

Annual sanitary report of the Province of Assam.

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ANNUAL PUBLIC HEALTH REPORT

OF THE

PROVINCE OF ASSAM

FOR THE YEAR

1923

BY

MAJOR T. D. MURISON, I.M.S.,
OFFG. DIRECTOR OF PUBLIC HEALTH, ASSAM.



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FROM

MAJOR T. D. MURISON, I.M.S.,
OFFG. DIRECTOR OF PUBLIC HEALTH, ASSAM,

TO

THE SECOND SECRETARY TO THE GOVERNMENT OF ASSAM.

Dated Shillong, the 12th May 1924.

SIR,

I HAVE the honour to submit herewith the Annual Public Health Report of the Province of Assam for the year 1923.

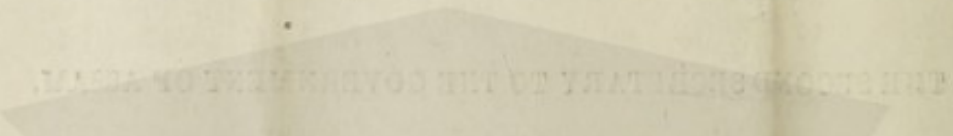
Your obedient servant,

T. D. MURISON, *Major, I.M.S.,*
Offg. Director of Public Health, Assam.

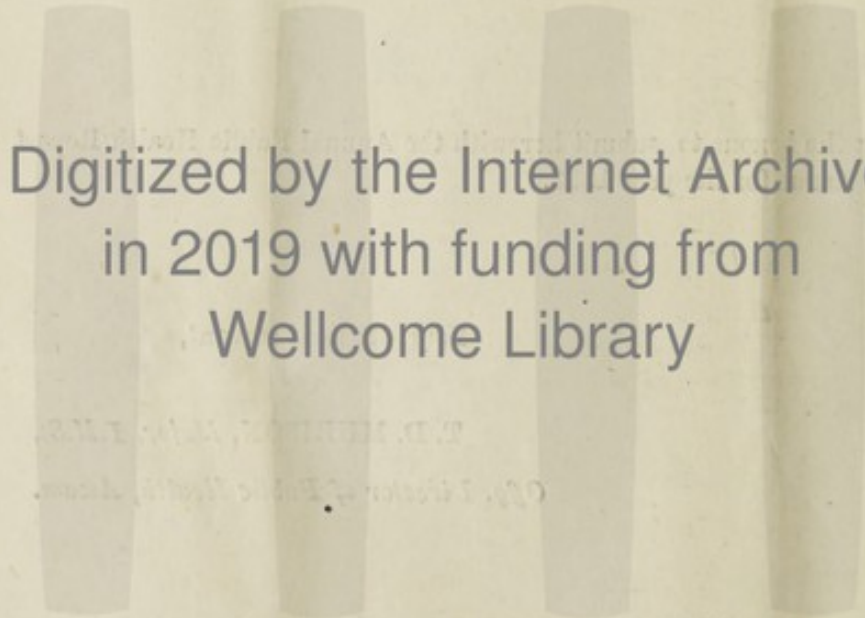
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ANNUAL PUBLIC HEALTH REPORT

OF THE

PROVINCE OF ASSAM

FOR THE YEAR

1923.

SECTION I.

METEOROLOGY.

The following note on the meteorological conditions of the province of Assam during the year 1923 has been kindly furnished by the Director-General of Observatories:—

I. *The cold weather period, January and February.*—There was hardly any rain in January and maximum temperature was slightly above normal. In February on the other hand rainfall was in excess by 29 per cent. and cloud proportion and minimum temperature were inclined to be high.

II. *The hot weather period, March to May.*—Only 13 per cent. of the normal rainfall was received in the month of March; in keeping with this unusual dryness cloud proportion was in distinct defect and the air was drier and much hotter than usual, the mean maximum of the month being 4.50 above normal. There was an improvement in the next two months, April recording a normal rainfall and May a large excess. Skies were more clouded than usual in both the months. Minimum temperature was slightly above normal in April and the maximum slightly below normal in May.

III. *The monsoon period, June to September.*—Rainfall was in defect in July and August. This was counterbalanced by the excess in the other two months, so that the total of the season was normal. Cloud proportion was in excess in July and September. In August, which had the greatest deficiency of rainfall, maximum temperature was slightly above normal.

IV. *The retreating monsoon period, October to December.*—Rainfall was normal in December, in slight defect in October and in large defect in November. Cloud proportion was below normal in October and above it in December. Maximum temperature was inclined to be high in the last two months of the period.

The monsoon was on the whole well distributed during the year and the amount of common rice purchasable for one rupee during the year under report was on an average 7 seers and 14 chhataks, which was 5 chhataks more than that obtainable for the same price in the preceding year.

Price of food-grains and their connection with vital occurrences.

SECTION II.

EUROPEAN ARMY.

(No remarks.)

SECTION III.

NATIVE ARMY.

(No remarks.)

SECTION IV.

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(No remarks.)

SECTION V.

GENERAL POPULATION.

Vital statistics.

2. The report deals with the plains districts of the province, the population of which according to the census of 1921 was 6,852,242.* This has been used as the basis for calculation of ratios. Registration in selected areas of the hill districts is shown separately in paragraph 10 of this report. The birth-rate of the province during 1923 was 28·82 per mille and is compared below with the ratios recorded for other provinces of India :—

General census figures. Provincial birth and death rates. Comparison with other provinces.

| Provinces. | Birth-rate. | | |
|-------------------------------------|-------------|-------|-------|
| | 1917-21. | 1922. | 1923. |
| 1 | 2 | 3 | 4 |
| Assam | 28·60 | 28·43 | 28·82 |
| Bengal | 30·2 | 27·4 | 29·9 |
| Bihar and Orissa | 35·47 | 35·03 | 37·02 |
| Central Provinces | 40·55 | 35·80 | 45·63 |
| Madras | 28·4 | 30·0 | 33·1 |
| Burma | 32·51 | 29·69 | 29·52 |
| Bombay | 31·62 | 32·39 | 35·57 |
| United Provinces | 37·66 | 32·17 | 36·04 |
| Punjab | 40·0 | 39·31 | 43·16 |
| North-West Frontier Province | 28·6 | 23·69 | 27·6 |

The recorded birth-rate was lower in Assam than in any province except the North-West Frontier Province.

The death-rate for the year 1923 was 23·54 as compared below with the rates recorded for other provinces of India :—

| Provinces. | Death-rate. | | |
|-------------------------------------|-------------|-------|-------|
| | 1917-21. | 1922. | 1923. |
| 1 | 2 | 3 | 4 |
| Assam | 32·18 | 26·85 | 23·54 |
| Bengal | 32·0 | 25·2 | 25·5 |
| Bihar and Orissa | 39·60 | 24·13 | 25·04 |
| Central Provinces | 53·20 | 29·31 | 30·53 |
| Madras | 27·7 | 21·0 | 22·2 |
| Burma | 28·64 | 22·23 | 20·81 |
| Bombay | 43·20 | 23·61 | 25·89 |
| United Provinces | 47·75 | 25·01 | 23·37 |
| Punjab | 39·2 | 22·67 | 30·94 |
| North-West Frontier Province | 35·4 | 21·68 | 23·7 |

* This population is 2,125 less than that shown in the report of 1922, reasons being the transfer of the population of 493 from the Darrang district to the Balipara Frontier Tract, of 1,718 from the Lakhimpur district to the Sadiya Frontier Tract and of 83 from the Naga Hills to the Nowgong district (vide correction slips to the Census Report).

It will be seen that the death-rate of Assam does not compare unfavourably with the rates recorded in other provinces.

3. Births registered were 197,518 or 28·82 per 1,000 of the population against 28·43 in the previous year and 28·75, the quinquennial average. The highest birth-rates of the year were returned by Goalpara (33·35) and Cachar (31·76). Nowzong, which returned the lowest rate of 24·9 in 1922, has recorded a still lower rate of 23·19 in 1923, and the widespread prevalence of *kala-azar* in the district may account for this. Nowgong and Sylhet are the only two districts which returned birth-rates below those of 1922 and the quinquennial average. Vigorous measures are being taken to deal with *kala-azar* in these two districts. The natural increase of population, *i.e.*, excess of births over deaths per 1,000 of population for the year was 5·28 per mille, as compared with 1·58 in 1922, the increase being shared by all districts except Nowgong, presumably for the reason stated above.

4. During 1923 the birth-rate for towns amounted to 29·23 per mille of the population as compared with 27·69 in 1922, the number of Birth registration in urban areas. births being 4,361 and 4,046, respectively. Nazira reported the highest rate, 55·09. High rates were also recorded in Barpeta (46·54), Sibsagar (42·97), Goalpara (36·05) and Habiganj (34·47). The towns returning a rate below 20 per mille were Hailakandi (16·60), Doom Dooma (17·21) and Maulvi Bazar (18·89). All of them are small towns and their low rates were due to defective registration.

5. The total number of births registered in rural areas in 1923 was 193,157 or 28·81 per mille of population, as compared with 190,852 and 28·45 in 1922. Birth registration in rural areas.

Over rural circles the birth-rate varied from 51·10 for Bijni Duar Circle in Goalpara district to as low a figure as 5·27 for Margherita Circle in Lakhimpur district. Circles reporting rates above the provincial average for the year were 13 circles in Sylhet, 11 in Goalpara, 7 in Cachar, 6 in Kamrup, 5 in Darrang, 3 in Lakhimpur, 2 in Nowgong and 1 in Sibsagar. The low rates of 15·64 reported from Gabpur Circle in Darrang district, of 15·52 from Boko in Kamrup, of 14·13 from Jamunamukh in Nowgong and of 5·27 from Margherita in Lakhimpur appear to be due to defective registration in those circles.

6. Deaths registered during the year totalled 161,332, as compared with 184,057 in 1922, which represent annual ratios of 23·54 and 26·85, respectively, as compared with a quinquennial average of 32·77 per mille. The highest district death-rates were recorded in Goalpara (27·58), Sylhet (21·59) and Nowgong (21·05) and the lowest in Sibsagar (18·32). The death-rates in all districts in the year 1923 were lower than those of the previous year and of the quinquennium (1913-17) preceding the influenza years of 1918 and 1919.

7. The death-rate for urban areas for the year 1923 was 23·36, as compared with 23·49 in the preceding year and 25·30, the quinquennial average. The highest ratios in urban areas were recorded in Tezpur (32·02) due to respiratory diseases and diseases grouped under other causes, Habiganj (31·76) due to fevers and dysentery and diarrhoea, Barpeta (30·43) due to fevers and dysentery and diarrhoea, Doom Dooma (30·12) due to fevers and dysentery and diarrhoea, Gauhati (29·67) due to small-pox, fevers and respiratory diseases, Nowgong (28·17) due to small-pox and fevers, Dhubri (27·88) due to fevers and respiratory diseases and Goalpara (26·56) due to cholera and fevers. The ratio for the Tezpur Municipality proper should be 19·61 only, excluding deaths reported from Mental, Jail, Police and Emigration Hospitals and Charitable dispensary which are located within the municipal area.

8. The total number of deaths registered in rural areas in 1923 was 157,846 or 23·54 per mille of population, as compared with 180,625 and 26·92, respectively, in the previous year and 32·94, the quinquennial average. Death registration in rural areas.

Registration circles considered individually, the Jaintiapur circle in the Sylhet district reported the highest rate 38·47 which was due to fevers and diseases grouped under other causes. Other circles reporting high death-rates were Kalaigaon (37·28) due to fevers and diseases grouped under other causes and Panerihat (32·36) due to fevers in Darrang district, Bijni Duar (37·18) due to fevers and small-pox, Golokganj (35·50) due to cholera and fevers, Dudnai (34·14) due to fevers,

Guma (33.85) due to fevers, Mankachar (32.06) due to fevers, Chirang (30.66) due to fevers and small-pox, Sidli (30.37) due to fevers and cholera, and Goalpara (30.37) due to fevers in Goalpara, Madhabpur (33.89) due to cholera and fevers, Habiganj (31.69) due to cholera and fevers, and Lakhai (30.30) due to cholera and diseases grouped under other causes in Sylhet, Gauhati (32.16) due to fevers and cholera in Kamrup and Lumding (30.02) due to small-pox and fevers in Nowgong. The death-rates reported from Gahpur Circle (10.56) in Darrang district, Dhemaji (9.89) and Margherita (5.61) in Lakhimpur and Majuli (8.59) in Sibsagar are low and can only be explained by defective registration.

9. The annexed table shows the results of the enquiries conducted by the Vaccination Inspecting staff in compulsory urban areas to test the accuracy of vital statistics during the non-vaccination season of the year 1923 :—

Registration in compulsory areas,
Prosecution under Act IV (B.C.)
of 1873.

| Municipalities. | Unregistered vital occurrences detected during 12 months from October 1922 to September 1923. | | Recorded vital occurrences during 12 months from October 1922 to September 1923. | | Percentage of omissions. | |
|------------------------|---|---------|--|---------|--------------------------|---------|
| | Births. | Deaths. | Births. | Deaths. | Births. | Deaths. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Silchar | ... | ... | 227 | 137 | ... | ... |
| Hailakandi | 1 | ... | 34 | 57 | 2.86 | ... |
| Sylhet | 10 | 1 | 415 | 335 | 2.35 | 29 |
| Karimganj | 13 | 5 | 97 | 67 | 11.82 | 6.94 |
| Maulvi Bazar | 1 | ... | 84 | 38 | 1.18 | ... |
| Habiganj | ... | ... | 196 | 205 | ... | ... |
| Sunamganj | 6 | 4 | 81 | 44 | 6.90 | 8.33 |
| Dhubri | 17 | 7 | 185 | 186 | 8.42 | 3.63 |
| Goalpara | 18 | 14 | 209 | 161 | 7.93 | 8.00 |
| Gauripur | 72 | 44 | 41 | 49 | 63.72 | 47.51 |
| Gauhati | 26 | 19 | 435 | 464 | 5.64 | 3.93 |
| Barpeta | 16 | 9 | 526 | 340 | 2.95 | 2.58 |
| Tezpur | 8 | 8 | 226 | 261 | 3.42 | 2.97 |
| Mangaldai | 11 | 4 | 19 | 13 | 36.66 | 23.53 |
| Nowgong | 6 | 5 | 240 | 140 | 2.44 | 3.45 |
| Jorhat | 5 | 5 | 117 | 69 | 4.09 | 6.76 |
| Sibsagar | 37 | 8 | 257 | 158 | 12.59 | 4.82 |
| Golaghat | 13 | 4 | 113 | 61 | 10.32 | 6.15 |
| Nazira | 35 | 8 | 129 | 38 | 21.82 | 17.39 |
| Dibrugarh | 27 | 10 | 291 | 124 | 8.49 | 7.46 |
| North Lakhimpur | 3 | 1 | 56 | 38 | 5.08 | 2.56 |
| Doom Dooma | ... | ... | 15 | 21 | ... | ... |
| Tinsukia | 6 | 4 | 37 | 20 | 13.95 | 16.66 |
| Shillong | ... | ... | 550 | 232 | ... | ... |
| Total | 332 | 160 | 4,580 | 3,258 | 6.75 | 4.68 |

Four hundred and fifteen prosecutions were instituted and 301 convictions were obtained.

The percentage of omissions in registration detected in the Gauripur Union was high, and it appears to be due to the recent extension of the Act to the Union. Steps have been taken to prosecute the defaulters. In general the average fine inflicted for a failure to register an occurrence of a birth or death amounted to Re. 1-3.

10. The subjoined table shows the recorded birth and death-rates in hill districts :—
Registration in hill districts.

| Districts. | 1923. | | 1922. | |
|--------------------------------|-------------|-------------|-------------|-------------|
| | Birth-rate. | Death-rate. | Birth-rate. | Death-rate. |
| 1 | 2 | 3 | 4 | 5 |
| Khasi and Jaintia Hills | 27·31 | 16·59 | 29·96 | 15·47 |
| Naga Hills | 16·00 | 16·00 | 18·11 | 31·41 |
| Lushai Hills | 41·09 | 30·15 | 41·14 | 31·87 |
| Garo Hills | 23·64 | 22·60 | 23·01 | 20·53 |
| Sadiya Frontier Tract | 12·14 | 9·43 | 12·82 | 11·73 |

Cholera was responsible for 3 deaths in the Khasi and Jaintia Hills district. They were reported from the Shillong police station in the month of March, the disease being imported from the plains. The birth and death rates of the Shillong Municipality were 32·78 and 12·79, respectively, which show that the condition of public health of the town was satisfactory during the year. Seventeen cases of typhoid were reported during the summer, the disease being less prevalent than in 1922. A staff for the control of the milk supply imported from villages in the neighbourhood which were suspected of harbouring typhoid fever in endemic form was entertained as in the previous year. A systematic search of all potential breeding grounds for anopheles larvae within the Shillong Municipality was made by a trained insect collector sanctioned by the Municipality for the purpose. His daily catch was identified in the Public Health Laboratory, the accuracy of his observations being checked by Lieutenant-Colonel T. C. McCombie Young, I.M.S. A year's observation having been completed, the results of these with the recommendations arising from them were submitted by him. The ratios of the Naga Hills district do not represent the condition of public health in the whole district, but only of Kohima town and Dimapur, whose combined population is 4,936 only. There was less prevalence of malaria in the district as compared with the previous year. In the Lushai Hills district respiratory diseases were responsible for the largest number of deaths followed by fevers. Sporadic cases of influenza were occasionally reported from this district and prompt medical aid was afforded to deal with them. The diseases that were most prevalent in the district of the Garo Hills were malaria and *kala-azar*. There is also leprosy and other skin diseases. The Deputy Commissioner remarks that he has "found leprosy and *kala-azar* to be rare in the interior and common near plains bazars." In the Sadiya Frontier Tract, vital statistics are recorded in the towns and Assamese villages only, but as the population of these areas is not available, ratios which have been calculated on the total population do not represent the actual health condition of the year. Goitre, of which 2,127 cases were reported, is prevalent amongst the hill people in this area. These cases received treatment in the dispensaries.

