	728	654	333	262	290	420	566	937	648	626	560	449	585	428	673	477	7,329	6,910
5	Darrang ..	278	324	602	185	243	428	1,030	640	614	1,254	333	345	678	1,575	1,387	2,962	853	830	454	368	378	327	316	401	557	778	542	547	526	375	518	373	529	396	6,248	5,782
6	Nowgong ..	88	134	222	69	130	199	421	293	284	577	157	157	314	672	640	1,312	627	582	294	261	162	131	167	209	255	346	305	266	308	236	248	194	299	217	3,337	3,102
7	Sibsagar ..	395	325	720	328	293	621	1,341	558	470	1,028	300	252	552	1,578	1,343	2,921	1,457	1,429	628	559	397	314	354	438	598	1,027	794	878	756	596	758	527	892	655	8,212	7,766
8	Lakhimpur ..	261	354	615	220	267	487	1,102	511	459	970	399	408	807	1,525	1,354	2,879	1,328	1,683	628	547	326	317	258	393	627	990	848	885	695	545	745	504	952	888	8,432	8,106
	Total for rural circles.	5,797	4,328	10,125	4,565	3,492	8,057	18,182	7,039	6,164	13,203	3,489	3,387	6,876	20,653	17,608	38,261	13,852	13,314	6,535	5,664	3,857	3,274	3,716	5,149	7,332	11,937	8,105	7,978	7,356	5,568	6,987	5,253	11,016	8,711	89,409	84,461
	Ratio per mille ..	..	..	..	..	..	..	..	..	..	..	..	..	..	173·53	157·74	165·89	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

	B.—TOWNS																																			
	Surma Valley																																					
1	Silchar ..	5	1	6	3	4	7	13	4	6	10	3	1	4	13	14	27	8	9	2	4	4	1	2	2	17	19	8	10	10	6	12	4	21	14	97	83
2	Hailakandi ..	2	1	3	5	..	5	8	2	2	4	1	1	2	6	8	14	8	2	1	1	..	..	..	..	4	3	5	2	8	2	3	2	5	3	40	23
3	Haflong ..	..	..	..	2	1	3	3	1	..	1	..	..	..	1	3	4	2	2	1	..	..	..	..	1	3	2	1	1	3	..	..	2	1	1	12	12
4	Sylhet ..	9	8	17	15	3	18	35	19	18	37	7	11	18	43	47	90	21	15	10	6	2	7	7	10	20	15	12	5	15	9	12	6	38	37	180	157
5	Moulvibazar ..	1	1	2	..	1	1	3	3	4	7	4	3	7	9	8	17	2	1	2	..	1	2	1	1	4	6	4	5	5	1	..	..	8	5	36	29
6	Karimganj ..	4	4	8	1	4	5	13	7	4	11	..	1	1	15	10	25	9	9	..	2	3	3	5	5	8	6	11	9	5	4	4	..	3	4	63	49
7	Habiganj ..	13	3	16	6	4	10	26	9	7	16	3	2	5	29	19	47	15	7	5	5	4	1	4	3	10	10	11	3	11	7	12	1	16	10	116	66
8	Sunamganj ..	8	..	8	9	6	15	23	7	8	15	2	..	2	17	23	40	10	10	3	2	1	4	3	4	6	9	10	3	1	5	5	4	7	6	63	70
9	Sreemangal ..	1	..	1	..	..	..	1	..	4	4	1	..	1	2	4	6	3	..	1	1	1	..	..	2	1	1	..	..	3	..	2	1	1	1	14	10
	Assam Valley																																				
1	Dhubri ..	5	6	11	4	4	8	19	5	4	9	2	3	5	13	15	33	11	8	5	..	7	5	4	4	11	7	27	13	10	2	7	3	18	8	118	65
2	Goalpara ..	5	2	7	..	2	2	9	3	..	3	1	3	4	11	5	16	11	12	3	8	3	3	6	3	3	8	12	3	6	3	9	6	11	17	75	68
3	Gauripur ..	7	3	10	4	..	4	14	4	5	9	3	1	4	17	10	27	7	1	4	4	1	..	3	3	2	5	6	2	8	4	4	3	4	6	56	38
4	Gauhati ..	11	5	16	23	3	23	39	17	11	28	6	5	11	39	39	78	19	18	6	9	3	4	14	8	21	24	17	13	9	6	9	8	19	16	156	145
5	Barpeta ..	9	7	16	4	12	16	32	15	17	32	7	11	18	38	44	82	43	45	38	24	4	12	4	7	16	27	17	20	18	13	13	13	30	25	221	230
6	Palasbari ..	5	4	9	1	5	5	14	6	4	10	1	..	1	16	9	25	6	7	6	4	..	1	1	2	4	6	2	3	5	2	3	2	3	3	46	39
7	Tezpur ..	5	3	8	3	6	9	17	10	7	17	2	2	4	20	18	38	9	5	5	2	2	3	6	8	20	13	25	10	20	6	18	5	13	9	138	84
8	Mangaldai ..	..	..	..	..	..	..	..	1	2	3	3	1	4	4	3	7	1	2	1	1	..	..	..	2	8	4	6	..	8	1	2	..	3	1	33	14
9	Nowgong ..	12	1	13	8	1	9	22	5	4	9	5	1	6	23	14	37	10	17	4	7	3	2	3	3	19	8	15	10	16	5	9	5	12	11	114	82
10	Jorhat ..	8	..	8	6	3	9	17	9	10	19	12	5	17	29	24	53	7	4	8	6	7	6	8	4	13	9	12	5	11	4	3	3	12	13	110	78
11	Sibsagar ..	4	1	5	4	1	5	10	2	3	5	5	2	7	12	10	22	13	12	2	2	1	1	1	..	2	12	3	1	4	..	5	..	6	3	49	41
12	Nazira ..	2	1	3	1	1	2	5	3	1	4	..	1	1	6	4	10	1	4	1	3	1	..	..	3	3	4	..	1	2	..	2	1	6	2	22	23
13	Golaghat ..	1	6	7	..	2	2	9	5	..	5	..	1	1	12	3	15	3	5	4	3	2	4	6	8	15	17	13	3	9	3	7	4	7	1	78	51
14	Dibrugarh ..	9	8	17	5	5	10	27	8	10	18	5	5	10	30	25	55	21	27	10	7	10	7	14	9	38	34	62	27	46	13	28	6	26	22	285	177
15	Tinsukia ..	4	1	5	1	2	3	6	4	2	6	1	3	4	10	8	18	6	5	7	1	..	..	1	3	11	3	4	3	2	2	4	2	6	6	51	33
16	Doom Dooma ..	..	..	..	..	..	..	..	..	..	..	1	2	3	1	2	3	..	3	..	..	..	..	1	1	2	2	1	2	1	3	..	..	1	..	7	13
17	North Lakhimpur	1	..	1	1	3	4	5	..	..	.	..	2	2	1	6	7	5	4	1	..	3	..	1	2	..	3	3	..	5	1	3	..	.	..	22	16
	Total for the towns.	131	66	197	103	72	175	372	149	133	282	75	67	142	421	375	796	251	234	130	102	63	63	95	98	261	262	287	154	241	102	176	81	277	224	2,202	1,695
	Ratio per mille ..	..	..	..	..	..	..	..	..	..	..	..	..	..	126·39	116·93	121·75	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total for the province.	5,928	4,394	10,322	4,668	3,564	8,232	18,554	7,188	6,297	13,485	3,564	3,454	7,018	21,074	17,983	39,057	14,103	13,548	6,665	5,766	3,929	3,337	3,811	5,247	7,593	12,199	8,392	8,132	7,597	5,63	7,163	5,339	11,293	8,935	91,611	86,156
	Ratio per mille ..	..	..	..	..	..	..	..	..	..	..	..	..	..	172·25	156·60	164·67	25·93	24·25	11·73	11·25	8·12	7·78	10·99	13·71	10·16	16·87	13·36	17·17	19·08	20·29	33·04	33·74	81·31	81·40	21·79	22·94

This statement includes 31,720 population of North Cachar Hills where registration is not carried out except the Haflong Town the population of which is 1,124.

STATEMENT No. IV(*a*)—*showing mortality under one year by classes*

Districts	Hindus		Muhammadans		Christians		Buddhists		Other classes	
	Number	Ratio per 1,000 births	Number	Ratio per 1,000 births	Number	Ratio per 1,000 births	Number	Ratio per 1,000 births	Number	Ratio per 1,000 births
Cachar	1,368	74·69	1,315	71·80	11	0·60	...	...	31	1·69
Sylhet	6,659	73·13	11,070	121·57	2	0·02	...	...	19	0·21
Goalpara	2,293	75·97	2,292	75·94	66	2·19	...	...	516	17·10
Kamrup	2,609	113·54	359	15·62	13	0·57	...	...	95	4·13
Darrang	2,145	120·68	258	14·52	190	10·69	7	3·94	407	22·90
Nowgong	898	91·71	301	30·74	11	1·12	...	...	139	14·20
Sibsagar	2,732	105·19	58	2·23	19	0·73	14	0·54	198	7·62
Lakhimpur	2,398	113·59	153	7·25	74	3·51	1	0·05	336	15·91
Total	21,102	88·97	15,806	66·64	386	1·63	22	0·09	1,741	7·34

Separate figures for Indian Christians are not available.

