

# **Annual public health report of the Province of Orissa; and Annual vaccination report.**

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# ANNUAL PUBLIC HEALTH REPORT

OF THE

PROVINCE OF ORISSA

FOR THE YEAR

1938

AND THE

# ANNUAL VACCINATION REPORT

FOR THE YEAR

1938-39

BY

Lt.-Col. G. VERGHESE, I.M.S.,

*Director of Health and Inspector-General of Prisons, Orissa.*



SUPERINTENDENT, GOVERNMENT PRESS  
ORISSA, CUTTACK  
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# PROVINCE OF ORISSA

Scale 1 Inch = 66 Miles



## REFERENCES

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| 1 NARSINGHPUR | 4 ATHGARH   |
| 2 BARAMBA     | 5 KHANDPARA |
| 3 TIGIRIA     | 6 RANPUR    |

## REFERENCES

Boundary—Province	.....
District	-----
do State	.....
do Subdivision	.....

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# Annual Public Health Report of the Province of Orissa for the Year 1938.

## CHAPTER I.

### Meteorology, Prices of grains, etc.

**1. Rainfall.**—The following short account of the meteorological conditions in the Province of Orissa during the year 1938 is taken from the report of the Director-General of Observatories.

The total rainfall in January was in defect by 0.17". The minimum and the maximum temperatures remained above normal while the humidity was in excess. The mean cloud amount was above normal in the province.

The total rainfall in February was in slight excess by 0.33". The maximum and minimum temperatures were below normal and the humidity was in defect.

The total rainfall in March was in defect by 0.61". The maximum and minimum temperatures were above normal while the humidity was in defect.

The total rainfall in April was in defect by 1.07". The maximum and minimum temperatures were above normal while the humidity was in defect throughout the province.

The total rainfall in May was in excess by 1.69". The maximum and minimum temperatures and the humidity were roughly normal during the month.

The total rainfall in June was in moderate defect. The maximum and minimum temperatures were below normal while the humidity was in excess.

The total rainfall in July was in defect by 1.81". The maximum and minimum temperatures were roughly normal while the humidity was in excess.

The total rainfall in August was in moderate defect by 0.84". The maximum and the minimum temperatures were roughly normal while the humidity was in slight excess.

The total rainfall in September was in defect by 2.24". The maximum and minimum temperatures were roughly normal while the humidity was in slight defect. The mean cloud amount was above normal in the province.

The total rainfall in October was in excess by 1.94". The maximum and minimum temperatures and the humidity were roughly normal in the province.

The total rainfall in November was in defect by 1.59". The maximum temperature was roughly normal while the minimum temperature was below normal. The humidity was in defect throughout the province.

The total rainfall in December was in defect by 0.32". The maximum temperature was above normal and the minimum temperature was below normal while the humidity was in defect.

The total rainfall in the province during the year under report was 51.75", that is, 4.83" or 9.3 per cent in defect over the usual fall as against 56.79" in the previous year.

**2. Price of common grain.**—The average price of common rice during the year under review varied from 9 seers 10 chs. to the rupee in the district of Ganjam to 21 seers in Angul, but in the majority of the districts it remained over 14 seers as against 12 seers in the previous year.

The following statement shows the monthly average price of common rice at the headquarters of the districts of the province for the year 1938 :—

*Statement showing the monthly average price of common rice (cheapest) at the headquarters markets of the districts of the Province of Orissa for the year 1938.*

District.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.
Cuttack	15 12	16 1	17 1	17 1	16 8½	15 12	15 12	15 1½	14 7	14 7	15 1½	15 12
Balasore	18 0	18 3	18 8	17 8	16 5	15 0	15 0	14 4	14 0	14 1½	15 8	15 9½
Puri	15 2½	17 1	17 1	17 1	17 1	14 ½	14 9	15 1½	14 12	14 5	15 7	15 12
Famkalpur	20 4	20 4	20 4	20 4	20 4	19 6½	19 13	18 10	18 4½	19 9	20 4	18 1½
Angul	20 12½	21 0	21 0	21 0	20 9½	18 14	18 4½	16 13	16 4	18 1	19 15	20 2½
Khondmals	17 1½	17 10	16 10	16 8	15 12	14 10	15 7	13 8	13 8	15 0	15 12	15 0
Ganjam	9 10	9 10	9 10	9 10	10 1	10 6	10 6	10 6	10 6	10 6	10 6	10 6
Koraput	13 1½	14 4	14 0	14 0	14 0	14 0	14 0	14 0	14 0	14 0	14 0	14 0

## CHAPTER II.

### Vital Statistics.

1. **Area and population.**—The total area of the Province of Orissa as recently calculated on the reports of the district officers is 32,206 square miles and the population according to the census of 1931 is 8,009,559 excluding the Orissa States. The average population per square mile is 249. The birth and death rates and also the other returns shown in this report have been calculated on the census population of 1931 and relate only to a population of 7,073,697 which excludes the population of a large area of Ganjam and Koraput districts called the 'agency areas' where no proper system of collection of vital statistics exists. The increase of population figures during the year over the last years, on which births and deaths have been calculated is due to addition of vital statistical figures relating to certain areas in the Ganjam and Koraput agencies from which they were not completely available in previous years.

2. **Provincial birth and death rates.**—The provincial birth rate for the year 1938 was 33·8 per mille as against 34·8 in 1937 and death-rate was 29·5 in 1938 as against 28·6 in 1937. Thus the birth rate in 1938 showed a decrease of 1·0 and the death rate an increase of 0·9.

This lower birth rate is probably due to some amount of agricultural distress brought about by the heavy recurring floods and the increase in the incidence of malaria in 1938.

The total number of births in the province registered during the year was 238,797, the number of males being 122,328 and females 116,469, as against 241,746 in 1937. This means a decrease of 2,949 births or 0·4 per thousand of population during the year over those recorded in the year preceding.

3. The statement below gives the comparative figures of birth rates in other provinces of India and in Burma during 1938 including Orissa :—

Province.						Birth rate per mille of population.
Orissa	...	...	...	...	...	33.76
Bengal	...	...	...	...	...	30.48
Bihar	...	...	...	...	...	34.34
United Provinces	...	...	...	...	...	36.79
Central Provinces	...	...	...	...	...	43.19
Punjab	...	...	...	...	...	49.50
Bombay	...	...	...	...	...	42.22
Madras	...	...	...	...	...	38.67
Burma	...	...	...	...	...	34.59
Assam	...	...	...	...	...	29.92
North-West Frontier Province	...	...	...	...	...	30.56
Sind	...	...	...	...	...	19.93

Orissa recorded a lower birth rate than all other provinces except Bengal, Assam, North-West Frontier Province and Sind.

4. **Birth Registration.**—The highest birth rate 42.4 was recorded in the Khondmals district and the lowest birth rate 16.3 in the Agency districts. In the urban areas the Municipalities of Berhampur and Parlakimedi registered high birth rates, viz., 42.9 and 34.8 respectively whilst the Municipalities of Cuttack, Jajpur and Balasore registered low rates, viz., 13.3, 14.7 and 18.3 respectively.

The reason for such low rates is due to defective recording of the vital events. With a view to improve the matter an attempt is being made to transfer the responsibilities of the Police for recording the events to the municipalities. It is hoped that with such an arrangement the compilation and recording will certainly improve in such urban areas particularly those that employ health officers. Directions have since been issued by Government requiring municipalities in North Orissa to provide for registration of births and deaths within their limits in accordance with the provisions of the Bengal Births and Deaths Registration Act of 1873.

The rural and urban areas of the province recorded respectively 233,406 and 5,391 births, the birth rates for these areas being 34.0 and 24.8 per mille of population. The higher birth rate in the rural areas as compared with the urban birth rate is primarily due to the prevalence of early marriage among the rural population.

5. **Deaths.**—The total number of deaths registered in the province during the year under report was 208,586 of which 103,689 were males and 104,897 were females as against 199,165 in the previous year. Out of these the rural areas recorded 104,216 and the urban areas 4,370 deaths. There was thus an increase of 9,421 deaths or 1.3 per mille of population over those recorded in the preceding year. The provincial death rate for the year 1938 was 29.5 as against 28.6 in 1937. It would appear that in the Province of Orissa fever, which includes malaria, plays an important part in causing the number of deaths to swell, and the increase of the death rate over that of the previous year is mainly attributable to this cause as also general causes.

The statement below shows comparative figures of death rate in other provinces of India and in Burma including Orissa:—

Province.	Death rate per mille of population.
Orissa ... ..	29.49
Bengal ... ..	26.86
Bihar ... ..	23.63
United Provinces ... ..	25.62
Central Provinces ... ..	41.07
Punjab ... ..	26.44
Bombay ... ..	30.47
Madras ... ..	23.46
Assam ... ..	22.42
North-West Frontier Province ... ..	22.89
Sind ... ..	12.40
Burma ... ..	25.73

Orissa recorded a higher death rate than all other provinces except Central Provinces and Bombay.

**6. Death Registration.**—The highest death rates were recorded in the districts of Khondmals, Balasore and Cuttack, viz., 35.9, 34.4 and 31.7 respectively, whilst the lowest death rates were recorded in the agency districts, Angul and Sambalpur, the figures being 11.6, 26.0 and 26.3 respectively. Amongst the towns in the province, the highest death rates were recorded in Kendrapara (30.9) and Puri (30.0) and the lowest in Cuttack (10.8), Jajpur (17.5) and Parlakimedi (17.5).

The amazingly low rate for Cuttack town is probably due to incorrect recording. Since the responsibility of recording has now been given to the municipality where there is a health officer, it is hoped that recording will gradually improve.

The average death rate in the rural areas was 29.8 and in the urban areas 20.2. The rural death rate was thus higher than that of the urban area by 9.6. There was an increase of 30,211 births over deaths in the province during the year against an increase of 42,581 births over deaths in 1937, the rate of increase per mille being 4.3 as against 6.2 in 1937 and 8.8 in 1936.

**7. Mortality according to age, class and sex.**—103,689 males and 104,897 females died in 1938, with a death rate of 30.8 for males and 28.3 for females against 99,043 males and 100,122 females with a death rate of 29.9 for males and 27.4 for females in the previous year. 52,988 deaths were recorded amongst infants under one year of age during 1938. The mortality rate of infants under one year was 230.2 for males and 213.2 for females with the total infant mortality rate of 221.9 per mille of births registered as against the corresponding total of 214.7 in 1937. The high mortality rate in the province still continues and no improvement is expected until and unless maternity services are made available and child welfare centres opened on a systematic and well conceived plan.

There were, as usual, considerable difference in the death rates amongst the different classes of community. The death rate was highest amongst the Hindus (30.2) and lowest among other classes (11.1). The death rate among Muhammadans was 25.5 and that of Christians 11.4.

**8. Verification of registration of vital occurrences.**—Registration of vital occurrences is compulsory in the municipal areas only: in the rural areas it is not compulsory except in the Ganjam plains. No progress has been made since the last report to ensure accuracy and to collect complete

vital statistical figures. The old method of reporting occurrences of vital statistics through the illiterate village headmen in South Orissa and the Police Chaukidars in North Orissa still exists. It is under contemplation, however, to unify both the systems and to make the registration of vital occurrences compulsory throughout the province. The Assistant Director of Public Health has visited the rural areas in some parts of the province in this connection and collected data to evolve a simple method for the correct and complete reporting of vital occurrences. No method is expected to work satisfactorily unless every district is provided with an adequate health organisation which in North Orissa is particularly inadequate. The local bodies will, it is hoped, take measures to bring about this much desired improvement in the matter of appointing a sufficient number of health staff.

The accuracy of 117,663 vital occurrences was investigated in the compulsory areas and verified by the public health and vaccination staff and officers of the Department. 1,232 omissions were detected, 161 prosecutions were instituted and 144 convictions were obtained.

In the non-compulsory areas 20,447 vital occurrences were verified by the health and vaccination staff.

**9. Publication of vital statistics.**—The weekly publication of vital occurrences for all the municipal towns with a population of over 30,000 continued as usual. Weekly epidemic reports of all the districts showing attacks and deaths from principal diseases such as cholera, smallpox, plague and influenza were published regularly in the *Orissa Gazette*.

With the increasing interest taken by all the local bodies in the proper and complete recording of vital occurrences in their respective areas it is hoped to make the publication of vital statistics a real educative factor for the benefit of all concerned. To that end every effort is being made to improve the system and the methods of recording these vital events in the life of the province.

## CHAPTERS III and IV.

### State of public health in the province and history of chief diseases— Epidemiology.

**Incidence of chief diseases.**—The statement below shows the ratio per 1,000 of population under the chief heads of mortality in 1938:—

			Urban.	Rural.	Combined.
Cholera	...	...	0.2	0.2	0.2
Smallpox	...	...	0.1	0.5	0.5
Fevers	...	...	6.4	16.3	16.0
Dysentery and diarrhoea	...	...	3.2	2.8	2.8
Respiratory diseases	...	...	1.5	0.7	0.7
Injuries	...	...	0.2	0.4	0.4
All other causes	...	...	8.6	8.9	8.9
Total	...	...	20.2	29.8	29.5

The death rate has increased from 28.6 in 1937 to 29.5 per mille of population in 1938. The increase in the number of deaths was as usual chiefly due to the large number of deaths from fever, under which the death rate of 16.0 was reported as against 15.2 in the preceding year.

The urban death rates from cholera, smallpox and fevers were lower than those of rural areas, but the mortality rates from dysentery, diarrhoea and respiratory diseases still remain higher in these areas, the high rates from the former two causes being chiefly due to the bad state of water-supply and defective drainage, and the high rate from the third being due to congestion and the dusty atmosphere of the towns.

2. **Cholera statistics.**—The death rate from cholera decreased from 0·7 per mille in 1937 to 0·2 in 1938. The districts of Puri and Balasore recorded high death rates from cholera, viz., 0·7 and 0·3 respectively. Amongst the towns, Puri (0·7) reported the highest death rate.

3. **Cholera in the province.**—Although the province is notorious for cholera, it remained almost free from the disease during the year, as compared with the previous years. The total number of deaths recorded from cholera during 1938 was 1,309 as against 7,977 in 1936 and 5,076 in 1937. The districts of Puri and Balasore recorded the highest number of deaths from cholera, namely, 670 and 297 respectively. The epidemic of cholera was prevalent in a somewhat mild form from March to June in the districts of Puri and Balasore. The rest of the districts reported sporadic cases only. One of the greatest anxieties of a public health worker in this province is that cholera is endemic in the three districts of Balasore, Puri and Cuttack and added to it there is an almost a constant stream of pilgrim traffic through the different centres of these districts, as well as a great inadequacy of wholesome drinking water-supplies in the rural areas of these low-lying coastal districts, so that at any time an epidemic of cholera may flare up and sweep through the rural areas.

4. **Cholera preventive measures.**—The usual preventive measures were taken, viz., inoculation, disinfection, propaganda by lectures illustrated with magic lantern slides, distribution of leaflets and pamphlets, etc. Special preventive measures were also taken during fairs and festivals from where cholera generally spreads to other parts of the province. Particular care was taken to inoculate all pilgrims against cholera attending the Puri Rath Jatra festival.

During the year 132,260 inoculations were performed against cholera, the vaccine being supplied free of cost by Government. In addition to anti-cholera inoculation, cholera phage was also used as a prophylactic measure and also for treatment.

It is gratifying to note that anti-cholera inoculation is slowly getting more popular amongst the masses, and at present it is practically the only weapon available to deal satisfactorily with the embarrassing problem of cholera in the province.

5. **Smallpox.**—The total number of deaths recorded from smallpox during the year 1938 was 3,321 as against 2,269 in 1937 and 3,780 in 1936 giving a mortality rate of 0·5 as against 0·3 in the previous year. With 363 deaths in January the epidemic remained almost stationary till August, reaching the maximum intensity in the month of March. In the months of September, October and November there was a lull and again in the month of December it suddenly flared up as will appear from the following table:—

January	...	...	...	363
February	...	...	...	317
March	...	...	...	535
April	...	...	...	396
May	...	...	...	385
June	...	...	...	299
July	...	...	...	271
August	...	...	...	249
September	...	...	...	184
October	...	...	...	58
November	...	...	...	75
December	...	...	...	218

As usual the rural areas suffered more than the urban areas (0·1) and the highest death rate was registered in the districts of Cuttack (1·00) and Balasore (0·9), while the districts of Sambalpur and Puri returned the lowest

death rates, viz., 0.01 and 0.03 respectively. It is noteworthy that the highest figures of death rates have been recorded from the districts where vaccination has not been made compulsory. Khondmals which reported highest death rate during the year 1937 (1.6) has returned a death rate of 0.1 during the year 1938. The lower death rate in this district has been the direct result of free vaccination during 1938 by the appointment of paid vaccinators by Government. Amongst the towns Jajpur again reported the highest death rate (1.03). Smallpox is again another communicable disease which is endemic in the coastal districts of the province and this is one of the diseases which tends constantly and throughout the year to increase both the sick rate and the mortality rate amongst the population in the rural areas.

From the above comparative figures both for the compulsory and non-compulsory areas it is abundantly clear that vaccination is the only scientific and modern method which can control the incidence of smallpox. It is hoped that steps will be taken to make vaccination compulsory and if financially possible also free, for which a scheme has already been submitted and is now under the consideration of the Provincial Government.

Vaccine lymph was purchased by Government from the Vaccine Depot of the Government of Bihar at Namkum, Ranchi, and supplied free of cost in the province for vaccination. 644,258 vaccination operations were performed during the year as against 641,971 during the previous year. Out of these 236,066 were primary cases and 408,192 revaccinations.

**6. Plague.**—No case of plague was reported in this province during the year under report. The port of Rangoon which maintains direct and constant shipping communications with Orissa through its port of Gopalpur remained infected with plague almost throughout the year under report, and consequently steps had to be taken at the port of Gopalpur for carrying out all necessary measures.

**7. Dysentery and Diarrhoea.**—There were 19,816 deaths from this group of diseases during the year 1938 as against 17,194 in 1937 and 16,283 in 1936 and the mortality rate was 2.8 as against 2.5 in 1937 and 2.3 in 1936. As usual the districts of Cuttack and Puri recorded the highest death rates namely, 4.7 and 4.2 respectively. Amongst the towns Puri (4.8), Kendrapara (4.7), Berhampur (3.8) and Sambalpur (3.7) reported the highest death rates.

The epidemiology and the high incidence of this group of diseases in this province have probably got some relationship with its high humidity in the low-lying coastal districts where it is most marked, and like a few other diseases it also seems to follow a curve of periodicity. The progressive rise of that curve is noticeable in the figures given above for the three years 1936 to 1938. To a large extent it is, like cholera, directly associated with the inadequate and bad state of drinking water-supply and defective sanitation in the rural and to a less extent in the urban areas of these tracts. The recurring floods also play no doubt an important part in bringing about such a bad state of sanitation and also a combination of other injurious circumstances in the coastal districts where, as was pointed out, the incidence is the highest as may be inferred from the maximum figures for attacks and deaths from this disease from July to October on the wake of floods. Want of proper nutrition specially brought about by the flood conditions and consumption of stale food-stuffs by thousands in the villages also play a great role in the dissemination of the disease.

A careful study of these facts relating to bowel diseases would indicate that the one chief measure for its mitigation and even prevention is the provision of adequate and wholesome water-supplies for drinking in the rural areas. Where protected water-supplies have been given as in the Puri Municipality the incidence of these diseases have become remarkably low when compared with what was the condition before such a great and lasting measure was introduced.

8. **Respiratory diseases.**—4,967 deaths were recorded from respiratory diseases during the year giving a mortality rate of 0.7 which is higher than the mortality rate from smallpox. Deaths from pneumonia and pulmonary tuberculosis which are included among those from Respiratory diseases probably claim quite a big percentage of the total deaths recorded under this cause. In this connection it may be said that Provincial and District Tuberculosis Associations have been formed and attempts are being made to organise a campaign against tuberculosis to start with in the provincial headquarters town of Cuttack by establishing a model clinic.

## CHAPTER V.

### Fairs and Festivals.

Orissa is famous for fairs and festivals. A large number of *melas* are held every year in the province. Most of these *melas* are only of local interest and are attended by the people of the districts in which they are held and those of the adjoining districts. It has been found by experience that often cholera starts even at these small *melas* or at least infection is disseminated from there to other parts of the district and to the neighbouring districts. Although the health authorities of the district make necessary sanitary arrangements for most of these *melas* they cannot possibly attend to all of them on account of paucity of funds. In this connection it may be noted that owners of the lands where these *melas* are held derive a decent income. If under compulsion these owners would set apart certain portion of the income to be spent on sanitary arrangements at the *mela* sites the matter would improve considerably. In all the permanent sites at least a tube-well or two should be a permanent fixture.

The most important and famous among these are the Snan and Rath Jatra festivals which are held at Puri. They attract a large number of pilgrims from all over India. In 1938, the Snan Jatra was held on the 12th June, the Rath Jatra on 29th June, and the Return Car festival on the 7th July. The festivals were attended by about 52,000, 83,000, and 79,000 pilgrims respectively. As usual a large number of pilgrims halted in the various Dharmasalas and lodging houses. Some put up with friends and many camped on roadsides, while a large number assembled only for a day. Special sanitary arrangements were made from the 10th June to 9th July. Ten Sub-Assistant Surgeons were deputed for special duty by the Medical and Public Health Department and one by the Puri Municipality. The services of the Medical officer of the Puri Leper Colony were also made available for part-time work for the festival duty. Six of these doctors were placed each in charge of a conservancy ward, three on duty in the cholera hospital and also to carry on inoculation at the Railway station and one at each of the three important main approach roads for giving anti-cholera inoculation to the pilgrims.

Besides the above superior staff, the Municipality and the Lodging House Fund appointed extra staff of two sanitary Jamadars, 31 coolies and 323 sweepers over and above the permanent conservancy staff of the municipality.

The medical officers in charge of the conservancy wards were enjoined to control and supervise the work of conservancy in their respective wards which included (i) efficient cleaning of latrines, cess-pools and drains; (ii) treating them with pesterine, quick lime or chlorinated lime; (iii) clearing of all back yards, which besides being a general conservancy improvement helped in reducing the fly nuisance as well; (iv) thorough sweeping of streets and quick removal of rubbish to the dumping ground outside the town; and (v) proper trenching of night-soil. For efficient and better sanitation double

conservancy service both morning and afternoon was arranged. Temporary urinals and latrines were put up at important places where there was an assemblage of pilgrims. This year for the first time chemicals other than quick lime were admitted inside the temple enclosure after much persuasion. This had the desired effect as it kept down the fly nuisance to a great extent.

All the public wells were cleaned of silt. Preliminary disinfection of the private and public wells including those in the lodging houses and dharmasalas 10 days before the festivals was carried out. Subsequently during the festival all the public wells and those in the large lodging houses and dharmasalas were heavily disinfected from time to time so as to make their water greatly distasteful and thus prevent people from using them for drinking. Discarding the overchlorinated wells in the lodging houses where piped water-supply had already been installed, all the wells in the other lodging houses and private houses were phased every alternate day and whenever thought necessary.

For 30 days from the 10th June to the 9th July arrangements were made for a continuous piped water-supply for 24 hours in the town as another measure of special facilities and precautions.

The important tanks regarded as sacred were disinfected as often as necessary and people were prohibited from collecting and carrying water from these tanks for drinking purposes.

Arrangements were made through the respective health authorities of the Railway and the Puri District Board to treat the sources of water-supply with bacteriophage at the nearest Railway stations and along the Jagannath Trunk Road including the pilgrim centres at Sakshigopal and Bhubaneswar. Special mention may be made of the compulsory provision that now exists that all lodging houses should have protected pipe water connection before licences to these places are granted.