Registration in tea gardens.

11. The subjoined statement shows the birth and death rates reported from tea estates during the year 1923 :—

| Districts. | Birth-rate. | Death-rate. |
|------------------|-------------|-------------|
| 1 | 2 | 3 |
| Cachar | 26·65 | 21·40 |
| Sylhet | 25·89 | 20·24 |
| Goalpara | 40·57 | 21·07 |
| Kamrup | 5·41 | 7·58 |
| Darrang | 28·90 | 19·65 |
| Nowgong | 23·37 | 23·83 |
| Sibsagar | 30·77 | 22·20 |
| Lakhimpur | 30·83 | 24·79 |
| Total | 28·69 | 21·97 |

There was a natural increase of 6.72 per thousand of population in tea estates, which is satisfactory. All districts contributed to the increase except Kamrup, in which reporting is defective. In Nowgong the birth and death rates were almost equal. The Civil Surgeon, Kamrup, reports that out of 27 gardens in his district the monthly return of births and deaths of ten gardens only was received by him. The Deputy Commissioner has been requested to take steps to ensure regular submission of monthly returns by managers through him or the Subdivisional Officer, as the case may be, as laid down in Government letter No. 1459-60M., dated the 7th March 1917.

One hundred and forty deaths from *ka'a-azar* were reported from tea estates during the year, Nowgong reporting the largest number, *viz.*, 85. A severe outbreak of *kala-azar* occurred on some of the European companies' gardens in the Darrang district and the Superintendent and the Medical Officer of the gardens dealt promptly with it.

12. The total number of births and deaths recorded within railway limits in the year 1923 were 91 and 354, respectively, as compared with 90 and 303 in the preceding year. As in the year 1922, the highest number of deaths were recorded under "other causes" and "respiratory diseases."

Registration on railways.

13. In the province as a whole, the birth-rates were the highest in the months of November and December and the lowest in the month of June, as usual. In the absence of any wide-spread epidemics the mortality was evenly distributed through the different months of the year, the highest rate of 2.37 per mille being recorded in December and the lowest rate of 1.67 in February.

Seasonal incidence of births and deaths.

14. The total infant mortality per thousand of births registered during 1923 was 179.50, as compared with 198.20 in 1922. The following statement compares the rates for Assam with those of other provinces in India:—

Mortality according to age, sex and class.

| Province. | Rate. |
|-------------------------------------|--------|
| 1 | 2 |
| Assam | 179.50 |
| Bengal | 182.1 |
| Bihar and Orissa | 146.52 |
| Central Provinces | 220.29 |
| Madras | 113.7 |
| Burma | 182.38 |
| Bombay | 159.75 |
| United Provinces | 169.37 |
| Punjab | 193.62 |
| North-West Frontier Province | 149.50 |

As usual, the rate of mortality was the highest in the first year of life and lowest in the age group 10 to 15 and the total combined mortality amongst males was higher than that amongst females in the ratio of 115 to 100. The mortality rates amongst the different classes of the community were as follows:—

| | |
|----------------------|-------|
| Christians | 13.81 |
| Hindus | 22.52 |
| Muhammadans | 23.41 |
| Buddhists | 17.48 |
| Other classes | 32.20 |

15. Members of the vaccination inspecting staff checked 54,124 entries of births and deaths in 3,605 villages and found 3,438 omissions as compared with 46,494, 3,751 and 2,953 in 1922, the percentage of omissions to the number verified in the year under report being 6.35. The percentage of omissions detected in the Kamrup district, *viz.*, 22.00, was the highest and that detected in Nowgong, *viz.*, .58, was the lowest, as in the preceding year.

Inspection of village register of vital statistics.

16. The agency for the collection of vital statistics both in urban and rural areas remains unchanged. The experiment under which four rewards of Rs. 20 each are granted to four selected gaonburas in each subdivision of the districts of Kamrup, Darrang, Nowgong, Sibsagar and Lakhimpur for improving the reporting of vital statistics in rural areas was continued during the year and a sum of Rs. 800 was placed at the disposal of the Deputy Commissioners concerned for the purpose.

General accuracy of vital statistics and improvement effected during the year.

SECTION VI.

HISTORY OF CHIEF DISEASES.

17. The following table shows the death-rate per 1,000 from each of the chief causes of mortality during the year 1923, as compared with the average of the preceding decennium :—

| Diseases. | 1913-22. | | | 1923. | | |
|-------------------------------|----------|--------|-----------|--------|--------|-----------|
| | Urban. | Rural. | Combined. | Urban. | Rural. | Combined. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Cholera | 1.56 | 2.29 | 2.28 | .26 | .55 | .54 |
| Small-pox | .43 | .40 | .40 | .18 | .47 | .47 |
| Plague | ... | ... | ... | ... | ... | ... |
| Févers | 6.84 | 16.25 | 16.05 | 8.00 | 15.68 | 15.52 |
| Dysentery and diarrhœa | 3.11 | 2.00 | 2.02 | 3.72 | 1.27 | 1.33 |
| Respiratory diseases | 3.16 | 2.19 | 2.21 | 3.00 | .95 | .99 |
| Injuries | .48 | .29 | .29 | .54 | .27 | .28 |
| All other causes | 6.78 | 5.34 | 5.37 | 7.64 | 4.33 | 4.40 |
| Total | 22.38 | 28.78 | 28.64 | 23.36 | 23.54 | 23.54 |

The death-rate for the year was less than the average of the last ten years by 5.1, and there was a reduction in the incidence of epidemic diseases of cholera, dysentery and diarrhœa, and respiratory diseases, especially in rural areas.

INFLUENZA.

The total number of deaths recorded under influenza during the year 1923 was 554, as compared with 1,597 in 1922 and no acute epidemic of the disease was reported from any district.

18.—CHOLERA.

| District. | Death-rate per mille. | |
|------------------|-----------------------|-------|
| | 1913-22. | 1923. |
| 1 | 2 | 3 |
| Cachar | 2.21 | .38 |
| Sylhet | 2.47 | .69 |
| Goalpara | 1.74 | .54 |
| Kamrup | 3.43 | 1.00 |
| Darrang | 3.02 | .38 |
| Nowgong | 2.70 | .17 |
| Sibsagar | 1.61 | .29 |
| Lakhimpur | .69 | .19 |
| Total | 2.28 | .54 |

In 1923, cholera contributed 3,728 deaths, giving a ratio of .54 per mille of the population, as against 16,219 and 2.36 in 1922, the mean for the previous ten years being 2.28. The fall in the death-rate was shared by all districts. During the year under report a set of rules were framed and brought into use for regulating the system of reporting outbreaks of epidemic diseases. It appears that earlier information is now available than was possible under former condition, with the result that a commencing epidemic is brought under immediate control.

19. Gauripur Union and Goalpara Municipality reported the highest death-rates from cholera of 2.78 and 1.12, respectively, and this may be ascribed to defective water-supply and conservancy in these towns. Fourteen towns were free from the disease. As regards rural areas Lakhai (3.47), Ajmiriganj (3.04) and Habiganj (2.88) circles in the Sylhet district and Polasbari (3.37), Gauhati (2.80) and Hajo (2.19) in Kamrup reported what may be considered high rates when we take into consideration the low provincial average of .55 for the rural areas. In these two districts there was no epidemic and the cases were probably sporadic. Seventeen rural circles were free from the disease.

20. A total of 564 deaths from cholera were reported from tea estates which yield a ratio of .61 per mille of population, the corresponding figure for the preceding year being 1,123 and 1.21, respectively. The highest ratio of 3.16 was reported from Goalpara district and the lowest of .41 from Nowgong, excluding Kamrup in which reporting is defective. In other districts the ratios were below 1.0 per mille, which was in accordance with its incidence among general population.

21.—SMALL-POX.

| Districts. | Death-rate per mille. | |
|------------------|-----------------------|-------|
| | 1913-22. | 1923. |
| 1 | 2 | 3 |
| Cachar | .32 | .008 |
| Sylhet | .24 | .006 |
| Goalpara | .56 | .39 |
| Kamrup | .94 | 1.49 |
| Darrang | .51 | .27 |
| Nowgong | .37 | 3.88 |
| Sibsagar | .48 | .05 |
| Lakhimpur | .08 | .04 |
| Total | .40 | .47 |

The recorded mortality from small-pox was the highest in the district of Nowgong. The Civil Surgeon reports that the mortality from small-pox in his district has been increasing since 1921 and that the disease prevailed throughout the year under report in sporadic form, assuming an epidemic type at times. Two special vaccinators were appointed by the Local Board, who, with the permanent vaccinator, operated throughout the year in affected areas. A proposal for making vaccination compulsory in selected rural areas of this district was not approved by Government as the Act is not working satisfactorily in the areas under certain village authorities to which it has been extended. In Kamrup, the disease was reported from several rural circles and steps were at once taken to vaccinate and revaccinate the people of the affected areas. Where opposition was raised, the help of the Deputy Commissioner was sought with the result that some of the people who opposed vaccination were subsequently vaccinated. In the absence of compulsory vaccination, all possible measures were taken

to combat the disease. The Civil Surgeon suggests that vaccination should be made compulsory in rural areas for dealing effectively with the outbreak. In this connection the Deputy Commissioner remarks "I have never been able to make up my mind whether a Deputy Commissioner ought to use his influence (in fact pressure) on objectors. I word notices carefully but have often thought the Deputy Commissioner puts himself in a false position."

22. Gauhati and Nowgong towns reported the highest rates of 1.15 and 1.01, respectively. It appears that infection in both cases was introduced from rural areas in which it was prevalent in an epidemic form. Nineteen out of twenty-three towns were free from the disease. In rural circles the following circles, namely, Roha circle (5.86), Kaliabor (5.30), Nowgong (4.93), Jagi Road (4.43) and Lumding (3.73) in the Nowgong district and Kamalpur (3.06), Sorbhog (2.89) and Nalbari (2.75) in Kamrup reported the highest ratios.

23.—FEVERS.

| Districts. | Death-rate per mille. | |
|------------|-----------------------|-------|
| | 1913-22. | 1923. |
| 1 | 2 | 3 |
| Cachar | 14.55 | 11.67 |
| Sylhet | 15.78 | 15.70 |
| Goalpara | 26.05 | 25.18 |
| Kamrup | 16.89 | 17.38 |
| Darrang | 15.80 | 15.21 |
| Nowgong | 15.76 | 16.13 |
| Sibsagar | 11.77 | 10.31 |
| Lakhimpur | 10.79 | 10.16 |
| Total | 16.05 | 15.52 |

The mortality from fevers was a little lower than the ratio of 1922 and the decennial average, but it is a little higher than the decennial average for the period ending 1917 (pre-influenzal period) for which the ratio was 14.91. The ratios were high in the districts of Sylhet, Goalpara, Kamrup, Darrang and Nowgong, in which *kala-azar* is highly prevalent, and they are lower in other districts in which *kala-azar* is less prevalent.

Special anti-malarial measures were carried out during the year at Pasighat, Lumding and Haflong. The Assistant Political Officer, Pasighat, has supplied the following note on the progress of the operations at Pasighat in 1923:— "Owing to lack of funds the usual amount of jungle could not be cleared at the beginning of the cold weather of 1922-23. But subsequently some punishment labour was available and was employed to cut the balance. As in the previous year, oil spraying was carried out from April to November inclusive. Early in the year, the bed of the Mora Lalli stream (the principal breeding place of the "Anopheles") was thoroughly cleared out in order to obviate the formation of stagnant pools as far as possible. This work was carried out by the Coolie Corps, which, however, owing to reduction of its numbers will not be available this year. Throughout the rains this stream was sprayed and kept under careful observation.

In comparison with previous years, the results are quite satisfactory. As regards the Charitable Hospital, the number of patients (tribesmen and outsiders) treated for malaria is 115 less than in 1922, which represents a decrease of 8.8 per cent. Amongst the Political Cooly Corps, the incidence is even more marked, the

average percentage for the year under review being 13.9 per cent., as compared with 28 per cent. in 1922. This figure is more reliable than that of the outsiders and hill tribes (a floating population), as in their computation the monthly average strength at Pasighat has been carefully recorded and taken into account. No prophylactic quinine was issued during 1923.

With regard to the Assam Rifles, the total number treated for malaria, both male and female, is 320, as compared with 324 during the previous year. This does not show much improvement, and may be explained by the fact that the garrison was relieved during the year by fresh men from Sadiya, several of whom were already infected. The average monthly strength (sepoys) at Pasighat during 1923 was 123, so that the figure 231 represents an average percentage of 15.4, which is most satisfactory when one remembers the conditions which prevailed a comparatively short time ago.

On the whole, the results obtained this year have fully repaid us and amply justified the small expenditure incurred. Provided the operations are allowed to continue, it is to be hoped that the health of the station will steadily improve and in the not too distant future compare favourably with that of any other."

The Chief Medical Officer of the Assam-Bengal Railway reports that during the year, owing to several changes in the post of the Medical Officer, Lumding, due to leave, other exigencies and the prevailing policy of retrenchment, practically no new work was undertaken. Work on the filling in and the draining of the only remaining *bheel* was in progress. The Haru Langpher stream continues to be the main source of carrier species of mosquitoes. The number of cases of malaria treated at Lumding Hospital in 1923 was 2,862, as compared with 2,263 in 1922. As regards Haflong, the anti-malarial work was confined to ordinary routine measures and some permanent improvement work which was to be undertaken in the cold weather had to be postponed owing to unforeseen changes in the staff.

24. In the urban areas the average death-rate from fevers was 8.00 per mille.

High rates of mortality from fevers in individual towns and rural areas.

The highest rates were Nazira (16.71), Goalpara (14.32), Gauripur (12.76), and Dhubri (12.67). The ratio for Goalpara is composed of malaria (2.41), *kala-azar* (3.21) and other fevers (8.69) and that for Dhubri of malaria (7.60), relapsing fever (1.4), *kala-azar* (2.98) and other fevers (1.93). As regards rural circles, 18 circles in Sylhet, 13 in Goalpara, 7 in Kamrup, 6 in Darrang, 3 each in Cachar, Nowgong and Lakhimpur and 2 in Sibsagar returned ratios over the provincial rural average.

25. -KALA-AZAR.

The number of deaths from kala-azar.

| Districts. | 1914. | 1915. | 1916. | 1917. | 1918. | 1919. | 1920. | 1921. | 1922. | 1923. |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Cachar ... | ... | 2 | ... | 1 | 4 | 3 | 5 | 1 | ... | 4 |
| Sylhet ... | 203 | 159 | 63 | 31 | 34 | 7 | 26 | 183 | 275 | 841 |
| Goalpara ... | 138 | 55 | 106 | 153 | 313 | 311 | 602 | 557 | 253 | 442 |
| Kamrup ... | 215 | 283 | 277 | 287 | 564 | 423 | 931 | 755 | 450 | 976 |
| Darrang ... | 317 | 310 | 320 | 245 | 263 | 171 | 256 | 169 | 202 | 299 |
| Nowgong ... | 393 | 419 | 451 | 591 | 565 | 559 | 846 | 1,172 | 933 | 1,291 |
| Sibsagar ... | 24 | 7 | 28 | 181 | 235 | 168 | 114 | 121 | 128 | 219 |
| Lakhimpur ... | 8 | ... | 3 | 1 | 3 | 5 | ... | 3 | 4 | 13 |
| Garo Hills ... | 10 | 12 | 6 | 18 | 22 | 20 | 18 | 26 | 47 | 54 |
| Sadiya Frontier Tract... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| Total ... | 1,308 | 1,247 | 1,254 | 1,508 | 2,003 | 1,667 | 2,798 | 2,987 | 2,292 | 4,131 |

The number of Kala-azar cases treated.

| Districts. | 1918. | 1919. | 1920. | 1921. | 1922. | 1923. |
|--------------------------------|--|-------|-------|--------|--------|--------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Cachar | } Treatment on a small scale and no figures are available. | } | 75 | 316 | 210 | 332 |
| Sylhet | | | 158 | 2,837 | 5,148 | 9,278 |
| Goalpara | | | 1,597 | 2,500 | 2,731 | 4,176 |
| Kamrup | | | 2,402 | 3,491 | 2,700 | 4,038 |
| Darrang | | | 378 | 1,350 | 1,229 | 2,416 |
| Nowgong | | | 1,816 | 4,343 | 5,934 | 11,947 |
| Sibsagar | | | 659 | 875 | 1,307 | 2,143 |
| Lakhimpur | | | 9 | 22 | 12 | 68 |
| Garo Hills | | | 43 | 84 | 329 | 589 |
| Khasi and Jaintia Hills | | | 54 | 52 | 59 | 120 |
| Naga Hills | | | ... | ... | ... | 4 |
| Total | | | 7,188 | 15,880 | 19,659 | 35,071 |

The recorded deaths from *kala-azar* in 1923 were 1,839 more than that recorded in 1922 and higher than in any year since 1905. It is noticeable that the increase has been shared by all districts without exception. In keeping with the increased mortality the number of cases of *kala-azar* treated in the special dispensaries run by the Public Health Department and in the Medical Department and Local Board dispensaries considerably increased (*vide* statement above). The percentage of deaths to the number of cases treated in 1920 was 38·8 per cent., whereas in 1923 the rate was only 11·7 per cent. This is a very remarkable improvement on the conditions which prevailed in 1920 and before.