IMPERIAL STATEMENT No. V.—*Deaths registered according to class in the districts of Assam during the year 1938*

No.	Districts	Number of deaths registered															Ratio of deaths per 1,000 of population													
		Hindus			Muhammadans			Christians			Buddhist			Other classes			Hindus			Muhammadans			Christians			Buddhists			Other classes		
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	SURMA VALLEY																														
1	Cachar ..	3,409	3,413	6,822	2,326	2,224	4,550	20	35	55	..	..	..	68	70	138	19·26	21·64	20·38	22·48	24·06	23·23	13·68	28·36	20·40	..	..	..	24·55	25·76	25·15
2	Sylhet ..	14,004	13,312	27,316	24,175	23,171	47,346	5	6	11	1	..	1	73	118	191	24·33	24·75	24·53	29·19	29·87	29·52	3·03	4·49	3·69	35·71	..	25·00	33·44	62·01	46·74
	Total ..	17,413	16,725	34,138	26,501	25,3 5	51,896	25	41	66	1	..	1	141	188	329	23·14	24·05	23·57	28·45	29·25	28·84	8·03	15·96	11·62	14·29	..	9·90	28·47	40·69	34·37
	ASSAM VALLEY																														
3	Goalpara	4,917	4,298	9,215	5,998	5,262	11,260	212	207	419	3	..	3	1,510	1,349	2,859	23·60	24·21	23·88	29·20	28·86	29·04	21·64	23·68	22·60	9·80	..	5·15	32·54	30·93	31·76
4	Kamrup ..	5,756	5,535	11,291	1,485	1,372	2,857	37	43	80	..	..	..	474	374	848	15·53	16·31	15·90	11·53	12·29	11·88	12·20	16·87	14·33	..	..	..	46·16	38·61	42·49
5	Darrang ..	4,768	4,490	9,258	562	445	1,007	284	266	550	4	3	7	801	676	1,477	19·34	21·47	20·32	14·98	14·85	14·92	33·60	36·62	35·00	4·97	7·87	5·90	33·70	32·21	33·00
6	Nowgong	2,173	2,042	4,215	764	681	1,445	31	34	65	..	..	..	483	427	910	12·59	13·34	12·94	7·99	8·29	8·13	11·85	14·00	12·89	..	..	..	17·45	16·21	16·84
7	Sibsagar	7,254	6,805	14,059	263	274	537	87	78	165	44	45	89	823	756	1,579	16·28	17·21	16·72	10·56	14·43	12·23	12·16	12·83	12·47	30·26	38·83	34·06	48·14	48·99	48·54
8	Lakhimpur	7,735	7,332	15,067	237	155	392	266	322	588	15	19	34	544	517	1,061	21·44	24·36	22·77	13·51	18·43	15 11	31·83	49·48	39·56	4·71	7·71	6·02	58·78	72·32	64·68
	Total ..	32,603	30,502	63,105	9,309	8,189	17,498	917	950	1,867	66	67	133	4,635	4,099	3,734	18·06	19·36	18·67	18·26	18·89	18·55	23·27	28·30	25·58	10·40	14·87	12·26	34·49	33·24	33·89
	Total for the province	50,016	47,227	97,243	35,810	33,584	69,394	942	991	1,933	67	67	134	4,776	4,287	9,063	19·56	20·80	20·15	24·84	25·80	25·30	22·16	27·42	24·58	10·44	14·77	12·24	34·28	33·51	33·91

IMPERIAL STATEMENT No. VI.—*Deaths registered from different causes in the districts and towns of the province of Assam during the year 1938*

No.	Districts and towns	Population according to the census of 1931	Births			Deaths from															Ratio of deaths per 1,000 of population										No.
													Injuries																	From all causes		
													Suicide																		
			Male	Female	Total	Birth-rate	Cholera	Small-pox	Plague	Fever	Dysentery and diarrhœa	Respiratory diseases	Male	Female	Wounds or accidents	Snakes and wild animals	Rabies	Total	All other causes	Total	Cholera	Small-pox	Plague	Fever	Dysentery and diarrhœa	Respiratory diseases	Injuries	All other causes	For the year	Mean of previous five years	No.
1	2	3	4			5	6	7	8	9	10	11	12						13	14	15										15
	DISTRICTS EXCLUDING TOWNS *Surma Valley*																														
1	Cachar ..	522,616	9,267	8,618	17,885	34·22	261	10	..	5,561	992	925	5	1	121	12	6	145	3,404	11,298	0·50	0·02	..	10·64	1·90	1·77	0·28	6·51	21·62	23·50	1
2	Sylhet ..	2,678,459	46,449	43,131	89,580	33·44	7,520	1,188	..	38,708	4,428	1,315	52	28	610	38	7	735	20,118	74,012	2·81	0·44	..	14·45	1·65	0·49	0·27	7·51	27·63	25·20	2
	Total ..	3,201,075	55,716	51,749	107,465	33·57	7,781	1,198	..	44,269	5,420	2,240	57	29	731	50	13	880	23,522	85,310	2·43	0·37	..	13·83	1·69	0·70	0·27	7·35	26·65	23·75	
	Assam Valley																														
3	Goalpara ..	861,306	15,244	14,263	29,507	34·26	1,976	3	..	20,254	213	140	17	19	110	47	4	197	553	23,336	2·29	0·003	..	23·52	0·25	0·16	0·23	0·64	27·09	23·87	3
4	Kamrup ..	937,718	10,951	10,341	21,292	22·71	1,806	51	..	10,192	398	163	34	27	92	43	39	235	1,394	14,239	1·93	0·05	..	10·87	0·42	0·17	0·25	1·49	15·18	13·13	4
5	Darrang ..	572,853	8,899	8,507	17,406	30·38	137	15	..	7,888	991	786	15	6	48	55	7	131	2,082	12,030	0·24	0·03	..	13·77	1·73	1·37	0·23	3·63	21·00	21·51	5
6	Nowgong ..	552,168	4,898	4,501	9,399	17·02	38	356	..	4,914	343	134	10	6	32	14	5	67	587	6,439	0·07	0·64	..	8·90	0·62	0·24	0·12	1·06	11·66	12·01	6
7	Sibsagar ..	910,151	13,028	12,225	25,253	27·74	19	10	..	8,839	1,931	1,304	25	8	109	20	5	167	3,708	15,978	0·02	0·01	..	9·71	2·12	1·43	0·18	4·07	17·56	18·77	7
8	Lakhimpur ..	696,668	10,279	10,041	20,320	29·16	11	8	..	8,329	2,095	1,612	31	15	156	19	8	229	4,254	16,538	0·02	0·01	..	11·96	3·01	2·31	0·33	6·11	23·74	21·60	8
	Total ..	4,530,864	63,299	59,878	123,177	27·19	3,987	443	..	60,416	5,971	4,139	132	81	547	198	68	1,026	12,578	88,560	0·88	0·10	..	13·33	1·32	0·91	0·23	2·78	19·55	18·53	
	Total of districts excluding towns	7,731,939	119,015	111,627	230,642	29·83	11,768	1,641	..	104,685	11,391	6,379	189	110	1,278	248	81	1,906	36,100	173,870	1·52	0·21	..	13·54	1·47	0·82	0·25	4·67	22·49	20·69	