As regards control over food supplies during this festival it may be mentioned that careful inspection of all the shops that dealt in articles of food was made regularly not only by health inspectors, but also by the medical officers in charge of respective wards. A vigilant watch was exercised to see that the food-stuffs were fresh and wholesome and protected from dust and flies. Such of those articles as were found unwholesome or adulterated were destroyed. It is satisfactory to note that most of the shop-keepers and vendors of food-stuffs fully co-operated with the health staff in the efforts made to prevent infection occurring and spreading through articles of food and drinks. The public opinion too was greatly in favour of exercising a health control over the general food supplies in the town.

Puri is a place of pilgrimage and the temple *Mahaprasad* is the main source of food supply for more than 90 per cent of pilgrims. The temple authorities are solely responsible for the control of sale of such food-stuff.

Although there were stray cases of cholera in the town earlier in the year since March and the interior of the district reported a large number of cases prior to the commencement of the festival it fortunately did not assume an epidemic form during the actual festival period, thanks to the measures taken by the District Board. A few cases of purging and vomiting occurred but the situation was never alarming and was checked at once. There were 44 attacks with 3 deaths. None of the cases that died was inoculated before. From the nature and termination of the disease many cases were regarded as being most probably due rather to general gastro-enteritis than to true cholera.

Of these attacks 13 had been previously inoculated but nevertheless got the attack as detailed below :—

Onset after inoculation.			Number attacked.	Result.
10 days	...	...	1	Cured.
6 "	...	...	2	"
3 "	...	...	1	"
4 "	...	...	3	"
Same day	.	...	1	"

(3 more cases were cured but definite information could not be obtained.)

*Preventive measures.*—(i) As stated above, arrangements were made for regular disinfection of water-supplies or treatment of water with cholera phage.

(ii) There were arrangements for prompt information and immediate removal of patients to hospital and terminal disinfection of infected houses.

(iii) Anti-cholera inoculations were pushed through and 41,005 persons (31,915 pilgrims and 9,090 residents) were inoculated to whom certificates of inoculation were issued.

(iv) As already mentioned, strict control was exercised on the sale of food and drinks outside the temple enclosures.

(v) New health pamphlets and posters were printed. The pamphlets were distributed and posters demonstrated from time to time. From mahalla to mahalla propaganda lectures were delivered in course of inspection.

Several volunteer organisations rendered very helpful service, such as giving first-aid, removing patients to hospital, supplying drinking water, spraying water, fanning the thickly congested crowd, etc. The name of the following institutions may be mentioned in this connection:—

- (1) The Puri Seva Samiti.
- (2) The Bharat Jubak Seva Sangha.
- (3) The Boy Scout Seva Samiti.
- (4) The St. John Ambulance Brigade.

Dr. S. K. Misra, M.B., B.S., then a private practitioner, volunteered his services gratis, which were much appreciated.

The Director of Health and Inspector-General of Prisons, Orissa, visited Puri a few days before the festival started. He discussed the proposed arrangements and gave necessary instructions. He also discussed with the Raja of Puri regarding measures to be adopted for the control of the sale of food inside the temple enclosure.

Of the other important *melas*, mention may be made of the Chandaneswar *mela* in the district of Balasore. About 35 to 40 thousand people attend this *mela* every year, which is held in April. This year the *mela* was held from 6th to 12th April. The Health Officers and the subordinate public health staff of the Balasore District Board with the assistance of the medical officers of the nearest district board dispensaries supervised the sanitary arrangements of the *mela* area. About 3,500 inoculations against cholera were carried out. No case of cholera or any other infectious disease was reported from this *mela*.

## CHAPTER VI.

## Urban Sanitation.

As noted in the previous reports, the province has eight municipalities. The three larger municipalities of Cuttack, Puri and Berhampur have qualified health officers, two of them for Cuttack and Puri being I class health officers and the health officer of Berhampur Municipality being a II class health officer with L. P H. qualification. They belong to the Government Public Health cadre and draw pay from Provincial revenues. In the remaining municipalities of Balasore, Kendrapara, Jajpur, Sambalpur and Parlakimedi there are no health officers. The sanitation of these five municipalities is looked after by Sanitary Inspectors. So far as public health is concerned the general amenities which a municipality, be it large or small, is generally expected to provide for the comfort and convenience of the people in its area, take the form of the provision of a wholesome and protected water-supply, efficient disposal of rubbish and excreta, effective drainage to carry off sullage and waste water, control of sale and adulteration and supervision of food, market, slaughter houses, burial and burning grounds, etc. It is not expected that all these important subjects can be tackled with any amount of efficiency by a sanitary inspector. A trained health officer by virtue of his training and education is alone qualified to supervise the work of sanitation and to enforce the various by-laws relating to public health; but unfortunately those municipalities which have not appointed a health officer have seldom realised this fact. It is regrettable that one of these municipalities has even failed to appoint a health officer in spite of the Government offer to meet half the cost of his pay.

The provision of a wholesome and protected water-supply and proper drainage in a municipal area is one of the primary responsibilities of a municipal body. In two of the eight municipalities provision for pipe water-supply has been made, viz., in Puri and Berhampur. In the rest, water for drinking purposes is derived mainly from shallow ring wells, rivers, and a few masonry wells and tube wells, which are considered inadequate and most unsatisfactory, except deep masonry wells and tube wells. Unless and until the system of water-supply and drainage is improved the high rate of sickness and epidemic diseases which prevail in the urban areas year after year will not decrease.

The Cuttack and Puri Municipalities undertook anti-mosquito measures on a small scale in their respective areas which no doubt helped temporarily to diminish the mosquito nuisance in these towns.

The Food Adulteration and the Vaccination Acts were in force in all the urban areas, but generally speaking except in the larger municipalities the provisions of the Acts were not adequately enforced by the local bodies concerned.

During the year 10 Health Inspectors were employed in all the municipalities, as detailed below :—

Cuttack	...	...	...	...	2
Jajpur	..	...	...	...	1
Balasore	..	...	...	...	1
Puri	...	...	...	...	2
Sambalpur	...	...	...	...	1
Berhampur	...	...	...	...	2
Parlakimedi	...	...	...	...	1

Some of them being very meagrely trained were given a full year's training in the Health Inspectors' training class which started for the first time in 1938 at the Orissa Medical School, Cuttack, under the supervision and management of the Public Health Department. Accordingly three Health Inspectors under municipal employment were deputed for this training, one from each of the municipalities of Cuttack, Jajpur and Sambalpur. It is hoped to get all such untrained hands gradually trained in our training class. I am glad to point out that in this respect all the municipalities have evinced great interest and have co-operated in making this scheme successful.

2. **Expenditure on sanitation in municipal towns.**—The statement below shows the receipts and expenditure for sanitary purposes during the year 1937-38 as compared with those of the previous years:—

Number of municipalities.	Total receipts including opening balance.		Heads of expenditure.	1936-37.	1937-38.	Percentage of expenditure to the total receipts.	
	1936-37.	1937-38.				1936-37.	1937-38.
1	2	3	4	5	6	7	8
	Rs.	Rs.		Rs.	Rs.		
8	7,70,204	9,65,196	Conservancy ...	2,01,916	2,14,661	26.2	22.2
			Drainage ...	12,602	18,876	1.6	2.0
			Water-supply ...	27,508	24,181	3.6	2.5
			Vaccination ...	2,784	3,250	0.4	0.3
			Epidemics ...	8,397	8,281	1.1	0.9
			Markets and fairs ...	16,071	11,837	2.1	1.2
			Other sanitary charges	1,566	288	0.2	0.03
			Public health staff ...	13,840	62,847	1.8	6.5
			Total ...	2,84,619	3,43,721	87.0	35.6

3. **Chief sanitary works in municipal towns.**—The details of expenditure under this head are dealt with in the report of the Superintending Engineer, Public Health Circle, Bihar and Orissa.

## CHAPTER VII.

### Rural Sanitation.

The public health organisation of all the six districts in the province remained unchanged. The several Acts and Rules relating to public health were in force in each district, viz., the Madras Acts and Rules in the ex-Madras area, the Central Provinces Acts and Rules in the ex-Central Provinces area and the Bihar and Orissa Acts and Rules in the old Orissa Division. The question of unifying the Acts and Rules of the three provinces that are now applicable to the province into one was taken up during the year and in fact a memorandum was submitted to Government for consideration in connection with the proposed Orissa Local Self-Government Bill.

The public health arrangements in Koraput and Ganjam agency in the Angul subdivision of Cuttack district and in Khondmals were managed by a staff maintained by Government.

Out of the six districts, Cuttack (excluding Angul), Puri, Balasore and Ganjam (excluding Khondmals and the Agency areas), have each a fully qualified health officer and a proper health organisation scheme which in Ganjam plains is more elaborate and more satisfactory than in other districts. The health officer of the last named district belongs to the Provincial Public Health Service and those of the other three districts are District Board servants. In the Ganjam agency including Khondmals and in Koraput district, the Civil Surgeon, Ganjam and the Agency Surgeon, Koraput, were respectively in direct charge of the public health administration. In Koraput the Agency Surgeon is assisted by a second class health officer for the performance of his public health duties. In Sambalpur the Civil Surgeon is the head of the public health administration. He has a Government vaccination inspecting staff consisting of one inspector and three sub-inspectors who attend to vaccination work as well as to other epidemics. The question of the appointment of a full-time qualified health officer for Sambalpur is still under the consideration of Government.

Vaccination is compulsory in the rural areas of Puri district under the Bengal Vaccination Act and both vaccination and revaccination are compulsory in the plains portion of Ganjam district under the Madras Local Boards Act. Vaccination in rural areas of North Orissa is performed on a licensed system, while in South Orissa this is done through paid vaccinators. It is absolutely necessary that vaccination should be made compulsory and free throughout the province and a scheme to this effect was submitted to Government, which is under their consideration.

Introduction of a more efficient health organisation with a qualified health officer is considered an urgent necessity for every district. Without a health officer in the district, efficient supervision of the work of the subordinate health staff and effective control of epidemics and the development of further important public health measures can hardly be possible.

Quite a lot of adulteration of food-stuffs is going on in the rural areas, the Bihar and Orissa or the Madras Food Adulteration Act not being enforced in them. It is hoped that when the "Orissa Prevention of Adulteration and Control of Sale of Food Act", which has since been passed by the legislature, comes into operation matters will improve. The delay is only of framing rules under the Act which are under the consideration of Government.

The system of registration, collection and transmission of vital statistics still continued to work unsatisfactorily as the Bengal Births and Deaths Registration Act and the Madras Act of 1899 have not been extended to the rural areas, but it is hoped that definite measures to ensure the correct recording of vital statistics will be taken at no very distant date, as the question has been taken up since the appointment of the Assistant Director of Public Health.

89,700 inoculations were performed in the rural areas of the province, the cholera mortality having decreased from 4,999 in 1937 to 1,272 in 1938. There was, however, an increase of smallpox mortality from 2,259 in 1937 to 3,325 in 1938. Malaria still takes a heavy toll of lives in the rural areas and it is difficult to control it with the funds and the staff available. The measures against the disease which have been taken by the local bodies or the Government during the year in question, which consist only of distribution of quinine, clearing of jungles, water hyacinth and other weeds from tanks and treating of mosquito breeding places with larvicides, can only be regarded as patch work in certain local areas, although these were not without adequate value, notably in the way of marked reduction of malaria in those areas.

2. **Expenditure on sanitation by district boards.**—The following statement shows the receipts and expenditure of district boards under the principal headings of sanitation:—

Number of district boards.	Total receipts including opening balance.		Heads of expenditure.	1936-37.	1937-38.	Percentage of expenditure to the total receipts.	
	1936-37.	1937-38.				1936-37.	1937-38.
1	2	3	4	5	6	7	8
	Rs.	Rs.		Rs.	Rs.		
6	29,98,568	27,61,489	Conservancy ..	11,455	18,220	0.4	0.7
			Drainage ..	450	1,404	0.02	0.1
			Water-supply ..	54,783	50,187	1.8	1.8
			Vaccination ..	80,208	21,594	1.0	0.8
			Epidemics ..	2,179	12,215	0.07	0.4
			Markets and fairs ..	2,326	6,148	0.08	0.2
			Other sanitary charges ..	..	..	..	..
			Public health staff ..	1,00,631	1,01,889	3.4	3.7
			Total ..	2,02,007	2,11,657	6.7	7.7

It will be seen from the above statement that the expenditure on sanitation by district boards, although some of them are in receipt of Government grants towards the maintenance of a health organisation scheme in their districts, is too inadequate for providing satisfactory public health amenities to the people.

It is, therefore, very necessary to make it obligatory on the part of the local authorities to set apart a certain percentage of their income for adequate expenditure on public health and sanitation of the district.

## CHAPTER VIII.

### Fevers.

Fevers appear to be the chief cause of mortality in the province. 113,610 deaths from fever alone or 54.5 per cent of the total mortality from all causes were reported to have occurred during the year as against 53.2 per cent in the last year. A number of diseases in which the rise of temperature is a marked symptom continue to be grouped under the general heading "fever". The births and deaths registration being not compulsory in the rural areas and the agency through which vital statistics are collected being not educated or at least not being sufficiently intelligent to diagnose the cause of death, it is not possible to account for the deaths caused by different kinds of fever, such as malaria, enteric fever, measles, relapsing fever, kala-azar, influenza, typhoid, cerebrospinal fever, etc., but it may be admitted that in Orissa the bulk of the deaths from fever are without doubt due to malaria.

The death rate under the general head "fever" was 16.0 during the year 1938 as compared with 15.2 in 1937. The highest death rates were recorded in Khondmals (30.0), Angul (22.0), and in the district of Balasore (22.1). Amongst the towns Kendrapara (15.1), Jajpur (11.2) and Balasore (10.0) respectively reported the highest death rates from this disease.

From the mortality table given below month by month, it would appear that turning downwards from its previous year's maximum in December 1937 the death-rate from fevers reached its lowest in June although there was a rise in March. From July its tendency to rise was marked till it rose to the maximum of the year in December. Compared with the previous year the mortality under this head was higher in all the months except in January, February, April and December, in which the mortality from this cause was lower:—

Months.	1936.	1937.	1938.
January	... 7,169	12,123	9,869
February	... 7,413	8,831	8,699
March	... 8,261	9,267	9,374
April	... 7,103	8,974	8,296
May	... 5,761	7,992	8,199
June	... 6,048	6,255	7,739
July	... 7,411	5,989	9,750
August	... 8,579	7,949	10,772
September	... 8,140	7,880	9,462
October	... 7,767	8,584	8,772
November	... 9,680	9,698	11,297
December	... 14,340	12,389	11,981

#### Malaria.

Malaria was prevalent throughout the Province in more or less epidemic form during the year. In the Ganjam district, it was prevalent in epidemic form in the coastal villages of Chatrapur, Kodala and Berhampur North Ranges. There was severe recrudescence of this epidemic in Chatrapur for which special arrangement had to be made to combat it. In addition to the temporary coolies appointed by the Board, one sub-assistant surgeon, one compounder and two coolies were appointed by Government for about two months from the middle of August to the middle of October, when the epidemic showed signs of decadence. About 137 villages were affected in the district with this epidemic. A total number of 10,161 patients were treated. 69½ pounds of quinine sulphate and 15,000 quinine sulphate tablets were distributed by the District Board. Of the total quantity of quinine spent by the Board Government supplied 40 lbs.

Similarly in the district of Puri, the areas lying along the Chilka coast suffered most, the worst sufferer being the Tangi police-station. There was a sharp outbreak of the epidemic following a cyclone towards the latter part of the year. About 55 lbs. of quinine sulphate and cinchona febrifuge were distributed by the District Board to 14,983 patients through the health staff, school teachers, and private gentlemen.

In April 1938 the work of clearance of weeds floating along the edge of the lake from Barkul to Balugan was taken up. Six coolies and two boats were engaged for the purpose. In 50 days the entire quantity of the materials which formed the principal breeding ground for mosquitoes was removed and destroyed. It was found that with the progress of the work the incidence of malaria in that area gradually decreased.

The districts of Cuttack and Balasore equally suffered from the epidemic of malaria and the District Boards concerned adopted the usual method of distributing quinine free in the epidemic area. The Kendrapara anti-malaria committee which was formed during the heavy epidemic of malaria in this town in 1937 continued to do excellent work during the year and it is hoped that with continued efforts the incidence of malaria which is hyperendemic there will greatly diminish.

Anti-malarial operations in Koraput, Jeypore, Pottangi and Malkangiri in the district of Koraput were continued during the year at a total cost of Rs. 6,548. It is regrettable to note that for want of funds several anti-malarial schemes prepared for certain local areas in the districts of Cuttack, Ganjam, Puri, Balasore and Sambalpur could not be taken up during the year.

Colonel G. Covell, I.M.S., Director, Malaria Institute of India, visited the Province in September 1938. He visited three localities in which the malaria problems of the Province were considered to be particularly urgent, viz :—

1. Chatrapur and the portion of Ganjam district which lies between Gopalpur on the sea coast and Rambha on the shore of Chilka lake.
2. Kendrapara, a municipality in the deltaic region.
3. Chandipur in Balasore district, the headquarters of the Proof and Experimental station of the Military Department.

After the short investigation which he made he was of opinion that the malaria problems of the province are both extensive and varied and that nothing is practically known as to the anopheline vector responsible for the transmission of malaria in different parts of the province or of the factors determining the occurrence of epidemics of the disease. He was further of opinion that in order to tackle the malaria problems with any hope of success preliminary observations by a unit composed of trained personnel is necessary. To this end he recommended the deputation of a research unit belonging to the Malaria Institute of India to be located in the first instance in one of the villages on the shore of the Chilka lake.

**Sale and free distribution of quinine.**—Quinine worth Rs. 2,772 was sold through post offices and other vendors during the year under report. 36 lbs of quinine sulphate costing Rs. 648 out of the Government of India stock was distributed free in the malaria-affected areas of the province.

The appointment of a Provincial Malaria Officer and the staff which were sanctioned by Government in the year 1937 could not be entertained during the year, as the candidate with the necessary Public Health qualification and training in malaria selected for this purpose was not ready to take up the appointment.

## CHAPTER IX.

**Maternity and Child Welfare.**—An account of the activities of the Maternity and Child Welfare Centres established in the different districts of the province with particular reference to their financial bearings, the authority entrusted with their management and the relation of the Society with such managements is furnished below:—

**Cuttack district.**—(i) The Maternity and Child Welfare Centre at Cuttack is the only centre in the district. The Centre was started in December 1923 with a grant of Rs. 6,000 from the Bihar and Orissa Provincial Branch of the Indian Red Cross Society. This Society sanctioned grants amounting to Rs. 3,000, Rs. 4,000 and Rs. 2,000 respectively in the years 1925, 1926 and 1927 towards the upkeep of the Centre but discontinued the payment of any grant since the year 1928. Since then the Centre is being managed with annual contributions from (i) the Maternity and Child Welfare Society, (ii) Victoria Memorial Scholarship Fund, (iii) Cuttack District Board, (iv) Cuttack Municipality, and (v) subscriptions collected from the general public and fees realised from well-to-do patients who come for treatment in the Cuttack General Hospital.

(ii) The Centre is in charge of a qualified Lady Medical Officer designated Maternity Supervisor since the 10th September 1929. The Supervisor gets a pay of Rs. 150 plus Rs. 30 as conveyance allowance and Rs. 30 as house-rent allowance. Her entire pay and allowances are paid by the Provincial Government and she is under the immediate control of the Civil Surgeon, Cuttack.

(iii) The town of Cuttack has been divided into 5 parts for the sake of facilitating its activities. Each such part is called a Centre and is in charge of a qualified *dai* whose work is properly supervised by the Maternity Supervisor. The *dai* in charge of a Centre regularly visits houses where any ante-natal and post-natal cases are found and for which her services are requisitioned. On an average the *dais* employed by the Cuttack Centre attend monthly:—

Maternity cases	...	...	...	About 50.
Ante-natal cases	...	...	...	About 60.
House visiting	...	...	...	About 220.

(iv) The Centre finances the training of 8 indigenous *dai* pupils in a year. They are trained by the Supervisor for 9 months and thereafter at the Cuttack General Hospital for 3 months, for their practical training. The course prescribed by the Victoria Memorial Scholarship Fund is followed in training the *dai* pupils.

(v) The statements of annual income and expenditure furnished below will explain the financial position of the Centre:—

#### ANNUAL INCOME.

	Rs.
1. Annual contribution from the Provincial Branch (Government) of the Maternity and Child Welfare Society. ...	1,500
2. Annual contribution from the Provincial Victoria Memorial Scholarship Fund—about ...	670
3. Annual contribution from the Cuttack District Board ...	200
4. Annual contribution from the Cuttack Municipality ...	400
5. Subscriptions and donations and fees realised from the patients—approximately ...	430
Total ...	3,200

#### ANNUAL EXPENDITURE.

	Rs.
1. Pay of 5 <i>dais</i> ...	1,440
2. Pay of 1 chowkidar ...	108
3. Allowance to clerk ...	120
4. Stipend for 8 pupil <i>dais</i> at Rs. 7 each per month ...	672
5. House-rent of the Centre ...	420
6. Medical stores, wool, cotton ...	200
7. Miscellaneous contingencies ...	200
Total ...	3,160

(vi) The Centre is managed by a local working committee of which the Civil Surgeon is the Honorary President, and the Chairman and the Health Officer of Cuttack Municipality and the Vice-Chairman of the Cuttack District Board are members among others.

*Puri district.*—(i) There are two Maternity and Child Welfare Centres in the district. One is established in the Puri town and the other at Khurda. The former is managed by the Puri Municipality and the latter by the Puri District Board.

(ii) *Puri Municipal Centre.*—The Centre employs a midwife and a *dai*. The staff visit houses with a view to advise the prospective mothers on health, care and precaution for mothers and children after labour. They also attend simple labour cases and re-visit such cases for tendering necessary advice and dressings, etc.

The entire cost of maintaining the Centre is met by the Puri Municipality. A statement of monthly expenditure of the Centre is furnished below:—

	Rs.
1. Pay of midwife ... ..	55 per month.
2. Pay of <i>dai</i> ... ..	20 „
3. Pay of rickshaw puller ... ..	12 „
Total ... ..	$87 \times 12 = 1,044$ per annum.

(iii) In this connection it may be noted that a training class is held at the Puri Pilgrim Hospital for the training of *dais* under the Victoria Memorial Scholarship Fund and the stipends are paid from the Provincial Branch of the Victoria Memorial Scholarship Fund.

(iv) *Khurda Centre.*—The Centre employs a trained *dai*. Her activities are confined to the Union Board area of Khurda. She attends delivery cases and gives advice to expectant mothers. She has been provided with a rickshaw and a puller. The entire cost of the Centre as noted below is met by the District Board, Puri:—

	Rs.
1. Pay of <i>dai</i> ... ..	20 per month.
2. Pay of rickshaw puller ... ..	10 „
Total ... ..	$30 \times 12 = 360$ per annum.

(v) There is one Maternity and Child Welfare Committee at Khurda. The Subdivisional Officer, Khurda, is the President of the Committee and the Civil Assistant Surgeon in charge of the Khurda Hospital is the Secretary.

(vi) To the credit of the District Board, Puri, it may be mentioned that the Board made an attempt during the year 1937-38 to reach rural areas to carry on activities of Maternity and Child Welfare work. A batch of 12 indigenous *dais* was trained by the Medical Officer in charge of the Local Fund Dispensary at Pipli. Out of the 12 *dais* 8 were supplied with a maternity outfit box.

(vii) 381 labour cases were conducted by the maternity *dais* and the midwife in this district during the year 1938.

*Balasore district.*—(i) There is only one Maternity and Child Welfare Centre in the district. The Centre has been established in the Balasore town. The Centre was opened in the year 1926 and is managed by a local representative committee consisting of 13 members of which Rai Bahadur M. N. Deb, zamindar, Balasore, is the Chairman and the Civil Surgeon, Balasore, is the Secretary.

(ii) The Centre is in charge of the local doctor attached to the Balasore Sadr Hospital. The committee employs three trained *dais* and the local municipality has supplemented the number with another. These *dais* conduct

labour cases in the town free of charge and visit houses to give necessary instructions to the expectant mothers. Their work is supervised by the lady doctor. In complicated cases of labour the services of the lady doctor are requisitioned by the *dais* in charge of different parts of the town. The lady doctor charges fees from well-to-do persons according to the rates prescribed by the Committee.