During the year, the campaign against *kala-azar* has been greatly strengthened by a much closer co-operation between the Public Health and Medical Departments. This has been effected by constituting a Health Board, of which the Inspector General of Civil Hospitals is President and the Director of Public Health Secretary. Under the present arrangements all Civil Surgeons are responsible for the operations in their respective districts. All Subdivisional Medical Officers are directly responsible to their Civil Surgeons for the operations in their respective subdivisions and all Sub-Assistant Surgeons and Local Board doctors are responsible for the operations in the neighbourhood of their respective dispensaries. Sub-Assistant Surgeons and Local Board doctors survey villages within a five-mile radius of their dispensaries. As a result of these surveys, a much greater prevalence of the disease has been discovered than was formerly believed and every endeavour is being made to bring in sufferers to the nearest centre at once for treatment. In all infected areas, dispensaries are now equipped to treat *kala-azar* cases. Injections are carried out on two days in a week and when necessary dispensaries open sub-centres where injections are given on two more days in the week. Meanwhile surveys are continued. Very careful records of these surveys are kept. The difficulty with regard to treatment is that the whole course covers a lengthy period of about three months and patients are apt to become tired of it, and feeling better discontinue treatment before a complete cure is effected. This is unfortunate because until a patient is completely cured he is dangerous to others. Therefore all persons refusing treatment or discontinuing treatment before a cure has been effected are reported to Magistrates, who take steps to induce the patients to resume. Special regulations enforcing compulsory attendance have been framed to meet these cases. Civil Surgeons generally tour ten days a month in their respective districts, and submit full inspection reports with recommendations to the Public Health Board on the progress of the work. The Inspector General of Civil Hospitals and myself constantly inspect these operations. Six special *kala-azar* Assistant Surgeons are employed in the more heavily infected districts of Sylhet, Goalpara, Kamrup, Nowgong, Darrang and Sibhsagar to assist the Civil Surgeons. They spend the greater part of the month in minutely checking the

reports and registers and seeing that treatment is being carried out at the dispensaries and centres in accordance with departmental orders. In addition to the ordinary Medical Department Sub-Assistant Surgeons and Local Board doctors, 79 special Sub-Assistant Surgeons against 48 in 1922 were employed. The expenditure on these operations for the year 1923-24 amounted to Rs. 2,85,000 approximately.

In Cachar, 737 villages have been surveyed and 117 villages have been reported to be infected. The whole district of Sylhet was surveyed under the supervision of the Assistant Director of Public Health and almost the entire district was found to be infected. To cope with the situation, facilities for treatment were extended and there were in the year five in-door hospitals, 23 outdoor dispensaries and 50 treatment centres in addition to the usual Local Board dispensaries. Besides these, a dispensary has been opened by a private relief fund committee, who intend very shortly to open another. The Civil Surgeon, Goalpara, reports that a large number of fresh infections have been discovered during the year and that the disease is wide-spread in his district. There are 5 in-door hospitals besides outdoor dispensaries in all infected areas. Kamrup showed signs of an increase from the end of the year 1922. It is endemic on the south bank of the Brahmaputra along the two sides of the trunk road. Two mauzas east of the Gauhati town have been found to be infected. In one, three treatment centres have been opened and the other is being surveyed. On the north bank a fresh area of infection was discovered and a dispensary was opened. In Darrang, the Civil Surgeon reports that Bishnath-ghat and surroundings are now definitely known to be infected. Except this area and around Jamaguri and along the road to Dikorai Tea Estate further east no definite focus has been traced. A Sub-Assistant Surgeon has been posted to survey around Gabru area in the Tezpur subdivision. The total number of centres and sub-centres in Nowgong is 26 including two new centres with one additional sub-centre opened during the year. Besides these, special arrangements were made for the treatment of the railway employees of the Assam-Bengal Railway who were suffering from *kala-azar* at the Railway hospital at Lumding. There are also 44 beds for in-door patients. In the Sibsagar district *kala-azar* is prevalent in the Sibsagar and Golaghat subdivisions, the latter being the more affected. All the subdivisions of this district are again being surveyed very closely, and I do not think there can possibly be any doubt but that the infection will be found to be much greater than is at present believed. Majuli, which was hitherto considered free, is now suspected to be infected. The Civil Surgeon has written to the Deputy Commissioner and has asked that gaonburas be held responsible for all *kala-azar* cases in villages being made to attend regularly for treatment just in the same way as they are held responsible for the protection of their villages against small-pox. Since the close of the year the number of beds in both the in-door hospitals at Charingia and Nazira has been reduced.

Three Sub-Assistant Surgeons were on survey duty in the district of Lakhimpur which was hitherto considered to be uninfected, but they have reported 121 suspicious cases. All tea gardens and private companies were inspected by their own European qualified officers and in two of them, *viz.*, Digboi Oil Company and Sessa Tea Estate, 57 and 42 cases of *kala-azar*, respectively, were found. These have been treated and are now cured. Tea-garden Medical Officers reported 90 positive and 314 suspected cases which they found among the tea-garden population. The disease was typical in the sense that only a small percentage showed Leishman Donovan bodies on spleen puncture and the others gave positive Aldehyde tests. Lieutenant-Colonel Young himself inspected Digboi and Sessa. In the Garo Hills, the disease is to be found in all parts of the district, though the northern area seems to be more heavily infected. It is also noticed that the district is more infected in the lower lying water-logged land on its boundaries than in the hilly interior. An unfortunate accident occurred in the spring at Dinadubi dispensary, in which 8 persons died as a result of an injection. The reasons for the accident were fully investigated by the Medical and Executive Officers, and the Sub-Assistant Surgeon and Compounder who were responsible were dismissed from Government service. Four *kala-azar* cases which have been detected in Dimapur in the Naga Hills district were all imported from endemic *kala-azar* areas in other districts. They are under treatment and sanitary precautions have been taken to prevent the spread of the disease. The Civil Surgeon himself surveyed five villages and Dimapur and could not detect any positive case. The areas have been kept under observation. Three positive cases of *kala-azar* were imported into the Sadiya Frontier Tract.

26. DYSENTERY AND DIARRHŒA.

| Districts. | Death-rate per mille. | |
|------------------|-----------------------|-------|
| | 1913-22. | 1923. |
| 1 | 2 | 3 |
| Cachar | 2·24 | 1·86 |
| Sylhet | 1·94 | 1·24 |
| Goalpara | ·32 | ·24 |
| Kamrup | ·82 | ·83 |
| Darrang | 3·07 | 1·35 |
| Nowgong | 1·21 | ·77 |
| Sibsagar | 3·43 | 2·15 |
| Lakhimpur | 3·72 | 2·49 |
| Total | 2·02 | 1·33 |

The death-rate from dysentery and diarrhœa during the year was 1·33, which was lower than the ratio (1·49) of 1922 and 2·02, the decennial average.

The death-rate from dysentery and diarrhœa in tea gardens was 3·87 in 1923, which was ·49 less than that of the preceding year. In Nowgong and Goalpara the rates rose from 3·23 and 3·68 in 1922 to 8·44 and 7·37 in 1923, respectively. In Sibhsagar it fell from 4·99 in 1922 to 3·23 in 1923. In other districts there were only slight variations.

27. *Plague*.—There were no cases of plague reported during the year under report.

28. *Other causes*.—The death-rates in 1923 due to “Respiratory diseases,” “Injuries” and “All other causes” were ·99, ·28 and 4·40, respectively, as compared with 1·22, ·27 and 4·75, respectively, in 1922.

An outbreak of epidemic dropsy, which was confined to two families only, was reported from the Gauhati town. In one family, there were 13 cases with 2 deaths and in the other there were 8 cases with no deaths. It was suspected that Balam rice was responsible for the disease, but no sample of it was available for examination.

SECTION VII.

VACCINATION.

(Published separately.)

SECTION VIII.

SANITARY WORKS—MILITARY.

(No remarks.)

SECTION IX.

SANITARY WORKS—CIVIL.

29. There were sixteen Municipalities and nine Unions in the province in the year under report.

General.

30. The aggregate income including the opening balances of the sixteen municipalities and nine unions amounted to Rs. 10,45,544 in 1922, as compared with Rs. 9,37,869 in the preceding year. The total expenditure on sanitation was Rs. 4,06,595, representing 38·88 per cent. of the total receipts. The percentages of expenditure on sanitation in the various municipalities and unions were as follows:—

| | | | | | |
|----------------------------|-----|-----|-----|-----|-------|
| 1. Tinsukia Union | ... | ... | ... | ... | 70·39 |
| 2. Jorhat Municipality | ... | ... | ... | ... | 54·32 |
| 3. Dibrugarh " | ... | ... | ... | ... | 53·91 |
| 4. Silchar " | ... | ... | ... | ... | 52·64 |
| 5. Tezpur " | ... | ... | ... | ... | 50·45 |
| 6. Maulvi Bazar Union | ... | ... | ... | ... | 49·60 |
| 7. Goalpara Municipality | ... | ... | ... | ... | 44·12 |
| 8. Shillong " | ... | ... | ... | ... | 43·18 |
| 9. Sylhet " | ... | ... | ... | ... | 42·72 |
| 10. Habiganj " | ... | ... | ... | ... | 41·88 |
| 11. Gauhati " | ... | ... | ... | ... | 40·30 |
| 12. Karimganj " | ... | ... | ... | ... | 33·85 |
| 13. Dhubri " | ... | ... | ... | ... | 31·61 |
| 14. Gauripur Union | ... | ... | ... | ... | 30·71 |
| 15. Barpeta Municipality | ... | ... | ... | ... | 24·04 |
| 16. Sibsagar " | ... | ... | ... | ... | 22·37 |
| 17. Polasbari Union | ... | ... | ... | ... | 22·19 |
| 18. Sunamganj Municipality | ... | ... | ... | ... | 21·77 |
| 19. North Lakhimpur Union | ... | ... | ... | ... | 20·18 |
| 20. Golaghat Municipality | ... | ... | ... | ... | 18·06 |
| 21. Nowgong " | ... | ... | ... | ... | 17·72 |
| 22. Doom Dooma Union | ... | ... | ... | ... | 17·30 |
| 23. Hailakandi " | ... | ... | ... | ... | 17·09 |
| 24. Mangaldai " | ... | ... | ... | ... | 11·99 |
| 25. Nazira Union | ... | ... | ... | ... | 10·66 |

The table below shows the expenditure incurred during 1923 as compared with that of 1922 under the different heads:—

| Heads of expenditure. | Total expenditure. | | Difference. | |
|---|--------------------|----------|-------------|-----------|
| | 1923. | 1922. | Increase. | Decrease. |
| 1 | 2 | 3 | 4 | 5 |
| | Rs. | Rs. | Rs. | Rs. |
| 1. Conservancy including establishment, road watering, latrines, etc. | 2,35,076 | 2,26,649 | 8,427 | ... |
| 2. Drainage | 19,494 | 21,180 | — | 1,686 |
| 3. Water-supply | 1,24,080 | 1,03,816 | 20,264 | ... |
| 4. Disposal of the dead | 2,013 | 609 | 1,404 | ... |
| 5. Markets and slaughter-houses | 11,132 | 16,762 | ... | 5,630 |
| 6. Vaccination | 3,323 | 2,907 | 416 | ... |
| 7. Other sanitary works | 11,477 | 10,524 | 953 | ... |
| Total | 4,06,595 | 3,82,447 | 31,464 | 7,316 |
| 8. Construction and maintenance of roads | 1,31,060 | 1,09,322 | 21,738 | ... |
| Total including roads | 5,37,655 | 4,91,769 | 53,202 | 7,316 |

The increase of Rs. 8,427 under conservancy was contributed by the Shillong and Dibrugarh Municipalities, and Tinsukia and Maulvi Bazar Unions and that of Rs. 20,264 under water-supply mainly by the Shillong Municipality, and also by the Municipalities of Silchar, Tezpur and Jorhat, where piped water-supplies have been provided. In Shillong the management of the piped water-supply was taken over by the municipality from the Public Works Department during the year, and this and the augmentation of the supply accounts for the increase.

31. *Surma Valley Division.*—The monthly bacteriological analyses of the public water-supplies in Silchar and Sylhet towns were performed as usual, and they showed that the quality of the filtered water-supplies was generally excellent. The provisions of a chlorinating plant to protect the water-supply of the Sylhet water-works has been recommended. Mr. Shaw, Executive Engineer, made detailed inspections of these water-works and recorded his inspection notes which were considered by the municipalities. The experiment of removing night soil in the Sylhet Municipality by hand carts in place of animal traction referred to in the report of 1922 was continued. In Silchar, the tank and the shed at the burning ghat have been improved and a pucca drain was constructed. A four-seated public latrine was constructed in the Hailakandi Union. Conservancy arrangements of the Maulvi Bazar Union appear to have received attention as evidenced by the increased expenditure under the head reported.

Assam Valley Division.—The water-works at Dhubri, Gauhati, Tezpur and Jorhat Municipalities were maintained in order. Tezpur water-works suffered from several serious break-downs, which necessitated the supply being closed down for considerable periods. These were the result of careless working. Mr. Shaw, Executive Engineer, inspected these water-works and made valuable suggestions for improvements in their working. The Goalpara Municipality filled some borrow pits and constructed a well. Gauhati Municipality spent Rs. 400 on construction of pucca drains, Rs. 860 on the construction of a night soil depôt and Rs. 909 on the drinking water-supply to a sweepers' line by extending pipe lines. Barpeta Municipality raised its municipal bazar and constructed extra quarters for sweepers. In Jorhat, some additional conservancy plant was purchased and Sibsagar improved its municipal market.

HILL DISTRICTS.

In the Shillong Municipality some drains were constructed, an additional public latrine was built, pipe water-supply was extended to certain wards and arrangements to augment the water-supply of the Municipality are now in progress. The proposed source has been analysed and found excellent. The scheme of water-works at Lungleh has been completed. The water-supply of Pasighat and Tura was improved.

A total expenditure of Rs. 36,657 is reported to have been incurred by the Public Works Department in 1923 on the improvement of water-supply and on minor sanitary works, as compared with Rs. 38,164 expended on similar purposes during the preceding year.

SECTION X.

GENERAL REMARKS.

32. *Village sanitation.*—The aggregate expenditure of nineteen Local Boards on the improvement of rural water-supply amounted to Rs. 1,07,243, as compared with Rs. 1,60,640 in 1922. In addition to the usual maintenance charges of tanks and wells the expenditure on original works was as follows:—Dhubri Local Board spent Rs. 11,350 on construction of wells, Goalpara Rs. 3,621 on wells, Barpeta Rs. 1,716 on twelve wells and Rs. 1,274 on four tanks, Gauhati Rs. 4,525 on three tanks and Rs. 2,820 on six wells, Mangaldai Rs. 8,987 on nine tanks and six wells, Tezpur Rs. 8,729 on sixteen wells, Nowgong Rs. 2,132 on four wells, Rs. 1,201 on a new tank, and Rs. 270 on platforms of two wells, Jorhat Rs. 4,116 on tanks, Sibsagar Rs. 5,926 on tanks, Dibrugarh Rs. 3,968 on fifteen wells, North Lakhimpur Rs. 2,518 on ten wells, Hailakandi Rs. 3,417 on tanks and five boards in Sylhet Rs. 12,754 on tanks.

33. The following table shows the quantity of quinine sold through the usual agents in the year 1923 as compared with that in the preceding year :—

| Districts. | Treatment parcels sold in | | Difference. | |
|--------------------------------|---------------------------|--------|-------------|-----------|
| | 1923. | 1922. | Increase. | Decrease. |
| 1 | 2 | 3 | 4 | 5 |
| Cachar | 286 | 696 | ..... | 410 |
| Sylhet | 1,520 | 3,775 | ..... | 2,255 |
| Goalpara | 573 | 1,275 | ..... | 702 |
| Kamrup | 591 | 892 | ..... | 301 |
| Darrang | 387 | 451 | ..... | 64 |
| Nowgong | 308 | 460 | ..... | 152 |
| Sibsagar | 181 | 527 | ..... | 346 |
| Lakhimpur | 130 | 237 | ..... | 107 |
| Khasi and Jaintia Hills | 210 | 686 | ..... | 476 |
| Naga Hills | 55 | 89 | ..... | 34 |
| Lushai Hills | 268 | 1,313 | ..... | 1,045 |
| Garo Hills | 16 | 32 | ..... | 16 |
| Manipur | 63 | 155 | ..... | 92 |
| Sadiya Frontier Tract | 1 | 15 | ..... | 14 |
| Total | 4,589 | 10,603 | ..... | 6,014 |

There was a decrease in all districts, which can be attributed partly to the rise in price of the drug but mainly to the restrictions imposed on its sale, by which it is not now supplied to vendors in places where there is an alternative source of supply. The year under report was also a comparatively healthy one.

34. The only pilgrim fair of any importance which is held within the province is the Sidheswari Mela in the district of Cachar, in which some 8,600 persons assembled and no outbreak of any epidemic disease was reported. The usual sanitary precautions were taken by the Civil Surgeon.

35. There was only one construction camp for railway coolies during the year under the Assam-Bengal Railway at Raha in the Nowgong district, which accommodated 208 coolies. One four-seated latrine and one *pucca* and three *kutcha* wells were provided. Four sweepers were employed. No construction camps were reported on the Eastern Bengal Railway within the province.

36. The following table shows the work done in the Public Health Laboratory in 1923 as compared with that of the previous year :—

| | 1923. | 1922. |
|---|-------|-------|
| Chemical analysis of water | 91 | 112 |
| Chemical examination of <i>ghee</i> | 4 | 7 |
| Ditto of milk | 309 | 309 |
| Ditto of mustard oil | 63 | 8 |
| Ditto of other food-stuff | 1 | ... |
| Bacteriological analysis of water | 239 | 256 |
| Bacteriological examination of vaccine lymph | 206 | 237 |
| Examination of mosquitoes | 943 | 99 |
| Miscellaneous | 46 | 15 |
| Total | 1,902 | 1,043 |

Samples of milk were received from the Shillong Municipality, where the milk supply is controlled as a preventive measure against the introduction of typhoid fever from surrounding villages where the disease is endemic. Out of 309 samples examined, 193 were found to be good and the remainder to be adulterated. Out of four samples of ghee examined two were found to be good and two to be adulterated. Fifty-one samples of mustard oil were on examination found to be good, 5 adulterated and 7 unfit for use. The large increase under examination of mosquitoes is due to a mosquito survey of the Shillong Municipality, for which an insect collector was appointed for a year. The Laboratory continued, during the year, to be used as a Medical Store Depot for the supply of special apparatus for the *kala-azar* campaign.