	TOWNS																										
	Surma Valley																										
1	Silchar ..	13,069	157	132	289	22·11	3	5	..	36	20	31	..	..	6	..	..	6	79	180	0·23	0·38	..	2·75	1·53	2·37	0·46	6·04	13·77	13·31	1
2	Hailakandi ..	2,002	57	52	109	54·44	1	..	..	14	8	1	1	..	4	..	..	5	34	63	0·50	..	..	6·99	4·00	0·50	2·50	16·98	31·47	23·98	2
3	Haflong ..	1,124	16	16	32	28·46	..	..	..	7	1	8	..	..	1	..	..	1	7	24	..	..	..	6·23	0·89	7·12	0·89	6·23	21·35	31·14	3
4	Sylhet ..	21,435	329	341	670	31·26	6	1	..	75	41	40	..	..	5	..	..	5	169	337	0·28	0·05	..	3·50	1·91	1·87	0·23	7·88	15·72	16·23	4
5	Maulvibazar	4,314	78	60	138	31·99	..	..	..	19	6	..	..	..	1	..	..	1	39	65	..	..	..	4·40	1·39	..	0·23	9·04	15·07	14·14	5
6	Karimganj	5,691	97	95	192	33·73	6	..	..	29	23	10	..	..	2	1	..	3	41	112	1·05	..	..	5·10	4·04	1·76	0·53	7·20	19·68	19·32	6
7	Habiganj ..	7,577	121	112	233	30·75	15	1	..	25	25	13	1	..	11	..	2	14	89	182	1·98	0·13	..	3·30	3·30	1·72	1·85	11·75	24·02	20·85	7
8	Sunamganj ..	5,326	93	111	204	38·30	17	..	..	28	6	3	..	..	..	..	..	..	79	133	3·19	..	..	5·26	1·13	0·56	..	14·83	24·97	21·03	8
9	Sreemangal ..	1,549	17	22	39	25·32	..	..	..	13	7	..	..	..	..	..	..	..	4	24	..	..	..	8·44	4·55	..	..	2·60	15·58	9·09	9
	Total ..	62,078	965	941	1,906	30·70	48	7	..	246	137	106	2	..	30	1	2	35	541	1,120	0·77	0·11	..	3·96	2·21	1·71	0·56	8·71	18.04	16·96	
	Assam Valley																										
10	Dhubri ..	9,435	156	169	325	34·44	12	..	..	31	13	29	..	..	8	2	1	11	87	183	1·27	..	..	3·29	1·38	3·07	1·17	9·22	19·40	17·91	10
11	Goalpara ..	6,415	100	103	203	31·64	3	..	..	62	16	29	1	..	4	1	..	6	27	143	0·47	..	..	9·66	2·49	4·52	0·94	4·21	22·29	14·19	11
12	Gauripur ..	5,592	69	78	147	26·29	8	..	..	40	..	5	..	..	1	..	1	2	39	94	1·43	..	..	7·15	..	0·89	0·36	6·97	16·81	18·24	12
13	Gauhati ..	21,797	387	336	723	33·16	7	1	..	62	24	36	..	..	6	..	..	6	165	301	0·32	0·05	..	2·84	1·10	1·65	0·28	7·57	13·81	18·21	13
14	Barpeta ..	13,777	420	403	823	59·74	58	..	..	152	71	37	1	..	4	3	..	8	125	451	4·21	..	..	11·03	5·15	2·69	0·58	9·07	32·74	25·84	14
15	Palasbari ..	3,454	73	68	141	40·82	1	..	..	27	18	10	2	..	..	2	..	4	25	85	0·29	..	..	7·82	5·21	2·90	1·16	7·24	24·61	22·87	15
16	Tezpur ..	10,268	157	158	315	30·68	..	..	..	23	58	61	1	..	3	..	..	4	76	222	..	..	..	2·24	5·65	5·94	0·39	7·40	21·62	23·18	16
17	Mangaldai ..	1,696	26	27	53	31·25	2	..	..	10	8	7	..	..	..	1	..	1	19	47	1·18	..	..	5·90	4·72	4·13	0.59	11·20	27·71	17·69	17
18	Nowgong ..	10,413	195	198	393	37·74	..	..	..	43	26	13	..	..	6	1	..	7	107	196	..	..	..	4·13	2·50	1·25	0·67	10·28	18·82	20·74	18
19	Jorhat ..	8,334	160	144	304	36·48	..	..	..	39	36	15	1	..	6	..	..	7	91	188	..	..	..	4·68	4·32	1·80	0·84	10·92	22·56	18·48	19
20	Sibsagar ..	6,669	101	102	203	30·43	..	..	..	28	20	6	..	..	1	..	..	1	35	90	..	..	..	4·20	3·00	0·90	0·15	5·25	13·50	12·45	20
21	Nazira ..	3,184	34	37	71	20·38	..	..	..	31	3	3	..	..	2	..	..	2	5	44	..	..	..	8·90	0·86	0·86	0·57	1·44	12·63	15·50	21
22	Golaghat ..	4,688	80	60	140	29·86	..	..	..	59	17	17	..	..	1	..	..	1	35	129	..	..	..	12·59	3·63	3·63	0·21	7·47	27·52	23·68	22
23	Dibrugarh ..	18,734	273	250	523	27·91	..	..	..	77	75	108	..	..	24	1	2	27	175	462	..	..	..	4·11	4·00	5·76	1·44	9·34	24·66	19·75	23
24	Tinsukia ..	6,160	87	93	180	34·88	..	..	..	33	10	6	2	..	1	..	..	3	32	84	..	..	..	6·39	1·94	1·16	0·58	6·20	16·28	11·24	24
25	Doom Dooma	1,900	15	12	27	14.21	..	..	..	17	..	3	..	..	..	..	..	..	..	20	..	..	..	8·95	..	1·58	..	..	10·53	8·42	25
26	North Lakhimpur.	2,120	33	28	61	28·77	..	..	..	22	2	4	..	..	..	..	..	..	10	38	..	..	..	10·38	0·94	1·89	..	4·72	17·92	19·34	26
	Total ..	133,936	2,366	2,266	4,632	34·58	91	1	..	756	397	389	8	..	67	11	4	90	1,053	2,777	0·68	0·01	..	5·64	2·96	2·90	0·67	7·86	20·73	19·16	
	Total for the towns.	196,014	3,331	3,207	6,538	35·35	139	8	..	1,002	534	495	10	..	97	12	6	125	1,594	3,897	0·71	0·04	..	5·11	2·72	2·53	0·64	8·13	19·88	18·46	
	Total for the province.	7,927,953	122,346	1,14,834	2,37,180	29·92	1,907	1,649	..	1,05,687	11,925	6,874	199	110	375	260	87	2,031	37,694	177,767	1·50	0·21	..	13·33	1·50	0·87	0·25	4·75	22·42	20·64	

This table includes municipalities and small towns in which registration of vital statistics is compulsory.

Supplementary (optional) Statement VI(a) for the year 1938

Towns	Malaria		Enteric fever		*Kala azar*		Influenza		Cerebro-spinal fever		Typhus fever		Measles		Black water fever		Other fevers		Dysentery		Diarrhœa		Pneumonia		Phthisis		Pulmonary tuberculosis		Whooping cough		Other respiratory diseases		Deaths from child birth	Deaths under one year			Infant mortality rate
	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio		Male	Female	Total	
	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17				
Silchar	17	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	16	..	14	..	6	..	23	..	3	..	..	..	..	..	5	..	13	13	14	27	93·43
Sylhet	..	..	4	..	1	..	3	..	..	..	..	..	..	..	..	..	67	..	31	..	10	..	17	..	6	..	6	..	1	..	10	..	7	43	47	90	134·33
Habiganj	8	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	14	..	10	..	15	..	4	..	1	..	..	..	..	..	8	..	4	28	19	47	201·71
Karimganj	6	..	10	..	2	..	..	..	..	..	..	..	..	..	..	..	11	..	18	..	5	..	4	..	..	..	..	..	..	..	6	..	2	15	10	25	130·21
Gauhati	14	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..	41	..	22	..	2	..	24	..	5	..	3	..	..	..	4	..	7	39	39	78	107·88
Barpeta	54	..	..	..	1	..	1	..	1	..	6	..	..	..	..	..	89	..	51	..	20	..	27	..	4	..	1	..	1	..	4	..	15	38	44	82	99·64
Dhubri	2	..	8	..	5	..	..	..	..	..	..	..	..	..	2	..	14	..	11	..	2	..	15	..	10	..	2	..	..	..	2	..	3	18	15	33	101·54
Goalpara	15	..	2	..	6	..	..	..	..	..	1	..	1	..	..	..	37	..	16	..	..	..	15	..	3	..	..	..	..	..	11	..	4	11	5	16	78·81
Tezpur	11	..	4	..	5	..	1	..	..	..	..	..	1	..	..	..	1	..	49	..	9	..	40	..	..	..	11	..	..	..	10	..	7	20	18	38	120·63
Nowgong	24	..	3	..	13	..	..	..	..	..	..	..	..	..	1	..	2	..	17	..	9	..	9	..	1	..	..	..	..	..	3	..	3	23	14	37	94·15
Jorhat	2	..	2	..	11	..	..	..	..	..	..	..	..	..	..	..	24	..	25	..	11	..	7	..	8	..	..	..	..	..	..	..	4	29	24	53	174·34
Dibrugarh	21	..	16	..	..	..	..	..	..	..	..	..	1	..	1	..	38	..	54	..	21	..	48	..	11	..	17	..	..	..	32	..	11	30	25	55	105·16
Shillong	7	..	4	..	2	..	1	..	..	..	..	..	..	..	..	..	39	..	28	..	16	..	52	..	14	..	..	..	..	..	35	..	8	44	34	78	102·23

This table includes municipalities and small towns in which registration of vital statistics is compulsory.

IMPERIAL STATEMENT No. VII.—*Deaths registered from cholera in the districts of Assam during each month of the year 1938*

No.	District	Circles of Registration		Villages		January	February	March	April	May	June	July	August	September	October	November	December	Total			Ratio of deaths per 1,000 of population			Mean ratio per 1,000 of previous five years	No.
		Number in each district	Number from which deaths from cholera were reported	Number in each district	Number from which deaths from cholera were reported													Male	Female	Total	Male	Female	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	Surma Valley																								
1	Cachar ...	13	10	1,607	95	...	...	1	22	22	108	52	29	4	20	3	4	146	119	265	0·51	0·47	0·49	0·77	1
2	Sylhet ...	41	37	11,717	1,684	179	150	270	338	373	742	601	246	250	523	1,543	2,349	3,724	3,840	7,564	2·65	2·92	2·78	1·05	2
	Total ...	54	47	13,324	1,779	179	150	271	360	395	850	653	275	254	543	1,546	2,353	3,870	3,959	7,829	2·29	2·52	2·40	1·006	
	Assam Valley																								
3	Goalpara ...	18	17	3,188	338	...	...	...	...	4	16	20	305	712	522	236	184	1,021	978	1,999	2·17	2·37	2·26	0·34	3
4	Kamrup ...	16	15	2,738	347	8	12	40	109	66	37	22	16	153	573	693	143	982	890	1,872	1·91	1·92	1·92	0·75	4
5	Darrang ...	14	9	1,978	145	2	...	4	1	...	5	7	17	5	8	72	18	74	65	139	0·23	0·24	0·24	0·45	5
6	Nowgong ...	12	5	2,323	8	...	...	...	...	1	...	2	2	3	4	5	21	17	21	38	0·06	0·08	0·07	0·08	6
7	Sibsagar ...	17	5	2,284	8	...	...	..	...	...	18	1	...	...	...	...	...	8	11	19	0·02	0·03	0·02	0·13	7
8	Lakhimpur ...	17	2	2,498	4	2	1	2	...	...	4	1	...	...	...	1	...	5	6	11	0·01	0·01	0·02	0·10	8
	Total ...	94	53	15,009	850	12	13	46	110	71	80	53	340	873	1,107	1,007	366	2,107	1,971	4,078	0·84	0·91	0·87	0·33	
	Total for the province.	148	100	28,333	2,629	191	163	317	470	466	930	706	615	1127	1,650	2,553	2,719	5,977	5,930	11,907	1·43	1·59	1·50	0·61	

IMPERIAL STATEMENT NO. VII'.—*Deaths registered from small-pox in the districts of Assam during each month of the year 1938*

