

Annual report of the Mysore Department of Health.

Contributors

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"PUBLIC HEALTH IS PURCHASABLE. WITHIN NATURAL LIMITATIONS, ANY COMMUNITY CAN DETERMINE ITS OWN DEATH-RATE."

No. 27]

[1932

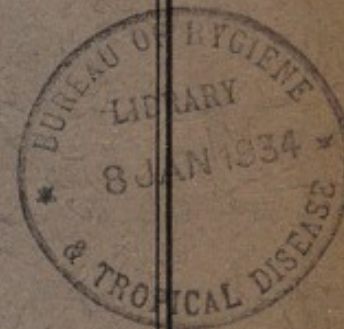
ANNUAL REPORT

OF THE

MYSORE STATE DEPARTMENT OF HEALTH

WITH THE GOVERNMENT REVIEW THEREON

JANUARY 1 to DECEMBER 31, 1932.



BANGALORE :

PRINTED BY THE SUPERINTENDENT AT THE GOVT. PRESS

1933

42

“ Search for the truth is the noblest occupation
of Mankind, its publication a duty.”

MYSORE STATE DEPARTMENT OF HEALTH.*

Director of Health

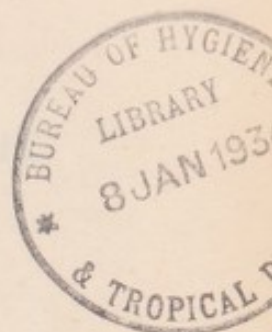
J. V. Karve, M.B., CH.B., D.P.H.

Honorary Consultant in Health

W. C. Sweet, B.Sc., M.D., DR. P.H.

Honorary Sanitary Engineer

J. J. Mieldazis, B.Sc., C.E.



1. Bureau of Administration

G. M. Dominick, M.R.C.S., D.P.H.,
Health Officer, Mysore District.

P. Parthasarathi, L.M.S., B.S.Sc.,
L.R.C.P. & S., D.T.M., D.P.H.
Health Officer, Bangalore City.

M. G. Srinivasa Peidpet, L.M.S., B.S.Sc.,
Health Officer, Mysore City.

S. Ramachandra Rao, L.M.S.,
Health Officer, Shimoga District.
G. N. Seshadri, L.M.S., D.P.H. (CAL.),
Health Officer, Kolar Gold Field.

2. Bureau of Epidemiology and Communicable Diseases

B. Ananthaswamy Rao, B.Sc.,
M.B.B.S., M.P.H.,
Superintendent.

M. Ramachandra Rao, B.A.,
M.B.B.S., C.P.H.,
*Officer, Malaria Campaign,
Irwin Canal Area.*

A. S. Venkatachalam, L.M.S.,
Officer, Hookworm Campaign.

S. Seshagiri Rao, B.Sc., M.B.B.S.,
Officer, Plague Research.

V. Narasimhamurthy, B.Sc., M.B.B.S.,
D.P.H., D.T.M., (CAL.),
Officer, Guinea-worm Research.

D. Nursingh,
Officer, Malaria Stations.

3. Bureau of Laboratories

C. V. Natarajan, B.Sc., M.B.B.S.,
DR. P.H., *Superintendent,
Public Health Institute.*

J. A. Iswara Murthi, B.A., L.M.S.,
B.S.Sc.,
Superintendent, Vaccine Institute.

4. Bureau of Vital Statistics

E. R. Sundararajan, M.A. (Hons.), *Superintendent.*

5. Bureau of Health Education

E. Anantha Rao, B.Sc., M.B.B.S., *Superintendent.*

6. Bureau of Sanitary Engineering

B. R. Garudachar, B.A., C.E.,
M.I.M., & Cy.E., M.R. SAN. I.,
Executive Sanitary Engineer.

K. S. Hutcha Rao, B.A., B.E.
(On Deputation to America),
Assistant Sanitary Engineer.

M. L. Narasimha Iyengar, B.A., B.E.,
Assistant Sanitary Engineer.

E. B. Chinnappa, B.Sc., B.E.,
Probationer.

7. Bureau of Rural Health

T. Chandrasekharaiya, B.A., M.B.B.S., M.P.H., *Superintendent.*

* Only officers giving full time service to the Department are included with designation as on December 31, 1932.

REPORT OF THE STATE DEPARTMENT OF HEALTH

Division of Health

Annual Report for the Year 1910
Presented to the Board of Health
at its meeting on the 15th day of
January, 1911
by
J. H. HARRIS, M.D.,
Commissioner of Health

Division of Communicable and Contagious Diseases

Under the direction of
J. H. HARRIS, M.D.,
Commissioner of Health
and
W. H. HARRIS, M.D.,
Assistant Commissioner of Health

Division of Vital Statistics

Under the direction of
J. H. HARRIS, M.D.,
Commissioner of Health
and
W. H. HARRIS, M.D.,
Assistant Commissioner of Health

Division of Laboratory Investigation

Under the direction of
J. H. HARRIS, M.D.,
Commissioner of Health
and
W. H. HARRIS, M.D.,
Assistant Commissioner of Health

Division of Rural Health

Under the direction of
J. H. HARRIS, M.D.,
Commissioner of Health
and
W. H. HARRIS, M.D.,
Assistant Commissioner of Health

GOVERNMENT OF HIS HIGHNESS THE
MAHARAJA OF MYSORE.

GENERAL AND REVENUE DEPARTMENTS.

G. O. No. G. 3163-85—P. H. 28-33-5, dated 14th November 1933.

Administration Report of the Mysore Health Department for the
year 1932.

Reviews the ——— .

READ—

The Administration Report of the Health Department for the Calendar year 1932, received from the Director of Health with his letter No. H. E. 100, dated the 29th August 1933.

ORDER NO. G. 3163-85—P. H. 28-33-5, DATED
BANGALORE, THE 14TH NOVEMBER 1933.

Recorded.

2. Dr. Karve, Dr. Sweet and Mr. Mieldazis continued as the Director of Health, Consultant in Health and Sanitary Engineer respectively, throughout the year.

3. *Bureau of Epidemiology and Communicable Diseases.*—(a) *Malaria Stations.*—The post of a Malaria Officer was created and Mr. Nur Singh, Third Class Health Officer, was appointed to it. The experimental control of malaria by means of paris green was continued in the three malaria stations. Malaria surveys were conducted during the year in the Irwin Canal area and six other places.

(b) *Hookworm Control.*—The campaign of mass treatment for hookworm was continued from October 1931 to 9th March 1932 and again during the last quarter of the year 1932. The unit operated in all in 17 places and mass treatment was newly demonstrated in 17 medical institutions

No. G. 3163-85—P. H. 28-33-5, DATED
14TH NOVEMBER 1933.

of the Shimoga District. It is reported that the medical officers in the heavily infected zone have failed to report the result of the mass treatment undertaken by them. The Senior Surgeon is requested to see that there is better co-operation between the Health and Medical Departments.