(iii) Indigenous *dais* are also trained at this Centre under the Victoria Memorial Scholarship Fund. The lady doctor delivers lectures to the *dai* pupils thrice a week for conducting all labour cases and treating minor ailments. The *dai* pupils receive 12 months' training, both practical and theoretical, under the lady doctor.

(iv) The lady doctor is paid an allowance of Rs. 25 per month by the Centre for attending labour cases in the town and for delivering lectures to *dai* pupils. Besides this her actual fees for attending labour cases in respect of poor persons are also paid by the Committee. The *dais* employed by the Centre are paid at Rs. 10—4—15 per month. The Centre employs a part-time clerk and a part-time peon, who are paid at Rs. 10 and Re. 1 per month, respectively.

(v) The financial condition of the Centre is poor. The Centre receives an annual grant of Rs. 600 from Government and of Rs. 120 from the local municipality, besides a grant from the Victoria Memorial Scholarship Fund which is approximately Rs. 100 a year. A statement showing the annual income and expenditure of the Centre is noted below :—

## ANNUAL INCOME.

	Rs.
1. Grant from Government (through Provincial Branch of the Maternity and Child Welfare Society).	600
2. Grant from Victoria Memorial Scholarship Fund	500
3. Grant from Palasore Municipality	120
4. Interest on deposits	33
Total	1,253

## ANNUAL EXPENDITURE.

	Rs.
1. Allowance to lady doctor at Rs. 25 per month	300
2. Pay of three <i>dais</i>	396
3. Stipends to three <i>dai</i> pupils	180
4. Allowance to part-time clerk	120
5. Allowance to part-time peon	12
6. House rent allowance of one <i>dai</i>	24
7. Contingencies, fees to lady doctor and bandages, gauze, cotton, etc.	200
Total	1,232

*Sambalpur district.*—(i) There are two Maternity and Child Welfare Centres in the district, one at Sambalpur and the other at Bargarh.

(ii) *Maternity and Child Welfare Centre, Sambalpur.*—The Centre was started in December 1932. The management of the Centre is vested in a Managing Committee of representative character consisting of Deputy Commissioner, Sambalpur as President and the Civil Surgeon, as Secretary. The Chairmen of the Municipal Committee and the District Council, Sambalpur, are members among others.

(iii) The Centre employs the following staff:—

- (1) One qualified midwife and Health Visitor.
- (2) One *dai*.
- (3) One part-time clerk.

(iv) The midwife with the *dai* conducted 177 normal labour cases during 1938 at the residences of the patients free of charge as against 169 of the previous year. In complicated cases of labour the services of the lady doctor attached to the Sadr Hospital, Sambalpur, are requisitioned. The Civil Surgeon, Sambalpur, also assists and supervises their work when required. It is reported by the Civil Surgeon that the work of the Centre is satisfactory and is appreciated by the public, but the Centre needs two more *dais* to carry on the activities on a larger scale.

(v) A class for the training of indigenous *dais* is held at the Sadr Hospital, Sambalpur, under the Victoria Memorial Scholarship Fund. The lady doctor attached to the Sadr Hospital is in charge of the training class for which she gets no remuneration.

(vi) The Centre is entirely managed by contributions from the District Council and the Municipal Committee, Sambalpur. The funds of the Centre are deposited in the Post Office Savings Bank in the name of the Secretary of the Committee. A statement of income and expenditure for 1938 is furnished below:—

#### INCOME.

		Rs.	a.	p.
1. Contribution by Municipality	...	1,000	0	0
2. Contribution by District Council	...	500	0	0
3. Interest from Savings Bank deposit	...	34	5	2
		1,534	5	2
Opening balance	...	1,308	1	8
Grand total	...	2,842	6	10

#### EXPENDITURE.

		Rs.	a.	p.
1. Establishment charges	...	1,303	8	0
2. Contingencies	...	0	12	0
		1,304	4	0
Closing balance	...	1,538	2	10
		2,842	6	10

(i) *Ganjam district*.—There are at present three Child Welfare Centres in the district situated at Berhampur, Russelkonda and Parlakimedi. Detailed information of the activities of each such Centre is noted below:—

(ii) *Berhampur Centre*.—This Centre was revived in the year 1930 by raising local subscriptions, mostly from the zamindars of the district and with a contribution from the Government of Madras. The Centre is located in a suitable building. An executive committee consisting of 10 members of purely representative character is responsible for the management of the Centre. The Berhampur Municipality is the only local body which is

connected with the Centre. The Centre is financed from the sources noted below. Mrs. F. R. Steele, a local lady, is the President of the Executive Committee and takes keen interest in the affairs of the Centre:—

	Rs.
1. Contribution from the Berhampur Municipality.	1,000 per annum.
2. Local subscriptions—approximately ...	250 „
3. Interest on deposit (amounting to Rs. 5,000) approximately	175 „

(iii) The Centre has got provision for 5 maternity cases of normal nature. The average daily attendance at the Centre is 40 mothers and their children. Treatment for minor ailments is given and milk feeds are issued twice daily at the Centre. Pre and ante-natal work is carried out by the midwife attached to the Centre who visits homes of the expectant mothers twice a week.

(iv) *Russelkonda Centre*.—The Centre actually began to function in January 1938, with a modest sum of Rs. 300 which was raised by way of subscriptions and donations, and was formally opened by Lady Hubback. The Centre is under the administrative control of a local Child Welfare committee with about 16 members consisting of officials and non-officials. The committee has elected an executive committee consisting of seven members, which is responsible for the efficient functioning of the Centre and proper utilisation of the funds. The Centre employs a trained *dai* on a salary of Rs. 20 per month. The *dai* tours in the villages within a radius of 5 miles from Russelkonda and attends upon expectant mothers and their children. The *dai* attends 6 labour cases on an average in a month and her work is supervised by the lady doctor attached to the Russelkonda Hospital. The Centre has no fixed income and although it is dependent on the generosity of the officials and the local gentry its financial state is satisfactory.

(v) *Parlakimedi Centre*.—The Child Welfare Centre is situated in a private rented building in the town. It is managed by a local committee. The Centre is financed with a contribution of Rs. 25 per annum from the local municipality and a monthly subscription of Rs. 2-8-0 from the public. The *dai* employed by the Municipality carried on the work of the Centre. The daily attendance of babies at the centre is about 15. Each baby attending the clinic gets milk and is given a bath now and then. The financial condition of the Centre is most unsatisfactory for which reason it cannot extend its scope of activities.

*Koraput district*.—There are three Maternity and Child Welfare Centres in the district, viz., Koraput, Jeypore and Umerkote. These Centres have been opened during the last two years. Activities of each Centre are separately noted below:—

(i) *Koraput Centre*.—According to a routine, 6 neighbouring villages are visited by a sub-assistant surgeon accompanied by a female attendant, who is paid by the Agency District Board, Koraput. In the villages children are examined and necessary medicines are distributed on the spot. The Centre also employs a *dai*. She accompanies the sub-assistant surgeon when she is not otherwise engaged in labour cases, to attend to expectant mothers and new-born babies for the purpose of both ante and post-natal care. Mothers are given advice as to how to wash and feed their babies and how to keep them clean. Cloths, frocks, towels and soaps are supplied to poor mothers and sickly children. The Centre is financed for the purpose by public donation and District Board's contribution of Rs. 10 per month. The Civil Surgeon, Koraput, is entrusted with the management of the work of the Centre.

(ii) *Jeypore*.—This Centre is managed by an Executive Committee consisting of 8 members. It is purely a child welfare Centre. Eight children under one year are being supplied daily with pure cow's milk. The Centre also educates ignorant mothers for taking proper care of their babies such as washing, dressing and feeding. The children are also given clothings. The Centre intends taking up maternity work when sufficient funds are available.

(iii) The Centre is financed by public donations and subscriptions. The Collector, Koraput, gave Rs. 50 out of his discretionary grant and Rs. 50 was received from the Countess of Dufferin Fund and a contribution of Rs. 20 was made by the President, Union Board, Jeypore. The Centre has so far collected Rs. 549.

(iv) *Umerkote*.—The Centre is managed by a committee. It is financed by local subscriptions. The *dai* attached to the local hospital gets a remuneration of Rs. 4 per month from the Nowrangpur Taluk Board for the maternity and child welfare work she does for the Centre. Milk is supplied twice a day to poor children and also clothings are supplied to deserving children. The *dai* visits the villages within a radius of 5 miles and gives instructions to expectant mothers about ante-natal and post-natal care.

(v) Besides the above-named Centres maternity and child welfare work is also carried on at Rayaghada, where a Maternity Hospital was opened in the month of January 1939. The lady doctor attached to this hospital is daily visiting houses at Rayaghada and its suburbs for the purpose of attending to complicated labour cases and for giving instructions to mothers regarding ante and post-natal care. There is no special fund for maternity and child welfare work.

2. A review of the activities of the different Centres in the province will show that Orissa has no organised maternity and child welfare scheme and the few Centres that we have got are quite inadequate to meet the great need for supply of efficient help to the rural area. In short the maternity activities in the different parts of the province reveal not altogether a very satisfactory state of affairs, but one should not be unduly pessimistic, for it must be remembered that the scheme for the care of the expectant, parturient and nursing mother and her child has only been established recently and a start has been made to expand it gradually.

3. The enormous waste of life and suffering among mothers and infants in the province, most of which is preventable, calls for immediate and energetic action on the part of the various administrations. A network of maternity and child welfare Centres is required throughout the province to educate the ignorant mass and to supply efficient help to the rural area. For this purpose I would suggest that local bodies in the province may be called upon to establish Centres at convenient places within their jurisdiction. I am of opinion that it is the duty of every local body in the province to establish such Centres, as far as may be possible, for the improvement of the public health.

4. The existing maternity and child welfare Centres in the province are under the control of various administrations and most of them are not well-organised. Still some of the Centres have turned out good work and won the appreciation of the public. Lack of funds stand in their way or else I am sure that the activities of the Centres could be expanded for the real benefit of the society. However, I would suggest that for the efficient management of the existing Centres it is essentially necessary that the Centres should be affiliated to the Orissa Provincial Branch of the Indian Red Cross Society.

## CHAPTER X.

**School hygiene and medical inspection of school children.**—The Government continued to maintain a special staff for the medical examination of scholars of all High English Schools and all Middle English Schools in the urban areas where there are High English Schools.

There is one School Medical Officer of the Provincial Public Health Service, and one Assistant School Medical Officer of Sub-Assistant Surgeon class for this province. On the appointment of the permanent School Medical Officer as Bacteriologist and Pathologist, the Assistant School Medical Officer who has long experience of the work officiated as School Medical Officer from the 24th January to the end of the year. There was no Assistant School Medical Officer from 25th January to 25th August and one was appointed, namely a sub-assistant surgeon with L.P.H. qualification, from the 26th August till the end of the year. These officers inspect all the High English Schools and most of the Middle English Schools. The scholars in the Middle English and the Middle Schools in the rural areas are examined by the District Board Health staff and District Board dispensary doctors. No examination of school children in primary schools is done as the number of such schools is too large for the existing Government or District Board staff.

**Medical examination of scholars.**—The total number of High Schools and Middle English Schools visited by the Government School Medical staff was 28 and 11 respectively as against 23 and 11 in the previous year. A total of 4,775 students were examined in these schools of which 3,207 or 67 per cent were found defective as against 70 per cent and 82 per cent in the years 1936 and 1937 respectively. The table below will show the percentage of defective students according to age groups:—

Age.				Percentage.
24	...	...	...	100
23	...	...	...	25
22	...	...	...	62
21	...	...	...	69
20	...	...	...	76
19	...	...	...	68
18	...	...	...	66
17	...	...	...	68
16	...	...	...	63
15	...	...	...	63
14	...	...	...	68
13	...	...	...	65
12	...	...	...	67
11	...	...	...	68
10	...	...	...	70
9	...	...	...	70
8	...	...	...	68
7	...	...	...	74
6	...	...	...	84
5	...	...	...	100

*Height and weight.*—The average height and weight of scholars examined at different ages may be seen in the table given below :—

Age.		Height in inches.		Weight in seers of 8½ tolas.
24	...	63	...	50
23	...	66	...	62
22	...	65	...	54
21	...	65	...	55
20	...	65	...	53
19	...	65	...	52
18	...	64	...	52
17	...	64	...	51
16	...	63	...	46
15	...	62	...	45
14	...	60	...	43
13	...	59	...	40
12	...	57	...	35
11	...	54	...	31
10	...	59	...	32
9	...	53	...	28
8	...	45	...	26
7	...	51	...	24
6	...	48	...	25
5	...	48	...	21

The common ailments chiefly noticeable in the scholars examined were chronic malaria, enlarged tonsils, defective vision, pyorrhoea, caries teeth, skin diseases, hydrocele and leprosy. The percentage of scholars suffering from malaria was again high in Lakshmannath High School, viz., 65 per cent and next to it was the Narain Chandra Middle English School, Bhadrak (viz., 59 per cent).

*Incidence of leprosy amongst school children.*—As many as 81 students with leprotic patches as against 93 in the last year were detected, out of whom a good number was found in infective stage. The percentage of incidence among the scholars works out to 1.5, showing a decrease from the figures of the previous year. The infective cases were however advised to be excluded from the school in the interest of the other students and to undergo systematic and regular treatment. The non-infective cases were allowed to attend school but at the same time they were compelled to undergo treatment regularly and were placed under careful medical surveillance.

*Nutrition.*—Of the total number of 4,775 scholars medically examined 1,633 boys or 34 per cent were found with good nutrition, 2,647 or 55 per cent with fair nutrition, 495 or 10 per cent with poor nutrition. Although there was a decrease in the number of students with good nutrition it was noted that there was also a decrease in the number of students with poor nutrition.

The following schools need special mention on account of high percentage of defective students found in them:—

Narain Chandra Middle English School, Bhadrak ...	87 per cent.
Mahamaya Middle English School, Cutack ..	85 ..
Lakshminannath High English School, Balasore ...	87 ..
Biraja Middle English School, Jajpur ...	83 ..

During the year as many as 1,242 or 70 per cent of the scholars were benefited out of the total number of 1,789 old defectives examined.

In the rural areas the total number of students in Middle English and Middle Vernacular Schools examined by the District Board staff was 4,094 and the number recommended for treatment was 2,101 or 51 per cent.

*Lectures on hygiene.*—323 lectures were delivered to students of classes X and XI in English and to students of lower classes in the vernacular on different subjects.

*Vacation course.*—In the months of May, June and July when all the schools are closed for the summer vacation, the services of the School Medical Officer and his staff are utilised for delivering a course of vacation lectures to the village gurus and members of the teaching and inspecting staff of the Education Department and also for other public health duties, if necessary. During the year the School Medical Officer delivered a series of lectures on personal hygiene, school hygiene, epidemic diseases and village sanitation to the primary school teachers at Sohela in Sambalpur district, Balasore and Kendrapara.

*Inspection of school premises and hostels.*—During their visit to the school, the School Medical Officer and his staff regularly visited the school and hostel buildings during the year. These inspections have definitely helped in recent years to improve the sanitation and to rectify defects in the sanitary convenience both for day and night scholars. They also looked into the arrangements made for physical exercises, games and suitable sitting accommodation provided.

*Diet.*—In almost all the hostels, rice, dal and vegetables were found to constitute the main items of food. The School Medical Officer advised the authorities concerned how to balance the diet of the boarders. Milk and ghee are taken by a very few students as a luxury. Meat and fish are occasionally used but fish is taken oftener than meat in places where it is cheaper and sufficiently available. In certain schools the system of compulsory tiffin is in vogue but it has not received quite the attention of the authorities it deserves.

As the question of separate arrangement for the medical examination of girl students for the province was not finally decided upon by the Provincial Government, no such examination could be carried out during the year. A whole-time medical officer of the Assistant Surgeon class was maintained by Government for the medical examination and treatment of students of the Ravenshaw College, the premier 1st grade college in Orissa. Medical examination of students residing in hostels and private messes under Government supervision was also carried out by local Civil Assistant Surgeons.

From this brief report it is evident that very useful work is being done by the system of school medical inspection. The Department of Public Instruction and many individual Headmasters of schools have not only appreciated the good work that is done by the school medical inspection staff for the promotion of health and the knowledge of elementary sanitation and hygiene amongst the vast school-going population but also have materially contributed in strengthening the measures adopted on this behalf.

## CHAPTER XI.

## Health Propaganda.

This work was carried on by the Public Health staff of the province throughout the year under report as it is one of the routine duties of the district and municipal health staff. The Public Health staff of each district delivered a series of lectures in their respective districts with or without magic lanterns. Leaflets and pamphlets on the prevention of cholera, smallpox and malaria in the vernacular language of the province were widely distributed especially during epidemics.

During the year under report propaganda on various health subjects was carried out in 9,795 villages and in almost all the towns of the province. 1,124 lectures with magic lantern demonstrations and 19,170 lectures and talks were conducted during the year throughout the province to a total audience of about 8 lakhs. Besides, 10 health exhibitions, 8 in Ganjam district and 2 in Balasore district, were also held.

At larger festivals interesting posters on public health subjects were hung up at important places and at Railway stations to attract the notice of pilgrims.

The National Health and Baby Week was observed in several centres in the district of Ganjam and one in Koraput district. All the departments in the district participated.

The following primary items were attended to in almost all the centres :—

- (1) Cleanliness and sanitation of the villages.
- (2) Lectures on health subjects with magic lantern.
- (3) Exhibiting posters and coloured charts and health models and explaining them to the villagers.
- (4) Staging of health dramas.
- (5) Taking out processions, singing health songs and slogans.
- (6) Holding sports and distributing prizes and sweets.
- (7) Distributing pamphlets and leaflets.
- (8) Holding competitive examinations and awarding suitable prizes.

In addition to the above, a travelling health unit was established in the district of Balasore in the last quarter of the year in connection with the opium prohibition work in that district and it was equipped with medicines, pamphlets, posters, magic lantern, gramophone, bullock van, etc., at a total cost of Rs. 4,000. This had unfortunately to be suspended in the following year on account of financial difficulties but all the materials, etc., have been carefully preserved including the bullocks to revive it as soon as funds are available.\*

Twelve village health units were organised on a voluntary basis in the Cuttack district and one in the Puri district and some of these centres were inspected by me. I would like to place on record the great interest and enthusiasm manifested by the villagers themselves in forming these health units, and mention may be made of the Tirtol Health Unit in Cuttack district which is developing into a model one, thanks to the personal attention and drive given by the District Board Health Officer in organising all these Health Units in his district.

\* It has since been revived.

## CHAPTER XII.

## Public Health Administration.

The statement below shows receipts and expenditure under the head "39—Public Health (Medical)" for the years 1936-37, 1937-38 and 1938-39. The Director of Health and Inspector-General of Prisons is the administrative head of the Public Health Department. He is also the head of the Medical and Jail Departments in Orissa.

Head.	Receipt.			Head of expenditure.	1936-37.		1937-38.		1938-39.	
	1936-37.	1937-38.	1938-39.		Budget provision.	Expenditure.	Budget provision.	Expenditure.	Budget provision.	Expenditure.
1	2	3	4	5	6	7	8	9	10	11
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Sale proceeds of sera and vaccine, etc.	16,210	12,320	14,726	Public Health establishment.	83,588	65,612	91,227	69,262	80,930	58,192
				Medical examination of scholars and teaching of hygiene in high schools.	7,950	7,411	8,432	7,989	8,560	4,132
				Malaria ...	7,450	7,249	12,805	8,886	18,548	8,252
				Other epidemic diseases.	28,392	22,898	31,220	18,696	25,396	23,875
				Publicity campaign.	1,200	...	840	336	5,700	3,327
				Bacteriological laboratories.	2,593	8,935	23,373	15,447	21,520	15,303
				Grants to District Boards and Municipalities for public health purposes.	41,667	41,151	46,033	39,389	39,343	45,408
				Contribution to Pasteur Institute for vaccines.	1,600	1,120	2,060	245	1,398	2,739
				Total ...	1,74,350	1,49,376	2,16,290	1,60,150	2,03,895	1,61,228

The following staff was maintained by Government for public health work during the year under report :—

- (1) Director of Health and Inspector-General of Prisons.
- (2) Assistant Director of Public Health.
- (3) Bacteriologist and Pathologist to Government.
- (4) Three Medical Officers of Health of Provincial Service.
- (5) Two Second class Medical Officers of Health of Subordinate Service.
- (6) One School Medical Officer of Provincial Service.
- (7) One Assistant School Medical Officer of Subordinate Service.
- (8) Two Inspectors of Vaccination.
- (9) Four Sub-Inspectors of Vaccination.
- (10) Nineteen Health Inspectors.
- (11) Twenty-eight Vaccinators.

Although the appointment of a Provincial Malaria Officer was sanctioned by Government at the close of the year 1937 as no suitable qualified candidate with the necessary public health qualifications was available from within the province the post could not be filled up till early in the year 1939. As the Assistant Director of Public Health was appointed in the province towards the close of the year under report the Director of Health and Inspector-General of Prisons alone supervised the sanitation and public health of the province, visiting practically all the important towns and a very large number of villages some of them being in the remote areas, and gave all necessary advice to the local bodies on public health work and in the improvement of all sanitary matters. It may be mentioned that wherever he visited, he received the closest co-operation from the local body authorities and the general public in the carrying out of his advice and it is a pleasing feature to note that in the new role of village development and reconstruction the importance of rural sanitation and hygiene is beginning to receive its right place in the counsels of the people. The three medical officers of health who possess special qualifications belong to the Provincial Service. Two of them have been appointed as Health Officers of the two important towns of Cuttack and Puri. The third one is the District Health Officer of Ganjam.

The two second class medical officers of health have been appointed as the Health Officer of Berhampur Municipality and the Assistant Health Officer, Koraput Agency. The School Medical Officer and his Assistant were employed in the medical examination of scholars of High English Schools and all Middle English Schools situated nearabout these High Schools.

The Inspectors of Vaccination, Sub-Inspectors of Vaccination and the Health Inspectors are employed for carrying out public health and vaccination work in rural areas under the supervision of Health Officers or Civil Surgeons whoever is in charge of the Public Health administration of the district.

Besides the above regular staff, epidemic doctors of Sub-Assistant Surgeon class and a few Sub-Assistant Surgeons of Civil Medical cadre were employed temporarily on epidemic duty when necessary to supplement the District Board Health staff.

The local bodies are held responsible for the sanitary requirements of the area in their charge. A list of sanitary staff employed by the municipalities and the district boards of the province is given in Appendix 3.

The public health problem in rural areas of the province presents many difficulties. The scattered nature of the population, the extensive areas that have to be covered without adequate facilities for communication and the insufficiency of subordinate public health staff render it difficult for the efficient discharge of public health functions. Most part of the province being liable to flood every year it is very difficult to provide suitable drinking water in the rural areas. In addition the villagers are so strictly conservative and superstitious that it takes time for them to appreciate the value of instruction on health subjects given by the public health workers.

### CHAPTER XIII.

#### Vaccination.

The annual vaccination report is appended to this report.

### CHAPTER XIV.

#### Other Public Health Services.

*Public Health Laboratory.*—Although the establishment of a combined Public Health and Pathological Laboratory was sanctioned by Government towards the close of the previous year the actual work could not be taken up

until the 1st April 1938. All the samples of food and water besides all pathological samples continued therefore to be examined from January to 31st March 1938 in the Public Health Laboratory at Patna and the King Institute, Guindy, Madras.

The officer in charge of the combined laboratory is designated as Bacteriologist and Pathologist to Government. He has also been appointed as Public Analyst under the Food Adulteration Act. He belongs to the Provincial Public Health cadre and is on a scale of pay which is outside the cadre. He is also the teacher of Pathology in the Orissa Medical School.