37. The numbers of immigrants to Assam by the different routes were as

| | | | | |
|--|------------|-----|-----|---------------|
| Emigration. | follows :— | | | |
| <i>Via</i> Goalundo by steamer | ... | ... | ... | 2,518 |
| <i>Via</i> Chandpur by rail to Assam Valley | ... | ... | ... | 4,748 |
| <i>Via</i> Chandpur by rail to Cachar and Sylhet | ... | ... | ... | 5,153 |
| <i>Via</i> Naihati and Amingaon by rail, including 6,312 Sirlars | ... | ... | ... | 17,058 |
| Total | ... | ... | ... | <u>29,477</u> |

In the Goalundo Hospital there were 6 admissions (cholera 1, influenza 4 and measles 1), as compared with 22 in the preceding year.

Amongst the immigrants who used rail route, *via*, Naihati, Santahar and Amingaon, there were three deaths in the hospital at Naihati (one from pneumonia, one from small-pox and one from fever). As usual, the Travelling Inspector of Emigrants, who is a Military Assistant Surgeon, inspected the sanitary and feeding arrangements on steamers, railways, debarkation depôts and hospitals and reported them to be satisfactory.

38. Lieutenant-Colonel T. C. McCombie Young, I M.S., held charge of the department from 1st January to 16th November, when he went on leave, Colonel C. H. Bensley, I M.S., Inspector General of Civil Hospitals and Prisons, from 17th to 30th November and myself from the 1st December to the end of the year.

In January, Colonel Young inspected vaccination in Kamrup district and inspected Barpeta Municipality. In the same month he attended a meeting of the Assam Branch of the British Medical Association held at Haflong. In February he inspected vaccinations and *kala-azar* operations in the Sylhet district and inspected Baniachong Village Authority. In March he investigated a suspected outbreak of plague in the Darrang district and inspected vaccinations and *kala-azar* in the districts of Nowgong, Kamrup and Sibsagar. He spent April, May and June at headquarters when he prepared the Annual Public Health and Triennial Vaccination reports and made a detailed mosquito survey with reference to prevention of malaria of the Shillong Municipality and submitted a report. He began his rains tour in July when he inspected the Dibrugarh Municipality, and Digboi Oil Factory and Sessa Tea Estate in connection with the prevalence of *kala-azar* there. He was inspecting the *kala-azar* hospital at Nazira when he was recalled from tour under the orders of Government.

I spent December at headquarters.

From January to March Dr. S. R. Rao, Assistant Director of Public Health, was engaged in the detailed *kala-azar* survey of the Sylhet district, when he also inspected Habiganj, Karimganj and Sunamganj Municipalities, Maulvi Bazar Union and Derai Village Authority. In April, he visited Dibrugarh in connection with the Medical School Examination. He resigned on the 6th August, since when the post has been vacant.

GENERAL REMARKS.

(a) *Hygiene Publicity Campaign*.—Since my arrival in the province in December 1923, I have been much struck by the complete absence of any propaganda work in connection with prevention of diseases. This is much to be deplored, as much useful and lasting work can be done by a properly organised Hygiene Publicity Campaign. In order to initiate the campaign as soon as possible, I at once got into communication with the Secretary, Assam Branch of the Red Cross Association. I appealed for funds, which, when placed at my disposal, will enable me completely to

equip six *kala-azar* Assistant Surgeons with a magic lantern each, a complete series of lantern slides on most of the infectious diseases and on maternity and child welfare. They will also be provided with a sufficient amount of literature in Bengali and Assamese on the prevention of these diseases in booklet and leaflet form. These Assistant Surgeons being touring officers are specially suitable for propaganda work of this nature, as they are in an ideal position to give magic lantern lectures in the various villages which they must visit in connection with *kala-azar* work. They can at the same time distribute the literature provided to them for the purpose. The main object of this Hygiene Publicity Campaign will be to promote the spread of knowledge, chiefly among the illiterate, in the fundamental laws of health and to give some idea of the commoner infectious diseases. The lantern lectures will be made as interesting as possible and I feel confident that the masses will not only show interest, but will also acquire knowledge as to how to keep themselves and others healthy with a minimum of trouble and inconvenience to themselves.

(b) *Arrangements for the treatment of purdahnashin ladies suffering from kala-azar.*—It is hoped before long to be able to start such a campaign in large villages only in which it is found, after a survey, that *purdahnashin* ladies in large numbers are suffering from the disease and are not availing themselves of the opportunities at present offered for effecting cures. The disease cannot be eradicated from such villages unless these ladies receive appropriate treatment and are cured. Therefore, to treat only those people who come to dispensaries for the purpose is only meeting the question half-way.

OFFICE STAFF.

The work in the office has been carried out in a satisfactory manner. My Head Assistant Babu Chandra Nath Haldar has been of the greatest assistance to me. I also highly appreciate the work done by Babu Iswar Chandra Das, who has worked diligently and carefully as Head Clerk in the *kala-azar* section of my office.

T. D. MURISON, Major, I.M.S.,

Offg. Director of Public Health, Assam.

SHILLONG :

The 12th May 1924. }

SECTION XI.

ANNUAL REPORT OF THE PUBLIC HEALTH BOARD, ASSAM, FOR THE YEAR 1923.

No meeting of the Public Health Board was held during the year, as there were no schemes under consideration. The Health Board consisting of the Inspector-General of Civil Hospitals as President and the Director of Public Health as Secretary, which has been especially constituted during the year in order to bring the Medical and Public Health Departments into closer co-operation, met almost daily for discussion of important matters relating to *kala-azar* operations and other activities of the Department.

Mr. Shaw, Executive Engineer of the Public Works Department, inspected certain water-works and his recommendations for removal of defects received the attention of local authorities.

T. D. MURISON, Major, I.M.S.,

Secretary, Public Health Board,
Assam.

C. H. BENSLEY, Colonel, I.M.S.,

President, Public Health Board,
Assam.

IMPERIAL STATEMENT No. I.—Statement showing the births

| Number. | Districts. | | | Population according to the Census of 1921. | | | Number of births registered. | | |
|----------------------|------------------------|-----|-----|---|-----------|-----------|------------------------------|---------|---------|
| | | | | Male. | Female. | Total. | Male. | Female. | Total. |
| 1 | 2 | | | 3 | 4 | 5 | 6 | 7 | 8 |
| SURMA VALLEY. | | | | | | | | | |
| 1 | Cachar | ... | ... | 261,594 | 238,890 | 500,484 | 8,108 | 7,791 | 15,899 |
| 2 | Sylhet | ... | ... | 1,308,734 | 1,232,607 | 2,541,341 | 36,885 | 34,392 | 71,277 |
| | Total | | | 1,570,328 | 1,471,497 | 3,041,825 | 44,993 | 42,183 | 87,176 |
| ASSAM VALLEY. | | | | | | | | | |
| 3 | Goalpara | ... | ... | 406,628 | 355,895 | 762,523 | 13,074 | 12,360 | 25,434 |
| 4 | Kamrup | ... | ... | 397,267 | 365,404 | 762,671 | 11,421 | 10,819 | 22,240 |
| 5 | Darrang | ... | ... | 252,849 | 224,593 | 477,442 | 7,342 | 6,938 | 14,280 |
| 6 | Nowgong | ... | ... | 208,731 | 189,276 | 398,007 | 4,815 | 4,415 | 9,230 |
| 7 | Sibsagar | ... | ... | 433,913 | 382,284 | 823,197 | 11,963 | 11,004 | 22,967 |
| 8 | Lakhimpur | ... | ... | 312,843 | 273,734 | 586,577 | 8,253 | 7,938 | 16,191 |
| | Total | | | 2,012,231 | 1,798,186 | 3,810,417 | 56,868 | 53,474 | 110,342 |
| | Total for the Province | | | 3,582,559 | 3,269,683 | 6,852,242 | 101,861 | 95,657 | 197,518 |

IMPERIAL STATEMENT No. II.—Statement showing the births and deaths

| Number. | Districts. | Area, in square miles. | Average population per square mile. | Population (Census of 1921). | | | Births. | | Number of deaths registered. | | | |
|----------------------|------------------------|------------------------|-------------------------------------|------------------------------|-----------|-----------|---------------|---------------------------------|------------------------------|---------|--------|---------|
| | | | | Male. | Female. | Total. | Total number. | Births per 1,000 of population. | Male. | Female. | Total. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| SURMA VALLEY. | | | | | | | | | | | | |
| 1 | Cachar | ... | 1,839 | 269 | 261,594 | 238,890 | 500,484 | 15,899 | 31.76 | 5,764 | 5,458 | 11,212 |
| 2 | Sylhet | ... | 5,388 | 472 | 1,308,734 | 1,232,607 | 2,541,341 | 71,277 | 28.04 | 33,729 | 28,774 | 62,503 |
| | Total | | 7,227 | 419 | 1,570,328 | 1,471,497 | 3,041,825 | 87,176 | 28.65 | 39,483 | 34,232 | 73,715 |
| ASSAM VALLEY. | | | | | | | | | | | | |
| 3 | Goalpara | ... | 3,954 | 193 | 406,628 | 355,895 | 762,523 | 25,434 | 33.35 | 11,731 | 9,305 | 21,034 |
| 4 | Kamrup | ... | 3,863 | 197 | 397,267 | 365,404 | 762,671 | 22,240 | 29.16 | 9,760 | 8,479 | 18,239 |
| 5 | Darrang | ... | 2,916 | 164 | 252,849 | 224,593 | 477,442 | 14,280 | 29.91 | 5,574 | 5,435 | 11,009 |
| 6 | Nowgong | ... | 3,699 | 108 | 208,731 | 189,276 | 398,007 | 9,230 | 23.19 | 5,154 | 4,419 | 9,573 |
| 7 | Sibsagar | ... | 3,097 | 162 | 433,913 | 382,284 | 823,197 | 22,967 | 27.89 | 7,824 | 7,243 | 15,067 |
| 8 | Lakhimpur | ... | 3,910 | 143 | 312,843 | 273,734 | 586,577 | 16,191 | 27.60 | 6,466 | 5,929 | 12,395 |
| | Total | | 23,439 | 162 | 2,012,231 | 1,798,186 | 3,810,417 | 110,342 | 28.96 | 46,809 | 40,808 | 87,617 |
| | Total for the Province | | 30,686 | 223 | 3,582,559 | 3,269,683 | 6,852,242 | 197,518 | 28.82 | 86,292 | 75,040 | 161,332 |

registered in the districts of Assam during the year 1923.

| Ratio of births per 1,000 of population. | | | Number of males born to every 100 females born. | Excess of births over deaths per 1,000 of population. | Excess of deaths over births per 1,000 of population. | Mean ratio of births per 1,000 during previous five years. | | |
|--|---------|--------|---|---|---|--|---------|--------|
| Male. | Female. | Total. | | | | Male. | Female. | Total. |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 16.20 | 15.56 | 31.76 | 104 | 9.36 | ... | 15.76 | 14.87 | 30.63 |
| 14.51 | 13.53 | 28.04 | 107 | 3.45 | ... | 15.58 | 14.52 | 30.11 |
| 14.79 | 13.86 | 28.65 | 106 | 4.42 | ... | 15.61 | 14.58 | 30.19 |
| 17.14 | 16.21 | 33.35 | 106 | 5.77 | ... | 16.87 | 15.98 | 32.85 |
| 14.97 | 14.18 | 29.16 | 106 | 5.25 | ... | 14.80 | 13.53 | 28.33 |
| 15.37 | 14.53 | 29.91 | 106 | 6.22 | ... | 14.47 | 14.03 | 28.50 |
| 12.09 | 11.09 | 23.19 | 109 | ... | .86 | 13.01 | 12.36 | 25.37 |
| 14.53 | 13.36 | 27.89 | 108 | 9.57 | ... | 12.90 | 11.99 | 24.89 |
| 14.06 | 13.53 | 27.60 | 104 | 6.47 | ... | 12.36 | 11.99 | 24.35 |
| 14.92 | 14.03 | 28.96 | 106 | 5.97 | ... | 14.20 | 13.39 | 27.59 |
| 14.86 | 13.96 | 28.82 | 106 | 5.28 | ... | 14.82 | 13.92 | 28.75 |

registered in the districts of Assam during the year 1923.

| Number of deaths of males to every 100 deaths of females. | Deaths per 1,000 of population from— | | | | | | | | | | | Mean ratio of deaths per 1,000 during the previous five years. | | |
|---|--------------------------------------|------------|---------|--------|--------------------------|-----------------------|-----------|-------------------|-------------|---------|--------|--|---------|--------|
| | Cholera. | Small-pox. | Plague. | Fever. | Dysentery and Diarrhoea. | Respiratory diseases. | Injuries. | All other causes. | All causes. | | | Male. | Female. | Total. |
| | | | | | | | | | Male. | Female. | Total. | | | |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 105 | .38 | .008 | ... | 11.67 | 1.86 | 1.98 | .29 | 6.19 | 21.99 | 22.85 | 22.40 | 35.00 | 35.97 | 35.46 |
| 117 | .69 | .006 | ... | 15.70 | 1.24 | .63 | .31 | 6.00 | 25.77 | 23.34 | 24.39 | 35.90 | 33.22 | 34.60 |
| 115 | .63 | .007 | ... | 15.03 | 1.34 | .85 | .31 | 6.03 | 25.14 | 23.26 | 24.23 | 35.75 | 33.67 | 34.74 |
| 126 | .54 | .39 | ... | 25.18 | .24 | .21 | .26 | .73 | 28.85 | 26.14 | 27.58 | 35.22 | 32.02 | 33.73 |
| 115 | 1.00 | 1.49 | ... | 17.38 | .83 | .40 | .27 | 2.52 | 24.56 | 23.20 | 23.91 | 29.67 | 28.62 | 29.17 |
| 108 | .38 | .27 | ... | 15.21 | 1.35 | 1.58 | .32 | 4.56 | 23.23 | 24.19 | 23.69 | 24.88 | 37.40 | 36.06 |
| 116 | .17 | 3.68 | ... | 16.13 | .77 | .46 | .17 | 2.46 | 24.09 | 23.34 | 24.05 | 28.72 | 28.47 | 28.60 |
| 108 | .29 | .05 | ... | 10.31 | 2.15 | 1.46 | .21 | 3.81 | 18.03 | 18.60 | 18.32 | 28.23 | 29.59 | 28.87 |
| 109 | .19 | .04 | ... | 10.16 | 2.40 | 2.74 | .29 | 5.18 | 20.67 | 21.06 | 21.13 | 31.02 | 32.20 | 31.57 |
| 114 | .46 | .83 | ... | 15.90 | 1.31 | 1.11 | .25 | 3.10 | 23.26 | 22.69 | 22.99 | 31.25 | 31.13 | 31.19 |
| 115 | .54 | .47 | ... | 15.32 | 1.33 | .99 | .28 | 4.40 | 24.08 | 22.95 | 23.54 | 33.22 | 32.27 | 32.77 |

IMPERIAL STATEMENT No. III.—Deaths registered in the

| No. | Districts. | January. | February. | March. | April. | May. |
|----------------------|------------------------|----------|-----------|--------|--------|--------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| SURMA VALLEY. | | | | | | |
| 1 | Cachar | 1,125 | 856 | 833 | 857 | 1,002 |
| 2 | Sylhet | 7,260 | 5,030 | 4,635 | 4,573 | 4,268 |
| | Total | 8,385 | 5,886 | 5,468 | 5,430 | 5,270 |
| ASSAM VALLEY. | | | | | | |
| 3 | Goalpara | 2,150 | 1,546 | 1,644 | 1,730 | 1,797 |
| 4 | Kamrup | 1,299 | 978 | 1,368 | 1,406 | 2,107 |
| 5 | Darrang | 803 | 743 | 648 | 847 | 980 |
| 6 | Nowgong | 872 | 576 | 917 | 728 | 968 |
| 7 | Sibsagar | 1,211 | 1,013 | 973 | 1,047 | 1,315 |
| 8 | Lakhimpur | 801 | 716 | 807 | 875 | 972 |
| | Total | 7,136 | 5,572 | 6,357 | 6,633 | 8,139 |
| | Total for the Province | 15,521 | 11,458 | 11,825 | 12,063 | 13,409 |
| | Ratio per 1,000 | 2.26 | 1.67 | 1.72 | 1.76 | 1.95 |