No.	Districts	Circles of Registration: Number in each district	Circles of Registration: Number from which deaths from small-pox were reported	Villages: Number in each district	Villages: Number from which deaths from small-pox were reported	January	February	March	April	May	June	July	August	September	October	November	December	Total: Male	Total: Female	Total	Number of deaths among children: Under 1 year	Number of deaths among children: One to 10 years	Ratio of deaths per 1,000 of population: Male	Ratio of deaths per 1,000 of population: Female	Ratio of deaths per 1,000 of population: Total	Mean ratio per 1,000 of previous five years	No.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
	Surma Valley																										
1	Cachar ...	13	6	1,607	8	2	4	9	...	...	...	...	...	...	...	...	...	10	5	15	...	1	0·04	0·02	0·03	0·03	1
2	Sylhet ...	41	30	11,717	498	129	98	58	161	184	127	115	48	41	51	96	82	610	580	1,190	70	141	0·43	0·44	0·44	0·18	2
	Total ...	54	36	13,324	506	131	102	67	161	184	127	115	48	41	51	96	82	620	585	1,205	70	142	0·37	0·37	0·37	0·15	
	Assam Valley																										
3	Goalpara ...	18	2	3,188	4	...	...	1	...	...	...	...	...	...	...	2	...	3	...	3	...	...	0·01	...	0·03	0 02	3
4	Kamrup ...	16	11	2,738	47	5	3	13	8	6	4	6	2	...	1	1	3	33	19	52	18	36	0·06	0·04	0·05	0·19	4
5	Darrang ...	14	5	1,978	18	2	1	1	...	6	1	...	...	...	2	2	...	8	7	15	...	...	0·02	0·03	0·03	0·05	5
6	Nowgong ...	12	7	2,323	13	38	47	5	63	77	67	4	2	5	1	31	16	191	165	356	58	106	0·64	0·63	0·63	0·07	6
7	Sibsagar ...	17	4	2,284	24	...	...	...	1	5	...	4	...	...	...	...	...	5	5	10	...	...	0·01	0 01	0·01	0·04	7
8	Lakhimpur ...	17	2	2,498	6	...	2	...	...	2	...	4	...	...	...	...	...	5	3	8	...	...	0·01	0·01	0·01	0·01	8
	Total ...	94	31	15,009	112	45	53	20	72	96	72	18	4	5	4	36	19	245	199	444	76	142	0 10	0·09	0·10	0·07	
	Total for the province	148	67	28,333	618	176	155	87	233	280	199	133	52	46	55	132	101	865	784	1,649	146	284	0·21	0·21	0·21	0·10	

IMPERIAL STATEMENT NO. IX.—*Deaths registered from fevers in the districts of Assam during each month of the year 1938*

No.	Districts	Circles of registration		Villages		January	February	March	April	May	June	July	August	September	October	November	December	Total			Ratio of deaths per 1,000 of population			Mean ratio per 1,000 of previous five years	No.
		Number in each district	Number from which deaths from fevers were reported	Number in each district	Number from which deaths from fevers were reported													Male	Female	Total	Male	Female	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	SURMA VALLEY																								
1	Cachar	13	12	1,607	662	525	469	459	393	499	557	481	435	339	450	541	470	2,883	2,735	5,618	10·13	10·76	10·43	11·81	1
2	Sylhet	41	40	11,717	11,606	3,586	3,138	2,647	2,745	3,172	3,137	3,113	2,485	2,801	3,249	4,212	4,612	20,351	18,546	38,897	14·46	14·09	14·28	13·54	2
	Total ..	54	52	13,324	12,268	4,111	3,607	3,106	3,138	3,671	3,694	3,594	2,920	3,140	3,699	4,753	5,082	23,234	21,281	44,515	13·73	13·55	13·64	13·25	
	ASSAM VALLEY																								
3	Goalpara	18	17	3,183	2,791	1,825	1,246	1,277	1,652	1,777	1,751	1,572	1,818	1,708	1,976	1,967	1,818	10,889	9,498	20,387	23·15	23·03	23·09	22·34	3
4	Kamrup	16	16	2,738	762	715	630	645	823	1,043	1,497	1,275	886	687	778	736	716	5,361	5,072	10,433	10·44	10·95	10·68	10·08	4
5	Darrang	14	13	1,978	1,708	517	503	462	512	730	864	786	794	626	789	658	680	4,200	3,721	7,921	13·24	13·90	13·54	14·07	5
6	Nowgong	12	12	2,323	64	343	348	281	388	531	580	495	394	354	368	426	449	2,607	2,350	4,957	8·73	8·90	8·81	9·66	6
7	Sibsagar	17	18	2,284	1,064	812	593	607	672	713	920	756	803	858	777	864	621	4,781	4,215	8,996	9·63	9·64	9·64	10·56	7
8	Lakhimpur	17	17	2,498	1,552	669	494	500	508	875	971	781	791	727	789	773	600	4,493	3,985	8,478	11·26	12·24	11·70	10·29	8
	Total ..	94	93	15,009	7,941	4,881	3,814	3,772	4,555	5,669	6,583	5,665	5,488	4,960	5,477	5,424	4,884	32,331	28,841	61,172	12·96	13·29	13·11	12·98	
	Total for the Province	148	145	28,333	20,209	8,992	7,421	6,878	7,693	9,340	10,277	9,259	8,408	8,100	9,176	10,177	9,966	55,565	50,122	105,687	13·27	13·40	13·33	13·09	

IMPERIAL STATEMENT NO. X.— *Deaths registered from Dysentery and Diarrhoea in the districts of Assam during each month of the year 1938*

No	Districts	Circles of registration		Villages		January	February	March	April	May	June	July	August	September	October	November	December	Total			Ratio of deaths per 1,000 of population			Mean ratio per 1,000 of previous five years	No.
		Number in each district	Number from which deaths from Dysentery and Diarrhoea were reported	Number in each district	Number from which deaths from Dysentery and Diarrhoea were reported													Male	Female	Total	Male	Female	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	SURMA VALLEY																								
1	Cachar	13	13	1,607	262	79	56	57	75	62	115	117	76	71	86	105	122	529	492	1,021	1·86	1·94	1·89	1·93	1
2	Sylhet	41	40	11,717	2,176	372	294	240	269	305	337	278	235	293	413	643	857	2,392	2,144	4,536	1·70	1·63	1·66	1·14	2
	Total ..	54	53	13,324	2,438	451	350	297	344	367	452	395	311	364	499	748	979	2,921	2,636	5,557	1·73	1·68	1·70	1·27	
	ASSAM VALLEY																								
3	Goalpara	18	16	3,188	98	10	3	13	12	12	13	28	27	37	32	33	22	140	102	242	0·30	0·25	0·27	0·19	3
4	Kamrup ..	16	15	2,738	203	20	19	33	43	40	50	49	62	46	59	59	31	311	200	511	0·61	0·43	0·52	0·44	4
5	Darrang	14	13	1,978	337	46	46	54	31	107	98	134	135	87	146	90	83	609	448	1,057	1·92	1·67	1·80	1·76	5
6	Nowgong	12	10	2,323	44	16	8	18	16	37	22	55	48	20	47	47	35	200	169	369	0·67	0·64	0·66	0·69	6
7	Sibsagar	17	17	2,284	392	123	103	96	159	185	258	195	169	179	186	193	161	1,050	957	2,007	2·12	2·19	2·15	2·56	7
8	Lakhimpur	17	16	2,498	152	127	83	89	124	265	345	184	175	156	239	264	131	1,090	1,092	2,182	2·73	3·35	3·01	2·66	8
	Total ..	94	87	15,009	1,231	342	262	303	385	646	776	645	616	525	709	686	463	3,400	2,968	6,368	1·36	1·37	1·36	1·36	
	Total for the province..	148	140	28,333	3,669	793	612	600	729	1,013	1,238	1,040	927	889	1,208	1,434	1,442	6,321	5,604	11,925	1·51	1·50	1·50	1·32	

IMPERIAL STATEMENT No. XI.—*Deaths registered from Respiratory diseases in the districts of Assam during each month of the year 1938*

No.	Districts	Circles of Registration		Villages		January	February	March	April	May	June	July	August	September	October	November	December	Total			Ratio of deaths per 1,000 of population			Mean ratio per 1,000 of previous five years	No.
		Number in each district	Number from which deaths from respiratory diseases were reported	Number in each district	Number from which deaths from respiratory diseases were reported													Male	Female	Total	Male	Female	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	SURMA VALLEY																								
1	Cachar ..	13	12	1,607	212	101	98	131	64	79	74	59	58	66	71	75	89	592	373	965	2·08	1·47	1·79	1·72	1
2	Sylhet ..	41	38	11,717	1,017	176	112	146	123	102	123	99	62	75	90	126	147	873	508	1,381	0·62	0·39	0 51	0·50	2
	Total ..	54	50	13,324	1,229	277	210	277	187	181	197	158	120	141	161	201	236	1,465	881	2,346	0 87	0·56	·72	0·70	
	ASSAM VALLEY																								
3	Goalpara ..	18	16	3,188	42	30	16	13	19	13	10	11	7	19	14	30	21	131	72	203	0·28	0·17	0·23	0·14	3
4	Kamrup ..	16	13	2,738	47	18	8	25	13	14	21	32	21	15	27	29	23	151	95	246	0·29	0·20	0·25	0·26	4
5	Darrang ..	14	13	1,978	123	70	51	55	60	97	56	71	63	55	110	63	103	507	347	854	1·60	1·30	1·46	1·08	5
6	Nowgong ..	12	9	2,323	30	10	7	15	7	8	16	13	10	13	5	16	27	80	67	147	0·27	0·25	0·26	0·35	6
7	Sibsagar ..	17	16	2,284	101	121	124	108	126	104	130	94	101	111	119	109	98	730	615	1,345	1·48	1·41	1·44	1·35	7
8	Lakhimpur ..	17	17	2,498	109	182	133	137	174	132	142	92	108	132	238	156	107	984	749	1,733	2·47	2·30	2·39	2·26	8
	Total ..	94	84	15,009	452	431	339	353	399	368	375	313	310	345	513	403	379	2,583	1,945	4,528	1·04	0·90	0·97	0·88	
	Total for the province.	148	134	28,333	1,681	708	549	630	586	549	572	471	430	486	674	604	615	4,048	2,826	6,874	0·97	0·76	0·87	3·81	