For the combined laboratory the following staff, excluding the Bacteriologist and Pathologist, has been appointed :—

- (1) One Analytical Chemist, an M.Sc., who is also lecturer in Physics and Chemistry at the Orissa Medical School.
- (2) One Assistant to Bacteriologist and Pathologist, an L. M. P. and L. T. M., who is also Demonstrator of Pathology and Medicine at the Orissa Medical School.
- (3) One Media Maker.
- (4) Three Laboratory Assistants.
- (5) One Sample-taker.
- (6) One Clerk.
- (7) One Peon and two Sweepers.

Besides the analysis of samples of food-stuffs and water in the public health side, bacteriological and pathological examination of clinical materials of the Cuttack General Hospital particularly and of the other hospitals in the province generally and also for private individuals is done in this laboratory.

A separate report is submitted to Government regarding the details of work carried out in this laboratory.

The Bacteriologist and Pathologist joined his appointment on the 25th January 1938 to make all preliminary arrangements for the purchase of materials and equipment, etc., and the laboratory commenced to function on the 1st April 1938, but it took more than three months to fit it up and to prepare necessary standard solutions and re-agents, although ordinary routine examinations of clinical materials were being done in the meantime. So practically all the normal work in the laboratory was carried out for a period of six months during the year.

*Food stuffs.*—During the year under report 368 samples of food-stuffs were examined as compared to 267 in the preceding year. Of these 52 samples were examined at the Patna Public Health Laboratory and 25 samples at the King Institute, Guindy, from January to the end of March. The remaining 291 samples were examined at the new Provincial Laboratory. Of the total articles analysed in all these laboratories 226 or 61·4 per cent were found adulterated. The following are the various samples of food-stuffs examined and the numbers found adulterated :—

*Ghee.*—169 samples of ghee were examined out of which 118 or 69·8 per cent were found adulterated as against 83 per cent of the preceding year.

*Mustard oil.*—62 samples of mustard oil were analysed out of which 20 or 32·2 per cent were found adulterated as against 48 per cent of the previous year.

*Sweets prepared of ghee.*—66 samples of sweets were examined of which 50 or 75·7 per cent were found adulterated as against 76 per cent of the previous year.

*Milk.*—47 samples of milk were analysed of which 36 or 76·6 per cent were found adulterated.

*Miscellaneous.*—24 samples of miscellaneous articles including two of gingelly oil and two of groundnut oil were examined. The percentage of adulteration in these articles was found to be 8·3 only.

The total number of samples of water from various sources in the province examined chemically and bacteriologically during the year was 107, of which only 28 were analysed at the Patna Public Health Laboratory and the rest at the new Provincial Laboratory, as against 148 in the previous year. Quarterly examinations of water from the protected water supplies and annual examinations of samples of water from the jails were carried out as usual, besides a certain number of analyses of special samples taken at the instance of the various departmental officers and local bodies.

The establishment of a Provincial Laboratory has been a great advantage as it provides easy facility for the examination of all sorts of articles both in the interest of public health as well as for correct diagnosis of cases for treatment.

## CHAPTER XV.

### General remarks.

1. **Incidence of cerebro-spinal fever.**—24 cases of cerebro-spinal fever were treated in hospitals and dispensaries of which 5 cases proved fatal. There may have been cases occurring in the province other than those treated in hospitals and dispensaries but the approximate number of such cases cannot be given as there is no arrangement for the collection of statistics for this disease.

2. **Notification of infectious diseases.**—The Bihar and Orissa Municipal Amendment Act of 1935 and the Madras District Municipalities Act of 1920 provide for the compulsory notification of infectious diseases in municipal areas. In the larger municipalities the provisions of the Act are enforced, and respected too to a certain extent especially in cases of cholera and smallpox, but in the smaller municipalities particularly of North Orissa these sections of the Act remain almost a dead letter, as the municipalities concerned have neither the organisation nor the desire to enforce them. As for the rural areas, there is no provision in the Bihar and Orissa Local Self-Government Act or the Madras Local Boards Act for the compulsory notification of infectious diseases.

The result is that as soon as an infectious disease occurs in a particular house, which frequently happens, prompt action cannot be taken by the authorities concerned to check its spread.

3. **Port Health Administration.**—There are three minor ports in the province, viz., Gopalpur in Ganjam district, Chandbali in Balasore district, and Puri.

At the former two ports, the medical officers (L. M. P. class) in charge of the Local Fund Dispensaries have been appointed as Port Health Officers and at Puri the Civil Surgeon is the Port Health Officer. Of these three ports Gopalpur is the most important and has a regular shipping traffic with Rangoon and inland ports. During the year under report 121 vessels with 16,572 incoming passengers and the same number with 18,326 outgoing passengers came and went out of the port. None of these vessels were inspected by the Port Health Officer as there was no occasion for it. On the outbreak of plague in the port of Rangoon necessary measures for the prevention of the introduction of this disease through the ships were taken at this port.

There was an outbreak of cholera in the port town of Gopalpur in the month of June 1938. The disease first occurred on 7th June 1938 and continued till 24th June 1938 with a total number of 31 attacks and 17 deaths. Necessary precautionary measures were taken to check the spread of the disease through passengers embarking and disembarking at this port.

Only 3 vessels ply between Calcutta and Chandbali. Vessels from other ports of India or abroad did not come to this port during the year under report. Each of the above three vessels were inspected by the Port Health Officer on each arrival and departure. No case of infectious diseases was reported on board of any vessel. A total of nine deaths occurred in the port town of Chandbali during the year, of which three were from smallpox, four from pneumonia and two from heart diseases. No crew or passenger was treated in the Port Quarantine Hospital for any infectious disease but 54 members of crews and 337 passengers were treated in the outdoor department of the dispensary for injuries and other minor ailments.

No vessel called at the port of Puri, during the year under report, except one native schooner with a crew of 14 and no infectious disease occurred on board.

**4. Urban and rural housing condition.**—No satisfactory progress has been made since the last report for the improvement of the urban and rural housing conditions in the province. Although model by-laws have been framed under the Municipal Act for the regulation of construction of buildings in urban areas, the local bodies concerned seldom appreciate the necessity for enforcing them. In the rural areas conditions are anything but satisfactory. In villages people construct houses on their own lands without the least idea of a well-thought-out plan or with any consideration for sanitation and ventilation. Houses are generally made of mud walls and thatched roofs. They are in most cases dark and ill-ventilated and consequently damp. There is no proper drain in these houses for the discharge of waste water. There is no law to regulate the construction of buildings or houses in the rural areas. Well-to-do and educated people have, however, begun to appreciate the value of well-planned houses.

**5. Flood relief work.**—The province fortunately escaped the ravages of flood during the year under report, and no extra precaution was therefore necessary for the sanitary measures which are usually made on the wake of such incidences.

**6. Leprosy relief.**—A scheme prepared by the Director of Health and Inspector-General of Prisons for anti-leprosy work was sanctioned by Government at a total cost of Rs. 36,000 per annum. The whole amount was placed at the disposal of the Provincial Leprosy Relief Association which was inaugurated in the year 1937. Under this scheme a Provincial Leprosy Relief Officer who is paid for from Provincial revenues was appointed in June 1938. A District Leprosy Officer of Sub-Assistant Surgeon class trained in leprosy work with three compounders under him has been appointed in each district. The main principle of the scheme is that it provides for extensive survey, propaganda, registration and treatment of lepers and, above all, for the voluntary isolation of lepers in village groups.

Dr. Isaac Santra, the Propaganda Officer of the British Empire Leprosy Relief Association, visited the province during the year and made extensive tours all over the province for a period of two and a half months. He gave a short course of lectures to the senior students of the Orissa Medical School and about 90 medical men employed by Government and local bodies attended clinical lectures delivered by him at suitable centres regarding diagnosis and treatment of leprosy.

A separate grant of Rs. 2,700 was made by the Provincial Government to local bodies for the maintenance of leprosy clinics attached to all local fund dispensaries of Cuttack, Puri and Sambalpur districts.

The two asylums of the province, one at Cuttack and the other at Puri, continued to work satisfactorily. The year closed with 82 clinics in the province.

The activities of the anti-leprosy work which is now controlled by the Provincial Branch of the British Empire Leprosy Relief Association through the Provincial Leprosy Relief Officer and District Associations are embodied in a separate report published by the Association, which forms an appendix to this report.

**7. Nutrition.**—Until now no regular public health nutrition work has been carried on in this province. A scheme to carry on diet survey has been submitted to Government for their sanction and it is expected that some sort of nutritional survey work will be undertaken in one of the small districts of this province during the next financial year. In the meantime to start with the School Medical Officer has been instructed to give the school students some idea about balanced diet and its relation to maintenance of health in proper condition. Investigations were carried by Dr. (Rai Sahib) K. Mahalik, Health Officer of the Cuttack District Board, who was trained in the Nutrition Research Laboratories, Coonoor, with administration of calcium lactate to school-going children. By a circular issued by the Educational authorities of the province, calcium lactate is being administered to school children under Government control and this too is being encouraged in some of the schools maintained by the local or private bodies.

Attempts are now being made to recommend some balanced diets at different costs for the school hostels of this province and for this purpose necessary data have been collected from some of the hostels.

People are at present advised to take more protective foods available to them with the limited money they spend on their diet and propaganda is being made impressing on the public the necessity of taking more vegetables and fruits in addition to their usual diet.

The Assistant Director of Public Health, Dr. B. Nayak, during the course of his vaccination inspection tours in the different parts of the province makes a special note of nutritional deficiency diseases noticed by him with a view to collect some idea about the nutritional conditions of the people in different areas. Dr. (Miss) Curjel Wilson at the invitation of the Provincial Government undertook a diet survey in different parts of this province and her report is awaited.

Investigations regarding angulo-stomatitis were carried on in the Cuttack Jail in 1938 and it is proposed to carry on the same in a more scientific manner in the coming cold season.

The chief difficulty with regard to any nutritional work on scientific lines according to an approved plan is the want of money; when this is available it is hoped work will be started in right earnest.

**8. Rural water supply.**—The local bodies concerned spent the following amounts for the improvement of rural water supply, viz., for sinking and repairs of wells, sinking of tube wells and excavation and re-excavation of tanks in rural areas:—

District.					Ra.
Koraput ...	...	...	...	...	10,943
Ganjam ...	..	...	...	...	8,133
Cuttack ...	...	...	...	...	19,272
Sambalpur	...	...	...	...	2,600
Balasore ...	...	...	...	...	5,178

The expenditure in Koraput district was met out of the Government grant made for the purpose.

I take this opportunity to mention here the hopeless inadequacy of proper drinking water supply in many parts of the province. It is unfortunate that even at this stage of the development of the country people should resort wholly and almost entirely to tanks for obtaining their drinking water supply—in fact for all domestic use. Tank water without exception is hopelessly polluted, containing as it does sweepings from the surface of the catchment area which the people defile with impunity by promiscuous defecation.

I again repeat that there should be no mistake whatsoever of mixing up drinking water supply meant for human beings with water required for washing and bathing and irrigation purposes. Even then the deep wells will be better as they will serve all purposes and at the same time are of a permanent nature and any money spent on the digging of deep masonry wells is money well spent; but if tanks are multiplied, as is being done now in some parts of the province, they will ultimately serve as a veritable source of danger to the health of the people as they are invariably doing now, because the tank water is highly contaminated, containing as it does almost without exception both human and animal excrement in heavy doses.

The attention of the district and the subdivisional authorities as well as that of the district boards is earnestly invited to this matter and I plead that only deep masonry wells should be constructed in the scheme for extending water supply in the districts. Tube wells yield very wholesome water, but the chief disadvantage is that their mechanical breakdown is frequent and the recurring cost of maintenance high.

**9. Personal proceedings and office.**—Lt.-Col. G. Verghese, M.D., Ch. B., D.P.H., D.T.M., D.T.H., I.M.S., remained in charge of the Department throughout the year.

**10. Touring.**—During the year the Director of Health and Inspector-General of Prisons was on tour for 90 days.

**11. Personnel.**—I would like to report that the Public Health Department has passed through another eventful year of hard work and sustained efforts—thanks to the great help and advice and impetus received from Government and to the loyalty and co-operation evinced by one and all in the department including the executives and the Health staff of the various local bodies. The Civil Surgeons of Ganjam and Sambalpur and Koraput districts have had to shoulder a good deal of responsibility in carrying out the public health administration of the respective areas in their districts. The Civil Surgeons of other districts where separate Health Officers exist have also rendered valuable help. The work thrown upon my office was as in the previous year very heavy, and I would like to express my thanks for the loyal co-operation and help which I have received from one and all of them in my office.

I look forward with confidence that in the new year to come it will be possible to report a much bigger record of advancement in the field of preventive medicine and hygiene in this province, and with the various schemes for the general improvement of health and sanitation in the province now before the Government and local bodies, set into operation in due course according to the financial help that will be available, Orissa is bound to take her place alongside her sister provinces in the standard of public health achievements, notably provision of proper water supplies in the rural areas, introduction of a universal compulsory system of both primary and revaccination throughout the province, and general improvement of village home sanitation.

That there is the need for these, and that there is an enthusiasm all round for these to be carried out, augurs well for the future.

G. VERGHESE, LT.-COL., I.M.S.,

*Director of Health and Inspector-General  
of Prisons, Orissa.*

### Annual Vaccination Report of the Province of Orissa for the year 1938-39.

The statistics in the Vaccination Report are for the financial year while the statistics in the Annual Public Health Report are for the calendar year. The arrangement facilitates the inclusion of the figures for the complete vaccination season from October to March in the Vaccination Report.

2. *Staff*.—Lt.Col. G. Verghese, I.M.S., held charge of the office of the Director of Health and Inspector-General of Prisons, Orissa, throughout the whole period under report. Rai Sahib Dr. B. Nayak, M.B., D.P.H., held the post of Assistant Director of Public Health for Orissa from 16th December 1938 to 31st March 1939.

The provincial vaccination inspecting staff consisted of 2 District Inspectors of Vaccination, 4 Sub-Inspectors of Vaccination, 19 Health Inspectors and 34 Vaccinators. The total number of vaccinators employed during the year 1938-39 was 281, of whom 19 were employed in towns and 262 in rural areas. Vaccination is performed by paid vaccinators in the municipal areas and also in the districts of Ganjam and Koraput, while licensed vaccinators are generally employed to perform vaccination in the rest of the areas of the province. Vaccination is compulsory in all the municipalities of the province and in the plains portion of Ganjam and in the district of Puri. In the districts where vaccination is performed on a license system the licensed vaccinator is allowed to charge a fee of two annas for each vaccination operation performed in the houses. Vaccination is, however, given free at the Public Vaccination depots which have been provided at central places within easy reach of the people in all areas where vaccination is compulsory. Besides these licensed vaccinators, paid vaccinators are also employed by the local bodies for short periods to deal with outbreaks of smallpox. During the time of epidemics temporary vaccinators are also appointed by Government.

3. *Operations performed*.—640,691 vaccination operations were performed during the year as against 654,959 during the previous year. This shows a decrease of 14,268 in the number of operations as compared with the figure for 1937-38.

630,960 operations were performed by the vaccination staff as against 646,910 done in the preceding year. Of these 237,888 were primary and 393,072 re-vaccinations as against 230,113 primary and 416,797 re-vaccinations in the preceding year. Although vaccination is generally recognised as the only preventive measure against smallpox, it has not yet become as popular as it should be with the masses in the province. When smallpox breaks out in an epidemic form the people show some degree of willingness to get their children vaccinated, but when the epidemic is absent the incentive is much less and the number of vaccinations performed also falls. This, of course, is entirely due to the fact that the individual is called upon to pay for his vaccination.

There was, however, an increase of 7,775 in the number of primary operations and a decrease of 23,725 in the number of re-vaccinations done during the year under report. Of the total operations performed 78.74 per cent were successful as against 74.94 in the previous year. The number of operations performed in the municipalities increased by 23,508 as compared with the last year's returns. The total number of operations performed was 44,092 and the number of successful operations was 19,222 of which 5,973 were primary and 13,249 re-vaccinations as against 5,225 and 4,449 respectively in the previous year. The ratios of success in municipalities were 97.38 per cent for primary operations and 49.02 per cent for re-vaccinations as compared with 93.14 per cent and 50.97 per cent respectively of last year.

The number of operations performed in the rural areas was 586,868 as compared with 626,326 in the preceding year and ratios of success were 97.20 per cent for primary operations and 66.96 per cent for re-vaccinations.

4. *Vaccination in the districts.*—The districts of Cuttack, and Balasore recorded increase of 51,144 and 2,183 in the number of vaccination operations performed respectively whilst Puri recorded a decrease of 2,508, and the persons successfully vaccinated for 1,000 of population in those districts were 30·04, 34·82 and 37·59 respectively. In all these districts vaccination is supervised by the Health Officers of the District Boards.

The districts of Sambalpur and Angul recorded increases of 6,297 and 12,006 respectively whilst Khondmals and Koraput recorded a decrease of 5,289 and 9,730 respectively, and persons successfully vaccinated per 1,000 of population in those districts were 104·19, 101·02, 47·22 and 38·49 respectively. The Civil Surgeons of the districts of Cuttack and Ganjam supervised the vaccination of Angul and Khondmals districts respectively. The Agency Surgeon, Koraput, supervised the vaccination of Koraput district and the Civil Surgeon, Sambalpur, of Sambalpur district.

The district of Ganjam recorded a decrease of 68,371 and 49·78 persons were successfully re-vaccinated per 1,000 of population of the district during the year under report. The vaccination in the Agency portion of the district is controlled by the Civil Surgeon of Ganjam and the plains portion of the district by the District Health Officer, Ganjam.

5. *Vaccination in towns.*—Statement V shows that during the year 1,749 children under one year of age out of an available number of 4,485 or 39·00 per cent were successfully vaccinated.

6. *Protection of infants.*—During the year under report the number of children under one year available for vaccination was 237,445 and the number of successful operations was 67,879 or 286 per thousand as against 67,385 of 367 per thousand successful operations out of 183,449 available children during the previous year. The protection of infants in municipalities is separately shown in Statement V. It gives a ratio of 390 per thousand of the surviving infant population as compared with 430 per thousand in the previous year. These figures still remain unsatisfactory inasmuch as they show that nearly two-thirds of the total number of infants under one year were left unvaccinated in the rural areas and a little more than one-third in the municipal areas. This is attributed to the common prejudice of the people against vaccination at an early age. Though primary vaccination is compulsory in all the municipal towns and in two districts of the province, vaccination of the infants and children is avoided by many people.

7. *Incidence of mortality of smallpox.*—The total number of deaths that occurred from smallpox in the province during 1936-37, 1937-38 and 1938-39 was 3,331, 2,633 and 3,065 respectively. Thus there has been an increase in the number of cases during the year under report over that during the preceding year.

8. *Prevention of smallpox.*—The proportion of vaccinated persons in the province still remains far below the figures necessary to prevent epidemic outbreaks and although the total annual vaccination operations amount to more than 6 lakhs or so, these are quite insufficient to ensure the immunity of the total population against smallpox. Hence the incidence of this disease continues to remain high. This state of affairs is not so much due to insufficiency or inefficiency of the existing arrangements for vaccination in the province, but is chiefly to the inherent apathy of the public towards this simple and efficient method of protection and also to the inability of the poor people to pay the vaccinator's fee. Smallpox is a preventable disease and vaccination can prevent it. In the light of this knowledge and in face of the unsatisfactory vaccination state of the people, there is a great necessity for a more vigorous and complete vaccination policy. Vaccination has been made compulsory for many years in all municipal towns but all the provisions of the Act do not appear to be rigidly enforced, with the result that a great proportion of the children do not get vaccination until they cross the first year of their life. Besides a large number of unvaccinated persons are to be found in every municipal town.

The incidence of smallpox can be definitely prevented, provided repeated vaccinations are practised, but re-vaccinations are always accepted with reluctance and people do not seem to realise that immunity conferred by primary vaccination wears out within 5 to 7 years. Thus during epidemics the percentage of protected persons is small and it is not until the disease has had its toll, that the public realise the importance of re-vaccination. Prejudices born of ancient traditions die hard and appear to be the chief obstacle in the way of pushing vaccination among the masses. Much of the effort of the Public Health staff has, therefore, to be directed towards overcoming these obstacles. Vaccination operations are easily done and generally cause no complications. No case of encephalitis following vaccination has so far been recorded in this province.

Almost all the District Boards with health organisation schemes have now assumed the responsibility of the control of vaccination in the rural areas and the cost of running the vaccination scheme is insignificant.

The Bengal Vaccination Act is in force in Puri district only. Vaccination and re-vaccination are compulsory in the plains portion of Ganjam district under the Madras Local Boards Act of 1920. It is absolutely necessary that vaccination should be made compulsory throughout the province.

9. *Inspection of work.*—During the year under report the Director of Health and Inspector-General of Prisons inspected a large number of vaccination cases, both primary and re-vaccination as in the previous year. The Assistant Director of Public Health also inspected a still larger number of vaccinated cases during the year. The vaccination results on the whole were found to be satisfactory.

Superintendents of vaccination of the province inspected 8,475 primary and 9,782 re-vaccinations against 6,347 primary and 8,613 re-vaccinations of the last year. As in the preceding year inspection work of the vaccination inspecting staff was satisfactory.

10. As no arrangement exists in this province for the manufacture of vaccine lymph the total requirement of such lymph was purchased from the Bihar Government's Vaccine Depot at Namkum and was supplied free to the local bodies of the province. 543,522 doses of vaccine lymph at a cost of Rs. 7,077-1-9 were purchased during the year under report.

11. *Method of vaccination.*—Vaccination operations are performed with rotary lancets in the districts of Ganjam and Koraput and with ordinary lancets in the rest of the province.

12. *Post-vaccination operations.*—As in the previous year no complaint of post-vaccinal encephalitis or of any other complications after vaccination was received during the year under report.

13. *Cost of the Department.*—The total cost of the Vaccination Department excluding the cost of vaccine lymph during the year as noted in Statement I, was Rs. 61,410-15-3 as against Rs. 61,780-0-4 of the previous year. The cost of each successful case of vaccination during the year was Re. 0-2-7 as opposed to Re. 0-2-8 of the previous year. If however the cost of vaccine lymph is included, the cost per successful vaccination case stands at Re. 0-2-10 as opposed to Re. 0-2-11 in the previous year.

14. *General remarks.*—In North Orissa the licensed system of vaccination under which people have to pay a small amount is most unpopular amongst all classes of people, particularly amongst the poor, with the result that vaccination which should be regarded as one of the greatest benefactions of science to humanity has to be pushed through under heavy odds. In South Orissa in the district of Ganjam (Plains portion) it is both compulsory and free. People in North Orissa are beginning to demand free vaccination which cannot evidently be given under the licensed system in vogue. As vaccination against smallpox is the only preventive and surest remedy

against the disease, the time has now come to consider whether it is not necessary to enforce compulsory vaccination and re-vaccination amongst the people in order to save them from the appalling recurrence of this fell disease, practically year after year and month after month throughout North Orissa. The incidence of this preventable disease is not only high but also the toll of life taken by this infection is comparatively high. The only satisfactory remedy is to make it both compulsory and free and Orissa will thus come in line with most of the sister provinces in India in affording every satisfactory measure of protection to the people from this foul infection.

G. VERGHESE, LT.-COL., I.M.S.,

*Director of Health and Inspector-General of Prisons, Orissa.*

**Summary of the activities of the Public Health Circle relating to the sanitary improvements in rural and urban areas of Orissa during the calendar year 1938.**

*Preparation of scheme—Major projects.*—Berhampur water-works—Relaying of steel gravitation mains by C. I. mains. An estimate amounting to Rs. 1,35,497 prepared by the municipality was examined and submitted to Government for sanction.

Puri water supply.—A detailed estimate amounting to Rs. 33,370 for repair and maintenance of the Puri town water supply for 1938-39 was prepared and sanctioned. An estimate amounting to Rs. 22,000 for a scheme of irrigation by tube wells in Orissa was prepared and submitted to Government.