IMPERIAL STATEMENT No. IV.—Deaths registered according to

| No. | Districts. | Under 1 year. | | | | | | | | | 1 and under 5. | | | | |
|----------------------|---|------------------------|---------|--------|--|---------|--------|--|---------|--------|-----------------------------------|--------------------------------------|---------|---------|---------|
| | | Not exceeding 1 month. | | | Over 1 month and not exceeding 6 months. | | | Over 6 months and not exceeding 12 months. | | | Total of male columns 3, 6 and 9. | Total of female columns 4, 7 and 10. | Total. | Male. | Female. |
| | | 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 |
| SURMA VALLEY. | | | | | | | | | | | | | | | |
| 1 | Cachar | 830 | 643 | 1,473 | 376 | 318 | 694 | 183 | 138 | 321 | 1,389 | 1,099 | 2,488 | 686 | 667 |
| 2 | Sylhet | 4,992 | 3,982 | 8,974 | 1,705 | 1,355 | 3,060 | 848 | 719 | 1,567 | 7,545 | 6,056 | 13,601 | 3,638 | 3,347 |
| | Total | 5,822 | 4,625 | 10,447 | 2,081 | 1,673 | 3,754 | 1,031 | 857 | 1,888 | 8,934 | 7,155 | 16,089 | 4,324 | 4,014 |
| ASSAM VALLEY. | | | | | | | | | | | | | | | |
| 3 | Goalpara | 1,521 | 1,146 | 2,667 | 1,138 | 952 | 2,090 | 352 | 300 | 652 | 3,011 | 2,398 | 5,409 | 1,617 | 1,395 |
| 4 | Kamrup | 1,146 | 1,006 | 2,152 | 638 | 594 | 1,232 | 497 | 405 | 813 | 2,191 | 2,006 | 4,197 | 1,735 | 1,725 |
| 5 | Darrang | 594 | 450 | 1,044 | 555 | 526 | 1,081 | 244 | 262 | 506 | 1,393 | 1,238 | 2,631 | 808 | 823 |
| 6 | Nowgong | 501 | 368 | 869 | 478 | 323 | 871 | 197 | 205 | 402 | 1,176 | 966 | 2,142 | 826 | 829 |
| 7 | Sibsagar | 695 | 597 | 1,292 | 527 | 450 | 977 | 286 | 265 | 551 | 1,508 | 1,312 | 2,820 | 1,134 | 1,042 |
| 8 | Lakhimpur | 503 | 410 | 913 | 376 | 361 | 737 | 275 | 243 | 518 | 1,154 | 1,014 | 2,168 | 907 | 1,008 |
| | Total | 4,960 | 3,977 | 8,937 | 3,712 | 3,276 | 6,988 | 1,761 | 1,681 | 3,442 | 10,433 | 8,934 | 19,367 | 7,097 | 6,822 |
| | Total for the Province. | 10,782 | 8,602 | 19,384 | 5,793 | 4,949 | 10,742 | 2,792 | 2,538 | 5,330 | 19,367 | 16,089 | 35,456 | 11,421 | 10,836 |
| | Population (according to the census of 1921). | ... | ... | ... | ... | ... | ... | ... | ... | ... | 101,342 | 99,389 | 200,731 | 359,057 | 376,501 |
| | Ratio per 1,000 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 191.10 | 161.88 | 176.63 | 31.80 | 29.78 |

districts of Assam during each month of the year 1923.

| June. | July. | August. | September. | October. | November. | December. | Total. |
|--------|--------|---------|------------|----------|-----------|-----------|---------|
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 955 | 1,028 | 829 | 805 | 937 | 936 | 1,049 | 11,212 |
| 4,187 | 4,903 | 4,373 | 4,681 | 5,395 | 5,889 | 7,309 | 62,503 |
| 5,142 | 5,931 | 5,202 | 5,486 | 6,332 | 6,825 | 8,358 | 73,715 |
| 1,670 | 1,681 | 1,428 | 1,451 | 1,798 | 1,855 | 2,284 | 21,034 |
| 2,336 | 1,502 | 1,343 | 1,370 | 1,269 | 1,711 | 1,545 | 18,239 |
| 897 | 1,217 | 1,347 | 852 | 790 | 1,062 | 1,123 | 11,309 |
| 1,010 | 1,026 | 907 | 629 | 661 | 652 | 627 | 9,573 |
| 1,452 | 1,518 | 1,388 | 1,178 | 1,528 | 1,194 | 1,250 | 15,067 |
| 1,194 | 1,200 | 1,107 | 1,221 | 1,176 | 1,260 | 1,066 | 12,395 |
| 8,559 | 8,144 | 7,525 | 6,701 | 7,222 | 7,734 | 7,895 | 87,617 |
| 13,701 | 14,075 | 12,727 | 12,187 | 13,554 | 14,559 | 16,253 | 161,332 |
| 1.99 | 2.05 | 1.85 | 1.78 | 1.98 | 2.12 | 2.37 | 23.54 |

age in the districts of Assam during the year 1923.

| 5 and under 10. | | 10 and under 15. | | 15 and under 20. | | 20 and under 30. | | 30 and under 40. | | 40 and under 50. | | 50 and under 60. | | 60 and upwards. | |
|-----------------|---------|------------------|---------|------------------|---------|------------------|---------|------------------|---------|------------------|---------|------------------|---------|-----------------|---------|
| Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 390 | 343 | 220 | 176 | 183 | 302 | 495 | 864 | 632 | 628 | 488 | 383 | 459 | 279 | 812 | 717 |
| 2,439 | 1,711 | 1,471 | 949 | 1,401 | 1,796 | 3,462 | 4,458 | 3,795 | 3,978 | 3,237 | 1,964 | 2,621 | 1,663 | 4,120 | 3,742 |
| 2,829 | 2,054 | 1,691 | 1,125 | 1,584 | 2,028 | 3,957 | 5,322 | 4,427 | 3,706 | 3,725 | 2,367 | 3,080 | 1,942 | 4,932 | 4,459 |
| 945 | 748 | 555 | 431 | 452 | 595 | 994 | 1,095 | 1,219 | 841 | 974 | 555 | 800 | 496 | 1,164 | 818 |
| 1,043 | 877 | 509 | 333 | 373 | 357 | 738 | 879 | 847 | 661 | 780 | 555 | 708 | 475 | 836 | 611 |
| 395 | 345 | 232 | 151 | 195 | 269 | 482 | 773 | 667 | 703 | 669 | 397 | 522 | 364 | 491 | 381 |
| 518 | 432 | 274 | 248 | 229 | 243 | 452 | 543 | 531 | 416 | 385 | 271 | 344 | 209 | 349 | 262 |
| 553 | 505 | 317 | 305 | 299 | 379 | 641 | 1,106 | 934 | 971 | 832 | 595 | 810 | 519 | 776 | 599 |
| 496 | 498 | 291 | 244 | 304 | 262 | 593 | 769 | 848 | 861 | 809 | 497 | 612 | 357 | 552 | 419 |
| 3,950 | 3,405 | 2,198 | 1,712 | 1,732 | 2,027 | 3,909 | 5,165 | 5,046 | 4,433 | 4,469 | 2,870 | 3,796 | 2,420 | 4,168 | 3,000 |
| 6,779 | 5,459 | 3,889 | 2,837 | 3,336 | 4,115 | 7,857 | 10,487 | 9,473 | 8,159 | 8,194 | 5,237 | 6,876 | 4,363 | 9,100 | 7,459 |
| 530,906 | 568,980 | 435,305 | 342,744 | 278,664 | 292,075 | 577,151 | 613,934 | 556,071 | 448,620 | 359,844 | 259,435 | 198,849 | 149,979 | 137,230 | 118,126 |
| 11.67 | 9.59 | 8.97 | 8.27 | 11.87 | 14.09 | 13.61 | 17.08 | 17.03 | 18.18 | 22.77 | 20.19 | 34.58 | 29.08 | 60.29 | 63.15 |

IMPERIAL STATEMENT No. V.—Deaths registered according

| Number. | Districts. | Population according | | | | | | | | |
|----------------------|-------------------------------|----------------------|---------|--------|-----------|-----------|-----------|--------------|-----------|-----------|
| | | Christians. | | | Hindus. | | | Muhammadans. | | |
| | | Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| SURMA VALLEY. | | | | | | | | | | |
| 1 | Cachar | 848 | 762 | 1,610 | 166,782 | 152,463 | 319,245 | 89,513 | 81,109 | 170,622 |
| 2 | Sylhet... .. | 970 | 786 | 1,756 | 565,443 | 534,362 | 1,099,745 | 738,916 | 694,474 | 1,433,390 |
| | Total | 1,818 | 1,548 | 3,366 | 732,225 | 686,765 | 1,418,990 | 828,429 | 775,583 | 1,604,012 |
| ASSAM VALLEY. | | | | | | | | | | |
| 3 | Goalpara | 5,434 | 4,878 | 10,312 | 198,904 | 170,488 | 369,392 | 167,765 | 148,725 | 316,490 |
| 4 | Kamrup | 1,926 | 1,735 | 3,661 | 283,554 | 261,085 | 544,639 | 59,986 | 51,569 | 111,546 |
| 5 | Darrang | 2,816 | 2,502 | 5,318 | 179,272 | 158,457 | 337,729 | 20,137 | 16,398 | 36,535 |
| 6 | Nowgong | 1,465 | 1,460 | 2,925 | 116,864 | 105,235 | 222,099 | 39,655 | 31,927 | 70,582 |
| 7 | Sibsagar | 4,557 | 3,823 | 8,380 | 365,885 | 329,131 | 695,016 | 19,379 | 15,624 | 34,994 |
| 8 | Lakhimpur | 4,216 | 3,515 | 7,731 | 244,852 | 214,283 | 459,135 | 9,485 | 5,961 | 15,446 |
| | Total | 20,414 | 17,913 | 38,327 | 1,389,331 | 1,238,679 | 2,628,010 | 315,298 | 270,195 | 585,493 |
| | Total for the Province | 22,232 | 19,461 | 41,693 | 2,121,556 | 1,925,444 | 4,047,009 | 1,143,827 | 1,045,778 | 2,189,605 |

IMPERIAL STATEMENT No. V.—Deaths registered according

| Number. | Districts. | Number of deaths registered—concd. | | | | | | | | |
|----------------------|------------------------|------------------------------------|---------|--------|----------------|---------|--------|--------|---------|---------|
| | | Buddhists. | | | Other classes. | | | Total. | | |
| | | Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. |
| | | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| SURMA VALLEY. | | | | | | | | | | |
| 1 | Cachar | ... | ... | ... | 290 | 284 | 574 | 5,754 | 5,458 | 11,212 |
| 2 | Sylhet... .. | ... | ... | ... | 362 | 276 | 638 | 33,729 | 28,774 | 62,503 |
| | Total | ... | ... | ... | 652 | 560 | 1,212 | 39,483 | 34,232 | 73,715 |
| ASSAM VALLEY. | | | | | | | | | | |
| 3 | Goalpara | 10 | 14 | 24 | 2,209 | 1,465 | 3,674 | 11,731 | 9,303 | 21,034 |
| 4 | Kamrup | ... | 2 | 2 | 1,478 | 1,199 | 2,677 | 9,760 | 8,479 | 18,239 |
| 5 | Darrang | 3 | 1 | 4 | 1,728 | 1,615 | 3,343 | 5,874 | 5,435 | 11,309 |
| 6 | Nowgong | ... | ... | ... | 1,563 | 1,319 | 2,882 | 5,154 | 4,419 | 9,573 |
| 7 | Sibsagar | 35 | 21 | 56 | 1,085 | 950 | 2,035 | 7,824 | 7,243 | 15,067 |
| 8 | Lakhimpur | 43 | 32 | 75 | 1,205 | 1,100 | 2,305 | 6,466 | 5,929 | 12,395 |
| | Total... .. | 91 | 70 | 161 | 9,268 | 7,708 | 16,976 | 46,809 | 40,808 | 87,617 |
| | Total for the Province | 51 | 70 | 161 | 9,920 | 8,268 | 18,188 | 86,292 | 75,040 | 161,332 |

to class in the districts of Assam during the year 1923.

| to the Census of 1921. | | | | | | | | | Number of deaths registered. | | | | | | | | |
|------------------------|---------|--------|----------------|---------|---------|-----------|-----------|-----------|------------------------------|---------|--------|---------|---------|--------|--------------|---------|--------|
| Buddhists. | | | Other classes. | | | Total. | | | Christians. | | | Hindus. | | | Muhammadans. | | |
| Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 33 | 2 | 35 | 4,418 | 4,554 | 8,972 | 261,594 | 238,890 | 500,484 | 4 | 9 | 13 | 3,442 | 3,293 | 6,735 | 2,018 | 1,872 | 3,890 |
| 34 | 9 | 43 | 3,371 | 3,036 | 6,407 | 1,308,734 | 1,332,607 | 2,541,341 | 5 | 5 | 10 | 14,521 | 12,256 | 26,777 | 18,841 | 16,237 | 35,078 |
| 67 | 11 | 78 | 7,789 | 7,590 | 15,379 | 1,570,328 | 1,471,497 | 3,041,825 | 9 | 14 | 23 | 17,963 | 15,549 | 33,512 | 20,859 | 18,109 | 38,968 |
| 547 | 375 | 922 | 33,978 | 31,429 | 65,407 | 406,628 | 355,995 | 762,623 | 74 | 80 | 153 | 5,103 | 4,305 | 9,408 | 4,335 | 3,450 | 7,785 |
| 286 | 113 | 399 | 51,515 | 50,911 | 102,426 | 397,267 | 365,404 | 762,671 | 28 | 15 | 43 | 7,138 | 6,305 | 13,443 | 1,116 | 958 | 2,074 |
| 406 | 244 | 710 | 50,158 | 46,092 | 97,150 | 252,849 | 234,593 | 477,442 | 40 | 41 | 81 | 3,717 | 3,405 | 7,122 | 386 | 373 | 759 |
| 24 | 6 | 30 | 51,723 | 50,648 | 102,371 | 308,731 | 189,276 | 398,007 | 37 | 43 | 80 | 3,033 | 2,624 | 5,657 | 521 | 493 | 954 |
| 1,389 | 1,055 | 2,444 | 42,712 | 39,651 | 82,363 | 433,913 | 389,234 | 823,197 | 59 | 51 | 110 | 6,397 | 6,012 | 12,409 | 248 | 209 | 457 |
| 2,516 | 2,110 | 4,626 | 51,774 | 47,865 | 99,639 | 312,843 | 273,734 | 586,577 | 33 | 43 | 76 | 5,020 | 4,579 | 9,599 | 165 | 115 | 280 |
| 5,228 | 3,903 | 9,131 | 231,860 | 267,496 | 549,356 | 2,012,231 | 1,798,186 | 3,810,417 | 271 | 232 | 533 | 30,408 | 27,230 | 57,638 | 6,771 | 5,518 | 12,289 |
| 5,295 | 3,914 | 9,209 | 289,649 | 275,086 | 564,735 | 3,582,559 | 3,269,683 | 6,852,242 | 280 | 296 | 576 | 48,371 | 42,779 | 91,150 | 27,630 | 23,627 | 51,257 |

to class in the districts of Assam during the year 1923—concl.

| Ratio of deaths per 1,000 of population. | | | | | | | | | | | | | | | | | |
|--|---------|--------|---------|---------|--------|--------------|---------|--------|------------|---------|--------|----------------|---------|--------|--------|---------|--------|
| Christians. | | | Hindus. | | | Muhammadans. | | | Buddhists. | | | Other classes. | | | Total. | | |
| Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. |
| 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| 4.71 | 11.61 | 8.07 | 20.63 | 21.59 | 21.09 | 22.54 | 23.08 | 22.79 | ... | ... | ... | 65.64 | 62.26 | 63.97 | 21.90 | 22.85 | 22.40 |
| 5.15 | 6.36 | 5.69 | 25.68 | 22.93 | 24.34 | 25.49 | 23.38 | 24.47 | ... | ... | ... | 107.38 | 90.90 | 99.57 | 25.77 | 23.34 | 24.59 |
| 4.93 | 9.04 | 6.83 | 24.53 | 22.64 | 23.61 | 25.17 | 23.31 | 24.29 | ... | ... | ... | 83.70 | 73.78 | 78.60 | 25.14 | 23.26 | 24.23 |
| 13.61 | 18.24 | 15.80 | 25.66 | 25.25 | 25.47 | 23.64 | 23.06 | 24.33 | 18.28 | 37.33 | 26.03 | 65.01 | 46.61 | 56.17 | 28.85 | 20.14 | 27.58 |
| 14.53 | 8.64 | 11.74 | 25.17 | 24.14 | 24.68 | 18.60 | 18.58 | 18.59 | ... | 17.69 | 5.01 | 28.69 | 23.55 | 26.13 | 24.56 | 23.20 | 23.91 |
| 14.29 | 16.38 | 15.23 | 20.73 | 21.49 | 21.08 | 19.16 | 22.74 | 20.77 | 6.43 | 4.09 | 5.63 | 34.45 | 34.36 | 34.41 | 23.23 | 24.19 | 23.69 |
| 25.25 | 29.45 | 27.35 | 25.95 | 24.93 | 25.47 | 13.43 | 13.56 | 13.51 | ... | ... | ... | 30.21 | 26.04 | 28.15 | 24.69 | 23.34 | 24.05 |
| 12.95 | 13.34 | 13.12 | 17.43 | 18.26 | 17.85 | 12.80 | 13.18 | 13.06 | 25.19 | 19.90 | 22.91 | 25.40 | 23.96 | 24.70 | 18.63 | 18.60 | 18.32 |
| 7.82 | 12.23 | 9.83 | 20.50 | 21.37 | 20.90 | 17.39 | 19.29 | 18.12 | 17.09 | 15.16 | 16.21 | 23.27 | 24.23 | 23.73 | 20.67 | 21.66 | 21.13 |
| 12.27 | 15.74 | 14.42 | 21.88 | 21.93 | 21.93 | 21.46 | 20.42 | 20.98 | 17.40 | 17.93 | 17.63 | 32.88 | 28.81 | 30.90 | 23.26 | 22.69 | 22.99 |
| 12.51 | 15.21 | 13.81 | 22.79 | 22.21 | 22.52 | 24.15 | 22.59 | 23.41 | 17.18 | 17.88 | 17.43 | 34.25 | 30.05 | 32.29 | 24.68 | 22.95 | 23.54 |