IMPERIAL STATEMENT No. XII.—*Deaths registered from plague in the districts of Assam during each month of the year 1938*

No.	Districts	Circle of Registration		Villages		January	February	March	April	May	June	July	August	September	October	November	December	Total			Ratio of deaths per 1,000 of population			Mean ratio per 1,000 of previous 5 years	No.
		Number in each district	Number from which deaths from plague were reported	Number in each district	Number from which deaths from plague were reported													Male	Female	Total	Male	Female	Total		
2	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	6
	Surma Valley																								
1	Cachar ...	13	...	1,607	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
2	Sylhet ...	41	...	11,717	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
	Total ...	54	...	13,324	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Assam Valley																								
3	Goalpara ...	18	...	3,188	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
4	Kamrup ...	16	...	2,738	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
5	Darrang ...	14	...	1,978	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
6	Nowgong ...	12	...	2,323	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
7	Sibsagar ...	17	...	2,284	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7
8	Lakhimpur ...	17	...	2,498	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8
	Total ...	94	...	15,009	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	
	Total for the Province.	148	...	28,333	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	

APPENDIX II

PROVINCIAL

Statement showing details of registration in compulsory areas

Compulsory registration area	Population according to the Census of 1931	Estimated births at 288 per 1,000 married women between the ages of 15 and 40	Number of births registered during the year	Estimated birth-rate per mille	Registered birth-rate per mille	Number of deaths registered during the year		Death-rate per mille		Number of prosecutions under Act IV (B. C.) of 1873	Number of convictions
						Including deaths in hospitals	Excluding deaths in hospitals	Including deaths in hospitals	Excluding deaths in hospitals		
1	2	3	4	5	6	7	8	9	10	11	12
Silchar ...	13,069		289		22·11	180	130	13·77	9·95	3	...
Hailakandi ...	2,002		109		54·44	63	44	31·47	21·98	...	...
Haflong ...	1,124		32		28·46	24	10	21·35	8·90	...	...
Sylhet ...	21,435		670		31·26	337	277	15·72	12·92	5	3
Karimganj ...	5,691		192		33·73	112	86	19·68	15·11	6	...
Maulvibazar ...	4,314		138		31·99	65	50	15·07	11·59	6	6
Sreemangal ...	1,540		39		25·32	24	24	15·58	15·58		
Habiganj ...	7,577		233		30·75	182	151	24·02	19·93	...	...
Sunamganj ...	5,326		204		38·30	133	105	24·97	19·71	...	...
Dhubri ...	9,435		325		34·44	183	144	19·40	15·26	22	6
Goalpara ...	6,415		203		31·64	143	121	22·29	18·86	15	11
Gauripur ...	5,592		147		26·29	94	94	16·81	16·81	...	...
Gauhati ...	21,797		723		33·16	301	163	13·81	7·48		
Barpeta ...	13,777		823		59·74	451	419	32·74	30·41	24	21
Palasbari ...	3,454		141		40·82	85	85	24·61	24·61		
Tezpur ...	10,268		315		30·68	222	163	21·62	15·88	2	2
Mangaldai ...	1,696		53		31·25	47	23	27·71	13·56	1	1
Nowgong ...	10,413		393		37·74	196	140	18·82	13·44	32	24
Sibsagar ...	6,669		203		30·43	90	60	13·50	9·00	...	...
Nazira ...	3,484		71		20·38	44	44	12·63	12·63		
Jorhat ...	8,334		304		36·48	188	134	22·56	16·08	35	25
Golaghat ...	4,688		140		29·86	129	69	27·52	14·72		
Dibrugarh ...	18,734		523		27·91	462	222	24·66	11·85	...	...
Doom Dooma...	1,900		27		14·21	20	20	10·53	10·53		
North Lakhimpur.	2,120		61		28·77	38	28	17·92	13·21	10	10
Tinsukia ...	5,160		180		34·88	84	82	16·28	15·89		
Total ...	196,014		6,538		33·35	3,897	2,888	19·88	14·73	161	109

Not available

Not available

VACCINATION STATEMENT NO. I.—*Showing particulars of vaccination in the province of Assam during the year 1938-39.*

No.	Districts or towns	Population according to census of 1931	Average number of vaccinators employed throughout the year	Total number of persons vaccinated			Average number of persons vaccinated by each vaccinator	Primary vaccination					Re-vaccination			Percentage of successful cases in which the result were known.		Persons successfully vaccinated per 1,000 of population.	Total cost of the Vaccination Department.	Number of all successful vaccinations and re-vaccinations performed by the vaccination staff only.	Average cost of each successful case performed by the vaccination staff.
				Male	Female	Total		Total	Successful				Total	Successful	Unknown	Primary	Revaccination				
									Under one year	One year and under six years	Total of all ages	Unknown									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	A.—DISTRICTS (EXCLUDING TOWNS) *Surma Valley and Hill Division*																		Rs. a. p.		Rs. a. p.
1	Silchar Subdivision.	373,625	17	15,865	10,240	26,105	1,536	12,292	1,112	9,073	11,742	150	13,813	6,223	976	96·71	48·48	48·08	3,021 10 6	17,965	0 2 8
2	Haitakandi Subdivision.	148,990	7	6,268	3,791	10,259	1,466	4,219	314	3,108	3,840	254	6,040	2,260	726	96·85	42·53	40·94	1,853 1 0	6,100	0 4 10
3	Haflong Subdivision.	31,720	6	1,982	1,377	3,359	3,360	1,493	116	927	1,365	54	1,866	788	236	94·79	48·34	67·88	2,189 5 9	2,153	1 0 3
4	Sylhet Subdivision.	559,125	20	37,134	31,640	68,774	3,439	35,022	1,512	19,165	29,790	4,722	33,752	12,286	9,684	98·32	51·05	75·25	4,949 8 0	42,076	0 1 11
5	Karimganj Subdivision.	503,943	23	22,370	19,154	41,524	1,805	24,333	2,017	16,250	23,787	253	17,191	9,379	2,259	98·78	62·81	65·81	4,425 9 0	33,166	0 2 2
6	Maulvi Bazar Subdivision.	445,510	17	18,914	15,826	34,740	2,044	20,380	987	14,760	19,303	325	14,360	7,557	1,375	96·25	58·20	60·29	2,450 3 0	26,860	0 1 6
7	Habiganj Subdivision.	624,944	37	40,198	38,107	78,305	2,116	28,928	2,359	19,134	25,823	1,599	49,377	24,361	9,518	94·49	61·12	80·30	4,793 15 0	50,184	0 1 6
8	Sunamganj Subdivision.	544,937	22	22,774	19,767	42,541	1 934	17,110	920	12,756	15,437	649	25,431	12,554	4,781	93·78	60·79	51·37	4,180 1 0	27,991	0 2 5
9	Shillong Subdivision.	187,481	6	7,974	8,631	16,605	2,767	9,364	715	6,917	9,360	..	7,241	4,343	55	99·96	60·44	73·09	3,188 9 0	13,703	0 3 9
10	Jowai Subdivision.	78,121	2	4,251	4,485	8,736	4,368	6,847	423	2,222	6,599	..	1,889	1,301	61	96·38	71·17	101·13	807 15 0	7,900	0 1 8
11	Kohima Subdivision.	176,085	6	9,069	6,792	15,861	2,643	5,971	392	4,926	4,834	488	9,890	6,387	1,542	88·16	76·51	63·72	2,129 3 0	11,221	0 3 0
12	Lushai Hills ..	124,404	8	6,608	4,999	11,607	1,451	7,453	909	3,674	4,583	622	4,154	1,925	579	67·09	53·85	52·31	2,120 0 0	6,508	0 5 3
	Total of Surma Valley and Hill Division.	3,798,886	171	193,607	164,809	358,416	2,096	173,412	11,776	112,912	156,463	9,116	185,004	89,364	31,792	95·23	58·33	64·71	36,109 0 3	245,827	0 2 4