Detailed minor estimates amounting to Rs. 27,093 (Deposit works Rs. 12,765 and Government works Rs. 14,328) were prepared and submitted either to Government or to the local authorities concerned.

*Construction.*—Puri water supply—(Main Scheme Rs. 11,84,500) (Supply Scheme Rs. 67,077). With the exception of a few petty works (a) providing air and scour valves in distribution system, (b) construction of chargeman and of additional driver and khalasis quarters, (c) certain improvements to Superintendent's residence, and (d) rectification of C. I. name plates, the work of the main and supplementary schemes has been completed.

The water supply system has been maintained efficiently by the Public Health Circle throughout the year on behalf of the Puri Joint Water-works Committee and a satisfactory supply of water was given to the town.

Original work to the value of Rs. 4,045 and Repair work to the value of Rs. 36,243 (including expenditure on Puri water-works) have been carried out during the year.

The execution of certain minor works for which estimates have been sanctioned was, under Government Orders, deferred due to lack of funds.

W. G. CAME,

*Superintendent Engineer,  
Public Health Circle, Bihar.*

**The annual report of the Orissa Provincial Branch of the British Empire  
Leprosy Relief Association for the year 1938-39.**

It is gratifying to note that our Association in her second year of existence has been able to launch upon a campaign against Leprosy on an organised basis. This has been possible on account of the wise undertaking of the Orissa Government to fight out the disease. The Scheme for Anti-Leprosy Work prepared by the Director of Health and Inspector-General of Prisons has been approved by the Government and accordingly they have sanctioned a recurring grant of Rs. 28,206 for a period of five years and a non-recurring grant of Rs. 7,866 to meet the salaries and allowances of the staff employed in the six districts, and also to aid in the purchase of necessary medicines, equipment and materials for propaganda. The grant received during the year amounted to Rs. 8,580, out of which Rs. 5,580 is recurring and Rs. 3,000 non-recurring. They have further appointed a Provincial Leprosy Relief Officer for Orissa and have placed his services at the disposal of the Association.

We are much indebted to Rai Sahib Dr. I. Santra for the special tour to leper clinics in the Province which he undertook early in 1938 and this was of great assistance in formulating the scheme.

As provided for in the scheme, one Medical Officer of the class of Sub-Assistant Surgeon and three compounders have been appointed in each district since November 1938, and work has been in progress for the last few months. It is fully realised that treatment alone cannot stamp out the disease from the country and hence the importance of propaganda, as well as of isolation of infectious cases, either in homes or preferably in villages, is greatly emphasised.

The main activities of the Association have been directed to the following:—

- (i) Organising Relief Centres for leprosy patients throughout the province, in the form of clinics, either separately or attached to the existing hospitals and dispensaries.
- (ii) Creating public opinion against the spread of the disease by intensive propaganda, namely, lectures with aid of magic lanterns, distribution of pamphlets in different centres and also by talks with interested people.
- (iii) Enlisting sympathy and support of the local bodies by forming village Leprosy Relief Committees, whose main duties are to persuade patients to receive regular treatment at the clinic, and to impress upon them the necessity of isolation in infectious cases.
- (iv) Acting as a co-ordinating body for the various relief centres in different parts of the province, standardising the methods of treatment and supervising the work of prevention.

There are two leper Asylums in this province, one at Cuttack and the other at Puri, besides 78 clinics. Four more clinics have been added in the year under report, two in Ganjam, one at Banpur in Puri and the fourth at Jajpur in Cuttack. Thus the year ended with 82 clinics.

A sum of Rs. 500 was sanctioned for opening a small leper colony in the district of Ganjam, where the incidence is very high. This amount was met wholly from the special grants so kindly given by the British Empire Leprosy Relief Association (Indian Council), New Delhi, on the recommendation of Col. Sir Alexander Russell until lately the Public Health Commissioner with the Government of India, who, while visiting Orissa in 1938, highly appreciated the lines on which Anti-Leprosy Work was conducted in the province. He also obtained several copies of our Anti-Leprosy Scheme for distribution in the other provinces. It is gratifying to note that he was impressed with the work of the Cuttack Leper Asylum, and in his opinion it is one of the finest institutions of the kind he has visited in India.

It is a matter of great satisfaction that a new Children's Ward, named the King George V Memorial Ward, has been added to the Cuttack Leper Asylum at a cost of Rs. 15,000 received from the King George V Silver Jubilee Fund. It provides accommodation for 36 children.

### DISTRICT COUNCILS

All the six districts of the province have formed councils, but it is regrettable to note that none of them is functioning satisfactorily yet, except the Ganjam District Leprosy Relief Council, which is making very encouraging progress. This Council alone has so far been affiliated to the Provincial Association, and the affiliation of the Balasore and Puri District Councils has been recently approved, subject to their acceptance of the rules of affiliation. It is, however, hoped that in the near future these Councils will get duly affiliated and render all necessary assistance to the workers in the field and create enlightened public opinion and do all they can to eradicate the disease from their district.

### TRAINING OF OFFICERS.

In the month of November 1938, the Provincial Leprosy Relief Officer received a special course of training in leprosy at the Calcutta School of Tropical Medicine and visited various clinics and segregation camps of the Asansol Leprosy Relief Society organised by the Asansol Mines Board of Health.

Last January a short intensive course of training was given at the Cuttack Medical School by Dr. J. Lowe, the Leprosy Research Worker of the School of Tropical Medicine, assisted by Rai Sahib Dr. Isaac Santra, the Propaganda Officer of the British Empire Leprosy Relief Association (India Council). Twenty Sub-Assistant Surgeons from various parts of Orissa including six District Leprosy Relief Officers, one officer from Cooch Bihar and one from Jaspur Durbar received training. The course of training was held under the auspices of the British Empire Leprosy Relief Association (India Council), New Delhi, for which we thank the Secretary of the Association, and Dr. Lowe and Dr. Santra. The compounders of our district staff similarly received a special course of training from the District Leprosy Relief Officers.

### SURVEY, PROPAGANDA AND TREATMENT.

In the month of December 1938, on return from training, the Provincial Leprosy Relief Officer conducted a thorough survey of Raghunathpur and its neighbouring villages, with the assistance of the Cuttack District Leprosy Relief Officer.

The staff employed in each district have fairly advanced in the leprosy survey work at various centres. The total population so far examined is about 25,000, and the number of cases detected to be suffering from leprosy is about 600.

Along with the work of survey the staff have been doing propaganda work in villages with the help of magic lanterns and coloured wall posters, by way of educating the public on problems of leprosy. These district staffs are guided by the direct instructions and advice of the Provincial Leprosy Relief Officer, who has also begun for himself a model survey, propaganda and treatment at Kaipadar in Puri, where the incidence is very high.

Out of Rs. 3,000 which has been sanctioned by Government for the purchase of materials for propaganda, magic lanterns, slides, coloured wall posters, pamphlets and booklets were supplied to the staff. A good microscope and a camera were given to the Provincial Officer.

The value of extensive propaganda at the beginning of a campaign cannot be overestimated. In the early part of the year as many as twenty thousand leaflets in the different languages of the province were printed and distributed, through the agency of the district and subdivisional medical staff. Since the appointment of the special staff under the auspices of our Association all these pamphlets, posters, booklets and other literature on leprosy, are being distributed by them to clinics, villages and the primary and secondary schools.

All the suspected cases among school children were examined by the Provincial and District Leprosy Relief Officers and instructions were given for their treatment.

For efficient treatment every medical officer-in-charge of a Leprosy Clinic is supplied with a copy of an abridged text-book on leprosy, so that he may be thoroughly conversant with up-to-date knowledge and the modern technique of treatment. The work of these doctors-in-charge of Clinics is subject to the inspection of and guidance by the Provincial Leprosy Officer. It is therefore hoped that with the full co-operation of these doctors the leprosy relief work in the province will be carried out in a more satisfactory manner. The assistance and advice rendered by the Civil Surgeons and the Health Officers were invaluable.

Finally, the introduction of a uniform treatment register and attendance cards and the maintenance of certain records, printed forms of which have been supplied by the Association to the clinics all over the province, has made it possible to co-ordinate statistics, returns and reports relating to leprosy and the anti-leprosy work, so that better methods of work may be devised, if necessary, by assessing the results of treatment from the data collected from year to year.

### FINANCE.

There was a credit balance of Rs. 6,579-3-0 at the beginning of the year and an amount of Rs. 12,218-10-0 was received during the year 1938-39 as tabulated below. The total receipt amounted to Rs. 18,797-13-0. The total expenditure incurred during the year amounted to Rs. 13,852-4-6 including an amount of uncashed cheque for Rs. 2-10-0, thus leaving a balance of Rs. 4,948-2-6 as per Balance Sheet of the Imperial Bank of India at the end of the year 1938-39.

#### TABLE OF RECEIPTS.

	Rs.	a.	p.
Last year's credit balance ... ..	6,579	3	0
Government grant received during the year ...	8,580	0	0
Discretionary grant from the Hon'ble Minister ...	1,000	0	0
Special grant (B. E. L. R. A.) ... ..	500	0	0
Grant from B. E. L. R. A. ... ..	1,137	0	0
Grant from the Hon'ble Minister, L. S.-G. ...	200	0	0
Donations ... ..	39	0	0

#### SUBSCRIPTIONS.

(a) From Life Members ... ..	103	0	0
(b) From Ordinary Members ... ..	155	0	0
Financial support from the District Leprosy Councils. ... ..	86	8	0
Contribution from Mission to Lepers Fund ...	420	10	0

	Rs.	A.	P.
TOTAL	18,797	13	0

#### TABLE OF EXPENDITURE.

	Rs.	a.	p.
Deposit in Savings Bank of the Imperial Bank ...	1,500	0	0
Pay of Office Staff ... ..	4,608	0	0
Propaganda Materials ... ..	720	3	0
Grant-in-aid of District Branches and Clinics ...	2,325	0	0
Purchase of Postal Cash Certificates ... ..	3,525	0	0

	Rs.	a.	p.
Printing, Stationery and other contingencies ...	72	12	0
Imprest Account ...	99	5	6
Expenses for purchase of a cow for Puri Leper Colony	131	0	0
Expenses for excavation of a well in Cuttack Leper Asylum.	200	0	0
Amount alleged to be misappropriated ...	671	0	0
Closing balance at the end of the year 1938-39	4,945	8	6
<b>TOTAL</b>	<b>18,797</b>	<b>13</b>	<b>0</b>
Closing balance as per Cash Book ...	4,945	8	6
Add uncashed Cheque, No. $\frac{BA}{1}$ 21,483 ...	2	10	0
Closing as per Balance Sheet of Imperial Bank of India.	4,948	2	6

It is regretted that the peon employed by the Association under the Honorary Secretary absconded with a sum of Rs. 671 on the 3rd March 1939. Though prompt action was taken in the matter no recovery has been made. The peon as well as the part-time clerk have been arrested by the Police and the case is now pending in the Court of the Town Magistrate, Cuttack.

We are very grateful to His Excellency and Lady Hubback for their keen interest in the work of the Association. We also convey our thanks to the Hon'ble Sri Biswanath Das and the Hon'ble Sri Bodhrum Dube for their personal interest in this work. We place on record our appreciation of the help received from the Orissa Women's League of Service. The Association is indebted to the Government of Orissa for their generosity. We thank our donors and our Bankers, the Imperial Bank of India.

We look forward to a prosperous year of progress.

J. RAO,

*Honorary Secretary.*

1914

Annual Form No. I. - (Continued)

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## ANNUAL FORM No. I.—Births registered in the

1	2	3			4		
No.	Districts.	Population for which returns were received.			Number of births registered.		
		Male	Female.	Total.	Male.	Female.	Total.
1	Cuttack ... ..	1,028,134	1,148,573	2,176,707	36,401	34,835	70,786
2	Balasore ... ..	480,518	510,082	990,600	15,404	14,514	29,918
3	Puri ... ..	500,214	534,940	1,035,154	18,374	17,570	35,944
4	Semtalpur ... ..	522,140	543,470	1,065,610	19,029	18,138	37,167
5	Angul... ..	68,694	71,764	140,458	3,008	2,922	5,925
6	Khondmals ... ..	40,531	42,047	82,578	1,780	1,768	3,488
7	Ganjam plains ... ..	581,070	707,404	1,288,474	25,894	24,923	50,817
AGENCY DISTRICTS.							
8	Ganjam ... ..	131,493	135,168	266,661	2,184	2,017	4,151
9	Koraput ... ..	13,880	13,925	27,755	359	292	651
Total of Agency Districts ...		145,323	149,093	294,416	2,493	2,309	4,802
Total for the Province ...		3,866,324	3,707,373	7,573,697	122,323	116,469	238,797

## DIX I.

districts of Orissa Province during the year 1938.

5			6			1
Ratio of births per 1,000 of population.			Mean ratio of births per 1,000 during previous five years.			No.
Male.	Female.	Total.	Male.	Female.	Total.	
16.7	15.8	32.5	18.5	17.3	35.8	1
15.5	14.7	30.2	16.8	15.7	32.5	2
17.7	17.0	34.7	19.5	18.5	38.0	3
17.9	17.0	34.9	...	...	...	4
21.4	20.8	42.2	...	...	...	5
21.0	21.4	42.4	...	...	...	6
20.1	19.2	39.4	...	...	...	7
8.0	7.6	15.6	...	...	...	8
12.9	10.5	23.4	...	...	...	9
8.5	7.8	16.2	...	...	...	
17.3	16.5	33.8	...	...	...	

## ANNUAL FORM No. 1-A—Births registered according to class in each town

1	2			3			
Registering circle.	Christians.			Hindus.			
	Male.	Female.	Total.	Male.	Female.	Total.	
CUTTACK.							
Cuttack town	25	16	41	27.	216	687	
Kendrapara town	...	...	...	141	132	273	
Jaipur town	...	...	...	88	51	139	
Total of towns	25	16	41	600	493	1,099	
Total of rural	2	...	2	81,915	88,045	67,960	
Total of district	27	16	43	85,515	83,544	69,059	
BALASORE.							
Balasore town	2	8	5	113	103	221	
Total of rural	41	35	76	14,851	13,569	27,920	
Total of district	43	38	81	14,464	13,677	23,141	
PURI.							
Puri town	...	...	...	458	480	938	
Total of rural	9	18	22	17,700	16,876	34,576	
Total of district	9	18	22	18,153	17,356	35,509	
SAMBALPUR.							
Sambalpur town	...	...	...	286	196	482	
Total of rural	...	...	...	18,753	17,942	36,735	
Total of district	...	...	...	19,029	18,138	37,167	
ANGUL.							
Total of rural	...	...	...	3,001	2,917	5,918	
Total of district	...	...	...	3,001	2,917	5,918	
KHONDMALS.							
Total of rural	1	...	1	622	613	1,235	
Total of district	1	...	1	622	613	1,235	
GANJAM PLAINS.							
Berhampur town	9	10	19	748	706	1,454	
Parlakimedi town	2	3	5	262	219	681	
Total of towns	11	13	24	1,110	1,025	2,135	
Total of rural	15	17	32	24,597	23,659	48,286	
Total of district	26	30	56	25,707	24,714	50,421	
AGENCY DISTRICTS.							
Ganjam	44	39	83	2,012	1,919	3,931	
Koraput	16	15	31	334	262	596	
Total of Agency Districts	60	54	114	2,346	2,181	4,527	
Total for the Province	Towns	33	32	70	2,512	2,308	4,820
	Rural	128	119	247	116,325	110,832	227,157
	Districts	166	151	317	118,837	113,140	231,977

DIX I--contd.

and rural areas in the districts of Orissa Province during the year 1938.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
85	50	135	...	...	...	3	1	4	481	388	867
88	42	80	...	...	...	...	...	...	179	174	353
13	5	18	...	...	...	...	...	...	101	76	157
136	97	233	...	...	...	3	1	4	764	613	1,377
729	677	1,397	...	...	...	...	...	...	35,687	33,722	69,399
656	774	1,630	...	...	...	3	1	4	36,401	34,383	70,786
48	89	67	...	...	...	6	7	13	169	157	326
425	380	805	...	...	...	418	373	791	15,235	14,357	29,592
473	413	893	...	...	...	424	380	804	15,404	14,514	29,918
3	1	4	...	...	...	...	...	...	456	481	937
201	197	398	...	...	...	8	3	11	17,918	17,089	35,007
204	198	402	...	...	...	8	3	11	18,374	17,570	35,944
...	...	...	...	...	...	...	...	...	236	196	432
...	...	...	...	...	...	...	...	...	18,798	17,942	36,735
...	...	...	...	...	...	...	...	...	19,029	18,188	37,167
2	5	7	...	...	...	...	...	...	3,008	2,922	5,925
2	5	7	...	...	...	...	...	...	3,008	2,922	5,925
1	...	1	...	...	...	1,106	1,145	2,251	17,30	1,758	3,488
1	...	1	...	...	...	1,106	1,145	2,251	1,730	1,758	3,488
28	18	46	...	...	...	50	51	101	835	786	1,620
6	7	13	...	...	...	...	...	...	870	329	699
84	25	59	...	...	...	50	51	101	1,205	1,114	2,319
35	42	77	...	...	...	42	61	103	24,669	23,509	48,493
69	67	136	...	...	...	92	112	204	25,894	24,923	50,817
3	4	7	...	...	...	75	55	130	2,134	2,017	4,151
9	15	24	...	...	...	...	...	...	839	292	651
12	19	31	...	...	...	75	55	130	2,493	2,309	4,802
221	162	383	...	...	...	59	59	118	2,890	2,561	5,391
1,396	1,320	2,716	...	...	...	1,649	1,637	3,286	119,498	113,508	233,403
1,617	1,482	3,099	...	...	...	1,703	1,696	3,404	123,328	116,469	238,797

## ANNUAL FORM No. IB.—Still-births registered according to class in each town

1	2			3		
Registering circle.	Christians.			Hindus.		
	Male.	Female.	Total.	Male.	Female.	Total.
<b>CUTTACK.</b>						
Cuttack town ...	...	...	...	15	15	50
Kendrapara town ...	...	...	...	1	8	9
Jajpur town ...	...	...	...	1	1	2
Total of towns ...	...	...	...	17	24	41
Total of rural ...	...	...	...	2,605	2,263	4,869
Total of district. ...	...	...	...	2,623	2,287	4,910
<b>BALASORE.</b>						
Balasore town ...	...	...	...	8	1	9
Total of rural ...	...	1	1	1,899	1,143	2,512
Total of district ...	...	1	1	1,877	1,144	2,621
<b>PURI.</b>						
Puri town ...	...	...	...	81	16	47
Total of rural ...	...	...	...	1,663	1,426	3,089
Total of district ...	...	...	...	1,694	1,442	3,136
<b>SAMBALPUR.</b>						
Sambalpur town ...	...	...	...	1	3	4
Total of rural ...	...	...	...	123	86	209
Total of district ...	...	...	...	124	89	218
<b>ANGUL.</b>						
Total of rural ...	...	...	...	50	34	84
Total of district ...	...	...	...	50	34	84
<b>KHONDMALS.</b>						
Total of rural ...	...	...	...	9	17	26
Total of district ...	...	...	...	9	17	26
<b>GANJAM PLAINS.</b>						
Berhampur town ...	...	...	...	10	9	19
Parlakimedi town ...	...	...	...	3	7	10
Total of towns ...	...	...	...	13	16	29
Total of rural ...	5	8	8	145	97	242
Total of district ...	5	3	8	158	118	271
<b>AGENCY DISTRICTS.</b>						
Ganjam ...	...	...	...	11	12	28
Koraput ...	...	...	...	4	5	9
Total of Agency districts ...	...	...	...	15	17	32
Total for the Province.	Towns ...	...	...	70	60	130
	Rural ...	5	4	9	5,980	5,083
	Districts ...	5	4	9	6,050	5,143

DIX I—contd.

and rural areas in the districts of Orissa Province during the year 1938.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1	1	2	...	...	...	...	...	...	16	16	32
...	...	...	...	...	...	...	...	...	1	8	9
...	...	...	...	...	...	...	...	...	1	1	2
1	1	2	...	...	...	...	...	...	18	25	43
87	27	64	...	...	...	...	...	...	2,648	2,290	4,938
88	28	66	...	...	...	...	...	...	2,661	2,315	4,976
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	8	1	9
17	9	26	...	...	...	9	10	19	1,395	1,168	2,563
17	9	26	...	...	...	9	10	19	1,403	1,164	2,567
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	31	16	47
6	7	13	...	...	...	...	...	...	1,669	1,433	3,102
6	7	13	...	...	...	...	...	...	1,700	1,449	3,149
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	1	3	4
...	...	...	...	...	...	...	...	...	128	86	209
...	...	...	...	...	...	...	...	...	124	89	213
...	...	...	...	...	...	...	...	...	...	...	...
1	...	1	...	...	...	...	...	...	51	34	85
1	...	1	...	...	...	...	...	...	51	34	85
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	85	18	53	44	35	79
...	...	...	...	...	...	85	18	53	44	35	79
...	...	...	...	...	...	...	...	...	...	...	...
2	1	3	...	...	...	2	3	5	14	13	27
...	...	...	...	...	...	...	...	...	3	7	10
2	1	3	...	...	...	2	3	5	17	20	37
6	4	10	...	...	...	8	3	6	159	107	266
8	5	13	...	...	...	5	6	11	176	127	303
...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	11	12	23
...	...	...	...	...	...	...	...	...	4	5	9
...	...	...	...	...	...	...	...	...	15	17	32
3	2	5	...	...	...	2	3	5	75	65	140
67	47	114	...	...	...	47	21	78	6,099	5,165	11,264
70	49	119	...	...	...	49	34	83	6,174	5,230	11,404

## ANNUAL FORM NO. II.—Statement of deaths registered

1	2				3	4	5		
No.	Districts,				Area in square miles.	Average population per square mile.	Number of deaths registered.		
							Male.	Female.	Total.
1	Cuttack	...	...	...	8,554	595	33,754	35,239	68,993
2	Balasore	...	...	...	2,035	482	16,443	17,613	34,056
3	Puri	...	...	...	2,492	415	15,902	16,590	32,492
4	Sambalpur	...	...	...	5,394	198	14,600	13,422	28,022
5	Angul	...	...	...	881	159	1,881	1,765	3,646
6	Khondmals	...	...	...	800	103	1,509	1,446	2,955
7	Ganjam Plains	...	...	...	3,469	371	17,749	17,247	34,996
AGENCY DISTRICTS.									
8	Ganjam	...	...	...	2,680	101	1,628	1,378	3,006
9	Koraput	...	...	...	117	237	223	197	420
Total of Agency Districts				...	2,747	338	1,851	1,575	3,426
Total for the Province				...	21,492	329	103,689	104,897	208,586

DIX I—contd.

in the districts of Orissa Province during the year 1938.

6										7			
Death rate per 1,000 of population from—										Mean ratio of deaths per 1,000 during previous five years.			
Cholera.	smallpox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	All causes.			Male.	Female.	Total.
								Male.	Female.	Total.			
0.03	1.03	...	16.0	4.7	0.6	0.45	8.8	32.8	30.7	31.7	33.5	31.2	32.3
0.3	0.9	...	22.1	0.7	0.1	0.5	9.8	34.2	34.5	34.4	33.6	33.7	33.3
0.7	0.03	...	13.3	4.2	1.1	0.4	11.7	31.0	31.0	31.4	30.7	29.5	30.1
0.1	0.01	...	14.9	1.8	1.2	0.3	8.0	28.0	24.7	26.3	...	...	...
0.06	...	...	22.0	0.3	0.1	0.4	2.1	27.4	24.6	26.0	...	...	...
0.07	0.1	...	30.0	0.3	0.06	0.6	4.7	27.5	24.4	35.0	...	...	...
0.04	0.13	...	14.8	2.0	0.8	0.2	9.2	30.5	24.4	27.2	...	...	...
0.1	0.2	...	8.4	0.5	0.5	0.2	1.4	15.4	10.2	11.3	...	...	...
...	0.1	...	8.3	1.6	0.8	0.3	4.0	16.1	14.1	15.1	...	...	...
0.1	0.1	...	8.4	0.6	0.5	0.2	1.7	12.7	10.6	11.6	...	...	...
0.2	0.5	...	16.0	2.8	0.7	0.4	8.9	20.8	28.3	29.5	...	...	...