IMPERIAL STATEMENT No. VI.—Deaths registered from different

| 1 | 2 | 3 | 4 | | | 5 | 6 | 7 | 8 | 9 | 10 | |
|----------------------------|---------------------------------------|---|---------|---------|---------|-------------|----------|------------|---------|---------|--------------------------|-----------------------|
| Number. | Districts and towns. | Population according to Census of 1921. | Births. | | | Birth-rate. | Cholera. | Small-pox. | Plague. | Fever. | Dysentery and diarrhoea. | Respiratory diseases. |
| | | | Male. | Female. | Total. | | | | | | | |
| DISTRICTS EXCLUDING TOWNS. | | | | | | | | | | | | |
| SURMA VALLEY. | | | | | | | | | | | | |
| 1 | Cachar ... | 488,052 | 7,972 | 7,663 | 15,635 | 32.03 | 191 | 4 | ... | 5,796 | 907 | 977 |
| 2 | Sylhet ... | 2,505,744 | 36,390 | 33,894 | 70,284 | 28.04 | 1,744 | 17 | ... | 39,667 | 3,029 | 1,527 |
| | Total ... | 2,993,796 | 44,362 | 41,557 | 85,919 | 28.69 | 1,935 | 21 | ... | 45,463 | 3,927 | 2,504 |
| ASSAM VALLEY. | | | | | | | | | | | | |
| 3 | Goalpara ... | 745,293 | 12,803 | 12,098 | 24,901 | 33.41 | 296 | 201 | ... | 18,975 | 146 | 116 |
| 4 | Kamrup ... | 734,461 | 10,875 | 10,349 | 21,224 | 28.89 | 739 | 1,124 | ... | 12,948 | 479 | 181 |
| 5 | Darrang ... | 469,078 | 7,196 | 6,848 | 14,044 | 29.94 | 182 | 128 | ... | 7,208 | 612 | 710 |
| 6 | Nowgong ... | 391,122 | 4,705 | 4,322 | 9,027 | 23.08 | 67 | 1,539 | ... | 6,340 | 277 | 161 |
| 7 | Sibsagar ... | 804,935 | 11,623 | 10,715 | 22,338 | 27.75 | 234 | 46 | ... | 8,364 | 1,721 | 1,160 |
| 8 | Lakhimpur ... | 564,362 | 8,007 | 7,697 | 15,704 | 27.82 | 116 | 26 | ... | 5,855 | 1,392 | 1,544 |
| | Total ... | 3,709,271 | 55,209 | 52,029 | 107,238 | 28.91 | 1,754 | 3,164 | ... | 59,690 | 4,627 | 3,878 |
| | Total for districts, excluding towns. | 6,703,067 | 99,571 | 93,586 | 193,157 | 28.81 | 3,689 | 3,185 | ... | 105,153 | 8,554 | 6,382 |
| TOWNS. | | | | | | | | | | | | |
| SURMA VALLEY. | | | | | | | | | | | | |
| 1 | Silchar ... | 10,204 | 116 | 111 | 227 | 22.25 | ... | ... | ... | 36 | 20 | 16 |
| 2 | Hailakandi ... | 2,228 | 20 | 17 | 37 | 16.60 | ... | ... | ... | 12 | 4 | ... |
| 3 | Sylhet ... | 16,912 | 244 | 248 | 492 | 29.03 | 1 | ... | ... | 96 | 62 | 66 |
| 4 | Karimganj ... | 4,552 | 59 | 51 | 110 | 24.16 | ... | ... | ... | 7 | 16 | 10 |
| 5 | Maulvi Bazar ... | 3,334 | 31 | 32 | 63 | 18.89 | 1 | ... | ... | 25 | 9 | 1 |
| 6 | Habiganj ... | 5,918 | 104 | 100 | 204 | 34.47 | 4 | ... | ... | 61 | 48 | 6 |
| 7 | Sunamganj ... | 4,881 | 57 | 67 | 124 | 25.40 | 2 | ... | ... | 47 | 6 | ... |
| | Total ... | 48,029 | 631 | 626 | 1,257 | 26.17 | 8 | ... | ... | 284 | 165 | 99 |

causes in the districts and towns of the province of Assam during the year 1923.

| 11 | | | | | | 12 | 13 | 14 | | | | | | | | | | | 15 |
|-----------|---------|----------------------|--------------------------|---------|--------|-------------------|---------|--|------------|---------|--------|--------------------------|-----------------------|-----------|-------------------|------------------|------------------------------|---|---------|
| Injuries. | | | | | | All other causes. | Total. | Ratio of deaths per 1,000 of population. | | | | | | | | | | | Number. |
| Suicide. | | Wounds or accidents. | Snakes and wild animals. | Rabies. | Total. | | | Cholera. | Small-pox. | Plague. | Fever. | Dysentery and diarrhoea. | Respiratory diseases. | Injuries. | All other causes. | From all causes. | | | |
| Male. | Female. | | | | | | | | | | | | | | | For the year. | Mean of previous five years. | | |
| 6 | ... | 120 | 11 | ... | 137 | 3,025 | 11,037 | ·39 | ·008 | ... | 11·87 | 1·85 | 2·00 | ·28 | 6·19 | 22·61 | 35·83 | 1 | |
| 30 | 22 | 682 | 49 | 7 | 790 | 14,956 | 61,721 | ·69 | ·006 | ... | 15·83 | 1·20 | ·60 | ·31 | 5·97 | 24·63 | 34·75 | 2 | |
| 36 | 22 | 802 | 60 | 7 | 927 | 17,981 | 72,758 | ·64 | ·007 | ... | 15·18 | 1·31 | ·83 | ·30 | 6·00 | 24·30 | 34·93 | | |
| 4 | 5 | 118 | 62 | 4 | 193 | 463 | 20,589 | ·53 | ·40 | ... | 25·46 | ·19 | ·15 | ·25 | ·62 | 27·62 | 33·86 | 3 | |
| 31 | 24 | 77 | 52 | 10 | 194 | 1,708 | 17,393 | 1·03 | 1·53 | ... | 17·63 | ·65 | ·24 | ·26 | 2·32 | 25·68 | 29·10 | 4 | |
| 12 | 10 | 75 | 34 | 17 | 148 | 2,071 | 11,650 | ·38 | ·27 | ... | 15·37 | 1·30 | 1·51 | ·31 | 4·41 | 23·57 | 36·39 | 5 | |
| ... | 2 | 28 | 30 | 6 | 66 | 929 | 9,379 | ·17 | 3·93 | ... | 16·21 | ·70 | ·41 | ·16 | 2·37 | 23·98 | 28·61 | 6 | |
| 24 | 12 | 98 | 18 | 13 | 165 | 2,997 | 14,693 | ·29 | ·05 | ... | 10·39 | 2·14 | 1·44 | ·50 | 3·72 | 18·25 | 29·07 | 7 | |
| 20 | 6 | 110 | 16 | 7 | 159 | 2,883 | 11,975 | ·20 | ·04 | ... | 10·37 | 2·46 | 2·73 | ·28 | 5·10 | 21·21 | 31·77 | 8 | |
| 91 | 59 | 506 | 212 | 57 | 925 | 11,050 | 85,688 | ·47 | ·85 | ... | 16·09 | 1·24 | 1·04 | ·25 | 2·98 | 22·94 | 31·33 | | |
| 127 | 81 | 1,308 | 272 | 64 | 1,852 | 29,031 | 157,846 | ·55 | ·47 | ... | 15·68 | 1·27 | ·95 | ·27 | 4·33 | 23·54 | 32·94 | | |
| ... | ... | 10 | ... | ... | 10 | 55 | 137 | ... | ... | ... | 3·52 | 1·96 | 1·56 | ·98 | 5·39 | 13·42 | 18·22 | 1 | |
| ... | ... | 1 | ... | ... | 1 | 21 | 38 | ... | ... | ... | 5·38 | 1·79 | ... | ·44 | 9·42 | 17·05 | 21·54 | 2 | |
| ... | ... | 4 | ... | ... | 4 | 154 | 383 | ·03 | ... | ... | 5·67 | 3·66 | 3·90 | ·23 | 9·10 | 22·64 | 24·24 | 3 | |
| ... | ... | 2 | ... | ... | 2 | 42 | 77 | ... | ... | ... | 1·53 | 3·51 | 2·19 | ·43 | 9·22 | 16·91 | 18·88 | 4 | |
| ... | ... | ... | ... | ... | ... | 7 | 43 | ·29 | ... | ... | 7·49 | 2·69 | ·29 | ... | 2·09 | 12·89 | 16·79 | 5 | |
| ... | ... | 11 | ... | ... | 11 | 58 | 188 | ·67 | ... | ... | 10·30 | 8·11 | 1·01 | 1·85 | 9·80 | 31·76 | 29·90 | 6 | |
| ... | ... | 2 | ... | ... | 2 | 34 | 91 | ·41 | ... | ... | 9·63 | 1·23 | ... | ·41 | 6·96 | 16·64 | 27·45 | 7 | |
| ... | ... | 39 | ... | ... | 30 | 371 | 957 | ·16 | ... | ... | 5·91 | 2·43 | 2·06 | ·62 | 7·72 | 19·92 | 22·84 | | |

IMPERIAL STATEMENT No. VI.—Deaths registered from different causes

| 1 | 2 | 3 | 4 | | | 5 | 6 | 7 | 8 | 9 | 10 | |
|---------|---|---|---------|---------|---------|-------------|----------|------------|---------|---------|--------------------------|-----------------------|
| Number. | Districts and towns. | Population according to Census of 1921. | Births. | | | Birth-rate. | Cholera. | Small-pox. | Plague. | Fever. | Dysentery and diarrhoea. | Respiratory diseases. |
| | | | Male. | Female. | Total. | | | | | | | |
| | TOWNS— <i>concl'd.</i> ASSAM VALLEY. | | | | | | | | | | | |
| 8 | Dhubri ... | 6,707 | 98 | 105 | 203 | 30.23 | ... | 1 | ... | 85 | 24 | 29 |
| 9 | Goalpara ... | 6,212 | 113 | 111 | 224 | 36.05 | 7 | ... | ... | 89 | 17 | 17 |
| 10 | Gauripur ... | 4,311 | 69 | 46 | 106 | 24.39 | 12 | ... | ... | 55 | 2 | 4 |
| 11 | Gauhati ... | 16,480 | 268 | 202 | 470 | 28.52 | 8 | 19 | ... | 189 | 61 | 80 |
| 12 | Barpeta ... | 11,730 | 278 | 268 | 546 | 46.54 | ... | ... | ... | 119 | 95 | 45 |
| 13 | Tezpur ... | 7,341 | 130 | 76 | 206 | 28.06 | ... | 1 | ... | 50 | 30 | 47 |
| 14 | Mangaldai ... | 1,023 | 16 | 14 | 30 | 29.32 | ... | ... | ... | 5 | 4 | ... |
| 15 | Nowgong ... | 6,885 | 110 | 93 | 203 | 29.48 | 2 | 7 | ... | 80 | 30 | 23 |
| 16 | Jorhat ... | 6,626 | 84 | 73 | 157 | 23.69 | 2 | ... | ... | 15 | 26 | 25 |
| 17 | Sibsagar ... | 5,329 | 137 | 92 | 229 | 42.97 | ... | ... | ... | 29 | 16 | 9 |
| 18 | Golaghat ... | 3,655 | 53 | 45 | 98 | 26.81 | ... | ... | ... | 41 | 12 | 1 |
| 19 | Nazira... .. | 2,632 | 66 | 79 | 145 | 55.09 | ... | ... | ... | 44 | 1 | 1 |
| 20 | Dibrugarh ... | 16,067 | 180 | 172 | 352 | 21.99 | ... | ... | ... | 67 | 57 | 58 |
| 21 | North Lakhimpur ... | 1,966 | 28 | 22 | 50 | 25.43 | ... | ... | ... | 16 | 2 | 6 |
| 22 | Doom Dooma ... | 1,162 | 10 | 10 | 20 | 17.21 | ... | ... | ... | 13 | 10 | 3 |
| 23 | Tinsukia ... | 3,080 | 28 | 37 | 65 | 21.10 | ... | ... | ... | 13 | 3 | 1 |
| | Total ... | 191,146 | 1,659 | 1,445 | 3,104 | 29.68 | 31 | 28 | ... | 910 | 390 | 349 |
| | Total for towns ... | 149,175 | 2,290 | 2,071 | 4,361 | 29.23 | 39 | 28 | ... | 1,194 | 535 | 448 |
| | Total for the Province ... | 6,832,242 | 101,861 | 95,657 | 197,518 | 28.82 | 3,728 | 3,213 | ... | 106,347 | 9,109 | 6,830 |

Supplementary (optional) Statement

| Towns. | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | |
|---------------|----------|--------|----------------|--------|----------|--------|------------------|--------|------------|--------|---------------|--------|
| | Malaria. | | Enteric fever. | | Measles. | | Relapsing fever. | | Kala-azar. | | Other fevers. | |
| | Deaths. | Ratio. | Deaths. | Ratio. | Deaths. | Ratio. | Deaths. | Ratio. | Deaths. | Ratio. | Deaths. | Ratio. |
| Silchar ... | 5 | .49 | ... | ... | 1 | .09 | ... | ... | 2 | .19 | 27 | 2.61 |
| Sylhet ... | 87 | 5.14 | ... | ... | 1 | .05 | ... | ... | 4 | .23 | 4 | .23 |
| Habiganj ... | 22 | 3.71 | 1 | .16 | ... | ... | ... | ... | 38 | 6.42 | ... | ... |
| Karimganj ... | 4 | .87 | ... | ... | ... | ... | ... | ... | 2 | .43 | 1 | .22 |
| Sunamganj ... | 1 | .20 | ... | ... | ... | ... | ... | ... | 2 | .40 | 44 | 9.01 |
| Gauhati ... | 57 | 3.45 | 4 | .24 | ... | ... | ... | ... | 52 | 3.15 | 76 | 4.61 |
| Barpeta ... | 55 | 4.68 | ... | ... | 4 | .34 | ... | ... | 12 | 1.02 | 48 | 4.09 |
| Dhubri ... | 51 | 7.60 | ... | ... | ... | ... | 1 | .14 | 20 | 2.98 | 13 | 1.93 |
| Goalpara ... | 15 | 2.41 | ... | ... | ... | ... | ... | ... | 20 | 3.21 | 54 | 8.69 |
| Tezpur ... | 21 | 2.86 | 2 | .27 | ... | ... | ... | ... | 20 | 2.72 | 7 | .95 |
| Nowgong ... | 1 | .14 | 3 | .43 | ... | ... | ... | ... | 58 | 8.42 | 18 | 2.61 |
| Jorhat ... | 11 | 1.66 | 1 | .15 | 1 | .15 | ... | ... | 1 | .15 | 1 | .15 |
| Sibsagar ... | 7 | 1.31 | ... | ... | ... | ... | ... | ... | ... | ... | 22 | 4.22 |
| Dibrugarh ... | 3 | .18 | 4 | .24 | ... | ... | ... | ... | 5 | .31 | 55 | 3.43 |
| Shillong ... | 2 | .11 | 1 | .05 | ... | ... | ... | ... | ... | ... | 29 | 1.68 |

in the districts and towns of the province of Assam during the year 1923—concluded.

| | | 11 | | 12 | | 13 | | 14 | | 15 | | | | | | | | |
|----------|---------|----------------------|--------------------------|---------|--------|-------------------|---------|--|------------|---------|--------|--------------------------|-----------------------|-----------|-------------------|------------------|------------------------------|---------|
| | | Injuries. | | | | | | Ratio of deaths per 1,000 of population. | | | | | | | | | | |
| Suicide. | | Wounds or accidents. | Snakes and wild animals. | Rabies. | Total. | All other causes. | Total. | Cholera. | Small-pox. | Plague. | Fever. | Dysentery and diarrhoea. | Respiratory diseases. | Injuries. | All other causes. | From all causes. | | Number. |
| Male. | Female. | | | | | | | | | | | | | | | For the year. | Mean of previous five years. | |
| ... | ... | 2 | ... | ... | 2 | 46 | 187 | ... | 14 | ... | 12.67 | 3.58 | 4.32 | .29 | 6.85 | 27.88 | 37.42 | 8 |
| ... | ... | 2 | ... | ... | 2 | 33 | 165 | 1.12 | ... | ... | 14.32 | 2.73 | 2.73 | .32 | 5.31 | 26.56 | 33.80 | 9 |
| ... | ... | 1 | 1 | ... | 2 | 18 | 93 | 2.78 | ... | ... | 12.76 | .46 | .93 | .46 | 4.17 | 21.57 | 14.38 | 10 |
| ... | ... | 12 | ... | ... | 12 | 120 | 489 | .48 | 1.15 | ... | 11.47 | 3.70 | 4.85 | .72 | 7.28 | 29.07 | 30.88 | 11 |
| ... | ... | 5 | ... | ... | 5 | 93 | 357 | ... | ... | ... | 10.14 | 8.00 | 3.83 | .42 | 7.92 | 30.43 | 31.03 | 12 |
| ... | ... | 4 | 1 | ... | 5 | 102 | 233 | ... | .13 | ... | 6.81 | 4.08 | 6.40 | .68 | 15.89 | 32.02 | 16.75 | 13 |
| ... | ... | ... | ... | ... | ... | 6 | 15 | ... | ... | ... | 4.88 | 3.89 | ... | ... | 5.86 | 14.66 | 27.37 | 14 |
| ... | ... | 1 | ... | ... | 1 | 51 | 194 | .29 | 1.01 | ... | 11.62 | 4.35 | 3.34 | .14 | 7.40 | 28.17 | 28.32 | 15 |
| ... | ... | 3 | ... | ... | 3 | 47 | 118 | .30 | ... | ... | 2.26 | 3.92 | 3.77 | .45 | 7.09 | 17.81 | 21.58 | 16 |
| ... | ... | 4 | 1 | ... | 5 | 66 | 125 | ... | ... | ... | 5.44 | 3.00 | 1.69 | .94 | 12.38 | 23.45 | 16.70 | 17 |
| ... | ... | 3 | ... | ... | 3 | 18 | 75 | ... | ... | ... | 11.21 | 3.28 | .27 | .82 | 4.92 | 20.52 | 25.71 | 18 |
| ... | ... | ... | ... | ... | ... | 10 | 56 | ... | ... | ... | 16.71 | .38 | .38 | ... | 3.79 | 21.28 | 16.33 | 19 |
| ... | ... | 10 | ... | ... | 10 | 121 | 313 | ... | ... | ... | 4.18 | 3.56 | 3.62 | .62 | 7.56 | 19.55 | 24.05 | 20 |
| ... | ... | ... | ... | ... | ... | 17 | 41 | ... | ... | ... | 8.13 | 1.01 | 3.05 | ... | 8.65 | 20.85 | 41.70 | 21 |
| ... | ... | 1 | ... | ... | 1 | 8 | 35 | ... | ... | ... | 11.19 | 8.60 | 2.58 | .86 | 6.88 | 30.12 | 30.12 | 22 |
| ... | ... | ... | ... | ... | ... | 14 | 31 | ... | ... | ... | 4.22 | .97 | .32 | ... | 4.54 | 10.06 | Not available. | 23 |
| ... | ... | 48 | 3 | ... | 51 | 770 | 2,529 | .30 | .27 | ... | 8.99 | 3.85 | 3.45 | .50 | 7.61 | 25.00 | 26.64 | |
| ... | ... | 78 | 3 | ... | 81 | 1,141 | 3,486 | .26 | .18 | ... | 8.00 | 3.72 | 3.00 | .54 | 7.64 | 23.36 | 25.30 | |
| 127 | 81 | 1,386 | 275 | 64 | 1,933 | 30,172 | 161,332 | .54 | .47 | ... | 15.32 | 1.33 | .99 | .28 | 4.40 | 23.54 | 32.77 | |