Plague and small-pox showed increased mortality over that for the previous year accounting for 7,232 and 2,980 deaths respectively, as against 5,715 and 2,296 during 1931. The reasons for the increase have not been assigned. The total number of anti-plague inoculations and vaccinations done during the year was 2,34,295 and 2,45,078, respectively.

4. *Rural Health Unit*.—Cases of plague, diarrhoea and vomiting, small-pox, measles and typhoid were reported in the Mandya Rural Health Unit area. The two midwives attached to the unit visited 5,406 maternity cases in addition to conducting 66 labour cases. In the early part of the year, soon after water was turned on in the Maddur Branch of the Irwin Canal and irrigation was commenced in a few villages, it was found that the number of mosquitoes was on the increase and by April, malaria attained epidemic proportions, six villages being affected very severely. With a view to determine the local conditions, a health survey in the Irwin Canal area was undertaken with a Government grant of Rs. 15,000 for free distribution of quinine and other relief measures in the affected area. Government have since passed orders sanctioning the establishment of a Health Unit for the Irwin Canal area to combat malaria. The question of starting Rural Health Units in other parts of the State was deferred on account of financial stringency.

5. *Bureau of Health Education*.—The Bureau continued to receive the assistance of the Rockefeller Foundation during the year. In all, 22 articles on health subjects were published in local [Kannada and English newspapers and leaflets and posters on small-pox, plague, soil pollution and bore-hole latrines were printed in large numbers and freely distributed through the Agency of the Revenue, Educational and Local Boards authorities.

6. *Bureau of Laboratories*.—(a) *Public Health Institute*.—In addition to the normal work done in the Public Health Institute, extra bacteriological work was done in the Institute in connection with the investigation of the

No. G. 3163-85—P. H. 28-33-5, DATED
14TH NOVEMBER 1933.

causes for the prevalence of typhoid in the Bangalore City. On account of the large expenditure incurred on materials, in this behalf, the question of levying fees for the examination of specimens received from the Bangalore City Municipality is engaging the attention of Government.

(b) *Vaccine Institute*.—Lanoline lymph continued to be manufactured and the total quantity issued within the State during the year was enough for 2,32,177 cases. Owing to the non-completion of certain important structures in the Institute, the manufacture of Glycerine lymph was not undertaken during the year. The income and expenditure of the Institute during the year were more or less equal, being Rs. 24,829 and Rs. 24,796, respectively; the latter includes a sum of Rs. 6,000 spent on the acquisition of new land for the extension of the Institute.

7. *Bureau of Vital Statistics*.—The total number of births recorded during 1932 was 115,627, showing a decrease of about 4,000 as compared with the figures of the previous year. The birth rate during the year was slightly less than in 1931, the rates being 17.79 and 18.64, respectively, Kolar District having returned the highest rate, *viz.*, 20.85, and Hassan, the lowest, *viz.*, 11.36.

The total number of deaths reported during the year was 88,175 against 94,265 in 1931 giving a death rate of 13.57 and 14.67, respectively. The total number of deaths among children under one year of age was 11,026 against 9,863 in the previous year, showing an increase of 1,163. Births exceeded deaths in all the districts except Kadur.

8. *Bureau of Sanitary Engineering*.—The activities of the Bureau increased with the addition of the control of all the water-supplies in the State except that of the Bangalore City. Nine existing water-supplies were equipped with chlorinators during the year. The other work of the bureau was carried on on the same lines as in the previous year. Mr. J. J. Mioldazis, whose services had been kindly lent to Government by the Rockefeller Foundation has since returned to America. Government desire to place on record the valuable services rendered by Mr. Mioldazis, during the three years of his stay in the State.

No. G. 3163-85—P. H. 28-33-5, DATED
14TH NOVEMBER 1933.

9. *General.*—Mr. P. Parthasarathy was re-transferred from the Serum Institute to the Health Department as Health Officer, Bangalore City.

Mr. V. Narasimhamurthi, Second Grade Health Officer, who had been deputed to Calcutta, returned after obtaining D. P. H., D. T. M. of that University. Two more officers have since been deputed to Calcutta during the current year for study of D. P. H.

H. V. RAMASVAMI,
*Secretary to Government,
General Department.*

To—The Director of Health in Mysore.
Dr. W. C. Sweet, B.Sc., M.D., DR.P.H.
The Senior Surgeon in Mysore.
The Chief Engineer of Mysore.
The Deputy Commissioners of Districts.
The Presidents of District Boards.
The Municipal Commissioner, Bangalore City, through the President.
The President, City Municipal Council, Mysore.
The President, Kolar Gold Field Sanitary Board.
PRESS TABLE.

Exd.—C. K.

OFFICE OF THE DIRECTOR OF HEALTH
WITH THE GOVERNMENT OF MYSORE.
Bangalore, dated 30th August 1933.

FROM

J. V. KARVE, Esq., M.B., C_H.B., D.P.H.,
*Director of Health, Government
of His Highness the Maharaja
of Mysore, Bangalore.*

TO

R. RANGA RAO, Esq., B.A., B.L.,
*Offg. Chief Secretary to the Government
of His Highness the Maharaja
of Mysore, Bangalore.*

SIR,

I have the honour to submit herewith the Annual Report of the Mysore State Department of Health for the calendar year 1932 for favour of perusal of Government. The report has been modelled on the basis of work done in the seven Bureaux at present organised and it is hoped it will be read with interest.

2. It has been found beneficial to divide the report into two parts, Part II dealing entirely with Vital Statistics. The Tables in Part II have all been thoroughly revised and made clear and comprehensive. The special feature of these Tables is the arrangement of Taluks and Municipalities alphabetically with statistics of births, and deaths from the different diseases listed. Another important feature is the computation of rates on estimated populations in the middle of the year instead of on the stationary census population.

3. A delay of about 3 months in the submission of the report has been unavoidable as the requisite statistics were not received from the districts in time.

I have the honour to be,
Sir,
Your most obedient servant,
J. V. KARVE,
Director of Health.

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CONTENTS

PART I.

	PAGES
1. General	1—3
2. Bureau of Administration :—	
(a) City Health Organisations	3—16
(b) District Health Organisations	16—22
(c) Voluntary Organisations	22—26
3. Bureau of Epidemiology and Communicable Diseases :—	
(a) Malaria Control Work	26—34
(b) Hookworm Campaign Unit	34—38
(c) Control of Epidemic Diseases... ..	38—44
4. Bureau of Laboratories :—	
(a) Public Health Institute	45—50
(b) Vaccine Institute	50—68
5. Bureau of Health Education	69—70
6. Bureau of Sanitary Engineering	70—90
7. Bureau of Rural Health	90—95

PART II.