## ANNUAL FORM No. III.—Deaths registered in the districts of

1	2	3	4	5	6	7	8
No.	Districts.	Population according to census, 1921.	January.	February.	March.	April.	May.
1	Cuttack district ...	Urban ... 88,556	112	73	95	76	75
		Rural ... 2,038,151	6,233	5,100	5,784	4,401	4,830
		Total ... 2,176,707	6,345	5,173	5,879	4,480	4,475
2	Balasore district ...	Urban ... 17,843	50	56	25	31	25
		Rural ... 972,757	3,637	2,771	3,078	2,583	2,395
		Total ... 990,600	3,737	2,797	3,103	2,619	2,430
3	Puri district ...	Urban ... 37,568	93	107	100	95	74
		Rural ... 997,586	2,848	2,347	2,459	2,412	2,248
		Total ... 1,035,154	2,941	2,454	2,559	2,507	2,322
4	Sambalpur district ...	Urban ... 15,017	25	13	28	55	47
		Rural ... 1,000,592	2,053	1,575	2,133	2,483	2,606
		Total ... 1,065,610	2,108	1,588	2,161	2,538	2,653
5	Angul district ...	Rural ... 140,458	316	331	320	376	318
		Total ... 140,458	316	331	320	376	318
6	Khondmals district ...	Rural ... 82,278	197	194	263	330	324
		Total ... 82,278	197	194	263	330	324
7	Ganjam district (Plains) ...	Urban ... 17,822	107	84	95	84	106
		Rural ... 1,230,652	2,360	2,039	2,683	2,823	2,919
		Total ... 1,288,474	2,467	2,123	2,729	2,907	3,025
AGENCY DISTRICTS.							
8	Ganjam ...	206,631	173	188	296	290	275
9	Koraput ...	27,755	42	31	32	58	41
	Total of Agency districts ...	294,416	214	224	328	318	316
	Total for the Province ...	Urban ... 216,806	387	301	344	321	337
		Rural ... 6,856,891	17,938	14,881	17,011	15,489	15,516
		Total ... 7,073,697	18,325	15,184	17,355	15,760	15,853
	Ratio per 1,000 of population.	Urban ...	1.8	1.4	1.6	1.5	1.6
		Rural ...	2.6	2.2	2.5	2.2	2.3
		Total ...	2.6	2.1	2.5	2.2	2.2

## DIX I - contd.

Orissa Province during each month of the year 1938.

9	10	11	12	13	14	15	16	1
June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year.	No.
108	115	119	122	73	150	161	1,252	1
4,646	5,719	6,528	5,559	5,015	6,696	7,637	67,711	
4,754	5,834	6,647	5,681	5,088	6,846	7,801	68,991	
18	32	82	28	26	16	15	892	2
1,583	2,498	2,300	2,512	2,534	3,582	3,185	33,654	
1,501	2,538	3,232	2,596	2,600	3,563	3,260	34,016	
81	96	76	103	83	122	94	1,116	3
2,631	2,818	2,793	2,580	2,573	2,893	3,310	31,866	
2,704	2,916	2,875	2,438	2,356	3,021	3,404	32,492	
44	47	31	20	25	33	26	810	4
2,253	2,898	2,809	2,527	1,868	1,878	2,201	27,642	
2,297	2,945	2,843	2,580	1,883	1,911	2,237	28,022	
287	358	283	275	241	211	327	2,646	5
28	358	280	275	241	211	327	2,646	
258	271	313	221	211	180	193	2,953	
258	271	313	221	211	180	193	2,953	6
95	119	105	99	95	102	98	1,190	
3,511	3,915	3,413	2,665	2,312	2,897	2,617	31,806	7
3,108	4,084	3,518	1,764	2,107	2,499	2,915	34,956	
258	353	358	288	204	167	207	2,006	
29	56	50	31	35	57	33	420	8
287	409	378	209	239	204	240	3,416	
146	414	306	370	202	443	437	4,370	
15,746	18,686	19,810	16,339	14,683	17,997	19,910	204,216	9
16,092	19,800	20,186	15,759	14,985	18,410	20,347	208,556	
116	119	117	117	114	210	210	202	
213	218	219	214	211	216	219	298	10
213	217	219	214	211	216	219	296	
213	217	219	214	211	216	219	296	

## ANNUAL FORM NO. IV.—Deaths registered according to age in the

1	2		Death under						
No.	District.		Not exceeding one month.						
			Male.			Female.			Total of columns 3 and 6.
			Under one week.	Over one week.	Total.	Under one week.	Over one week.	Total.	
			1	2	3	4	5	6	
1	Cuttack district	{ Urban ... Rural ... Total ...	48 2,256 2,269	10 1,551 1,574	68 3,780 3,843	35 1,916 1,951	18 1,226 1,244	58 3,142 3,195	116 6,922 7,028
2	Balasore district	{ Urban ... Rural ... Total ...	16 1,242 1,258	10 813 838	26 2,085 2,111	6 1,018 1,024	... 695 695	6 1,713 1,719	32 3,798 3,890
3	Puri district	{ Urban ... Rural ... Total ...	21 1,080 1,110	14 1,052 1,066	35 2,141 2,176	22 972 994	18 849 862	35 1,821 1,856	70 3,962 4,032
4	Sambalpur district	{ Urban ... Rural ... Total ...	9 1,284 1,243	14 978 992	23 2,312 2,235	11 1,018 1,019	15 865 880	26 1,873 1,899	49 4,085 4,134
5	Angul district	{ Rural ... Total ...	118 118	124 134	252 252	96 96	105 105	201 201	453 453
6	Khondmals district	{ Rural ... Total ...	111 111	105 105	216 216	83 83	98 98	181 181	837 897
7	Ganjam district (Plains)	{ Urban ... Rural ... Total ...	41 1,424 1,465	21 1,182 1,203	62 2,606 2,668	44 1,565 1,609	21 1,024 1,045	65 2,289 2,354	127 4,895 5,022
AGENCY DISTRICTS.									
8	Ganjam	...	73	35	103	59	48	101	209
9	Koraput	...	5	2	7	...	...	...	7
Total of Agency districts			78	37	115	59	48	101	216
Total for the Province			150	79	209	118	67	185	834
Total for the Province			7,522	5,885	13,407	6,416	4,905	11,321	24,728
Total for the Province			7,652	5,961	13,616	6,534	4,972	11,506	25,112

## DIX I—contd.

districts of Orissa Province during the year 1938.

3									
one year.									
Over one month and not exceeding six months.			Over six months and not exceeding twelve months.			Total male columns 3, 8 and 11.	Total female columns 6, 9 and 12.	Total.	No.
Male.	Female.	Total.	Male.	Female.	Total.				
8	9	10	11	12	13	14	15	16	
50	34	84	12	28	35	125	110	235	1
3,435	3,130	6,565	1,844	1,291	2,635	8,559	7,563	16,122	
8,485	3,164	6,649	1,356	1,314	2,670	8,681	7,673	16,357	
12	7	19	2	4	6	40	17	57	2
1,486	1,462	2,918	573	567	1,140	4,114	3,742	7,856	
1,463	1,469	2,937	575	571	1,146	4,154	3,759	7,913	
27	30	57	6	15	21	68	80	148	3
1,316	1,173	2,489	597	630	1,227	4,054	3,624	7,673	
1,343	1,203	2,546	608	645	1,248	4,122	3,704	7,826	
10	12	22	5	2	7	38	40	78	4
1,015	857	1,892	533	462	995	3,760	3,202	6,962	
1,025	879	1,904	538	464	1,002	3,798	3,242	7,040	
153	158	311	180	115	254	544	474	1,018	5
153	158	311	180	115	254	544	474	1,018	
175	174	349	88	93	181	479	448	927	6
175	174	349	88	93	181	479	448	927	
50	41	91	46	81	77	158	137	295	7
1,719	1,385	3,104	1,501	1,382	2,883	5,826	5,056	10,882	
1,769	1,426	3,195	1,547	1,413	2,950	5,984	5,193	11,177	
158	124	282	92	108	195	358	328	686	8
6	4	10	19	8	27	32	12	44	9
164	128	292	111	111	222	390	340	780	}
149	124	273	71	75	146	429	284	813	
9,438	8,477	17,910	4,886	4,651	9,537	27,726	24,449	52,175	
9,592	8,601	18,193	4,957	4,726	9,683	28,155	24,833	52,988	

## ANNUAL FORM NO. IV.—Deaths registered according to age in the

1	2			3		4		5		6	
No	Districts.			1 year and under 5 years.		5 years and under 10 years.		10 years and under 15 years.		15 years and under 20 years.	
				Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
	17	18	19	20	21	22	23	24			
1	Cuttack district	Urban ...	72	69	29	24	18	12	34	35	
Rural ...		5,760	6,025	1,675	1,499	716	634	846	1,201		
Total ...		5,832	6,094	1,704	1,523	729	646	880	1,236		
2	Balasore district	Urban ...	11	20	8	10	4	5	5	5	
Rural ...		1,987	2,207	767	719	441	450	554	750		
Total ...		1,998	2,227	775	729	445	455	559	755		
3	Puri district	Urban ...	46	43	18	19	15	10	25	10	
Rural ...		2,658	2,886	715	715	289	251	849	545		
Total ...		2,704	2,929	733	734	304	261	874	555		
4	Sambalpur district	Urban ...	28	22	10	11	12	8	4	11	
Rural ...		2,709	2,569	754	730	406	366	454	432		
Total ...		2,737	2,591	764	741	418	369	458	443		
5	Angul district	Rural ...	845	362	124	98	65	32	32	51	
Total ...		845	362	124	98	65	32	32	51		
6	Khondmals district	Rural ...	255	240	74	49	45	36	41	49	
Total ...		255	240	74	49	45	36	41	49		
7	Ganjam district (Plains).	Urban ...	76	86	33	25	12	5	19	15	
Rural ...		3,156	3,227	864	789	353	325	313	380		
Total ...		3,232	3,313	897	814	365	330	332	395		
AGENCY DISTRICTS.											
8	Ganjam	...	188	190	114	86	65	40	52	47	
9	Koraput	...	19	22	10	11	7	3	8	10	
Total of Agency districts			207	212	124	97	72	43	60	57	
Total for the Province			Urban	233	240	98	89	55	35	87	76
			Rural	17,077	17,678	5,097	4,596	2,887	2,137	2,649	3,465
			Total	17,310	17,918	5,195	4,785	2,942	2,172	2,736	3,541

## DIX I—contd.

districts of Orissa Province during the year 1938—concl'd.

7		8		9		10		11		1
20 years and under 20 years.		30 years and under 40 years.		40 years and under 50 years.		50 years and under 60 years.		60 years and upwards.		No.
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
25	26	27	28	29	30	31	32	33	34	
79	91	83	58	77	43	72	53	91	112	1
2,562	3,612	2,669	2,809	2,433	2,142	3,084	3,217	4,775	5,930	
2,641	3,703	2,752	2,867	2,510	2,185	3,156	3,270	4,866	6,042	
23	38	29	21	82	11	25	24	31	83	2
1,404	2,100	1,684	1,816	1,677	1,742	1,697	1,743	1,910	2,160	
1,427	2,138	1,713	1,887	1,709	1,753	1,722	1,767	1,941	2,193	
52	55	63	36	89	63	95	62	181	141	3
1,062	1,735	1,145	1,255	1,267	1,128	1,551	1,570	2,210	2,397	
1,114	1,790	1,208	1,291	1,356	1,206	1,646	1,632	2,341	2,538	
19	12	26	11	22	11	28	24	22	26	4
976	1,219	1,129	928	1,061	758	1,308	1,122	1,524	1,925	
995	1,231	1,155	939	1,083	769	1,386	1,146	1,556	1,951	
113	121	168	122	124	117	138	153	228	235	5
113	121	168	122	124	117	138	153	228	235	
95	96	126	112	132	121	134	159	128	183	6
95	96	126	112	132	121	134	159	128	186	
47	44	41	85	54	26	62	34	140	141	7
820	1,006	906	882	1,106	809	1,490	1,338	2,278	2,867	
867	1,050	947	917	1,160	835	1,552	1,372	2,413	3,028	
124	126	183	160	169	119	194	152	161	130	8
21	26	21	17	29	19	29	21	47	56	9
145	152	204	177	213	138	223	173	208	186	
220	240	242	161	274	159	282	197	415	453	
7,177	10,041	8,031	8,101	8,018	6,965	9,625	9,475	13,166	15,836	
7,397	10,281	8,273	8,262	8,292	7,124	9,907	9,672	13,981	16,309	

## ANNUAL FORM NO. IV-A.—Deaths under one year registered according to class in each town

1	2			3		
	Christians.			Hindus.		
	Male.	Female.	Total.	Male.	Female.	Total.
CUTTACK.						
Cuttack town ... ..	...	...	...	52	39	91
Kendrapara town ... ..	...	...	...	46	44	90
Jajpur town ... ..	...	...	...	11	9	20
Total of towns ... ..	...	...	...	109	92	201
Total of rural ... ..	...	...	...	8,486	7,483	15,869
Total of district ... ..	...	...	...	8,545	7,525	16,070
BALASORE.						
Balasore town ... ..	...	...	...	38	15	53
Total of rural ... ..	...	...	...	4,022	3,648	7,670
Total of district ... ..	...	...	...	4,060	3,663	7,723
PURI.						
Puri town ... ..	...	...	...	68	80	148
Total of rural ... ..	...	...	...	4,013	3,591	7,604
Total of district ... ..	...	...	...	4,081	3,671	7,752
SAMBALPUR.						
Sambalpur town ... ..	...	...	...	88	40	78
Total of rural ... ..	...	...	...	8,760	8,202	6,962
Total of district ... ..	...	...	...	3,798	3,242	7,040
ANGUL.						
Total of rural ... ..	...	...	...	544	474	1,018
Total of district ... ..	...	...	...	544	474	1,018

DIX I—contd.

and rural areas in the districts of Orissa Province during the year 1938.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
8	10	18	...	...	...	...	...	...	60	49	109
8	8	16	...	...	...	...	...	...	54	62	106
...	...	...	...	...	...	...	...	...	11	9	20
16	18	84	...	...	...	...	...	...	125	110	235
123	130	253	...	...	...	...	...	...	8,559	7,563	16,122
139	148	287	...	...	...	...	...	...	8,681	7,673	16,357
2	2	4	...	...	...	...	...	...	40	17	57
65	78	143	...	...	...	27	16	43	4,114	3,742	7,856
67	80	147	...	...	...	27	16	43	4,154	3,759	7,913
...	...	...	...	...	...	...	...	...	68	80	148
41	28	74	...	...	...	...	...	...	4,054	3,624	7,678
41	83	74	...	...	...	...	...	...	4,122	3,704	7,826
...	...	...	...	...	...	...	...	...	88	40	78
...	...	...	...	...	...	...	...	...	3,760	3,202	6,962
...	...	...	...	...	...	...	...	...	8,798	8,942	7,040
...	...	...	...	...	...	...	...	...	544	474	1,018
...	...	...	...	...	...	...	...	...	544	474	1,018

## ANNUAL FORM NO. IV-A.--Deaths under one year registered according to class in each town

1				2			3		
Registering circle.				Christians.			Hindus.		
				Male.	Female.	Total.	Male.	Female.	Total.
KHONDMALS.									
Total of rural	...	...	...	...	...	...	162	165	327
Total of district	...	...	...	...	...	...	162	165	327
GANJAM PLAINS.									
Berhampur town	...	...	...	...	...	...	113	86	199
Parlakimedi town	...	...	...	...	...	...	43	50	93
Total of towns	...	...	...	...	...	...	156	136	292
Total of rural	...	...	...	4	5	9	5,808	5,027	10,835
Total of district	...	...	...	4	5	9	5,964	5,163	11,127
AGENCY DISTRICTS.									
Ganjam	...	...	...	11	10	21	336	309	645
Koraput	...	...	...	2	2	4	29	9	38
Total of Agency districts	...	...	...	13	12	25	365	318	683
PROVINCE.									
Towns				...	...	...	409	363	772
Total for the Province	...	Rural	...	17	17	34	27,110	23,858	50,968
District				17	17	34	27,519	24,221	51,740

## DIX I—contd.

and rural areas in the districts of Orissa Province during the year 1938—concl'd.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
...	...	...	...	...	...	317	298	600	479	448	927
...	...	...	...	...	...	317	288	600	479	448	927
2	1	3	...	...	...	...	...	...	115	87	202
...	...	...	...	...	...	...	...	...	43	50	93
2	1	3	...	...	...	...	...	...	158	187	345
7	13	20	...	...	...	7	11	18	5,825	5,066	10,891
9	14	23	...	...	...	7	11	18	5,984	5,198	11,182
3	2	5	...	...	...	8	7	15	358	328	686
1	1	2	...	...	...	...	...	...	32	12	44
4	3	7	...	...	...	8	7	15	390	340	730
20	21	41	...	...	...	...	...	...	429	884	1,313
240	257	497	...	...	...	359	317	676	27,726	24,449	52,175
260	278	538	...	...	...	359	317	676	28,155	24,838	52,993

## ANNUAL FORM NO. V.—Deaths registered according to class

1	2			3											
				Number of deaths											
				Christians.			Hindus.			Muhammadans.			Buddhists.		
				Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
No.	District.														
1	Cuttack	...	...	8	8	16	32,905	34,353	67,258	841	878	1,719	...	...	...
2	Balasore	...	...	14	16	30	15,689	16,901	32,590	455	465	920	...	...	...
3	Puri	...	...	3	8	11	15,652	16,319	31,971	247	263	510	...	...	...
4	Sambalpur	...	...	24	18	42	14,546	13,382	27,928	27	22	49	...	...	...
5	Angul	...	...	...	...	...	1,881	1,765	3,646	...	...	...	...	...	...
6	Khondmals	...	...	...	...	...	614	554	1,168	1	...	1	...	...	...
	Ganjam Plains	...	...	18	17	35	17,645	17,131	34,776	50	54	104	...	...	...
	AGENCY DISTRICTS.														
8	Ganjam	...	...	17	25	42	1,544	1,314	2,858	2	2	4	...	...	...
9	Koraput	...	...	4	4	8	214	193	404	5	3	8	...	...	...
	Total of Agency districts	...	...	21	29	50	1,758	1,504	3,262	7	5	12	...	...	...
	Total for the province	...	...	88	96	184	100,690	101,909	202,599	1,628	1,687	3,315	...	...	...

## DIX I—contd.

in the districts of Orissa Province during the year 1938.

			4																
registered.			Ratio of deaths per 1,000 of population.																
Other classes.			Christians.			Hindus.			Muhammadans.			Buddhists.			Other classes.				
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	No.	
...	...	...	6.5	4.8	5.6	33.0	30.9	31.9	28.1	24.3	26.0	..	...	...	...	...	...	...	
285	281	516	20.4	23.2	21.8	34.3	34.7	34.5	29.1	28.9	29.0	...	...	...	45.8	35.1	40.3	...	
...	...	...	3.9	10.4	7.2	32.0	31.2	31.6	22.7	22.6	22.6	...	...	...	...	...	...	...	
3	...	3	12.6	9.1	10.8	28.4	25.1	26.7	10.7	9.4	10.1	...	...	...	0.5	...	0.3	...	
...	...	...	...	...	...	27.5	24.7	26.1	...	...	...	...	...	...	...	...	...	...	
894	892	1,786	...	...	...	51.1	46.6	48.9	62.5	...	35.7	...	...	...	31.8	29.6	30.7	...	
36	45	81	20.7	19.4	20.1	30.8	24.8	27.3	24.2	28.6	26.3	...	...	...	6.9	11.7	8.9	...	
65	37	102	9.5	15.1	12.2	23.7	19.8	21.7	36.4	54.1	43.5	...	...	...	1.0	0.6	0.8	...	
...	...	...	7.9	7.6	7.7	16.6	14.7	15.7	37.9	21.4	29.4	...	...	...	...	...	...	...	
65	37	102	9.2	13.8	11.2	22.6	18.9	20.7	37.4	28.2	33.0	...	...	...	1.0	0.5	0.8	...	
1,283	1,205	2,488	11.1	11.6	11.4	31.6	29.0	30.2	26.5	24.7	25.5	...	...	...	11.6	10.6	11.1	...	

## APPENDIX I—contd.

ANNUAL FORM NO. V-A.—Death rates according to class, urban and rural areas separately in each district of Orissa Province during the year 1938.

Number.	District.		Christians.	Hindus.	Muhammadans.	Buddhists.	Other classes.	Total.
1	2		3	4	5	6	7	8
1	Cuttack	{ Urban ... Rural ...	4.5 11.1	15.0 82.5	13.6 29.1	... ...	... ...	14.5 32.4
2	Balasore	{ Urban ... Rural ...	12.3 27.0	22.1 84.7	22.4 29.8	... ...	30.3 40.4	22.0 84.6
3	Puri	{ Urban ... Rural ...	... 8.2	30.4 81.7	6.3 28.0	... ...	... ...	30.0 31.4
4	Sambalpur	{ Urban ... Rural ...	20.7 10.2	27.0 26.7	7.8 10.8	... ...	... 0.8	25.8 26.3
5	Angul	{ Urban ... Rural ...	... ...	... 26.1	... ...	... ...	... ...	... 23.0
6	Khondmals	{ Urban ... Rural ...	... ...	... 48.9	... 85.7	... ...	... 80.7	... 35.9
7	Ganjam Plains	{ Urban ... Rural ...	12.6 25.8	20.7 27.6	20.3 30.4	... ...	... 9.0	20.6 27.
AGENCY DISTRICTS.								
8	Ganjam	{ Urban ... Rural ...	... 12.2	... 21.7	... 48.5	... ...	... 0.8	... 11.
9	Koraput	{ Urban ... Rural ...	... 7.7	... 15.7	... 29.4	... ...	... ...	... 15.1
Total of Agency districts.		{ Urban ... Rural ...	... 11.2	... 20.7	... 83.0	... ...	... 0.8	... 11.6
Total for the province.		{ Urban ... Rural ...	7.6 12.6	20.9 80.5	15.2 27.4	... ...	13.1 11.0	20.2 29.8

ATLANTA

Annual Form No. VI - Death, registered from different causes in 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
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## ANNUAL FORM NO. VI.—Deaths registered from different causes in the

1	2	3			4			5			6	7	8	9	10	11
No.	Districts and towns.	Population for which returns were received.			Births.			Birth rate.			Cholera.	Smallpox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.						
DISTRICTS EXCLUDING TOWNS.																
1	Cuttack ...	930,266	1,107,885	2,038,151	35,637	33,722	69,359	17.1	16.1	33.2	178	2,221	...	34,354	9,967	1,237
2	Balasore ...	470,385	502,372	972,757	15,135	14,357	29,592	15.7	14.7	30.4	291	837	...	21,744	599	87
3	Puri ...	479,511	518,075	997,586	17,918	17,089	35,007	18.0	17.1	35.1	646	19	...	13,466	4,109	1,079
4	Sambalpur ...	514,424	536,169	1,050,593	18,793	17,942	36,735	17.9	17.1	35.0	68	14	...	15,762	1,889	1,247
5	Angul ...	68,694	71,764	140,458	3,003	2,922	5,925	21.4	20.3	41.7	9	...	...	3,092	36	13
6	Khondmals ...	40,231	42,047	82,278	1,739	1,758	3,497	21.0	21.4	42.4	6	11	...	2,467	25	5
7	Ganjam Plains ...	552,976	677,676	1,230,652	24,689	23,809	48,498	20.0	19.4	39.4	51	170	...	18,878	2,335	791
AGENCY DISTRICTS.																
8	Ganjam ...	131,493	135,168	266,661	2,134	2,017	4,151	8.0	7.6	15.6	21	46	...	2,235	129	131
9	Koraput ...	13,830	13,925	27,755	359	292	651	12.9	10.5	23.4	...	3	...	231	45	22
	Total of Agency districts.	145,323	149,093	294,416	2,493	2,309	4,802	8.5	7.8	16.3	21	49	...	2,466	174	153
	Total for the province.	3,231,810	3,605,081	6,836,891	119,498	113,908	233,406	17.4	16.6	34.0	1,472	3,321	...	112,229	19,125	4,634
TOWNS.																
CUTTACK DISTRICT.																
1	Cuttack ...	36,357	28,906	65,263	484	383	867	7.4	5.9	13.3	3	10	...	176	125	30
2	Kendrapara ...	6,237	6,386	12,623	179	174	353	14.2	13.8	28.0	...	...	...	191	60	7
3	Jaipur ...	5,274	5,399	10,673	101	56	157	9.5	5.2	14.7	...	11	...	120	28	2
BALASORE DISTRICT.																
4	Balasore ...	10,133	7,710	17,843	169	157	326	9.5	8.8	18.3	4	...	...	179	42	10
PURI DISTRICT.																
5	Puri ...	20,703	16,865	37,568	456	481	937	12.1	12.8	24.9	24	8	...	335	181	53
SAMBALPUR DISTRICT.																
6	Sambalpur ...	7,716	7,801	15,517	236	196	432	15.7	13.1	28.8	6	...	...	124	56	25
GANJAM DISTRICT.																
7	Berhampur ...	18,490	19,360	37,850	835	785	1,620	22.1	20.3	42.9	...	...	...	192	143	159
8	Parlakimedi ...	9,694	10,468	20,162	370	329	699	18.4	16.4	34.8	...	...	...	64	56	47
	Total for all towns.	114,514	102,292	216,806	2,830	2,561	5,391	13.0	11.8	24.8	37	29	...	1,381	691	333
	Total for the whole province.	66,324	2,707,373	7,073,697	122,328	116,469	238,797	17.3	16.5	33.8	1,509	3,350	...	113,610	19,816	4,967

## DIX I—contd.

districts and towns of Orissa Province during the year 1938.