VI(a) for the year 1923.

| 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | Deaths under one year. | | | Infant mortality rate. |
|------------|--------|------------|--------|------------|--------|----------|--------|-----------------------------|--------|--------------------------|-------|------------------------|--------|--------|------------------------|
| Dysentery. | | Diarrhoea. | | Pneumonia. | | Phtisis. | | Other respiratory diseases. | | Deaths from child-birth. | Male. | Female. | Total. | | |
| Deaths. | Ratio. | Deaths. | Ratio. | Deaths. | Ratio. | Deaths. | Ratio. | Deaths. | Ratio. | | | | | | |
| 13 | 1.27 | 7 | .68 | 1 | .09 | 5 | .49 | 10 | .98 | 1 | 12 | 12 | 24 | 105.72 | |
| 48 | 2.83 | 14 | .82 | 19 | 1.12 | 4 | .23 | 43 | 2.54 | 2 | 41 | 34 | 74 | 150.40 | |
| 36 | 6.08 | 12 | 2.02 | 1 | .16 | ... | ... | 5 | .84 | 1 | 28 | 22 | 50 | 245.09 | |
| 14 | 3.07 | 2 | .43 | 1 | .22 | 2 | .43 | 7 | 1.53 | ... | 9 | 9 | 18 | 163.63 | |
| 5 | 1.02 | 1 | .20 | ... | ... | ... | ... | ... | ... | 1 | 17 | 17 | 34 | 274.19 | |
| 49 | 2.97 | 12 | .72 | 42 | 2.54 | 11 | .66 | 27 | 1.63 | 4 | 36 | 29 | 65 | 138.29 | |
| 77 | 6.56 | 18 | 1.53 | 16 | 1.36 | 9 | .76 | 20 | 1.70 | 8 | 44 | 37 | 81 | 148.35 | |
| 16 | 2.38 | 8 | 1.19 | 14 | 2.08 | 3 | .44 | 12 | 1.78 | 2 | 31 | 10 | 41 | 201.97 | |
| 11 | 1.77 | 6 | .96 | 14 | 2.25 | ... | ... | 3 | .48 | 4 | 22 | 21 | 43 | 191.96 | |
| 19 | 2.58 | 11 | 1.49 | 25 | 3.40 | 15 | 2.04 | 7 | .95 | 8 | 28 | 14 | 42 | 203.88 | |
| 30 | 4.35 | ... | ... | ... | ... | ... | ... | 23 | 3.34 | 1 | 10 | 17 | 27 | 133.00 | |
| 12 | 1.81 | 14 | 2.11 | 9 | 1.35 | 2 | .30 | 14 | 2.11 | 3 | 16 | 12 | 28 | 178.34 | |
| 11 | 2.06 | 5 | .93 | 2 | .37 | ... | ... | 7 | 1.31 | 2 | 21 | 16 | 37 | 161.57 | |
| 47 | 2.93 | 10 | .62 | 15 | .93 | 2 | .12 | 41 | 2.56 | 1 | 14 | 8 | 22 | 62.50 | |
| 9 | .52 | 3 | .17 | ... | ... | ... | ... | 34 | 1.97 | 1 | 37 | 37 | 74 | 131.20 | |

IMPERIAL STATEMENT No. VII.—Deaths registered from Cholera in the

| Number. | Districts. | Circles of Registration. | | Villages. | | January. | February. | March. | April. | May. |
|---------------|------------------------|--------------------------|--|--------------------------|--|----------|-----------|--------|--------|------|
| | | Number in each district. | Number from which deaths from cholera were reported. | Number in each district. | Number from which deaths from cholera were reported. | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| SURMA VALLEY. | | | | | | | | | | |
| 1 | Cachar | 12 | 8 | 1,103 | 33 | 3 | 12 | 23 | 55 | 44 |
| 2 | Sylhet | 40 | 36 | 10,781 | 405 | 29 | 142 | 281 | 397 | 218 |
| | Total | 52 | 44 | 11,884 | 438 | 32 | 154 | 304 | 452 | 262 |
| ASSAM VALLEY. | | | | | | | | | | |
| 3 | Goalpara | 22 | 16 | 2,137 | 94 | ... | 24 | 2 | 9 | 8 |
| 4 | Kamrup | 15 | 13 | 1,954 | 96 | 10 | 19 | 48 | 45 | 32 |
| 5 | Darrang | 13 | 8 | 1,406 | 106 | 6 | 14 | 7 | 22 | 25 |
| 6 | Nowgong | 10 | 8 | 1,495 | 19* | 1 | 2 | 23 | 5 | 6 |
| 7 | Sibsagar | 15 | 8 | 2,143 | 183 | 2 | 5 | 7 | 22 | 30 |
| 8 | Lakhimpur | 15 | 5 | 1,702 | 13 | ... | 1 | 7 | 13 | 14 |
| | Total | 90 | 58 | 10,837 | 511 | 19 | 65 | 94 | 116 | 115 |
| | Total for the Province | 142 | 102 | 22,721 | 949 | 51 | 219 | 398 | 568 | 377 |

* Maunaa.

IMPERIAL STATEMENT No. VIII.—Deaths registered from

| Number. | Districts. | Circles of Registration. | | Villages. | | January. | February. | March. | April. | May. | June. | July. |
|---------------|------------------------|--------------------------|--|--------------------------|--|----------|-----------|--------|--------|------|-------|-------|
| | | Number in each district. | Number from which deaths from small-pox were reported. | Number in each district. | Number from which deaths from small-pox were reported. | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| SURMA VALLEY. | | | | | | | | | | | | |
| 1 | Cachar | 12 | 1 | 1,103 | 2 | 1 | 3 | ... | ... | ... | ... | ... |
| 2 | Sylhet | 40 | 6 | 10,781 | 7 | ... | ... | 1 | 1 | ... | 3 | 4 |
| | Total | 52 | 7 | 11,884 | 9 | 1 | 3 | 1 | 1 | ... | 3 | 4 |
| ASSAM VALLEY. | | | | | | | | | | | | |
| 3 | Goalpara | 22 | 13 | 2,137 | 73 | 31 | 42 | 34 | 37 | 54 | 25 | 22 |
| 4 | Kamrup | 15 | 11 | 1,954 | 40 | 98 | 81 | 148 | 196 | 174 | 168 | 77 |
| 5 | Darrang | 13 | 10 | 1,406 | 44 | 1 | ... | 1 | 12 | 10 | 4 | 23 |
| 6 | Nowgong | 10 | 10 | 1,495 | 42* | 203 | 112 | 238 | 181 | 221 | 196 | 168 |
| 7 | Sibsagar | 15 | 6 | 2,143 | 11 | 3 | 2 | ... | 1 | 6 | 3 | 5 |
| 8 | Lakhimpur | 15 | 6 | 1,702 | 4 | 3 | 6 | 1 | 5 | ... | 1 | ... |
| | Total | 90 | 56 | 10,837 | 214 | 339 | 243 | 422 | 432 | 465 | 397 | 295 |
| | Total for the Province | 142 | 63 | 22,721 | 223 | 340 | 246 | 423 | 433 | 465 | 400 | 299 |

* Maunaa.

districts of Assam during each month of the year 1923.

| 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. | Number. |
|-------|-------|---------|------------|----------|-----------|-----------|--------|---------|--------|--|---------|--------|--|---------|
| | | | | | | | Male. | Female. | Total. | Male. | Female. | Total. | | |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 32 | 8 | 4 | 5 | 2 | ... | 3 | 126 | 65 | 191 | .48 | .27 | .38 | 2.84 | 1 |
| 82 | 59 | 63 | 27 | 28 | 44 | 382 | 1,032 | 730 | 1,762 | .79 | .59 | .69 | 2.77 | 2 |
| 114 | 67 | 67 | 32 | 39 | 44 | 385 | 1,158 | 785 | 1,943 | .73 | .53 | .63 | 2.78 | |
| 4 | 34 | 8 | 32 | 43 | 102 | 149 | 203 | 212 | 415 | .49 | .59 | .54 | 1.47 | 3 |
| 10 | 46 | 19 | 73 | 68 | 238 | 150 | 446 | 321 | 767 | 1.12 | .88 | 1.00 | 3.34 | 4 |
| 21 | 16 | 22 | 13 | 18 | 14 | 4 | 112 | 70 | 182 | .44 | .31 | .38 | 3.47 | 5 |
| 5 | 1 | ... | 6 | 10 | 7 | 3 | 40 | 29 | 69 | .19 | .15 | .17 | 1.78 | 6 |
| 55 | 21 | 27 | 19 | 28 | 8 | 12 | 126 | 110 | 236 | .29 | .28 | .29 | 1.26 | 7 |
| 15 | 19 | 12 | 15 | 11 | 9 | ... | 65 | 51 | 116 | .20 | .18 | .19 | .59 | 8 |
| 119 | 137 | 68 | 158 | 178 | 378 | 318 | 992 | 793 | 1,785 | .49 | .44 | .46 | 1.94 | |
| 233 | 204 | 155 | 190 | 208 | 422 | 703 | 2,150 | 1,578 | 3,728 | .60 | .48 | .54 | 2.32 | |

Small-pox in the districts of Assam during each month of the year 1923.

| August. | September. | October. | November. | December. | Total. | | | Number of deaths among children. | | Ratio of deaths per 1,000 of population. | | | Mean ratio per 1,000 of previous five years. | Number. |
|---------|------------|----------|-----------|-----------|--------|---------|--------|----------------------------------|------------------|--|---------|--------|--|---------|
| | | | | | Male. | Female. | Total. | Under 1 year. | One to 10 years. | Male. | Female. | Total. | | |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| ... | ... | ... | ... | ... | 2 | 2 | 4 | ... | ... | .007 | .008 | .008 | .11 | 1 |
| 3 | 1 | 1 | 3 | 3 | 9 | 8 | 17 | 6 | 6 | .006 | .006 | .006 | .20 | 2 |
| 3 | ... | 1 | 1 | 3 | 11 | 10 | 21 | 6 | 6 | .006 | .007 | .007 | .19 | |
| 25 | 9 | 8 | 1 | 14 | 185 | 117 | 302 | 22 | 136 | .45 | .33 | .39 | .49 | 3 |
| 70 | 32 | 23 | 26 | 50 | 600 | 543 | 1,143 | 170 | 430 | 1.51 | 1.48 | 1.49 | .55 | 4 |
| 17 | 4 | 3 | 13 | 41 | 68 | 61 | 129 | 64 | 52 | .27 | .27 | .27 | .62 | 5 |
| 113 | 49 | 22 | 21 | 22 | 820 | 726 | 1,546 | 196 | 640 | 3.92 | 3.83 | 3.88 | .55 | 6 |
| 6 | 9 | 7 | 1 | 3 | 26 | 20 | 46 | ... | 2 | .06 | .05 | .05 | .21 | 7 |
| 2 | 2 | 6 | ... | ... | 14 | 12 | 26 | 1 | 4 | .04 | .04 | .04 | .07 | 8 |
| 233 | 165 | 69 | 62 | 130 | 1,713 | 1,479 | 3,192 | 453 | 1,264 | .85 | .82 | .83 | .42 | |
| 236 | 165 | 70 | 63 | 133 | 1,724 | 1,489 | 3,213 | 459 | 1,270 | .48 | .45 | .47 | .52 | |

IMPERIAL STATEMENT No. IX.—Deaths registered from Fevers

| Number. | Districts. | Circles of Registration. | | Villages. | | January. | February. | March. | April. | May. |
|----------------------|-----------------------------------|--------------------------|---|--------------------------|---|---------------|--------------|--------------|--------------|--------------|
| | | Number in each district. | Number from which deaths from fevers were reported. | Number in each district. | Number from which deaths from fevers were reported. | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| SURMA VALLEY. | | | | | | | | | | |
| 1 | Cachar | 12 | 12 | 1,103 | 528 | 596 | 431 | 433 | 418 | 572 |
| 2 | Sylhet | 40 | 40 | 10,781 | 10,781 | 4,615 | 3,208 | 2,746 | 2,797 | 2,841 |
| | Total | 52 | 52 | 11,884 | 11,309 | 5,211 | 3,639 | 3,179 | 3,215 | 3,413 |
| ASSAM VALLEY. | | | | | | | | | | |
| 3 | Goalpara | 22 | 22 | 2,137 | 2,137 | 2,045 | 1,421 | 1,531 | 1,611 | 1,628 |
| 4 | Kamrup | 15 | 14 | 1,954 | 1,001 | 945 | 735 | 915 | 977 | 1,006 |
| 5 | Darrang | 13 | 12 | 1,406 | 1,126 | 471 | 469 | 418 | 528 | 661 |
| 6 | Nowgong | 10 | 10 | 1,495 | 59* | 522 | 375 | 533 | 444 | 614 |
| 7 | Sibsagar | 15 | 15 | 2,143 | 1,238 | 655 | 593 | 561 | 596 | 759 |
| 8 | Lakhimpur | 15 | 15 | 1,702 | 1,283 | 387 | 281 | 333 | 336 | 497 |
| | Total | 90 | 88 | 10,837 | 6,844 | 5,025 | 3,874 | 4,291 | 4,402 | 5,825 |
| | Total for the Province ... | 142 | 140 | 22,721 | 18,153 | 10,236 | 7,513 | 7,470 | 7,707 | 9,238 |

* Manzaa.

IMPERIAL STATEMENT No. X.—Deaths registered from

| Number. | Districts. | Circles of Registration. | | Villages. | | January. | February. | March. | April. | May. |
|----------------------|-----------------------------------|--------------------------|--|--------------------------|--|------------|------------|------------|------------|------------|
| | | 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. | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| SURMA VALLEY. | | | | | | | | | | |
| 1 | Cachar | 12 | 11 | 1,103 | 194 | 79 | 53 | 85 | 83 | 116 |
| 2 | Sylhet | 40 | 39 | 10,781 | 1,474 | 320 | 294 | 216 | 239 | 217 |
| | Total | 52 | 50 | 11,884 | 1,668 | 399 | 257 | 301 | 322 | 333 |
| ASSAM VALLEY. | | | | | | | | | | |
| 3 | Goalpara | 22 | 19 | 2,137 | 80 | 12 | 6 | 14 | 12 | 18 |
| 4 | Kamrup | 15 | 14 | 1,954 | 153 | 31 | 24 | 30 | 34 | 95 |
| 5 | Darrang | 13 | 12 | 1,406 | 166 | 42 | 33 | 29 | 53 | 67 |
| 6 | Nowgong | 10 | 10 | 1,495 | 37* | 21 | 15 | 25 | 19 | 27 |
| 7 | Sibsagar | 15 | 14 | 2,143 | 496 | 113 | 82 | 92 | 100 | 159 |
| 8 | Lakhimpur | 15 | 14 | 1,702 | 103 | 61 | 67 | 59 | 118 | 139 |
| | Total | 90 | 83 | 10,837 | 1,035 | 280 | 227 | 249 | 336 | 595 |
| | Total for the Province ... | 142 | 133 | 22,721 | 2,703 | 679 | 484 | 550 | 658 | 838 |

* Manzaa.

in the districts of Assam during each month of the year 1923.

| 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. | Number. |
|-------|-------|---------|------------|----------|-----------|-----------|--------|---------|---------|--|---------|--------|--|---------|
| | | | | | | | Male. | Female. | Total. | Male. | Female. | Total. | | |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 567 | 622 | 452 | 375 | 447 | 434 | 497 | 3,020 | 2,824 | 5,844 | 11.54 | 11.82 | 11.67 | 17.82 | 1 |
| 2,838 | 3,455 | 2,972 | 3,112 | 3,504 | 3,540 | 4,275 | 21,997 | 17,906 | 39,903 | 16.80 | 14.13 | 15.70 | 19.23 | 2 |
| 3,405 | 4,077 | 3,424 | 3,487 | 3,951 | 3,974 | 4,772 | 25,017 | 20,730 | 45,747 | 15.93 | 14.08 | 15.03 | 18.99 | |
| 1,555 | 1,552 | 1,298 | 1,312 | 1,634 | 1,623 | 1,904 | 10,735 | 8,459 | 19,194 | 22.40 | 23.79 | 25.18 | 28.98 | 3 |
| 1,822 | 1,132 | 973 | 969 | 873 | 1,157 | 1,092 | 7,034 | 6,222 | 13,256 | 17.70 | 17.02 | 17.38 | 20.36 | 4 |
| 608 | 820 | 368 | 502 | 454 | 699 | 765 | 3,819 | 3,444 | 7,263 | 15.10 | 15.33 | 15.21 | 16.47 | 5 |
| 704 | 702 | 638 | 430 | 481 | 498 | 479 | 3,478 | 2,942 | 6,420 | 16.66 | 15.54 | 16.13 | 19.10 | 6 |
| 846 | 902 | 786 | 600 | 858 | 642 | 695 | 4,518 | 3,975 | 8,493 | 19.41 | 16.21 | 16.31 | 15.21 | 7 |
| 651 | 582 | 569 | 554 | 597 | 658 | 519 | 3,120 | 2,844 | 5,964 | 9.97 | 10.39 | 10.16 | 12.44 | 8 |
| 6,186 | 5,690 | 5,132 | 4,367 | 4,897 | 5,277 | 5,544 | 32,704 | 27,896 | 60,600 | 16.25 | 15.31 | 15.90 | 18.70 | |
| 9,591 | 9,767 | 8,556 | 7,854 | 8,818 | 9,251 | 10,316 | 57,721 | 48,626 | 106,347 | 16.11 | 14.87 | 15.52 | 18.83 | |