Bureau of Vital Statistics	97—170
-----------------------------------	--------

CONTENTS

PART I

PAGES	
1-3	1. General
	2. Bureau of Administration
4-18	(a) City Health Organizations
19-23	(b) District Health Organizations
24-26	(c) Voluntary Organizations
	3. Bureau of Epidemiology and Communicable Diseases
27-31	(a) Malaria Control Work
32-38	(b) Hookworm Campaigns
39-41	(c) Control of Epidemic Diseases
	4. Bureau of Laboratories
42-50	(a) Public Health Institute
51-53	(b) Vaccine Institute
54-70	5. Bureau of Health Education
71-76	6. Bureau of Sanitary Engineering
77-82	7. Bureau of Rural Health

PART II

83-170	Bureau of Vital Statistics
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ANNUAL REPORT

OF THE

MYSORE STATE DEPARTMENT OF HEALTH

No. 27.]

January 1 to December 31, 1932.

[1932.

GENERAL.

In the year under report the state of public health in Mysore State was normal. Agricultural crops were reported to be above the average and prices of food grains were low. Rainfall of 48 inches was recorded and in all districts it was above the average. Climatic conditions in respect of temperature and humidity were also favourable for low incidence of epidemics. When outbreaks of epidemic diseases did occur, preventive measures were promptly undertaken, with the result that during the year the State had to face only minor epidemics.

Malaria broke out in the Irwin Canal Tract in an epidemic form but measures were soon adopted to check its spread by free distribution of quinine under proper supervision.

In order to estimate the change in health conditions of the Irwin Canal Zone, a health survey of the area was also made with the sanction of Government.

As a result of a forecast of the probable outbreaks of smallpox in 1934, leaflets were printed and circulated in English and Kanarese emphasizing the need for immediate vaccination.

An appraisal of health activities was made in the cities of Bangalore, Mysore and Kolar Gold Field and recommendations regarding improvement were made to the Municipalities concerned.

Lt. Col. H. H. King, Director of the King Institute, Guindy, suggested the making of a rat flea survey of the State on the lines done in the Madras Presidency. Trained personnel was kindly supplied by the Colonel and

the survey undertaken covered Mysore City, Sira, Davan-gere, Sagar, Shimoga, and Kolar Gold Field. One of the officers of the department was associated with the survey party for necessary training in this work.

Proposals submitted to Government for the introduction of the Standard Certificates of Death, were approved. "Physicians' Pocket Reference" was printed and supplied to the private practitioners and medical officers of hospitals for help in the classification of the causes of death according to the International list.

The present unsatisfactory state of reporting of vital occurrences is expected to be relieved by the introduction of the new registers of Births and Deaths and of cards for the notification of Epidemic Diseases, sanctioned by Government in their Order No. 5676-87—P. H. 75-30-12, dated 11th February 1933.

Government directed that when the president or the vice-president of a municipality is a member of the Public Health Committee he should *ipso facto* be the chairman of that Committee.

In Order No. G. 9181-91—Sany. 7-27-107, dated 20th May 1932, Government directed that in districts where there are whole-time health officers, the vaccination staff should be placed under their control. Modifications were effected in regard to the rules for the training and employment of vaccinators and the issue of original and duplicate certificates.

In furtherance of the Rural Health Organization Scheme, a committee was formed to examine the nature and extent of co-operation and financial contribution to be had from local bodies. The chairman and members of the committee were respectively the Revenue Commissioner, the Director of Health, Dr. W. C. Sweet, Mr. B. K. Garudachar, Mr. A. V. Ramanathan, Mr. C. S. Kupp-swamy Iyengar and Mr. B. S. Puttaswamy, with the Superintendent of the Bureau of Epidemiology and Communicable Diseases, as Secretary. The committee studied the question at two meetings and forwarded proposals to Government for consideration.

During the year Government were pleased to transfer the entire control of water supply in the State, except the New Water Works of Bangalore City, to the Bureau of Sanitary Engineering.

Government Order No. G. 8617-19—P. H. 69-31-6, dated 30th April 1932, placed the Bureaux of Epidemiology

and Communicable Diseases, Vital Statistics and Health Education in charge of officers designated superintendents.

At the Public Health Institute, 522 specimens were examined during the year in the Chemical Section, 10,312 in Bacteriological Section and 633 articles for Medico-legal work.

Vaccine lymph enough for 416,170 cases was prepared at the Vaccine Institute.

The Central Health Committee met twice during the year.

Mr. Mardy Jones, an ex-member of Parliament, visited the Department and made a study of the organization.

The Director was on tour for 71 days on inspection work and as usual attended meetings of the Mysore City Improvement Trust Board, Central Health Committee, Thippagondanahalli Reservoir Committee, the Representative Assembly, the Legislative Council, etc. He acted as Honorary Secretary and Treasurer of the Mysore State Branch of the Indian Red Cross Society, with Sir Charles Todhunter as Chairman of the Executive Committee.

Mr. P. Parthasarathy was posted from the Serum Institute as Health Officer, Bangalore City. Mr. K. R. Venkatesan was confirmed as third class health officer. Messrs. A. S. Venkatachalam, S. Seshagiri Rao and V. Narasimhamoorthy were confirmed as supernumerary second class health officers. Mr. V. Narasimhamoorthy who was on deputation to Calcutta, obtained the diploma of D. P. H.

Mr. B. R. Garudachar, who was deputed to America for training in Sanitary Engineering, returned and assumed charge as Executive Sanitary Engineer on 25th May 1932. Mr. E. R. Sundararajan, who was deputed to America on Rockefeller Foundation Fellowship for training in Vital Statistics returned and resumed charge on 7th December 1932. Mr. K. S. Hutcha Rao was also deputed to America for training in Sanitary Engineering and Water Supply.

BUREAU OF ADMINISTRATION.

(a) City Health Organizations.

Bangalore City (Population 172,357).

Mr. S. Ramachandra Rao held charge of the Health Office till 7th April 1932 when he was relieved by

Mr. P. Parthasarathy, reverted from the Agricultural Department, and the latter continued to be the Health Officer till the close of the year.