12						13	14			15													
Injuries.							Total deaths from all causes.			Ratio of deaths per 1,000 of population.													
Suicide.																							
Male.	Female.	Wounds or accidents.	Snake bite or killed by wild animals.	Rabies.	Total.	All other causes.	Male.	Female.	Total.	Cholera.	Smallpox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	Male.	Female.	Total.	Mean of previous five years.	No.	
101	335	381	166	18	1,001	18,733	33,079	34,632	67,711	0'09	1'06	...	16'4	4'8	0'6	0'48	9'0	33'7	31'3	32'4	33'1	1	
59	102	202	123	10	496	9,608	16,335	17,429	33,664	0'3	0'9	...	22'3	0'6	0'1	0'5	9'9	34'5	34'7	34'6	33'8	2	
27	74	214	85	12	412	11,635	15,300	16,066	31,366	0'6	0'02	...	13'5	4'1	1'1	0'4	11'7	31'9	31'0	31'4	30'0	3	
25	25	157	74	8	289	8,382	14,391	13,351	27,642	0'1	0'01	...	15'0	1'8	1'2	0'3	7'9	28'0	24'7	26'3	...	4	
4	14	29	13	2	62	432	1,881	1,765	3,646	0'06	...	...	22'0	0'3	0'1	0'4	3'1	27'4	24'6	26'0	...	5	
11	1	13	26	...	51	390	1,509	1,446	2,955	0'07	0'1	...	30'0	0'3	0'06	0'6	4'7	37'5	34'4	35'9	...	6	
12	24	75	57	49	217	11,364	17,107	16,659	33,806	0'04	0'14	...	15'4	1'9	0'6	0'2	9'2	30'9	24'6	27'5	...	7	
6	1	22	19	7	55	389	1,628	1,378	3,005	0'1	0'2	...	8'4	0'5	0'5	0'2	1'4	12'4	10'2	11'3	...	8	
...	2	6	...	...	8	111	223	197	420	...	0'1	...	8'3	1'6	0'8	0'3	4'0	16'1	14'1	15'1	...	9	
6	3	28	19	7	63	560	1,851	1,575	3,426	0'1	0'1	...	8'4	0'6	0'5	0'2	1'7	12'7	10'6	11'6	...		
245	578	1,099	563	106	2,591	61,044	101,333	102,863	204,216	0'2	0'3	...	16'3	2'8	0'7	0'4	8'9	31'2	28'5	29'8	...		
2	2	...	...	...	4	357	408	297	705	0'05	1'15	...	2'7	1'9	0'4	0'06	5'5	11'2	10'3	10'8	10'3	1	
...	...	...	...	...	...	132	184	206	390	...	...	...	15'1	4'7	0'6	...	10'5	29'5	32'3	30'9	30'3	2	
...	1	...	...	...	1	25	83	104	187	...	1'03	...	11'2	2'6	0'2	0'09	2'4	15'7	19'3	17'5	17'5	3	
2	2	4	...	...	8	149	208	184	392	0'2	...	...	10'0	2'4	0'6	0'4	8'4	20'5	23'9	22'0	22'8	4	
1	2	15	2	1	21	504	602	524	1,126	0'7	0'2	...	8'9	4'8	1'4	0'6	13'4	29'1	31'1	30'0	34'4	5	
1	...	...	1	...	2	167	209	171	380	0'4	...	...	8'3	3'7	1'7	0'1	11'1	27'1	23'4	25'3	...	6	
1	...	5	...	...	4	341	467	372	839	...	...	...	5'1	3'8	4'2	0'12	9'0	25'2	19'3	22'2	...	7	
...	...	1	1	2	4	180	175	176	351	...	...	...	3'2	2'8	2'3	0'2	9'0	18'2	16'8	17'5	...	8	
7	7	23	4	3	44	1,855	2,336	2,034	4,370	0'2	0'1	...	6'4	3'2	1'5	0'2	8'6	20'4	19'9	0'2	...		
252	585	1,122	567	109	2,635	62,999	103,689	104,897	208,586	0'2	0'5	...	16'0	2'8	0'7	0'4	8'9	30'8	28'3	29'5	...		

## Municipalities.

Municipalities.	Malaria.	Enteric fever.	Measles.	Relapsing fever (spirochætal).	Kala-azar.	Influenza.	Cerebro-spinal fever.	Typhus fever.	Blackwater fever.	Other fevers.	Dysentery.	Diarrhoea.
1	2	3	4	5	6	7	8	9	10	11	12	13
CUTTACK DISTRICT.												
Cuttack ...	...	...	...	...	...	...	...	...	...	176	128	2
Kendrapara ...	191	...	...	...	...	...	...	...	...	...	56	4
Jajpur ...	...	...	...	...	...	...	...	...	...	120	28	...
BALASORE DISTRICT.												
Balasore ...	187	...	...	...	...	...	...	...	...	42	34	8
PURI DISTRICT.												
Puri ...	...	...	...	...	...	...	...	...	...	885	...	181
SAMBALPUR DISTRICT.												
Sambalpur ...	115	...	...	...	...	...	...	...	...	9	55	1
GANJAM DISTRICT.												
Berhampur ...	36	25	...	...	...	19	...	...	...	112	65	78
Parlakimedi...	10	6	...	...	...	...	...	...	...	49	27	29

## DIX I—contd.

of fevers, dysentery, diarrhoea, respiratory diseases and other causes.

Pneumonia.	Pulmonary tuberculosis.	Whooping cough.	Other respiratory diseases.	Beri-beri.	Acute poliomyelitis.	Diphtheria.	Chicken-pox.	Mumps.	Tuberculosis of joints.	Other tubercular diseases.	Leprosy.	Cancer.	Deaths from child-birth.	Deaths under one year.	Infantile mortality rate per 1,000 births.
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
6	...	...	24	...	...	...	...	...	...	...	...	...	2	109	125.7
1	...	...	6	...	...	...	...	...	...	...	...	...	10	103	800.8
...	...	2	...	...	...	...	...	...	...	...	...	...	2	20	127.4
...	...	4	6	...	...	...	...	...	...	65	...	...	4	57	174.8
...	...	...	53	...	...	...	...	...	...	10	32	...	7	148	158.0
...	...	...	25	...	...	...	...	...	...	...	7	...	25	78	180.6
63	...	2	72	...	...	1	2	...	...	24	..	2	10	202	124.7
23	5	...	19	6	...	...	...	...	...	...	1	...	2	98	133.0

## ANNUAL FORM NO. VII.—Deaths registered from cholera in the

1	2	3		4		5						
No.	District.	Circles of registration.		Villages.		January.	February.	March.	April.	May.	June.	July.
		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	Cuttack ...	13	9	5,506	70	9	27	114	9	3	7	7
2	Balasore ...	10	10	8,479	140	68	97	37	42	50	31	18
3	Puri ...	6	6	2,987	176	5	5	27	94	188	217	73
4	Sambalpur ...	27	11	8,094	32	6	16	...	5	28	10	9
5	Angul ...	5	1	467	1	...	4	3	...	...	...	2
6	Khondmals ...	4	2	1,141	8	...	...	...	2	3	1	...
7	Ganjam Plains...	9	6	2,642	22	3	...	9	2	1	25	7
AGENCY DISTRICTS.												
8	Ganjam ...	4	3	144	11	...	4	4	1	3	...	2
9	Koraput ...	6	...	6	...	...	...	...	...	...	...	...
Total of Agency districts...		10	3	150	11	...	4	4	1	3	...	2
Total for the province ...		84	48	19,466	445	91	93	194	155	276	291	118

## DIX I—contd.

districts of Orissa Province during each month of the year 1938.

					6			7			8	1
August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	No.
					Male.	Female.	Total.	Male.	Female.	Total.		
...	2	...	2	1	98	83	181	0.10	0.07	0.08	2.8	1
5	1	1	...	7	157	140	297	0.8	0.8	0.8	1.9	2
56	...	1	3	1	305	865	670	0.6	0.7	0.7	0.9	8
...	...	...	...	...	45	29	74	0.1	0.1	0.1	...	4
...	...	...	...	...	3	6	9	0.04	0.08	0.06	...	5
...	...	...	...	...	5	1	6	0.12	0.02	0.07	...	6
4	...	...	...	...	24	27	51	0.04	0.04	0.04	...	7
...	2	3	2	...	15	6	21	0.1	0.1	0.1	...	8
...	...	...	...	...	...	...	...	...	...	...	...	9
...	2	3	2	...	15	6	21	0.1	0.1	0.1	...	
65	5	5	7	9	652	657	1,809	0.2	0.2	0.2	...	

## ANNUAL FORM NO. VIII.—Deaths registered from smallpox in the districts

1	2	3	4	5							
No.	Districts.	Circles of registration.		Villages.		January.	February.	March.	April.	May.	June.
		Number in each district.	Number from which deaths from smallpox were reported.	Number in each district.	Number from which deaths from smallpox were reported.						
1	Cuttack ...	18	12	5,506	745	145	186	364	268	251	192
2	Balasore ...	10	8	3,479	298	155	82	135	106	111	70
3	Puri ...	6	5	2,987	20	2	6	3	2	3	4
4	Sambalpur ...	27	4	3,094	12	...	...	2	2	3	7
5	Angul ...	5	...	467	...	...	...	...	...	...	...
6	Khondmals ...	4	3	1,141	6	...	5	1	...	...	...
7	Ganjam plains ...	9	7	2,642	43	52	36	22	14	12	15
AGENCY DISTRICTS.											
8	Ganjam ...	4	3	144	17	9	2	8	4	5	10
9	Koraput ...	6	2	6	2	...	...	...	...	...	1
Total of Agency districts.		10	5	150	19	9	2	8	4	5	11
Total for the Province		84	44	19,466	1,148	363	317	535	396	385	299

DIX I—contd.

of Orissa Province during each month of the year 1938.

						6			7		8			9	1
July.	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.	No.
						Male.	Female.	Total.	Under one year.	One year and under 10 years.	Male.	Female.	Total.		
192	196	158	45	54	191	1,092	1,150	2,242	138	506	1'06	1'00	1'03	1'7	1
65	42	25	12	20	14	376	461	837	9	25	0'8	0'9	0'9	0'5	2
...	2	...	...	...	5	12	15	27	4	8	0'02	0'03	0'03	1'7	3
...	...	...	...	...	...	7	7	14	...	...	0'01	0'01	0'01	...	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
3	...	...	...	...	2	6	3	11	2	...	0'2	0'1	0'1	...	6
4	8	1	...	1	5	85	85	170	37	90	0'15	0'12	0'13	...	7
6	1	...	...	...	1	27	19	46	3	...	0'2	0'1	0'2	...	8
1	...	...	1	...	...	2	1	3	...	...	0'2	0'1	0'1	...	9
7	1	...	1	...	1	29	20	49	3	...	0'2	0'1	0'1	...	
271	249	184	58	75	218	1,609	1,741	3,350	168	569	0'5	0'5	0'5	...	

## ANNUAL FORM NO. IX.—Deaths registered from fever in the districts

1	2	3	4	5								
No.	Districts.	Circles of registration.		Villages.		January.	February.	March.	April.	May.	June.	July.
		Number in each district.	Number from which deaths from fever were reported.	Number in each district.	Number from which deaths from fever were reported.							
1	Cuttack ... ..	18	18	5,506	5,445	3,272	2,592	2,864	2,089	2,028	2,024	2,552
2	Balasore ... ..	10	10	3,479	3,322	2,252	1,768	1,955	1,881	1,440	1,122	1,574
3	Puri ... ..	6	6	2,987	2,787	1,324	1,018	1,090	943	795	824	1,002
4	Sambalpur ... ..	27	27	3,094	2,684	1,075	951	1,208	1,474	1,580	1,240	1,640
5	Angul ... ..	5	5	467	429	277	284	288	325	275	288	294
6	Khondmals ... ..	4	4	1,141	1,019	159	164	203	274	257	216	217
7	Ganjam plains ... ..	9	9	2,649	2,269	1,367	1,150	1,538	1,577	1,596	1,865	2,177
AGENCY DISTRICTS.												
8	Ganjam ... ..	4	4	144	141	120	183	214	216	209	195	268
9	Karaput ... ..	6	6	6	6	23	19	14	17	24	15	31
Total of Agency Districts ...		10	10	150	147	143	152	228	238	233	210	294
Total for the Province ...		84	84	19,406	18,052	9,869	8,099	9,374	8,296	8,199	7,789	9,750

DIX I—*contd.*

of Orissa Province during each month of the year 1938.

					6			7			8	1
August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	No.
					Male.	Female.	Total.	Male.	Female.	Total.		
8,151	2,862	2,874	4,106	4,432	16,417	18,424	34,841	16.0	16.0	16.0	13.9	1
2,141	1,723	1,786	2,581	2,174	10,616	11,807	21,923	22.1	22.2	22.1	19.3	2
1,184	1,147	1,171	1,549	1,754	6,480	7,921	14,401	13.0	13.7	13.3	10.5	3
1,617	1,561	1,107	1,120	1,313	7,917	7,969	15,886	15.2	14.7	14.9	...	4
283	229	191	176	282	1,585	1,507	3,092	23.1	21.0	22.0	...	5
267	199	187	159	165	1,247	1,220	2,467	31.0	29.0	30.0	...	6
1,875	1,599	1,289	1,468	1,693	9,650	9,484	19,134	16.6	13.4	14.8	...	7
292	179	146	117	151	1,212	1,023	2,235	9.2	7.6	8.4	...	8
12	17	21	21	17	119	112	231	8.6	6.0	8.3	...	9
304	196	167	138	168	1,331	1,135	2,466	9.1	7.6	8.4	...	
10,772	9,462	8,772	11,297	11,981	55,243	58,367	1,13,610	16.4	15.7	16.0	...	

## ANNUAL FORM NO. X.—Deaths registered from dysentery and diarrhoea in the districts

1	2	3	4	5								
No.	Districts.	Circles of registration.		Villages.		January.	February.	March.	April.	May.	June.	July.
		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	Cuttack	13	18	5,506	4,048	823	701	807	662	596	847	1,133
2	Balasore	10	10	3,479	400	81	48	62	82	25	47	54
3	Puri	6	6	2,987	1,318	365	327	306	297	257	379	484
4	Sambalpur	17	27	8,094	1,103	180	119	132	154	135	207	197
5	Angul	5	4	407	46	...	4	3	5	2	5	2
6	Khondmals	4	4	1,141	15	...	...	6	...	6	1	3
7	Ganjam Plains	9	9	2,642	723	129	145	195	205	225	308	379
AGENCY DISTRICTS.												
8	Ganjam	4	4	144	52	7	9	11	10	15	5	19
9	Koraput	6	5	6	5	1	8	3	2	7	4	11
Total of Agency Districts		10	9	150	17	8	12	14	12	22	9	30
Total for the Province		84	82	19,466	7,710	1,535	1,356	1,525	1,367	1,278	1,808	2,282

## DIX I—contd.

of Orissa Province during each month of the year 1938.

					6			7			8	1
August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	No.
					Male.	Female.	Total.	Male.	Female.	Total.		
1,226	951	755	787	892	5,275	4,905	10,180	5.1	4.3	4.7	4.3	1
65	43	51	51	72	321	320	641	0.7	0.6	0.7	0.6	2
469	372	330	332	372	2,229	2,061	4,290	4.5	3.8	4.2	3.8	3
253	179	124	114	92	1,071	855	1,926	2.1	1.6	1.8	...	4
2	5	5	3	...	21	15	36	0.3	0.2	0.3	...	5
6	...	...	3	...	10	15	25	0.2	0.4	0.3	...	6
306	175	175	137	155	1,317	1,217	2,534	2.3	1.7	2.0	...	7
14	9	13	5	12	72	57	129	0.6	0.4	0.5	...	8
2	1	5	3	3	24	21	45	1.7	1.5	1.6	...	9
16	10	18	8	15	96	78	174	0.6	0.5	0.6	...	
2,343	1,735	1,458	1,435	1,598	10,340	9,476	19,816	3.1	2.5	2.8	...	

## ANNUAL FORM No. XI.—Deaths registered from respiratory diseases in the

1	2			3		4		5							
No.	Districts.			Circles of registration.		Villages.		January.	February.	March.	April.	May.	June.	July.	
				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	Cuttack	...	...	13	13	5,506	1,184	17	101	113	95	92	114	106	
2	Balasore	...	...	10	9	3,479	42	15	2	8	1	6	2	17	
3	Puri	...	...	6	6	2,987	667	107	92	98	97	72	96	95	
4	Sambalpur	...	...	27	27	3,094	864	107	102	94	183	121	102	121	
5	Angul	...	...	5	4	467	15	3	...	1	...	...	...	1	
6	Khondmals	...	...	4	2	1,141	9	...	...	...	...	2	...	2	
7	Ganjam plains	...	...	9	9	2,642	847	81	83	86	69	81	97	95	
AGENCY DISTRICTS.															
8	Ganjam	...	...	4	4	144	51	10	13	14	10	19	13	15	
9	Koraput	...	...	6	3	6	3	5	8	1	1	2	...	3	
Total of Agency Districts				...	10	7	150	54	15	16	15	11	21	13	18
Total for the Province				...	84	77	19,466	3,176	425	806	415	406	395	424	455

DIX 1—contd.

districts of Orissa Province during each month of the year 1938.

					6			7			8	1
August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	No.
					Male.	Female.	Total.	Male.	Female.	Total.		
132	112	103	102	129	740	556	1,296	0.7	0.5	0.6	0.6	1
7	8	7	17	7	54	43	97	0.1	0.1	0.1	0.1	2
91	91	86	104	103	597	535	1,132	1.2	1.0	1.1	1.2	3
109	107	95	87	94	802	470	1,272	1.5	0.8	1.2	...	4
...	1	4	2	3	8	7	15	0.1	0.1	0.1	...	5
1	...	...	...	...	4	1	5	0.10	0.02	0.06	...	6
97	69	81	77	81	562	435	997	0.9	0.6	0.8	...	7
3	8	5	14	7	71	60	131	0.5	0.5	0.5	...	8
2	1	...	3	1	13	9	22	0.9	0.6	0.8	...	9
5	9	5	17	8	84	69	153	0.6	0.5	0.5	...	
442	397	381	406	425	2,851	2,116	4,967	0.8	0.6	0.7	...	

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## APPENDIX II.

## PROVINCIAL.

Statement showing details of registration in areas in which it is compulsory.

Compulsory registration area.	Population according to census of 1931.	Probable number of births at the rate of 286 per 1,000 married women between the ages of 15 and 40.	Actual number of births registered during the year.	Probable birth-rate per mille (columns 2 and 3).	Registered birth-rate per mille during the year.	Number of deaths registered during the year.		Death-rate per mille.		Number of persons prosecuted under Act IV (B. C.) of 1873.	Number of persons convicted.
						Including deaths in dispensary.	Excluding deaths in dispensary.	Including deaths in dispensary.	Excluding deaths in dispensary.		
1	2	3	4	5	6	7	8	9	10	11	12
Cuttack	65,263	Not available.	867	Not available.	13.3	1,072	705	16.4	10.8	...	...
Kendrapara	12,690		353		28.0	412	390	32.6	30.9	...	...
Jaipur	10,673		157		14.7	198	187	18.6	17.5	...	...
Balasore	17,843		326		18.3	476	392	26.7	22.0	...	...
Puri	37,568		937		24.9	1,390	1,126	37.0	29.0	20	15
Sambalpur	15,017		432		28.8	417	380	27.8	25.3	...	...
Berhampur	37,750		1,650		43.9	917	639	24.3	22.2	...	...
Parlakimedi	20,072		699		34.8	363	351	18.1	17.5	...	...
Total	216,866	..	5,391	...	24.8	5,245	4,370	24.2	20.2	20	15

Table showing results of the survey of the water supply of the State of New York.

No.	Name of the water supply	Quantity of water supplied				Quality of water				Remarks
		In 1900		In 1901		In 1902		In 1903		
		Feet	Gallons	Feet	Gallons	Feet	Gallons	Feet	Gallons	
1	Albany	100	100	100	100	100	100	100	100	
2	Buffalo	100	100	100	100	100	100	100	100	
3	Rochester	100	100	100	100	100	100	100	100	
4	Syracuse	100	100	100	100	100	100	100	100	
5	Utica	100	100	100	100	100	100	100	100	
6	Watkinsburg	100	100	100	100	100	100	100	100	
7	Yonkers	100	100	100	100	100	100	100	100	
8	Westchester	100	100	100	100	100	100	100	100	
9	Orange	100	100	100	100	100	100	100	100	
10	Putnam	100	100	100	100	100	100	100	100	
11	Rockland	100	100	100	100	100	100	100	100	
12	Warren	100	100	100	100	100	100	100	100	
13	Albany	100	100	100	100	100	100	100	100	
14	Buffalo	100	100	100	100	100	100	100	100	
15	Rochester	100	100	100	100	100	100	100	100	
16	Syracuse	100	100	100	100	100	100	100	100	
17	Utica	100	100	100	100	100	100	100	100	
18	Watkinsburg	100	100	100	100	100	100	100	100	
19	Yonkers	100	100	100	100	100	100	100	100	
20	Westchester	100	100	100	100	100	100	100	100	
21	Orange	100	100	100	100	100	100	100	100	
22	Putnam	100	100	100	100	100	100	100	100	
23	Rockland	100	100	100	100	100	100	100	100	
24	Warren	100	100	100	100	100	100	100	100	

APPENDIX III.

Table showing health services in rural and urban areas of

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*Orissa Province during the year 1938.*

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## APPENDIX IV.

Table showing maternity and child welfare centres, health visitors and trained midwives in rural and urban areas in Orissa during 1938.