Dysentery and Diarrhœa in the districts of Assam during each month of the year 1923.

| 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. | Number. |
|-------|-------|---------|------------|----------|-----------|-----------|--------|---------|--------|--|---------|--------|--|---------|
| | | | | | | | Male. | Female. | Total. | Male. | Female. | Total. | | |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 80 | 65 | 62 | 74 | 74 | 84 | 76 | 505 | 496 | 931 | 1.93 | 1.78 | 1.86 | 2.34 | 1 |
| 224 | 243 | 247 | 245 | 283 | 381 | 347 | 1,759 | 1,402 | 3,161 | 1.34 | 1.14 | 1.24 | 1.71 | 2 |
| 304 | 308 | 304 | 319 | 357 | 465 | 423 | 2,264 | 1,828 | 4,092 | 1.44 | 1.24 | 1.34 | 1.82 | |
| 20 | 26 | 17 | 15 | 11 | 16 | 22 | 109 | 80 | 189 | .26 | .21 | .24 | .35 | 3 |
| 97 | 62 | 52 | 61 | 88 | 28 | 33 | 356 | 279 | 635 | .89 | .76 | .83 | .83 | 4 |
| 60 | 75 | 83 | 51 | 56 | 45 | 52 | 350 | 296 | 646 | 1.38 | 1.31 | 1.35 | 2.05 | 5 |
| 36 | 29 | 32 | 37 | 31 | 15 | 20 | 192 | 115 | 307 | .92 | .69 | .77 | 1.09 | 6 |
| 168 | 210 | 182 | 175 | 206 | 164 | 195 | 921 | 555 | 1,776 | 2.12 | 2.19 | 2.15 | 3.18 | 7 |
| 167 | 165 | 134 | 138 | 159 | 134 | 103 | 826 | 638 | 1,464 | 2.64 | 2.53 | 2.49 | 3.80 | 8 |
| 543 | 567 | 500 | 497 | 551 | 402 | 355 | 2,754 | 2,363 | 5,017 | 1.36 | 1.25 | 1.31 | 1.99 | |
| 852 | 875 | 804 | 816 | 908 | 867 | 778 | 5,018 | 4,091 | 9,109 | 1.40 | 1.25 | 1.33 | 1.91 | |

IMPERIAL STATEMENT No. XI.—Deaths registered from

| Number. | Districts. | Circles of Registration. | | Villages. | | January. | February. | March. | April. | May. |
|---------------|----------------------------|--------------------------|---|--------------------------|---|----------|-----------|--------|--------|------|
| | | 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. | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| SURMA VALLEY. | | | | | | | | | | |
| 1 | Cachar | 12 | 10 | 1,103 | 108 | 114 | 111 | 96 | 84 | 60 |
| 2 | Sylhet | 40 | 36 | 10,781 | 647 | 191 | 131 | 182 | 148 | 119 |
| | Total | 52 | 46 | 11,884 | 755 | 305 | 242 | 278 | 232 | 179 |
| ASSAM VALLEY. | | | | | | | | | | |
| 3 | Goalpara | 22 | 18 | 2,137 | 64 | 27 | 9 | 15 | 11 | 9 |
| 4 | Kamrup | 15 | 14 | 1,954 | 48 | 32 | 27 | 36 | 31 | 16 |
| 5 | Darrang | 13 | 10 | 1,406 | 143 | 81 | 63 | 32 | 77 | 45 |
| 6 | Nowgong | 10 | 9 | 1,495 | 22* | 23 | 15 | 12 | 14 | 26 |
| 7 | Sibsagar | 15 | 13 | 2,143 | 179 | 125 | 107 | 129 | 63 | 90 |
| 8 | Lakhimpur | 15 | 14 | 1,702 | 53 | 107 | 114 | 158 | 146 | 114 |
| | Total | 90 | 78 | 10,837 | 509 | 395 | 335 | 402 | 342 | 300 |
| | Total for the Province ... | 142 | 124 | 22,721 | 1,264 | 700 | 577 | 680 | 574 | 479 |

*Maunna.

IMPERIAL STATEMENT No. XII.—Deaths registered from Plague

| Number. | Districts. | Circles of Registration. | | Villages. | | January. | February. | March. | April. | May. |
|---------------|----------------------------|--------------------------|---|--------------------------|---|----------|-----------|--------|--------|------|
| | | Number in each district. | Number from which deaths from plague were reported. | Number in each district. | Number from which deaths from plague were reported. | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| SURMA VALLEY. | | | | | | | | | | |
| 1 | Cachar | 12 | ... | 1,103 | ... | ... | ... | ... | ... | ... |
| 2 | Sylhet | 40 | ... | 10,781 | ... | ... | ... | ... | ... | ... |
| | Total | 52 | ... | 11,884 | ... | ... | ... | ... | ... | ... |
| ASSAM VALLEY. | | | | | | | | | | |
| 3 | Goalpara | 22 | ... | 2,137 | ... | ... | ... | ... | ... | ... |
| 4 | Kamrup | 15 | ... | 1,954 | ... | ... | ... | ... | ... | ... |
| 5 | Darrang | 13 | ... | 1,406 | ... | ... | ... | ... | ... | ... |
| 6 | Nowgong | 10 | ... | 1,495 | ... | ... | ... | ... | ... | ... |
| 7 | Sibsagar | 15 | ... | 2,143 | ... | ... | ... | ... | ... | ... |
| 8 | Lakhimpur | 15 | ... | 1,702 | ... | ... | ... | ... | ... | ... |
| | Total | 90 | ... | 10,837 | ... | ... | ... | ... | ... | ... |
| | Total for the Province ... | 142 | ... | 22,721 | ... | ... | ... | ... | ... | ... |

APPENDIX II.

PROVINCIAL.

Statement showing details of registration in compulsory areas.

| Compulsory registration area. | Population according to Census of 1921. | Estimated births at 285 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 | 10,204 | | 227 | | 22.25 | 137 | 94 | 13.42 | 9.21 | ... | ... |
| Hailakandi | 2,228 | | 57 | | 16.60 | 38 | 31 | 17.05 | 13.91 | 1 | 1 |
| Sylhet | 16,912 | | 492 | | 29.00 | 383 | 323 | 22.64 | 19.09 | 6 | 6 |
| Karimganj | 4,552 | | 110 | | 24.16 | 77 | 63 | 16.91 | 13.84 | 18 | 17 |
| Maulvi Bazar | 3,334 | | 63 | | 18.80 | 43 | 36 | 12.89 | 10.79 | 1 | 1 |
| Habiganj | 5,918 | | 204 | | 34.47 | 188 | 153 | 31.76 | 25.85 | ... | ... |
| Sunamganj | 4,881 | | 124 | | 25.40 | 91 | 80 | 18.64 | 16.39 | 7 | 7 |
| Dhubri | 6,707 | | 203 | | 30.26 | 187 | 143 | 27.88 | 21.32 | 24 | 16 |
| Goalpara | 6,212 | | 224 | | 36.05 | 165 | 135 | 26.36 | 21.73 | 32 | 25 |
| Gauripur | 4,311 | Not available. | 106 | Not available. | 24.50 | 93 | 93 | 21.57 | 21.57 | ... | ... |
| Gauhati | 16,480 | | 470 | | 28.52 | 489 | 334 | 29.66 | 20.26 | 43 | 26 |
| Barpeta | 11,730 | | 546 | | 46.54 | 357 | 348 | 30.43 | 29.66 | 25 | 23 |
| Tezpur | 7,941 | | 206 | | 26.06 | 235 | 184 | 32.01 | 25.06 | 16 | 14 |
| Mangaldai | 1,023 | | 30 | | 29.32 | 15 | ... | 14.06 | ... | 15 | 11 |
| Nowgong | 6,885 | | 203 | | 29.48 | 194 | 125 | 28.17 | 18.15 | 11 | 10 |
| Sibsagar | 5,329 | | 229 | | 42.97 | 125 | 102 | 23.45 | 19.14 | 76 | 44 |
| Nazira | 2,632 | | 145 | | 55.09 | 56 | 55 | 21.27 | 20.89 | 51 | 31 |
| Jorhat | 6,626 | | 157 | | 23.69 | 118 | 91 | 17.80 | 13.73 | 10 | 2 |
| Golaghat | 3,655 | | 98 | | 26.81 | 75 | 45 | 20.52 | 12.31 | 17 | 14 |
| Dibrugarh | 16,007 | | 352 | | 21.99 | 313 | 122 | 19.55 | 7.62 | 62 | 53 |
| Doom Dooma | 1,162 | | 20 | | 17.21 | 35 | 35 | 30.12 | 30.12 | ... | ... |
| North Lakhimpur | 1,966 | | 50 | | 25.43 | 41 | 30 | 20.85 | 15.26 | ... | ... |
| Tinsukia | 3,080 | | 65 | | 21.10 | 31 | 31 | 10.06 | 10.06 | ... | ... |
| Total | 149,175 | | 4,361 | | 29.23 | 3,486 | 2,633 | 23.36 | 17.78 | 415 | 501 |

GOVERNMENT OF ASSAM.

The Governor and the Minister of Local Self-Government.

Resolution on the Annual Public Health Report of the Province of Assam for the year 1923.

Extract from the Proceedings of the Governor of Assam and the Minister of Local Self-Government in the Local Self-Government Department, Public Health Branch, No. 2311 L.S.-G., dated the 13th June 1924.

READ—

The Public Health Report for the year 1923.

RESOLUTION.

THE vital statistics of the year under review show a distinct improvement. The increase in the birth-rate was slight, but the death-rate fell from 26·85 per mille in 1922 to 23·54 and the net result was that the natural increase of population rose from 1·58 to 5·28 per mille. The birth-rate still compares unfavourably with that of other provinces, but whereas in 1922 the death-rate was higher in Assam than in any province except one, in 1923 only three provinces recorded a lower rate. Even when allowance is made for the admittedly defective system of registration, the results are distinctly satisfactory. The test carried out by the vaccinating staff indicates that in urban areas the registration was more complete than in 1922, the percentage of omissions detected being appreciably lower in the case of births and deaths. In rural areas, however, the results of the test showed no improvement, Kamrup again having the worst record. Reference was made in last year's Resolution to the improvement in the vital statistics on tea estates. The improvement was more than maintained in the year under review, when a birth-rate of 23·69 and a death-rate of 21·97 were recorded as compared with 27·13 and 25·19 in 1922. The natural increase of population on these estates rose to 6·72, and the Governor and his Minister desire once more to congratulate the Industry on the marked success which has attended their efforts to make conditions on their estates more sanitary. The fact that the death-rate on tea gardens in Assam was lower than the recorded death-rate of any province in India in 1923 proves the care which is now taken of the labour force and should dispel the illusion that tea gardens in Assam are unhealthy.

Another satisfactory feature of the year was the decline in infant mortality, the rate falling from 198·20 per mille to 179·50. The demonstrations that were given in the Baby Welfare Week aroused far greater interest among the general public than was anticipated, and there is every reason to hope that an extension of the campaign will have a very marked effect on the infant mortality of the province. The apathy of the people has hitherto made progress difficult in this and all questions of public health, but if, as now appears likely, this apathy can be overcome, there is hope for the future. It is therefore with pleasure that the Governor and his Minister learn that, with the aid of the Red Cross Association, a campaign is being organized to carry on hygiene propaganda through the agency of the *Kala-azar* Assistant Surgeons equipped with magic lanterns and selected slides. These officers tour in the interior of the districts and are therefore a most suitable agency for the conduct of this campaign. Government trust no effort will be spared to make it a success and that the people will learn to appreciate the importance of observing in their daily life the practical principles of hygiene and sanitation.

2. The mortality from all the principal diseases except small-pox showed a decrease. The death-rate from cholera fell from 2·36 to 0·54, the year being free from any serious epidemic. The mortality from small-pox rose from 0·38 to 0·47, the disease being most prevalent in Nowgong. The question of extending compulsory

vaccination is now under consideration. At present it is in force in urban areas and certain selected rural areas where Village Authorities have been established. From enquiries made by the Government it appears probable that the want of success which has attended the experiment in the selected rural areas was to a large extent due to the failure on the part of the local medical staff to exercise proper supervision and control.

The Government are now considering the possibility of extending the Act to other selected areas or of introducing certain sections of the Act or rules under the Epidemic Diseases Act as an emergency measure in areas where an epidemic appears imminent or has actually broken out.

3. There was a slight decline in the death-rate from fevers, which include *Kala-azar*. The *Kala-azar* returns show 35,071 cases treated with 4,131 deaths as compared with 19,659 cases and 2,292 deaths in 1922. The death-rate was 11.7 per cent. of the cases treated against 11.6 in the previous year. The great improvement that has been effected in the treatment of the disease is shown by a comparison with the figures of 1920 when 38.8 per cent. of the cases treated ended fatally. The increase in the number of cases does not mean that the disease has spread to that extent. What the figures show is that with the employment of an additional staff and the survey of new areas, the disease has been found to be more widely prevalent than was supposed. The increase represents more correct diagnosis rather than an actual increase of disease. The Government referred in their Resolution of last year to the serious menace which this disease represents and outlined the reorganization of the campaign that would be undertaken to deal with it. The details of that reorganization have been explained in a separate Resolution. Measures have been taken firstly to enlarge the special staff considerably so that more treatment centres could be opened and suspected areas surveyed and secondly to secure more complete co-ordination between the Medical and Public Health Departments so as to secure more efficient working and a more adequate supervision. The details are given in the Director's Report, and the Governor and his Minister desire to express their appreciation of the way in which Civil Surgeons and other officers of the district medical staff have grasped the seriousness of the situation and have readily undertaken the additional work which has been entrusted to them. The number of special Sub-Assistant Surgeons was raised from 48 to 79, and the additional expenditure incurred on the campaign in 1923-24 amounted approximately to Rs. 2,85,000. One of the great difficulties with which the staff has to contend is the length of the treatment required to effect a cure. Many patients abandon the course before they are completely cured and free from infection, and it is often difficult to trace them and bring them back to the treatment centres. Experiments are now being made with a new and much shorter treatment, and if the results realize anticipations, this difficulty will be removed. The Government have spared no measures to deal with this scourge, but it has become evident that curative measures alone will not stamp out the disease. It is necessary to know the cause of the disease and the method of its propagation so that measures of prevention as well as of cure can be adopted. The Governor and his Minister have therefore heard with satisfaction that the proposal which emanated from this Government for the institution of an expert research enquiry has been accepted by the Government of India and that a Research Commission has been appointed to prosecute the enquiry in Assam during the current year. The health and prosperity not only of this province but of other parts of India depend largely on the findings of that Commission and the results of their enquiry will be awaited with anxiety.

No extension of the anti-malaria campaign could be undertaken, but the operations at Pasighat and Haflong were continued. The measures taken at Pasighat have effected a great improvement in the health of that station. The results of the special mosquito investigation in Shillong have not yet been published. The School of Tropical Medicine and Hygiene, Calcutta, propose to carry out a malarial survey of Assam and a preliminary survey has already been undertaken. The Government of Assam welcome this research which will be of great value to the province.

4. Attempts to enlist the aid of the International Health Board of the Rockefeller Foundation in a campaign against ankylostomiasis or hook-worm have so far not proved successful.

Another disease which is believed to be making headway in Assam is leprosy. A leprosy survey of the province will be undertaken, as soon as the funds and staff required for the work can be found.

5. There was a remarkable fall in the sale of quinine, the number of treatment parcels sold falling from 10,603 to 4,589. This is attributed partly to the increase in the cost price introduced in 1922, partly to a restriction of the supply to areas where

there are no dispensaries or druggists' shops and partly to a more healthy year. A further factor is doubtless the fact that many cases which in former years were treated for malaria are now correctly diagnosed as *kala-azar*.

6. The expenditure incurred by Municipal institutions on sanitation rose from Rs. 3,82,447 to Rs. 4,06,595, the expenditure on water-supply increasing by Rs. 20,246 and on conservancy by Rs. 8,427. The water-works in the principal towns were again inspected during the year by Mr. Shaw, Executive Engineer, who has made many valuable suggestions for improvement in their working. The Municipalities concerned should feel greatly indebted to Mr. Shaw for the expert advice which they thereby obtain gratis and the Government trust that they will do all that is possible to carry out his recommendations. It is with regret that the Governor and his Minister have to record that the expenditure of Local Boards on water-supply fell from Rs. 1,60,640 to Rs. 1,07,243. It is clear that unless some means is found of increasing the resources of Local Boards, these important local bodies will find themselves unable to carry out important works of public utility. They already receive very liberal subventions from provincial revenues, amounting to more than 50 per cent. of their total income, and they cannot look for more assistance from that quarter. The matter has already received the careful consideration of Government and the issues have been laid clearly before the Boards. Their replies are awaited with interest.

7. The office of Director of Public Health was held by Lieutenant-Colonel T. C. McCombie Young, I.M.S., from the beginning of the year until the 16th November, when he proceeded on leave. Colonel C. H. Bensley, I.M.S., Inspector General of Civil Hospitals, held charge for a few days in addition to his own duties and was relieved on the 1st December by Major T. D. Murison, I.M.S., to whom the Government are indebted for an interesting report. A Public Health Board consisting of the Inspector General of Civil Hospitals and the Director of Public Health, was constituted during the year and the value of this Board in co-ordinating the work of the Medical and Public Health Departments has already been clearly proved.

ORDER.—Ordered that the Resolution be published in the *Assam Gazette*.

By order of the Government of Assam,

G. E. SOAMES,

Second Secretary to the Government of Assam.