	Assam Valley Division																			
13	Dhubri Subdivision.	605,688	32	29,737	25,669	55,406	1,731	38,100	4,506	21,535	32,004	5,108	17,306	7,524	5,340	97·01	62·83	65·26	6,732	6 0	39,528	0 2 9
14	Goalpara Subdivision.	255,618	16	15,482	11,771	27,253	1,047	16,510	3,930	8,075	15,012	940	10,743	5,472	1,824	96·42	61·35	80·14	2,241	5 0	20,484	0 1 9
15	Gauhati Subdivision.	636,240	45	26,727	19,258	45,985	1,022	28,308	3,489	19,499	24,973	1,868	17,677	7,328	4,504	94·45	55·63	59·77	4,527	0 0	32,301	0 2 3
16	Barpeta Subdivision.	301,478	18	13,716	9,670	23,386	1,299	15,733	969	11,087	14,833	463	7,653	4,357	831	97·14	63·37	63·65	2,280	9 3	19,190	0 1 11
17	Tezpur Subdivision.	334,900	23	17,510	14,291	31,801	1,383	13,361	3,550	5,776	11,454	540	18,440	9,860	2,011	89·34	60·02	63·64	3,723	2 0	21,314	0 2 10
18	Mangaldai Subdivision.	237,953	18	18,402	15,012	33,414	1,856	11,477	1,840	6,914	10,154	407	21,937	13,635	2,370	91·73	69·68	99·97	2,529	4 0	23,789	0 1 8
19	Nowgong Subd'-	552,168	26	34,695	22,044	56,739	2,182	31,521	6,834	17,379	29,561	22	25,218	15,855	36	93·85	62·96	82·25	5,811	8 0	45,416	0 2 1
20	Jorhat Subdivision.	319,159	18	12,002	8,578	20,580	1,143	13,298	1,316	9,434	11,704	782	7,282	2,737	1,250	93·51	45·37	45·25	2,365	0 0	14,441	0 2 7
21	Sibsagar Subdivision.	320,899	11	7,199	5,805	13,004	1,182	11,176	421	8,739	10,065	722	1,828	542	493	96·28	40·60	33·05	1,375	0 0	10,607	0 2 0
22	Golaghat Subdivision	270,093	17	8,959	7,614	16,573	975	15,086	1,414	10,454	13,713	824	1,487	821	354	96·15	72·46	53·81	2,193	4 0	14,534	0 2 5
23	Dibrugarh Subdivision.	546,164	24	12,641	10,437	23,078	962	17,126	2,571	12,194	16,590	380	5,952	3,286	1,964	99·07	82·40	36·39	4,589	2 6	19,876	0 3 8
24	North Lakhimpur Subdivision.	150,504	8	5,186	4,735	9,921	1,240	8,390	1,263	6,069	7,964	83	1,531	709	554	95·87	72·57	57·63	2,352	3 0	8,673	0 4 4
25	Tura Subdivision.	188,553	7	9,532	8,723	18,255	2,608	8,161	5,025	1,490	6,515	946	10,094	4,760	1,403	90·30	54·77	59·80	1,887	11 0	11,275	0 2 8
	Total of Assam Valley Division.	4,719,417	263	211,788	163,607	375,395	1,427	228,247	37,118	138,645	204,542	13,085	147,148	76,886	22,934	95·06	61·90	59·63	42,610	6 9	281,428	0 2 5
26	Imphal Subdivision.	359,802	9	12,022	8,899	20,921	2,325	14,945	6,900	4,387	12,307	1,529	5,976	3,825	891	91·73	75·22	44·34	3,551	15 0	16,132	0 3 6
27	Sadiya Subdivision.	48,975	4	2,510	1,693	4,203	1,051	2,051	295	706	1,234	817	2,152	839	1,313	100·00	100·00	42·33	1,723	10 3	2,073	0 13 4
28	Balipara Frontier Tract Subdivision.	5,148	1	371	214	585	585	301	40	165	273	6	284	106	41	92·54	43·62	73·62	209	5 3	379	0 8 10
	Total of districts (excluding towns).	8,932,228	448	420,293	339,222	759,520	1,695	418,956	56,139	256,815	374,819	24,553	340,564	171,020	56,971	95·03	60·30	61·11	84,204	5 6	545,839	0 2 6

VACCINATION STATEMENT No. I.—*Showing particulars of Vaccination in the Province of Assam during the year 1938-39*

No.	Districts or Towns	Population according to census of 1931	Average number of vaccinators employed throughout the year	Total number of persons vaccinated			Average number of persons vaccinated by each vaccinator	Primary vaccination					Re-vaccination			Percentage of successful cases in which the results were known		Persons successfully vaccinated per 1,000 of population	Total cost of the Vaccination Department	Number of all successful vaccinations and re-vaccinations performed by the vaccination staff only	Average cost of each successful case performed by the vaccination staff
				Male	Female	Total		Total	Successful			Unknown	Total	Successful	Unknown	Primary	Re-vaccination				
									Under one year	One year and under six years	Total of all ages										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	B TOWNS *Surma Valley and Hill Division.*																		Rs. a. p.		Rs. a. p.
1	Silchar	13,069	1	861	468	1,329	1,329	451	216	208	427	21	878	127	23	99·30	14·85	42·39	524 3 0	554	0 15 2
2	Hailakandi	2,002	..	27	31	58	..	56	26	28	56	..	2	1	..	100·00	50·00	28·47	31 0 0	57	0 8 8
3	Haflong	1,124	..	7	13	20	..	16	5	11	16	..	4	2	..	100·00	50·00	16·01	..	18	..
4	Sylhet	21,435	2	3,146	1,384	4,530	2,265	525	257	216	479	18	4,005	420	388	94·48	11·61	41·94	481 8 0	899	0 8 7
5	Karimganj	5,691	1	534	153	687	687	186	96	52	181	3	501	152	72	98·91	35·43	58·51	126 4 6	333	0 6 1
6	Maulvi Bazar ..	4,314	1	219	60	279	279	133	125	8	133	..	146	61	..	100·00	41·78	44·97	60 0 0	194	0 4 11
7	Sreemangal	1,540	1	40	18	58	58	50	7	43	50	..	8	4	..	100·00	50·00	35·06	39 0 0	54	0 11 7
8	Habiganj	7,577	1	1,137	257	1,394	1,394	293	119	140	288	2	1,101	368	122	98·97	37·59	86·58	118 10 3	656	0 2 11
9	Sunamganj	5,326	1	357	54	411	411	124	28	75	124	..	287	88	44	100·00	36·21	39·80	101 5 9	212	0 7 8
10	Shillong	21,300	1	906	1,243	2,149	2,149	684	415	236	684	..	1,465	448	..	100·00	30·58	53·15	240 0 0	1,132	0 3 5
11	Jowai	3,024	..	132	61	193	..	81	6	32	64	..	112	66	3	79·01	60·55	42·99	10 0 0	130	0 1 3
12	Kohima	2,759	..	619	181	800	..	107	38	56	96	10	693	517	4	98·97	75·04	222·18	..	613	..
	Total of Surma Valley and Hill Division.	89,161	9	7,985	3,923	11,908	1,323	2,706	1,338	1,105	2,598	54	9,202	2,254	656	97·96	26·37	54·42	1,731 15 6	4,852	0 5 9

	Assam Valley Division																				
13	Dhubri	9,435	1	387	165	552	552	209	90	88	185	14	343	97	131	94·87	45·75	29·89	246 6 4	282	0 14 0
14	Goalpara	6,415	1	159	148	307	307	303	147	152	300	1	4	..	..	99·34	..	46·77	62 3 6	300	0 3 4
15	Gauripur	5,592	1	390	250	640	640	214	162	40	204	1	426	154	37	95·77	39·59	64·02	764 0 0	358	0 11 10
16	Gauhati	21,797	2	885	531	1,416	708	598	151	431	582	1	818	228	237	97·49	39·24	37·16	571 6 6	810	0 11 3
17	Barpeta	13,777	1	410	354	764	764	662	329	301	633	10	102	31	43	97·09	32·54	48·29	246 7 9	664	0 5 11
18	Palashbari	3,454	..	42	27	69	..	66	20	46	66	..	3	3	..	100·00	100·00	15·98	57 4 0	69	0 13 3
19	Tezpur	10,268	1	279	197	476	476	394	186	180	368	..	82	40	8	93·40	54·05	39·74	401 5 6	408	0 15 9
20	Mangaldai	1,696	1	20	30	50	50	38	13	25	38	..	12	7	..	100·00	58·33	26·53	92 0 0	45	2 0 9
21	Nowgong	10,413	1	942	275	1,217	1,217	372	247	104	366	..	845	119	26	98·39	14·53	40·58	376 6 0	485	0 12 5
22	Jorhat	8,334	1	335	255	590	590	304	147	152	302	2	286	29	15	100·00	7·38	38·64	305 8 0	322	0 15 3
23	Sibsagar	6,669	1	187	143	330	330	164	11	139	151	..	166	70	2	92·07	42·68	23·14	250 0 0	221	1 2 1
24	Gotaghat	4,688	1	96	93	189	189	166	58	84	144	1	23	14	2	87·27	66·67	33·70	278 0 0	158	1 12 2
25	Nazira	3,484	1	39	41	80	80	75	36	21	57	..	5	2	2	75·00	66·67	16·93	312 0 0	59	5 4 7
26	Dibrugarh	18,734	1	352	222	574	574	364	86	270	356	..	210	25	74	97·80	18·38	20·31	302 8 0	381	0 12 6
27	Tinsukia	5,160	1	731	343	1,074	1,074	291	40	206	261	..	783	429	297	89·69	88·27	133·72	283 13 0	690	0 6 7
28	Doom Dooma ..	1,900	1	440	46	486	486	36	3	28	31	..	459	90	255	86·11	46·15	63·68	24 7 6	121	0 3 3
29	North Lakhimpur ..	2,120	1	186	172	358	358	79	29	50	79	..	279	123	156	100·00	100·00	95·28	26 0 0	202	0 2 10
30	Tura	2,358	..	73	68	141	..	82	37	30	67	9	59	10	5	91·78	18·52	32·65	..	77	..
	Total of Assam Valley Division.	136,294	17	5,953	3,360	9,313	548	4,417	1,792	2,345	4,190	39	4,896	1,462	1,290	95·71	40·54	41·47	4,109 12 1	5,652	0 11 8
31	Imphal	85,804	3	2,106	1,628	3,734	1,245	2,525	1,233	729	2,193	200	1,209	754	184	94·32	73·56	34·35	1,175 8 0	2,947	0 6 5
32	Sadiya	4,370	..	207	68	275	..	58	13	41	54	4	217	36	181	100·00	100·00	20·59	..	90	..
	Total of Towns ..	315,629	29	16,251	8,979	25,230	870	9,706	4,376	4,220	9,035	297	15,524	4,506	2,311	96·03	34·10	42·90	7,017 3 7	13,541	0 8 3
	Total Vaccine Department.	9,247,857	477	436,549	348,201	784,750	1,645	428,662	60,515	261,035	383,854	24,850	556,088	175,526	59,282	95·06	59·14	64·49	91,221 9 1	559,380	0 2 7
	Total of Dispensary staff	..	..	..	..	7,251	..	1,655	477	772	1,431	78	5,596	1,870	1,508	90·74	45·74	..	..	..	..
	Total Tea Gardens ..	..	..	28,721	26,508	55,229	..	32,838	17,817	12,239	32,546	216	22,391	14,942	2,057	99·77	73·48	..	..	..	..
	Total of Jails, Mental Hospital, Police Hospitals and Infectious diseases hospitals.	..	..	3,793	62	3,855	..	19	..	..	5	1	3,836	1,716	567	27·78	52·49	..	..	..	..
	Total of Railway Dispensaries.	..	..	3,010	939	3,949	..	626	101	391	608	8	3,323	781	747	98·38	30·32	..	..	..	..
	Total of private Medical Practitioners.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Shillong Vaccine Depôt	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15,180 5 9	..	..	
	Grand total ..	9,247,857	477	472,073	375,710	855,024	1,793	463,800	78,910	274,437	418,444	25,153	391,234	194,835	64,161	95·39	59·57	66·32	106,401 14 10	559,380	0 3 1