The area of the city is 13 square miles or 7,796 acres with 19,550 inhabited houses. The average number of persons per house is 8·8. The city is divided into nine divisions. The following table gives the population, births and deaths with rates according to divisions :—

Division	Popu- lation	No. of Births	No. of Deaths	Birth rate	Death rate
1. High Ground, Palace, and Guttahalli.	9,254	131	94	14·4	10·2
2. Balepet (including Railway Quarters.	27,687	643	704	23·2	25·4
3. Manavarthpet and Mill Area	38,227	1,285	1,178	33·6	30·8
4. Ulsoorpet ...	19,855	1,693	994	85·3	50·1
5. Nagarthapet ...	8,487	309	267	36·4	31·5
6. Visveswarapur, Mavally, Lal-Bagh, and Kalaspalya.	15,819	534	412	33·8	26·1
7. Shankarpur, Gavipur, Fort, and Chamarajpet.	21,548	560	448	25·9	20·8
8. Basavangudi, and Guttahalli.	12,191	431	232	35·4	19·0
9. Malleswaram, Seshadri-puram, and Srirampuram.	19,289	449	380	23·3	19·7
Total ...	172,357	6,038	4,709	35·0	27·3

The existence of the Government Maternity Hospital in it accounts for the high birth rate recorded in division 4.

Of the total births registered, 3,049 were male and 2,989 female. Two thousand, four hundred and fifty-four of the births were conducted in the Maternity Hospital and 1,608 by the municipal midwives. Thus 67·24 per cent of the births were under skilled aid. The still-births during the year numbered 219 against 170 in the previous year.

Four thousand, seven hundred and nine deaths under various causes were registered. Nine hundred and ninety-eight of them were reported from the following public institutions and have been included in the divisions wherein the institutions are situated :—

1. Mental Hospital	..	24
2. Victoria Hospital	..	418
3. Central Jail	..	5
4. Epidemic Diseases Hospital	..	171
5. Maternity Hospital	..	380
Total	..	998

There were eight sub-registrars of births and deaths for registration of vital events, four whole-time and the rest part-time who are vaccinators, as well. The registrars'

work was checked by the sanitary inspectors and occasionally by the City Health Officer during the rounds of inspection.

One thousand, and forty deaths among infants under one year of age were reported, giving an infant mortality rate of 172·7 per 1,000 live births.

There were reported 260 attacks and 125 deaths from smallpox. Necessary measures to prevent the spread of the disease were adopted. A total of 12,227 vaccinations was performed, of which, 6,851 were primary and the rest re-vaccinations.

One hundred and forty attacks with 115 deaths from plague were registered during the year. Timely preventive measures, such as disinfection, isolation, inoculation etc., were adopted. Fifteen thousand, seven hundred and eighty-four anti-plague inoculations were performed, giving a rate of 137 persons immunised for each death.

Thirty-nine deaths from typhoid fever were reported during the year as against 29 in the year previous. Five hundred and ninety-six anti-typhoid inoculations were given. Two hundred and seventy-five samples of water, 42 of motion, 36 of urine and five of blood were sent to the Public Health Institute for examination for enteric.

One thousand, three hundred and six houses were disinfected as against 522 in 1931. The disinfection work was undertaken by a gang of 15 men working under a trained sanitary inspector.

Five whole-time sanitary inspectors were on work and the number of houses inspected by them was 8,940. Five thousand, four hundred and sixty-eight notices were issued for sanitary defects under the various sections of the Municipal Regulation. Prosecutions were launched in 1,184 cases, 262 of which were convicted, 42 withdrawn, 22 acquitted and four struck off, and the remaining were pending at the close of the year. The amount of fine realized was Rs. 402-4-0.

Eleven suspicious lepers and 65 vagrants were removed to the Epidemic Diseases Hospital.

Three hundred and ten rodents were examined for plague during the year. Fifty-three were doubtful, 190 negative and 67 positive. Two hundred and forty-seven rats and six bandicoots were destroyed. This is a very poor number for the size of the city.

The City Health Department organized small health exhibitions for the Welfare Institute of the Bangalore

Woollen, Cotton and Silk Mills Company, Ltd., Bangalore and the Sri Sharada Stri Samaja, Chamarajpet, as an adjunct to the health week and baby show arranged by them. The exhibitions were very popular and well attended.

The management of the water-supply remained as in previous years with the Public Works Department. Samples of water from the public taps and Jewell Filters were examined bacteriologically every week. A high standard of purity was maintained except on a few occasions.

The sanitary staff regularly inspected the markets and rectified the defects noticed.

The Health Officer and his staff inspected the hotels, eating-houses and aerated-water factories to improve their internal sanitary condition. Particular attention was paid to the cleanliness of the cooking utensils, cups and plates and protection of prepared articles against flies and dust.

Statement of Sanitary improvements done during the year.

1. Number of fly and dustproof cases provided ..	137
2. Pit latrines converted into daily conservable latrines	62
3. Latrines improved	512
4. Newly constructed latrines in private houses .	100
5. Pits filled up	27
6. Sweetmeat shops, hotels, eating-houses, etc., improved	97
7. Compound walls constructed .	48
8. Dangerous and dilapidated buildings, sheds etc., demolished or improved	119
9. Removal of insanitary sheds	18
10. Flush latrines introduced in private houses ..	4
11. Windows newly opened	138

Seventeen samples of ghee, 14 of butter, one of milk, five of coffee powder, six of aerated water, three of bread and one each of Mysorepak, Boondi and gram-flour were analysed and examined regarding their fitness for human consumption. Sixteen samples were declared unfit for human consumption and action is being taken under the Adulteration Regulation and the Municipal Regulation.

A sample of "Boondi" was seized at a marriage party in Malleswaram where about 150 cases of food poisoning, causing diarrhoea, vomiting with collapse but no deaths, were reported among persons who partook of this stuff. On bacteriological investigation, it was found to be contaminated with *Bacillus Prodigiosus*. This seems to be the first known case of food-poisoning bacteriologically confirmed in Mysore State.

One thousand, and eleven stray dogs were destroyed at a cost of Rs. 49-15-0.

The special malaria staff continued to carry on the anti-malaria operations as in the previous years. Details of the work appear elsewhere under the Bureau of Epidemiology and Communicable Diseases.

A special spleen survey was undertaken by the Superintendent, Bureau of Epidemiology and Communicable Diseases in July. One thousand, six hundred and twenty school children were examined, giving a spleen rate of 0.7. One hundred and seventy-six blood smears were examined and seven were found positive, giving a parasite rate of 3.9.

The Hygiene class of the Medical School, Bangalore and Medical College, Madras, visited the malaria station during February and March, respectively.

In connection with the health exhibition opened at the Primary and Middle School Teachers' Conference, a section on malaria was organized by the City Health Department.

A sanitary mobile police force consisting of a sergeant and six constables was entertained since June for detection of nuisances committed on public thoroughfares, etc., removing unauthorized encroachments, preventing the sale of unwholesome articles of food.

In Epidemic Diseases Hospital, Bangalore, 83 cases of plague and 96 of smallpox were admitted, of which, 57 of plague and 15 of smallpox died, giving mortality rates of 69 and 15 per cent, respectively.