District.	Maternity and child welfare.												Remarks.
	Centres maintained by—						Trained visitors.	Trained midwives.	Trained <i>dais</i> .				
	Government.		Local and municipal bodies.		Other agencies.								
	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cuttack	...	...	...	...	...	1	...	1	...	...	5	5	
Balasore	...	...	...	...	1	...	...	1	...	4	2	...	
Puri ...	...	...	...	1	1	...	...	...	1	1	...	1	
Sambalpur	...	...	...	...	1	...	...	...	1	1	...	1	
Ganjam	...	...	...	1	1	...	1	...	3	4	...	...	
Koraput	...	...	...	...	...	1	...	...	8	...	2	...	
Total	...	...	...	2	4	1	2	...	2	13	10	9	7

STATEMENT NO. I.—Statement of Receipts and Disbursements

Date	Particulars	Receipts				Disbursements			
		1911	1912	1913	1914	1911	1912	1913	1914
Jan 1	Balance forward								
Jan 15	From [illegible]								
Feb 1	From [illegible]								
Feb 15	From [illegible]								
Mar 1	From [illegible]								
Mar 15	From [illegible]								
Apr 1	From [illegible]								
Apr 15	From [illegible]								
May 1	From [illegible]								
May 15	From [illegible]								
Jun 1	From [illegible]								
Jun 15	From [illegible]								
Jul 1	From [illegible]								
Jul 15	From [illegible]								
Aug 1	From [illegible]								
Aug 15	From [illegible]								
Sep 1	From [illegible]								
Sep 15	From [illegible]								
Oct 1	From [illegible]								
Oct 15	From [illegible]								
Nov 1	From [illegible]								
Nov 15	From [illegible]								
Dec 1	From [illegible]								
Dec 15	From [illegible]								
Total									

STATEMENT NO. I.

## STATEMENT NO. I.—Showing particulars of vaccination in the

Number.	District.	Population of district according to the census of 1911.	Average number of vaccinators employed throughout the season.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary
				Male.	Female.	Total.		
1	2	3	4	5	6	7	8	
1	Cuttack { District excluding towns ... { Towns ...	2,176,707 {	42 12	75,986 19,336	38,679 10,116	112,665 29,452	2,713 2,454	54,560 2,161
2	Balasore { District excluding towns ... { Towns ...	990,600 {	24 1	19,501 534	20,377 284	49,878 858	2,078 818	25,940 535
3	Puri { District excluding towns ... { Towns ...	1,035,154 {	41 3	37,656 4,314	19,264 2,622	56,920 6,936	1,388 2,512	52,082 1,969
4	Bambalpur { District excluding towns ... { Towns ...	1,065,610 {	80 1	130,881 1,013	41,818 391	172,699 1,404	2,159 1,404	24,469 426
5	Angul ...	140,458	7	11,144	7,771	18,915	2,692	7,923
6	Khondmals ...	82,278	4	2,673	2,417	5,090	1,272	1,904
7	Ganjam { District excluding towns ... { Towns ...	1,555,135 {	39 2	62,615 3,189	52,551 2,293	115,166 5,482	2,963 2,741	51,175 1,509
8	Koraput ...	962,617	25	28,774	26,161	54,935	2,197	33,652
Total of Vaccine Department.		{ District excluding towns ...	202	378,530	278,338	656,868	2,240	231,606
		{ Towns ...	19	28,386	15,706	44,092	2,321	6,283
		{ Total ...	221	406,916	294,044	700,960	2,245	237,889
Jails		...	...	5,134	359	5,493	...	62
Total of Railway Dispensary		...	...	278	155	413	...	73
Co'y Depot		...	...	2,548	1,277	3,825	...	...
Grand Total		...	...	414,876	25,815	440,691	...	238,023

Districts of Orissa during the year 1938-39.

SUMMARY

vaccination.				Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Total cost of Vaccination Department.	Number of all successful vaccinations and re-vaccinations performed by the vaccination staff only.	Average cost of each successful case performed by the vaccination staff.
Successful.				Total.	Successful.	Unknown.	Primary.	Re-vaccination.				
Under one year.	One year and under six years.	Total of all ages.	Unknown.									
10	11	12	13	14	15	16	17	18	19	20	21	22
18,465	24,584	49,353	4,549	59,405	4,093	62,250	98'74	57'45	30'04	2,542 19 0	65,389	0 0 7
168	1,547	1,984	80	27,251	9,725	9,026	18'17	53'65				
4,022	18,677	24,957	775	23,938	9,080	13,762	99'29	89'23	34'82	787 11 0	34,451	0 0 4
103	131	234	...	583	174	409	99'57	100'00				
2,090	17,897	25,721	5,159	24,658	10,394	9,877	95'68	69'47	37'59	456 2 0	38,916	0 0 2
54	1,516	1,824	69	4,567	749	486	95'55	16'71				
16,637	6,699	24,462	...	148,230	85,287	35,441	99'97	75'62	104'19	6,514 1 9	111,021	0 0 11
181	244	426	...	978	486	229	100'00	64'89				
3,626	2,845	7,806	10	10,392	6,383	372	99'91	63'70	101'02	1,177 3 0	14,169	0 1 4
1,178	631	1,759	56	3,186	2,126	340	91'29	74'73	47'22	1,785 2 0	3,895	0 7 4
14,230	28,625	43,888	4,458	63,991	29,472	8,896	98'94	53'49	49'78	26,206 15 0	77,409	0 5 9
1,243	260	1,505	9	3,920	2,115	431	97'54	66'45				
5,874	21,461	29,219	3,920	21,283	7,426	3,918	96'33	42'82	35'49	21,641 2 6	37,092	0 9 4
66,122	121,792	207,255	18,407	355,263	154,271	124,886	97'20	66'36	47'74	61,410 15 3	382,392	0 2 7
1,749	3,698	5,973	149	37,809	13,249	10,781	97'38	49'02				
67,571	125,490	213,198	18,556	393,072	167,520	135,667	97'20	65'08	...	...	...	...
2	5	42	15	5,431	1,521	760	89'36	32'56	...	...	...	...
6	11	34	5	340	77	59	50'00	27'40	...	...	...	...
...	...	...	...	3,825	...	...	...	...	...	...	...	...
67,879	125,516	213,274	18,576	402,068	169,118	136,486	97'19	63'53	47'74	61,410 15 3	382,392	0 2 7

## SUMMARY.

	Total number of persons vaccinated.		Total number of operations performed.		Percentage of successful cases in which the results were known.		Average number of persons vaccinated by each vaccinator.		Number of children successfully vaccinated.		Ratio of successful vaccinations per 1,000 of population.	Total cost of vaccination department.	Average cost of each successful case.
	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Vaccinators employed.	Persons vaccinated by each vaccinator.	Under one year.	One year and under six years.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
BY SPECIAL STAFF.												Rs. a. p.	Rs. a. p.
Statement (I) ...	237,888	353,072	237,888	353,072	97.20	65.78	281	2,245	67,871	125,490	47.74	61,410 15 3	0 2 7
BY OTHER AGENCIES.													
Jails, railway dispensaries and cooly depot.	135	9,596	135	9,596	66.09	18.21	...	...	8	25			
Total ...	238,023	402,668	238,023	402,668	97.19	65.53	281	2,245	67,879	125,515	47.74	61,410 15 3	0 2 7

*Comparative Statement no. II.—Showing the percentage of persons primarily vaccinated to the total number of vaccinations performed in the Province of Orissa in each of the undermentioned official years.*

Establishments.	Years.									
	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.
1	2	3	4	5	6	7	8	9	10	11
Government staff ... ..	73'52	55'04	83'90	58'53	66'08	44'57	47'84	48'89	37'01	47'92
Municipal ... ..	66'74	62'21	66'46	35'24	19'81	19'01	22'10	25'42	28'84	14'25
District Board ... ..	61'98	82'84	77'91	71'35	34'06	37'22	31'01	23'78	24'38	28'97
Licensed vaccinators ... ..	91'63	88'20	93'27	79'78	73'30	66'82	65'78	62'24	65'70	64'62
Railways ... ..	...	...	...	...	...	...	...	...	...	17'68
Jails ... ..	...	...	...	0'44	0'99	0'44	...	1'31	1'74	1'13
Cooly depot ... ..	...	...	...	...	...	8'12	...	3'70	...	...

Statement no. III.—Showing particulars of vaccination

District.	Total number of persons vaccinated.		Total number inspected—								Percentage of	
			By Assistant Directors of Public Health or Superintendents of vaccination.				By native Superintendents or other inspecting Officers.				By Assistant Directors of Public Health or of vacci-	
			Assistant Directors of Public Health.		Superintendents of Vaccination.		District Inspectors and Health Inspectors.		Sub-Inspectors.		Assistant Directors of Public Health.	
	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.
1	2	3	4	5	6	7	8	9	10	11	12	13
Cuttack	56,705	88,440	...	...	742	315	1,984	494	3,635	1,094	...	...
Balsore	66,175	25,071	...	...	45	...	2,191	1,846	2,561	430	...	...
Puri	84,051	20,462	...	...	941	390	...	...	6,741	2,920	...	...
Bambalpur	24,561	150,440	...	...	1,504	3,320	3,134	5,846	4,942	5,514	...	...
Angul	7,823	10,392	986	...	500	1,409	1,973	6,308	...	...	3'66	...
Khondmala	1,504	3,186	...	...	...	573	...	...	938	2,252	...	...
Ganjam	52,739	68,709	...	...	4,024	3,314	38,664	33,611	...	...	...	...
Koraput	93,725	25,968	107	3	519	9	22,026	12,243	8,443	5,670	0'32	0'01
Total	298,023	402,668	363	3	8,475	9,782	69,572	65,338	27,490	17,806	0'17	0'001

verified by Inspecting Officers during the year 1938-39.

Inspection to total number vaccinated.						Percentage of cases found successful to total number inspected—								Percentage of successful cases reported by Vaccinators.	
By Assistant Directors of Public Health or Superintendents of Vaccination.		By native Superintendents or other Inspecting Officers.				By Assistant Directors of Public Health or Superintendents of Vaccination.		By native Superintendents or other Inspecting Officers.							
Superintendent of vaccination.		District Inspectors and Health Inspectors.		Sub-Inspectors.		Assistant Directors of Public Health.		Superintendents of Vaccination.		District Inspectors and Health Inspectors.		Sub-Inspectors.			
Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.		
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1'31	0'26	3'50	0'55	5'41	1'24	...	...	83'29	31'01	100'00	31'82	20'06	45'06	98'72	52'79
0'17	...	5'37	7'36	9'50	1'74	...	...	100'00	...	96'17	30'07	97'11	37'16	96'30	86'14
2'76	1'15	...	...	20'38	5'60	...	...	94'90	14'29	...	...	88'91	51'79	95'67	57'03
7'65	2'31	12'09	3'69	19'65	3'88	...	...	97'48	50'51	97'51	75'32	94'01	49'95	99'97	75'05
6'39	13'47	25'22	60'70	...	...	95'80	...	100'00	85'71	95'74	79'52	...	...	99'91	62'70
...	17'58	...	...	49'16	70'68	...	...	...	98'95	...	...	90'94	61'23	97'29	74'70
7'63	5'55	73'31	56'19	...	...	...	...	91'82	66'06	93'81	50'24	...	...	94'05	53'53
0'05	0'03	65'31	47'15	25'03	21'33	96'07	100'00	100'00	66'66	96'89	45'26	94'93	33'44	96'33	35'65
3'56	2'43	29'40	16'28	11'55	4'44	96'00	100'00	93'52	62'53	55'22	53'67	92'74	45'80	97'11	63'53

STATEMENT NO. IV.—*Showing side by side the ratios per mille of population of deaths from smallpox*

District.	1920-20.		1930-31.		1931-32.		1932-33.	
	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.
1	2	3	4	5	6	7	8	9
Cuttack ... ..	0.09	23.20	0.50	19.61	0.44	27.64	1.14	31.34
Balasore ... ..	0.03	44.98	0.29	40.12	0.13	40.02	0.40	44.92
Puri ... ..	0.02	44.86	0.06	45.27	0.26	44.41	1.87	47.29
Sambalpur... ..	0.17	24.82	0.76	29.37	1.40	30.28	1.31	23.60
Angul ... ..	...	47.64	...	41.10	...	39.90	0.007	35.22
Khondmals ... ..	...	44.39	...	33.59	...	39.50	...	36.56
Ganjam ... ..	0.06	35.15	0.07	30.27	0.06	31.75	0.06	41.43
Koraput ... ..	0.26	24.25	0.23	30.44	0.05	33.48	0.04	36.44
Total ... ..	0.08	30.39	0.17	27.56	0.21	32.83	0.72	33.46

and the ratios of successful vaccinations per mille of population during the ten years ending 1938-39.

1933-34.		1934-35.		1935-36.		1936-37.		1937-38.		1938-39.	
Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.
10	11	12	13	14	15	16	17	18	19	20	21
3.30	20.76	2.20	28.55	1.12	24.13	0.27	22.33	0.16	22.38	0.06	30.04
1.09	35.10	0.54	41.46	0.29	48.96	0.41	39.92	0.55	41.35	0.05	34.82
4.38	57.07	2.06	59.83	0.66	24.25	0.17	32.97	0.06	39.99	0.06	37.59
0.72	24.34	1.18	26.26	1.34	27.30	0.25	88.94	0.01	89.28	...	104.19
0.01	56.76	0.28	57.24	0.05	61.73	...	35.22	...	40.15	0.01	101.02
0.01	63.39	0.24	55.59	0.06	27.99	1.22	86.52	0.66	85.24	0.05	47.22
0.06	52.30	0.04	42.24	0.09	41.25	0.29	58.66	0.26	60.82	0.23	49.78
0.03	36.69	0.12	30.98	0.26	40.40	0.33	45.56	0.10	39.21	0.22	38.49
1.23	36.12	1.11	34.64	0.64	32.89	0.29	45.45	0.19	46.35	0.11	47.74

STATEMENT NO. V.—*Showing the protection afforded to infants in each town in the Province of Orissa during the year 1938-39.*

District.		Towns.	Number of births during the year ending 31st March 1938	Number of deaths amongst infants under one year during the year ending 31st March 1938.	Number of successful vaccinations amongst infants under one year during the year ending 31st March 1938.	Date of extension of vaccination Act to town.
1		2	3	4	5	6
Cuttack	{	Cuttack ...	913	124	106	1st September 1884.
		Kendrapara ...	363	121	62	7th February 1888.
		Jajpur ...	162	26	...	Ditto.
		Total ...	1,438	271	168	
Balasore	...	Balasore ...	294	52	103	7th February 1888.
Puri	...	Puri ...	971	155	54	Ditto.
Sambalpur	...	Sambalpur ...	483	79	181	7th March 1895.
Ganjam	{	Berhampur ...	1,634	295	721	24th June 1921.
		Parlakimedi ...	673	106	522	Ditto.
		Total ...	2,307	401	1,243	
Total for the Province			5,443	958	1,749	



## Provincial statement showing the different kinds of lymph

District.	Primary vaccination.											
	Direct from calf.					With lanoline or glycerine lymph.					Arm-to-arm	
	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.
1	2	3	4	5	6	7	8	9	10	11	12	13
Cuttack ... ..	...	...	...	...	...	56,705	51,396	665	4,644	98.72	...	...
Balasore ... ..	...	...	...	...	...	26,175	25,221	179	775	99.30	...	...
Puri ... ..	...	...	...	...	...	34,051	27,545	1,247	5,259	95.67	...	...
Sambalpur ... ..	...	...	...	...	...	24,901	24,894	7	...	99.97	...	...
Angul ... ..	...	...	...	...	...	7,823	7,806	7	10	99.91	...	...
Khondmals ... ..	...	...	...	...	...	1,904	1,759	49	96	97.29	...	...
Ganjam ... ..	...	...	...	...	...	52,739	45,400	2,872	4,467	94.05	...	...
Koraput ... ..	...	...	...	...	...	33,725	29,253	1,147	3,325	96.23	...	...
Total ... ..	...	...	...	...	...	238,023	213,274	6,178	18,576	97.19	...	...

II.

used and their rates of success during the year 1938-39.

			Re-vaccination.															
vaccination.				Direct from calf.				With lanoline or glycerine lymph.					Arm-to-arm vaccination.					
Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
..	...	...	...	...	...	...	...	88,440	13,993	12,514	61,933	52.79	...	...	...	...	...	
...	...	...	...	...	...	...	...	25,071	9,270	1,491	14,310	86.14	...	...	...	...	...	
...	...	...	...	...	...	...	...	30,462	11,371	8,568	10,523	57.03	—	...	...	...	...	
...	...	...	...	...	...	...	...	150,440	86,127	28,639	35,674	75.03	...	...	...	...	...	
...	...	...	..	...	...	...	...	10,392	6,388	3,637	372	63.70	...	...	...	...	...	
...	...	...	...	...	...	...	...	3,186	2,126	720	340	74.70	...	...	...	...	...	
...	...	...	...	...	...	...	...	68,709	32,003	27,345	9,355	53.93	...	...	...	...	...	
...	...	...	...	...	...	...	...	25,968	7,889	14,150	3,979	35.65	...	...	...	...	...	
...	...	...	...	..	...	...	...	402,668	169,118	97,064	136,486	63.53	...	...	...	...	...	



GOVERNMENT OF ORISSA.

HEALTH AND LOCAL SELF-GOVERNMENT DEPARTMENT.

RESOLUTION.

*The 5th August 1940.*

READ—

The Public Health Report for the year 1938 and the Vaccination Report for 1938-39.

The number of births during the year under report rose from 238,797 in the previous year to 241,746, and of deaths from 199,165 to 208,586. Fever, particularly of the malarial type continued to take the heaviest toll of human life, but the incidence of deaths from bowel diseases such as dysentery and diarrhoea was also heavy. There was an appreciable and very welcome decrease in the incidence of cholera. The provincial birth rate for the year under report was 33·8 per mille against 34·8 in the preceding year, the death rate being 29·5 against 28·6. The lower birth rate is ascribed mainly to some amount of agricultural distress caused by heavy and recurring floods. Both the birth and death rates were higher in the rural area than in the urban.

The registration of vital occurrences is compulsory in most of the urban areas but not in the rural areas except in the Ganjam plains. The various systems of recording vital statistics in vogue in the province certainly admit of improvement and the matter is engaging the attention of the Government.

The publication of vital statistics for all the municipalities with a population of over 30,000 continued as usual. The number of investigations into the accuracy of such statistics in the compulsory areas has appreciably increased and it is encouraging to note that 117,663 cases were investigated during the year under report against 50,838 cases in the preceding year. The number of omissions detected was 1,232 against 1,467. Government also note with satisfaction the growing interest that is being evinced by local bodies in the proper recording of vital occurrences.

2. It is a regrettable feature of the year's report that the rate of infant mortality was higher than in the previous year, the rate increasing from 214·7 to 221·9. Much of this mortality is certainly preventible and there is a crying need for an extension of maternity and child welfare work throughout the province. As the report shows some good work is being done in this connection, but it is to a large extent unorganized and limited to a very few areas. There is a very wide scope for expansion and Government earnestly hope that all local bodies will recognize the importance of establishing centres for maternity and child welfare work on a much wider scale. Government agree with the Director of Health and Inspector-General of Prisons that it is essential that for efficient management all such centres should be affiliated to the Orissa Branch of the Indian Red Cross Society.

3. The scourge of malaria did not show any appreciable abatement. Government are grateful to Col. G. Covell, I.M.S., Director of the Malaria Institute of India, who visited the province in September 1938, and on whose recommendations a research unit of trained personnel belonging to the Malaria Institute was deputed to make preliminary observations in a village near Chilka coast. This unit actually began its work only in April 1939. Mr. P. Parija, M.A. (Cantab), F.R.S.A., I.E.S., has been conducting preliminary investigations into the life history of Chilka weeds this year with a view to determine their relationship to the causes of malaria.

4. Government note with satisfaction that the province was free from cholera infection during the year under report. The death rate decreased from 0.7 per mille in 1937 to only 0.2 in 1938. The districts of Puri and Balasore recorded the highest number of deaths. Inoculation, the disinfection of affected localities and other preventive measures along with propaganda, have no doubt played their part in conducing to the decrease in the incidence of this disease during the year under report.

5. The incidence of smallpox was higher during the year under report than in the preceding year, the total number of deaths rising from 2,269 to 3,321. The mortality rate was 0.5 per mille against 0.3 in the previous year. The epidemic reached its maximum intensity in the month of March and as usual the rural areas suffered more than the urban. The districts of Cuttack and Balasore suffered the worst. The question of introducing a scheme of compulsory vaccination in the rural areas of Cuttack, Balasore and Sambalpur is under the consideration of Government.

6. No case of plague was reported in the province during the year. Adequate precautionary measures continued to be taken against apprehended importation of the infection from Rangoon.

7. Deaths due to bowel diseases such as dysentery and diarrhoea and to respiratory diseases such as pneumonia and pulmonary tuberculosis were heavy. Bowel complaints were mainly attributable to the high humidity in the low-lying coastal districts of the province. Government note with pleasure that with a view to combat the growing menace of tuberculosis Provincial and District Tuberculosis Associations have been formed and attempts are being made to organize a campaign against tuberculosis at the provincial headquarters by the establishment of a model clinic.

8. The problem of leprosy relief has engaged the earnest attention of Government and an anti-leprosy scheme prepared by the Director of Health and Inspector-General of Prisons has been sanctioned at an estimated cost of Rs. 36,000 per annum. This amount was placed at the disposal of the Provincial Leprosy Relief Association inaugurated in the previous year, and a Provincial Leprosy Officer has been appointed. A District Relief Officer with three compounders working under him has also been appointed for each district. The scheme provides for extensive survey, propaganda, registration and treatment of lepers in village groups.

Dr. Isaac Santra, the Propaganda Officer of the British Empire Leprosy Relief Association, made extensive tours in the province for 2½ months. In addition to the two asylums which were working previously the year closed with the establishment of 82 more clinics. A separate account of the anti-leprosy work in the province during the year is appended to the report.

9. During the year under report a Provincial Public Health and Bacteriological Laboratory was established at Cuttack. The activities of the newly-established laboratory during the year were mostly confined to making arrangements for equipping the laboratory. An Assistant Director of Public Health for the province was also appointed towards the close of the year.

10. Dr. (Miss) Curjel Wilson undertook at the invitation of the Provincial Government a diet survey in different parts of the province. A scheme to carry on a nutritional survey, at least in some districts of the province was also submitted to Government.

11. Consequent on the appointment of a permanent School Medical Officer as the Bacteriologist to Government the Assistant School Medical Officer officiated in his post from 24th January 1938 till the end of the year. A Sub-Assistant Surgeon with L.P.H. qualification was appointed as the Assistant School Medical Officer towards the later quarter of the year. Altogether 4,775 students were examined as against 4,081 in the preceding year, and 67 per cent were found defective. It is noted with satisfaction that the work of the School Medical Inspection staff for the improvement of the health of the younger generation is gradually receiving greater appreciation and co-operation from the

educational officers generally and individual headmasters in particular. It was not possible to make any provision for the medical examination of girl students during the year under report, but this matter is receiving the attention of Government.

12. A summary of the activities of the Public Health Department (Engineering Branch) during the year in respect of sanitary work carried out in the areas under the jurisdiction of various bodies is appended to the report.

13. Health propaganda was carried on as usual by the Public Health staff and ten health exhibitions were held during the year. Twelve health units were organised on a voluntary basis in the district of Cuttack and one in Puri district. It is encouraging to learn that great interest and enthusiasm were evinced by the rural folk in the formation of these units.

14. The office of the Director of Health, Orissa, was held by Lt.-Col. Verghese, M.D., Ch.B., D.P.H., D.T.M., D.T.H. I.M.S., throughout the year. Government desire to place on record their full appreciation of the keen interest displayed by him in all branches of his work and his efficient administration of the department under his charge. Government also acknowledge the good work done by the officers and staff of the Public Health Department and the co-operation extended by local bodies in matters relating to the Public Health administration of the province.

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ORDER.—Ordered that a copy of this Resolution be published in the *Orissa Gazette* and copies be forwarded to Revenue Commissioner, and Director of Health and Inspector-General of Prisons, Orissa.

By order of the Governor,  
S. DAS,  
*Secretary to Government.*