Summary

	Total number of persons vaccinated		Total number of operations performed		Percentages of successful cases in which the results were known		Average number of persons vaccinated by each vaccinator		Number of children successfully vaccinated		Ratio of successful vaccinations per 1,000 of population	Total cost of the Department	Number of all successful vaccinations performed	Average cost of each successful case
	Primary	Re-vaccination	Primary	Re-vaccinaion	Primary	Re-vaccination	Vaccinators employed	Persons vaccinated by each vaccinator	Under one year	One and under six years				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
By special staff—												Rs. a. p.		Rs. a. p.
Districts excluding towns (Subdivisions).	418,956	340,564	418,956	340,564	95·03	60·30	448	1,695	56,139	256,815	61·11	84,204 5 6	545,839	0 2 6
Towns	9,706	15,524	9,706	15,524	96·03	34·10	29	870	4,376	4,220	42·90	7,017 3 7	13,541	0 8 3
Total ...	428,662	356,088	428,662	356,088	95·06	59 14	477	1,645	60,515	261,035	60·49	91,221 9 1	559,380	0 2 7
By dispensary staffs ...	1,655	5,596	1,655	5,596	90·74	45·74	...	...	477	772	...	...	...	...
By private Medical Practitioners.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
By Railway dispensaries	626	3,323	626	3,323	98·38	30·32	...	...	101	391	...	...	...	...
By other agencies, Tea Gardens, Jail hospitals, Police hospitals, Mental hospital and infectious diseases hospitals.	32,857	26,227	32,857	26,227	99·73	70.58	...	...	17,817	12,239	...	...	...	...
Total ...	35,138	35,146	35,138	35,146	99·30	63·80	...	...	18,395	13,402	...	...	...	...
Shillong Vaccine Depot ...	...	...	...	...	...	...	...	...	...	...	...	15,180 5 9	...	...
Grand total ...	463,800	391,234	463,800	391,234	95·39	59·57	477	1,793	78,910	274,437	66·32	1,06,401 14 10	559,380	0 3 1

IMPERIAL STATEMENT NO. II.—*Showing Dispensary Vaccination in the Province of Assam during the year 1938-39*

Districts	Number of dispensaries in each district to which a vaccinator is attached	Average number of vaccinators attached to dispensaries during the year	Total number of persons vaccinated	Average number of persons vaccinated by each vaccinator	Primary vaccination					Re-vaccination			Percentage successful cases in which the results were known		Percentage of unknown cases to total cases	
					Total	Successful			Unknown	Total	Successful	Unknown	Primary	Re-vaccination	Primary	Re-vaccination
						Under one year	One year and under six years	Total of all ages								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Cachar	...	...	34	...	9	4	3	9	...	25	7	12	100·00	53·85	...	48·00
Sylhet	...	...	1,019	...	525	97	270	482	11	494	194	69	93·77	45·65	2·10	13·97
Khasi and Jaintia Hills	...	...	205	...	98	43	26	84	12	107	34	60	97·67	72·34	12·24	56·07
Naga Hills	...	...	469	...	86	20	39	64	...	383	117	50	74·42	35·14	...	13·05
Lushai Hills	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Goalpara	...	...	675	...	28	3	20	26	2	647	364	80	100·00	64·20	7·14	12·36
Kamrup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Darrang	...	...	895	....	16	...	...	12	...	879	261	173	75·00	36·97	...	19·68
Nowgong	...	...	49	...	14	5	7	14	...	35	15	4	100·00	48·39	...	11·43
Sibsagar	...	...	211	...	7	4	3	7	...	204	56	...	100·00	27·45	...	...
Lakhimpur	...	...	87	...	31	12	17	31	...	56	37	...	100·00	66·07	...	...
Garo Hills	...	...	634	...	293	126	122	248	10	341	166	9	87·63	50·00	3·41	2·64
Manipur State ...	...	...	2,545	...	420	107	201	332	43	2,125	562	1,051	88·06	53·33	10·24	49·46
Sadiya Frontier Tract	...	...	168	...	100	41	53	94	...	68	16	...	94·00	23·53	...	...
Balipara Frontier Tract	...	...	260	...	28	15	11	28	...	232	41	...	100·00	17·67	...	...
Total ...	...	...	7,251	...	1,655	477	772	1,431	78	5,596	1,870	1,508	90·74	45·74	4·71	26·95

IMPERIAL STATEMENT NO. III

Showing the number of persons primarily vaccinated and the number of those who were successfully vaccinated in the province of Assam in each of the under-mentioned official years

Vaccinating Agents	Persons primarily vaccinated																			
	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated	Total number	Number successfully vaccinated
	1929-30		1930-31		1931-32		1932-33		1933-34		1934-35		1935-36		1936-37		1937-38		1938-39	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Government	36,803	32,086	38,520	33,353	41,320	37,769	35,322	31,076	37,101	30,405	59,210	32,596	37,114	28,573	49,047	37,407	39,926	32,576	42,329	35,388
Dispensaries	2,851	2,231	2,539	2,217	2,753	2,108	2,139	1,629	2,161	1,759	3,414	2,862	5,091	3,359	2,388	1,839	1,694	1,204	1,655	1,431
Municipal	4,935	4,645	4,752	4,521	5,900	5,542	5,846	5,582	5,603	5,336	6,376	6,106	9,926	9,481	5,897	5,485	6,776	6,299	6,775	6,486
Local Funds	260,658	238,776	250,393	230,321	250,148	221,525	284,814	257,327	311,975	272,296	296,742	272,775	325,199	293,466	323,815	272,546	337,418	297,724	359,457	325,249
Liscensed Vaccinators	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Apprentices	1,132	962	1,145	1,078	600	555	446	406	643	507	1,218	1,142	260	251	1,202	1,168	782	705	2,631	2,231
Native States	18,240	16,171	17,403	15,203	17,551	15,484	15,530	14,782	16,104	14,219	16,129	15,185	15,599	1,285	24,445	19,908	16,955	13,328	17,470	14,500
Tea Gardens	..	..	..	..	..	..	..	..	..	..	..	..	..	..	30,628	28,022	33,835	31,326	32,838	32,546
Jails, Mental Hospital, Police Hospitals and Infectious diseases hospitals.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	152	120	122	68	19	5
Railway Dispensaries	..	..	..	..	..	..	..	..	..	..	..	..	..	..	343	326	509	471	626	608
Total ..	324,619	294,871	314,752	286,693	318,272	282,983	344,097	310,802	373,587	324,522	383,089	330,666	393,189	336,415	437,917	366,821	438,017	383,701	463,800	418,444

STATEMENT IV—*Showing the number of Vaccinations performed in Municipal towns on children under one year of age during the year 1938-39*

Districts	Towns	Number of births during the year	Number of deaths among children under one year during the year	Number of successful Vaccinations on children under one year during the year ending 31st March 1939	Date of extension of Vaccination Act to town
1	2	3	4	5	6
Cachar	Silchar ...	307	27	216	21st January 1892.
	Hailakandi ...	91	12	26	10th November 1922.
Sylhet	Sylhet ...	626	97	256	1st October 1882.
	Habiganj ...	234	38	38	11th December 1913.
	Sunamganj ...	177	25	28	28th June 1915.
	Karimganj ...	171	31	89	27th July 1915.
	Maulvi Bazar ...	145	12	125	16th April 1916.
	Sreemangal ...	56	5	7	9th October 1936.
Khasi and Jaintia Hills.	Shillong ...	761	76	415	21st June 1895.
	Total of Surma Valley and Hill Division.	2,568	323	1,200	
Goalpara ...	Dhubri ...	353	32	112	13th February 1891.
	Goalpara ...	209	11	106	12th November 1890.
	Gauripur ...	158	25	73	15th September 1922.
Kamrup ...	Gauhati ...	733	62	445	August 1882.
	Barpeta ...	835	79	202	29th October 1915.
	Palashbari ...	147	22	66	16th November 1927.
Darrang ...	Tezpur ...	325	49	180	22nd May 1907.
	Mangaldai ...	57	43	11	12th October 1916.
Nowgong ...	Nowgong ...	411	40	248	7th April 1897.
Sibsagar ...	Sibsagar ...	209	21	11	21st January 1892.
	Jorhat ...	309	53	147	12th April 1892.
	Golaghat ...	140	10	11	24th March 1892.
	Nazira ...	70	8	36	1st December 1916.
Lakhimpur ...	Dibrugarh ...	530	49	39	September 1883.
	Doom Dooma ...	19	3	13	21st October 1918.
	Tinsukia ...	93	14	40	31st August 1922.
	North Lakhimpur	71	10	29	22nd June 1932.
	Total of Assam Valley Division.	4,669	531	1,769	
	Total for the Province.	7,237	854	2,969	