The total strength in the Leper Asylum, Bangalore, during 1932 was 169. In four cases there was considerable improvement under treatment and in 24 the disease was arrested and the cases were discharged. Forty-nine cases were otherwise discharged and eight proved fatal. The treatment adopted varied. Alepol, Extractum Cactus Benzoina co., Anti-leprol and E.C.C.O. were used. No one course could be pursued due to the prohibitive cost of the drugs.

Eighty-two cases in different stages of tubercular affection sought admission. Of these, six were cured, 18 were relieved of acute symptoms, 20 discharged at their own request and 29 died resulting in a mortality rate of 32·6 per cent. All afebrile cases were given Sanatorium treatment coupled with exposure to sunlight and graduated exercises. Codliver oil with sodium morrhuate injection and systematic dieting were mainly resorted to in the treatment of other cases.

Civil and Military Station, Bangalore.—Five thousand three hundred and twenty-two births with a birth-rate of 39·71 and 3,884 deaths with a death-rate of 28·98 were recorded. One thousand and seventy-four infants under one year died, giving an infant mortality rate of 201·8 per 1,000 births registered.

During the year under report plague prevailed in the Station, one hundred and twenty-six attacks with 101 deaths having been registered. Eleven thousand, seven hundred and thirty-seven anti-plague inoculations were done.

Sixty-seven attacks with 28 deaths from smallpox, 118 attacks with 1 death from chicken-pox and 126 attacks with 26 deaths from enteric were reported. A total of 17,546 vaccinations, and 572 anti-typhoid inoculations were performed.

The Station was free from cholera.

The maternity and childwelfare work was continued as in previous years. The lady health visitor paid 13,552 domiciliary visits. Three thousand, nine hundred and twenty-one pregnant women attended the antenatal clinics.

Anti-malaria work was carried out systematically by oiling pools and ponds. In addition, the draw wells were stocked with larvicidal fish, supplied by the Mysore Health Department.

In the laboratory, smears from 7,530 rodents were examined for plague, of which, 31 were positive and 9 suspicious. Six samples of milk, 1 of butter, 2 of ghee, 3 of water, 1 of blood and 4 of aerated water were also analysed.

Mysore City: Population 107,122.

Mr. M. G. Sreenivasa Peidpet, L.M.S., B.S.SC., continued to be the Health Officer during the year under report.

Two thousand, seven hundred and sixty-nine births were registered as against 2,803 in 1931. The birth-rates for 6 years (1927-1932) are here given :—

1927	...	...	31'16
1928	...	...	20'63
1929	...	..	25'21
1930	...	...	29'50
1931	...	...	26'10
Quinquennial average	...	..	<u>26'52</u>
1932	...	...	25'84

Two thousand, six hundred and twenty-four deaths were registered yielding a death rate of 25'42 per mille as against the average rate of 27'37 for the previous five years.

1927	...	...	27'55
1928	...	...	33'51
1929	...	...	30'82
1930	...	...	38'20
1931	...	...	30'20
Quinquennial average	...	...	<u>27'37</u>
1932	...	...	25'42

A comparison of the tables shows that the birth and death rates for the year under report are about the same and that Mysore has consistently been registering lesser number of births than deaths since 1927. The population however has increased during the last decade showing thereby that the registration is very defective. The Health Officer is requested to rectify the defect in the system of registration of vital events.

Seventy still-births were registered as against 97 in the year previous.

Three hundred and twenty-nine deaths of infants under one year of age were recorded, yielding an infant mortality rate of 111'59 as compared with 105'60 during 1931.

Two hundred and fifty-six attacks with 175 deaths from plague were reported. Twenty thousand, nine hundred and eight anti-plague inoculations were done.

One hundred and thirty-one attacks with 57 deaths from smallpox, 24 fatal cases from influenza and 15 from typhoid were registered. Thirteen thousand, eight hundred and ninety vaccinations were performed of which 6,835

were primary. Five thousand, three hundred and ninety-four primary cases were reported successful.

The Health Officer and his staff inspected 1,730 premises and issued 189 notices under various bye-laws under the Municipal Regulation. In 80 cases, the terms of the notices were complied with. Two hundred and thirty-four prosecutions were launched, of which, 89 were convicted, 22 acquitted, 75 withdrawn and 48 were pending disposal at the close of the year. A sum of Rs. 297-8-0 was realised as fines.

The Veterinary Inspector in charge and the Sanitary Staff inspected the slaughter houses and mutton stalls regularly. The meat supplied was of good quality. Forty-five thousand, nine hundred and seventy-one sheep, 19,481 goats, 2,420 bullocks, 1,508 cows and 629 buffaloes were slaughtered. The Health Officer and his staff inspected coffee hotels, eating houses, bakeries, and aerated water factories.

In the laboratory attached to the Health Office, 317 samples of water and 3 of milk were bacteriologically analysed. In addition, 3 faecal samples, 1 urethral smear and 119 rodents were examined. Twenty-four of the rodents were found positive for plague.

Lectures with the aid of lantern slides, were delivered on plague, smallpox, cholera and other health subjects in the various mohallas.

The malaria control operations were continued during the year by the Special Malaria Unit maintained by the Municipality. In August, a spleen survey was made by the Superintendent, Bureau of Epidemiology and Communicable Diseases. Of the 1,717 children examined, 67 showed enlarged spleens of various sizes, the spleen rate being 3.9 as against 11.7 in 1930 and 7.5 in 1927. The citizens have appreciated the benefits of the operations.

One thousand, four hundred and fifty-two stray dogs were destroyed.

A sum of Rs. 62,533 was expended on various sanitary improvements in the city as detailed below:—

		Rs.
Public convenience	...	27,453
Water-supply	...	5,166
Drainage works	...	28,966
Anti-malaria operations	...	948
		<hr/>
Total	...	62,533
		<hr/>

Private associations like the Gunamba Maternity and Childwelfare Trust, the Civic and Social Progress Association and the City Branch of the Indian Red Cross Society, have been carrying on childwelfare work in the City. In the various centres established by these associations babies were bathed, fed on milk, weighed and medically advised. Ante-natal clinics are held and expectant mothers are advised. These centres are run at a cost of Rs. 19,200 per annum.

In the Epidemic Diseases Hospital, Mysore, 485 patients were admitted for treatment. Of these 1 case was for cholera, 70 for plague, 47 for smallpox, 80 for tubercular affection and 10 for leprosy.

Kolar Gold Field: (Population 85,103).

Mr. M. Ramachandra Rao, B.A., M.B.B.S., C.P.H., held charge of the office of the Medical Officer of Health, Kolar Gold Field, till the 28th April 1932 when he was relieved by Mr. G. N. Seshadri, L.M.S., D.P.H. The latter continued in charge till the close of the year.

During the year under report 2,796 births with a birth-rate of 44·28 per mille were recorded as against 3,267 births and a birth-rate of 38·38 during 1931. Of the total births 36·51 per cent were in the Sanitary Board Area and the rest in the Mining Area. The following table gives the birth-rates for 10 years 1923-32.

<i>Year.</i>		<i>Rate per mile.</i>
1923	...	38·58
1924	...	40·67
1925	...	38·01
1926	...	39·40
1927	...	38·12
1928	...	38·67
1929	...	38·18
1930	...	33·86
1931	...	38·38
1932	...	44·28

Eight hundred and thirty or 22·02 per cent of births were conducted in the Government Maternity Hospital, Robertsonpet, and the Maternity Ward of the Champion Reef Dispensary, 1,578 or 41·86 per cent by qualified midwives and dais, and the rest under unskilled aid. It will be seen that 63·4 per cent of the births received skilled aid.

The Mining authorities maintained 9 midwives and the Sanitary Board 2, one of whom was attached to the Champion-Reef Dispensary.

A total of 2,595 deaths from all causes was recorded as against 2,300 during 1931. The rate per mille of population was 30·49, as against 27·02 in the previous year. The death-rates for the last 10 years are given below :—

<i>Year.</i>	<i>Death-rate.</i>
1923	23·08
1924	28·15
1925	25·43
1926	26·18
1927	21·19
1928	24·40
1929	25·05
1930	25·25
1931	27·02
1932	30·49

It is observed that the death-rate reached maximum in 1932.

The deaths classified according to age-groups are as hereunder :—

Sl. No.	Age Group	No. of deaths	Percentage of total deaths
1	Under 1 year	692	26·67
2	1 and under 5	480	18·49
3	5 „ 10	98	3·77
4	10 „ 15	71	2·74
5	15 „ 20	77	2·97
6	20 „ 30	254	9·79
7	30 „ 40	204	7·86
8	40 „ 50	173	6·67
9	50 „ 60	138	5·32
10	60 and above	408	15·72

Deaths distributed according to causes are tabulated below :—

Cause of death				Number of deaths	Percentage to total deaths
1	Plague	..	...	121	4'58
2	Smallpox	...	...	13	0'50
3	Malaria	..	...	161	6'20
4	Typhoid	..	...	14	0'50
5	Influenza	..	..	33	1'27
6	Consumption	...	...	82	3'16
7	Pneumonia	..	...	293	11'29
8	Dysentery, diarrhoea, etc.	...	...	300	11'56
9	Respiratory diseases	..	..	273	10'52
10	Suicide	..	...	2	.07
11	Snake bite	..	...	2	.07
12	Accidents	.	..	111	4'27
13	Premature births, etc.	..	..	35	1'35
14	All other causes	...	..	1,157	44'58

During the year, 203 attacks with 121 deaths from plague and 80 attacks with 13 deaths from smallpox were registered. Plague chiefly affected Robertsonpet, Andersonpet, Oorgaum village and the Mining Area. Eighteen thousand, four hundred and sixteen anti-plague inoculations and 38,250 vaccinations were done. The percentage success rate among primary vaccinations was 87'48 and revaccinations 51'11. Fourteen deaths under typhoid, 33 under influenza, 300 under diarrhoea occurred.

Six hundred and ninety-two children under one year of age died yielding an infant mortality rate of 183'6. This is slightly more than in 1931 (179'36).

The following table gives the infant mortality rate for ten years, 1923-32.

Year			Infant mortality rate	Year			Infant mortality rate
1923	...	...	187'80	1928	...	..	193'15
1924	...	...	198'54	1929	...	...	195'92
1925	...	...	199'82	1930	...	...	206'80
1926	...	...	196'53	1931	...	...	179'36
1927	...	...	184'26	1932	...	...	183'10

Deaths classified according to causes were, small-pox 3, malaria 1, influenza 3, diphtheria 1, fever 5, dysentery 9, diarrhoea 35, bowel complaints 5, pneumonia 32, debility 299, bronchitis 36, asthma 1, premature births 35, consumption 1, convulsions 136, malnutrition 72, and all other causes 18.

Filtered and chlorinated water is supplied from Bethamangala to the Mining Area and Robertsonpet.

A scheme costing Rs. 13,000 for extending the filtered water-supply to Andersonpet and the cooly colonies attached to it was sanctioned and the work was put on hand. An estimate to equip a step-well in Soregowdankote village with a hand pump was sanctioned and the work is under progress. The drinking water wells of Kalkere, Pichapalli, Kadaregowdankote, Lakkapalli, Imarspura, Byraganhalli, Thammenhalli and Kudigal were improved. New wells were provided for Reddihalli and Masikam.

*A resume of work done in the Laboratory
during 1932.*

<i>Nature of work.</i>	<i>Number or quantity.</i>
1. Water from Bethamangala ...	26
2. Liver and Spleen of cattle for Anthrax ...	60
3. Blood for Widal ...	8
4. Rats examined for plague ...	70
5. Blood smears for malaria ...	4
6. Urine for albumin and sugar ...	21
7. Smears for gonococci ...	13
8. Motion for amoebae ...	4
9. Sputum for B. Tuberculosis ...	1
10. Smear for diphtheria ...	1
11. Milk analysed ...	13
12. Ghee analysed ...	12
13. Sparrows for plague ...	2
14. Crows for plague ...	1
15. Dogs' brains sent to Coonoor ...	39
16. Persons recommended for anti-rabic treatment ...	77

Three hundred and sixty-three persons were treated in the Epidemic Diseases Hospital, Robertsonpet, during

the year under report. Of these 210 were discharged, 134 died and 19 remained over on the last day of the year, as per statement:—

Nature of Disease	Total admitted	Discharged	Died	Remained over on 31st Dec. 1932
Plague	196	71	108	17
Pneumonia	7	3	4	...
Pyrexia	34	28	6	1
Rheumatism	1	1	...	...
Smallpox	76	64	12	...
Syphilis	1	1	...	...
T. B. Lungs	1	1	...	...
Other infectious diseases ...	28	26	1	1
Diabetes	1	...	1	...
Other diseases of the Respiratory system ...	1	...	1	...
Other diseases	3	3	...	...
Cases of poisoning	9	9	...	...
Total	363	210	134	19

The practice of licensing dogs continued during the year. One thousand eight hundred and fifty-six dogs were killed with strychnine hydrochloride. Two hundred and sixty-one dogs which had bitten persons were kept under observation for rabies. Thirty-nine dogs' brains were sent to Coonoor for examination. Seventy-seven persons were recommended for anti-rabic treatment.

Pits and hollows were all drained to prevent stagnation of water and mosquito-breeding. Removal of rank vegetation and destruction of cactus was undertaken on a large scale. Two hundred and ninety notices for sanitary offences were issued during the year and 232 cases against 236 persons were launched in the court. Of these, 156 cases were withdrawn as the parties complied with the terms of the notices. Twenty-seven persons in 24 cases were convicted and 52 cases were pending disposal at the close of the year. A sum of Rs. 53 was realised in the shape of fines.