IMPERIAL STATEMENT No. V.—*Showing side by side the ratio (per 1,000 of population) of deaths from small-pox and the number of successful vaccinations during the ten years ending 1938-39*

—	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccinations	Ratio of deaths from small-pox	Number of successful vaccination
	1929-1930		1930-1931		1931-1932		1932-1933		1933-1934		1934-1935		1935-1936		1936-1937		1937-1938		1938-1939	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Cachar..	·32	30,687	·04	19,418	..	19,255	..	24,418	..	22,822	..	27,002	..	28,069	·06	28,725	·11	33,434	..	26,863
Sylhet	·15	145,407	·04	129,243	·01	108,508	·004	116,176	·02	111,605	·02	120,612	·04	122,728	·25	143,670	·66	167,689	·48	183,301
Khasi and Jaintia Hills ..	·03	13,574	..	12,967	·003	14,098	..	15,222	..	13,654	.007	18,494	·007	21,296	..	18,992	..	18,384	..	22,983
Naga Hills	..	5,845	..	5,325	..	6,044	..	6,758	..	6,432	..	8,546	..	7,951	..	13,140	..	13,380	..	12,015
Lushai Hills	..	11,771	..	5,037	..	4,914	..	7,499	..	7,986	..	4,317	..	3,113	..	3,083	..	9,156	..	6,508
Goalpara	·26	55,246	·61	51,704	·29	65,171	·30	110,298	·04	94,802	·01	74,769	·002	56,281	·003	65,624	·008	54,503	·002	61,342
Kamrup	·21	49,553	·29	49,825	·17	46,086	·17	41,043	·07	46,478	·10	46,534	·26	82,942	·27	55,250	·12	48,556	·80	53,034
Darrang	·08	26,726	·15	35,005	·04	24,716	·05	28,454	·04	30,935	·06	38,890	·05	42,799	·06	49,973	·04	26,107	·04	45,829
Nowgong	·01	27,908	..	28,873	..	28,507	..	28,051	·002	28,922	·03	37,916	·04	51,159	·06	52,967	·35	44,612	·54	45,930
Sibsagar	·02	39,509	·03	41,950	·07	34,567	·06	30,493	·04	35,214	·01	36,946	·13	44,429	·02	42,484	·006	33,770	·03	40,405
Lakhimpur	·26	21,346	·27	25,601	·11	18,877	·03	24,440	·008	28,118	·01	34,550	·003	32,652	·003	29,148	·006	29,811	·01	30,011
Garo Hills	·06	21,541	·13	18,997	·15	14,948	·03	13,978	·06	21,342	·04	18,855	·01	13,852	..	11,484	·005	10,268	..	11,766
Manipur State	·40	30,444	·01	19,284	..	18,726	..	20,313	..	20,293	..	7,890	·35	29,127	·39	30,042	·22	21,462	·01	19,973
Sadiya Frontier Tract ..	..	4,385	·02	6,777	..	4,123	·09	2,878	..	2,552	..	5,131	..	8,529	..	2,980	..	2,763	..	2,273
Balipara Frontier Tract ..	..	..	..	..	..	291	..	478	..	514	..	400	..	669	..	456	..	366	..	448
Total	·14	483,942	·14	450,006	·07	408,831	·06	470,499	·03	471,669	·02	480,852	·07	545,596	·12	547,928	·25	514,261	·19	562,681

A. G. P. (D.P.H.) No. 14—337—5-3-1940.

GOVERNMENT OF ASSAM

Orders by the Governor

Resolution on the Public Health Report for 1938

Extract from the proceedings of the Government of Assam in the Local Self-Government Department, Public Health Branch, No.826-L.S.-G., dated the 9th February 1940.

READ—

The Public Health Report for 1938

RESOLUTION

DURING the year, though there were fewer cases of small-pox, fever, dysentery and diarrhœa—all important causes of death in Assam—owing to floods that prevailed in almost all the districts, cholera broke out in epidemic form and took a heavy toll, leaving the state of public health in the province unsatisfactory on the whole, as in the previous year. The death-rate from cholera was 1·50 per mille as compared with 0·69 in 1937.

2. The registered birth and death-rates per mille based on the population enumerated at the Census of 1931 show a decrease from 31·31 to 29·92 and an increase from 22·21 to 22·42 respectively as compared with the previous year. There was no change in the agencies for collection of vital statistics either in the urban or rural areas and owing to the defective character of registration of vital occurrences, figures in the Report cannot be relied on absolutely. A comprehensive scheme for the reorganisation of the Public Health Department on more efficient lines, which includes among other proposals an endeavour to effect improvement in the method of collection of vital statistics, is under consideration of Government. It is yet to be seen how far the proposals contained in the scheme can be given effect to in view of the limited resources at the disposal of Government.

3. The number of cases of infant mortality during the year fell from 39,727 to 39.057 and compares favourably with the rate obtaining in Bengal, Orissa, Central Provinces, the Punjab, Bombay and Burma. Even then it must be admitted that infant mortality in the province is heavy. It is attributed in large measure to immaturity and ignorance on the part of mothers, improper feeding and exposure of infants to insanitary surroundings. But the admirable efforts made by the Indian Red Cross Society and its affiliated bodies, with aid from Government and charitable donations from a generous public, in establishing gynæcological and child welfare centres and in other educational measures in the province, are expected, to improve matters in the course of the near future.

4. The incidence of cholera showed a disquieting increase during the year under report. The increase (from 5,440 to 11,907) was due to a virulent outbreak of the disease, mainly in the districts of Sylhet, Goalpara and Kamrup caused by contamination of water when these districts were visited by prolonged and extensive floods. The cause of such seasonal and serious outbreaks of cholera in the province is attributed to the use of questionable sources of water-supply especially in the rural areas. The Director of Public Health has exhaustively dealt with the matter in his Report which goes to show how difficult it is to solve this great problem of water-supply. In addition to the normal methods of prevention of spread of infection the Director has decided to pay attention to a particular line of attack which, as his exposition of the situation shews, seems to contain in it the seeds of success. This consists of two lines of action—(*a*) the carrying out, preferably before an epidemic, of an intensive inoculation of the population so as to present the epidemic with an unfavourable soil before the outbreak occurs ; and (*b*) to carry out improvement in the village water-supply, the object of which is to attempt to ensure that the digestive functions of the people who will be liable to attack, are not deranged before the cholera germs arrive by the use of impure water. It is to be hoped that this method of prophylaxis will be successful, and the Ministry will await with interest the result of another year's work.

5. The number of reported deaths and cases of *kala azar* treated respectively rose from 1,057 to 1,338 and from 12,051 to 17,268 as compared with the previous year. The increase in the number of cases treated is shared by almost all districts, but the increase in the number of deaths occurred mainly in the district of Sylhet, Kamrup and Sibsagar. It is apprehended that a cycle of increased incidence of the disease has actually set in. Systematic survey of the infected areas has been made, and treatment centres have been established wherever necessary, and for this Government have since sanctioned a number of additional Sub-Assistant Surgeons to cope with the situation. Methods of diagnosis and treatment of the disease were the same as in the previous year, but *Neo-stibosan* has again been brought in use in urban areas.

6. The total number of reported deaths from fever, which includes malaria and other diseases with fever as their predominant symptom, showed a slight decrease (3,688) as compared with the previous year. The number of cases of malaria treated in dispensaries under the Medical and the Public Health Departments also fell from 819,845 to 813,667. The total number of quinine reinforced cinchona febrifuge treatments sold decreased from 9,752 to 7,931 as compared with the previous year. This decrease is due to the fact that malaria did not occur in an epidemic form during the year and also to the free distribution of 1,500 lbs. of quinine from the free gift made by the Government of India. This gift covered a period of three years only ending in 1938. As no further free gift is expected, ways and means for meeting the ever-rising demand for quinine are under consideration of Government.

The Assam Medical Research Society continued useful research work on malaria. On the initiative of the Government, the Society has since decided to entertain a Research Officer on lesser pay than his predecessor in order to utilize the saving in intensifying their activities in other directions. The annual Government grant of Rs.20,000 to the Society was continued.

7. The total number of deaths from small-pox fell from 2,187 to 1,649 while 29,127 more vaccination operations were performed than in the previous year. A proposal for the improvement of the vaccination staff is under consideration of Government along with the comprehensive scheme for re-organisation of the Public Health Department on more efficient lines.

8. Adulteration of food-stuff is reported to be on the increase. Government view with concern the failure of the local bodies, to whom the working of the Assam Pure Food Act is entirely left, to take full advantage of it. They are considering how far defects, if any, in the Act and the Rules framed thereunder may make working by local bodies difficult; but unless the local bodies take a keen interest in the working of the Act, mere amendment of the regulations will not serve any fruitful purpose. Government trust that as time goes on local bodies will realise more and more their responsibility in this matter.

9. In the matter of public health propaganda by exhibitions should play a great part. Especially in a country where the mass of people is backward and ignorant, the importance and educational value of occular demonstrations in the form of health exhibitions can hardly be over estimated. The Shillong Health Exhibition which was opened on the 1st April 1938 aroused great interest at the time and was visited by thousands of persons. It was intended to be the forerunner of similar exhibitions in other parts of the province and was in fact followed by exhibitions at Gauhati and elsewhere.

10. In conclusion the Governor wishes to express his thanks to Lieutenant Colonel Hesterlow and his Officers for their efficient administration of the Department and for the keen interest shown by them towards the well-being of the population of the province.

By order of the Governor of Assam,

S. P. DESAI,
Secretary to the Government of Assam
in the Education and Local Self-Government Departments.

A. G. P. (D. P. H.) No. 14—337—24-2-1940.

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