School-going children in 10 villages were examined during the year by the Health Officer and suitable advice given where defects were noticed.

Three of the villages, Soregowdankote, Neralkere and Ithandahalli were converted into model villages at a total

cost of Rs. 1,500 by providing protected water-supply and borehole latrines and opening out new streets and lanes.

(b) District Health Organisations.

Bangalore District.—(Population 10,80,413).

During the year 22,452 births, giving a birth rate of 20·6 per mille were registered, as against 23,418 births with a birth rate of 21·6 during the previous year.

A total of 14,412 deaths was recorded as against 15,274 deaths during 1931. The death-rates worked up to 13·3 and 14·1 respectively.

Two thousand, two hundred and twenty-five children under one year of age were reported dead, yielding an infant mortality rate of 99·1 per 1,000 live births registered.

Plague prevailed in all the taluks accounting for 1,031 attacks and 605 deaths. A total of 69,492 anti-plague inoculations was performed.

Smallpox accounted for 470 attacks with 77 deaths. Twenty-two thousand, one hundred and twenty-six vaccinations and revaccinations were done. The taluks most affected were Bangalore, Dodballapur, Magadi, Closepet, Chennapatna and Anekal.

The District was free from cholera, influenza and relapsing fever during the year.

The District Medical and Sanitary Officer visited 10 places on epidemic duty. He inspected during his itinerary 103 schools, examined 4,195 children, and prescribed treatment for 1,036 children. The common ailments noticed by him were skin disease (scabies), ear, nose and eye complaints and digestive disorders.

The 13 Municipalities in the District spent Rs. 887-12-0 on drainage works, Rs. 796-3-0 on water works and Rs. 7,341-1-3 on other sanitary improvements. In all, they issued 330 notices for sanitary offences of which 233 were complied with, 37 prosecuted and 18 pending disposal at the close of the year. A sum of Rs. 64-8-0 was recovered as fines. The Municipalities employed in all 151 sweepers besides the supervision staff.

Mysore District.—(Population 15,11,126).

Mr. G. M. Dominick, M.R.C.S., D.P.H., continued to be the District Health Officer throughout the year.

Twenty-one thousand, two hundred and ninety-two births giving a birth-rate of 14·08 per mille and 17,618 deaths with a death-rate of 11·65 per mille were registered.

One thousand one hundred and seventy-nine infants under one year of age were reported dead, giving an infant mortality rate of 53.02 per 1,000 births registered. This is too low to be accepted as anything near correct.

One thousand nine hundred and five, 301,557 and 14 deaths were accounted for by plague, cholera, small-pox and measles respectively. On receipt of information of outbreak of plague, anti-plague measures such as inoculation and disinfection were instituted and medical aid rendered.

Twenty-eight thousand five hundred and eighty-four primary and 2,241 revaccinations were performed by the vaccinators. The medical subordinates did 2,907 primary and 722 revaccinations. Twenty-seven thousand and fifty primary and 323 revaccinations were reported successful.

Malaria prevailed in almost all the taluks in the District and to a severe extent in parts of Mandya taluk brought under irrigation under the Irwin Canal. Free distribution of quinine was resorted to.

The District Health Officer visited all the major and minor Municipalities on routine inspection duty and attended 8 jattras for making necessary sanitary arrangements. The drinking water sources at the jattras were all treated with perchloron.

Twenty-four Municipalities in the District incurred an expense of Rs. 8,994-11-6 on drainage, Rs. 4,425-2-0 on water works, Rs. 2,235 on dwelling houses and Rs. 9,745-13-1 on other sanitary improvements. Five hundred and sixty-five notices were issued. Four hundred and forty-seven were complied with, 34 prosecuted and 95 were pending disposal at the close of the year. Rs. 40-12-0 were recovered in the shape of fines. Two hundred and ninety-two sweepers were employed in all.

Hassan District.—(Population 596,937).

Six thousand eight hundred and one births and 6,463 deaths were registered, working up to birth and death rates of 11.4 and 10.3 per mille of population respectively.

Seven hundred and forty-eight infants under one year of age were reported dead, giving an infant mortality rate of 109.9 per 1,000 live births registered.

Plague prevailed in 35 villages of 6 taluks, 399 attacks with 249 deaths having been recorded. The taluks of Channarayapatna, Arsikere and Arkalgud were the worst affected. Timely preventive and curative measures

were adopted. Eleven thousand seven hundred and fifty-nine anti-plague inoculations were done.

Two fatal cases of cholera were reported from Begur village in Channarayapatna taluk. Prompt action was taken to prevent the spread of the disease.

One hundred and eighty-four attacks with 31 deaths from smallpox were reported from 20 villages. Hassan and Hole-Narsipur taluks contributed 64 and 41 attacks and 12 and 6 deaths respectively. Seventeen thousand nine hundred and thirty-seven vaccinations and revaccinations were performed.

Malaria prevailed in all the taluks. Quinine was freely distributed through all the available agencies.

Influenza accounted for 30 deaths.

Five major and 3 minor jatras were held during the year. Necessary arrangements for conservancy, water-supply and lighting were made. Temporary roads were constructed to facilitate traffic.

The District Medical and Sanitary Officer was out on tour for 95 days visiting 50 places and inspecting 10 schools. He treated 597 children in the schools inspected.

The expenditure on the principal sanitary improvements in the 12 Municipalities of the District amounted to Rs. 19,191-12-7, Rs. 9,859-13-6 being on drainage works, Rs. 5,497-6-1 on water works, Rs. 493-0-0 on rest-houses and Rs. 3,353-9-0 on other sanitary improvements. One hundred and sixty-three sweepers in all were employed.

Two hundred and forty-nine notices were issued under the Municipal Regulations, of which 196 were complied with, 17 prosecuted, and 36 pending disposal and action. Fines to the extent of Rs. 30 were recovered.

Kadur District. - (Population 3,47,715).

Five thousand and two births and 5,383 deaths were recorded yielding birth and death rates of 14.4 and 15.2 respectively. It will be noticed that deaths exceed births by 381. Five hundred and seventy-six infants under one year were reported dead, giving an infant mortality rate of 115.2 per 1,000 live births.

Plague prevailed in a virulent form in Chikmagalur, Kadur and Tarikere taluks and Narasimharajpura sub-taluk, affecting in all 66 places. The towns of Chikmagalur, Birur and Tarikere suffered most. There were reported a total of 559 attacks with 437 deaths. With the co-operation of the Medical Department, all precautionary measures were adopted to combat the spread of the

disease. A total of 14,579 anti-plague inoculations was performed.

Smallpox accounted for 161 attacks and 38 deaths. Eleven thousand seven hundred and twenty-six vaccinations were done.

Malaria was no less severe than it was during the preceding year accounting for 2,926 deaths. Free distribution of quinine was resorted to through the agencies of Sanitary Inspectors, Amildars, Sub-Assistant Surgeons and Village Panchayets. The demand for quinine from rural parts is increasing year after year, the people having realised the value of the drug.

Systematic administration of quinine to school children through the Sub-Assistant Surgeons in charge of dispensaries in the Malnad Areas was continued during the year with very good results. The District Medical and Sanitary Officer visited 13 towns and 22 villages and the medical subordinates 101 villages. They inspected 34 schools and examined 1,150 children and treated 334.

Rupees eight hundred and sixty were spent on drainage, Rs. 13,999-15-0 on water works and Rs. 3,594 on other sanitary improvements by the nine Municipalities in the District.

One hundred and twenty-nine notices for sanitary defects were served, of which 84 were complied with and 40 were pending disposal. One hundred and fifty sweepers in all were employed.

Shimoga District.—(Population 519,987.)

A total of 9,787 births and 8,312 deaths were reported giving birth and death rates of 18·8 and 15·9 respectively per mille of population. The infant mortality rate was 123·2.

Plague was reported from Shimoga, Channagiri, Honnali and Sorab taluks. In all, 85 villages were infected, 57 in Shimoga, 16 in Channagiri, 8 in Honnali and 4 in Sorab taluks. There occurred in all 472 attacks and 333 deaths, Shimoga taluk alone reporting 334 attacks with 248 deaths. A total of 23,293 anti-plague inoculations was done.

One village in each of Channagiri and Honnali taluks reported a case of cholera, of which one proved fatal.

Malaria prevailed extensively in the taluks of Sagar, Nagar and Thirthahalli and to a lesser extent in some villages of Shimoga, Shikarpur and Sorab taluks. The District Board made arrangements for free distribution of quinine in the affected areas.

Five important cattle fairs were held in the District. Necessary arrangements for the sanitation of the places were made. There was no outbreak of any epidemic at the fairs.

The District Health Officer visited 45 villages on epidemic duty. During his itineration, he examined 2,473 children in 73 schools.

In the 12 Municipalities in the District, a sum of Rs. 1,565-1-5 was expended on drainage, Rs. 2,238-14-0 on water works and Rs. 3,178-15-11 on other sanitary improvements. They employed 143 sweepers.

Two hundred and ninety-eight notices under sanitary sections of the Municipal Regulations were issued, of which 208 were complied with, eight prosecuted and 82 were pending disposal at the close of the year.

Chitaldrug District.—(Population 6,56,569.)

During the year under review, 13,000 births and 9,663 deaths were registered. The birth and death rates worked up to 19·8 and 14·7 per mille of population. A total of 1,125 infants under one year of age died, giving an infant mortality rate of 86·5 per 1,000 live births registered. Plague prevailed in rather a severe form in all the taluks, excepting Challakere, Molakalmuru and Hiriya accounting for 825 attacks and 519 deaths. The usual preventive measures were adopted. Twenty-seven thousand nine hundred and seventy anti-plague inoculations were performed.

The District was practically free from smallpox excepting for three attacks, two in Holalkere taluk and one in Davangere taluk. The District Medical and Sanitary Officer and his subordinates visited 210 villages on epidemic duty. The Sub-Assistant Surgeon, Harihar, inspected three schools, examining 213 children.

Following rainfall, malaria prevailed in many villages. The District Board distributed quinine tablets free.

During the year under report, five new guinea-worm well works were sanctioned at an aggregate cost of Rs. 6,430. Two well works were abandoned and 10 were completed with an outlay of Rs. 3,094.

The 11 Municipalities in the District spent Rs. 60,911-14-9 on sanitary works, Rs. 25,401-2-0 being on drainage, Rs. 13,642-2-3 on water works and Rs. 21,868-10-6 on other sanitary improvements.

Six hundred and fifty-eight notices were issued under various health sections of the Municipal Regulations, of

which 406 were complied with, 122 prosecuted and 130 were pending disposal. A sum of Rs. 317 was realised as fines. One hundred and fifty-seven sweepers in all were employed.

Tumkur District:—(Population 861,405.)

There were reported 16,662 births and 10,153 deaths, yielding birth and death rates of 19·2 and 11·8 per mille respectively.

One thousand six hundred and sixty-two infants under one year of age were reported dead, yielding an infant mortality rate of 99·7 per 1,000 births registered.

Plague prevailed in a few villages of all the taluks, except Madhugiri, Sira and Pavagada and the towns of Tumkur, Tiptur and Gubbi. In all, 40 villages were affected reporting 380 attacks with 249 deaths. Seven thousand and ninety-nine inoculations against plague were done.

Smallpox prevailed in a mild form, few villages in each of Kunigal, Tumkur and Pavagada taluks reporting cases. Twenty-one thousand one hundred and twenty-two vaccinations and revaccinations were done.

A mild epidemic of malaria was reported from the taluks of Pavagada, Sira, Chiknayakanhalli, Kunigal and Koratagere. The Sub-Assistant Surgeons accompanied by the range Sanitary Inspectors visited the villages and rendered medical aid.

The Sub-Assistant Surgeon of Koratagere continued to pay bi-weekly visits to Rampura village to treat malaria patients.

The major jattras in the District, *viz.*, Kyamenhalli, Nagalmadike, Patnaikanhalli, Yediyur and Seebi, were held in the year under report. Sanitary arrangements were made at each of those jattras for daily removal of rubbish, providing temporary latrines and safe drinking water supply.

The District Medical and Sanitary Officer visited eight villages on epidemic duty and 22 on routine inspection and the Medical subordinates 113 on epidemic duty. Thirty-three schools were inspected, four by the District Medical and Sanitary Officer and the rest by the medical subordinates. They examined 2,306 children and treated 695.

The 10 Municipalities in the District spent Rs. 9,005-15-4 on drainage, Rs. 40,951-14-6 on water works, Rs. 655 on dwelling houses and Rs. 9,085-3-7 on other sanitary improvements. One hundred and seventy-seven sweepers in all were employed by them.

Out of a total of 236 notices issued, 197 were complied with, nine prosecuted and 30 were pending disposal.

Kolar District.—(Population 3,49,037).

Seventeen thousand eight hundred and sixty-two births with a birth-rate of 21·0 and 13,549 deaths with a death-rate of 15·9 and 2,076 deaths among infants under one year of age with an infant mortality rate of 116·0 were recorded.

Plague prevailed in a severe form in the District, nine of the taluks reporting infection. A total of 510 attacks and 300 deaths were reported, of which Chintamani (138-96) and Kolar (122-69) taluks were the worst affected accounting for 260 attacks and 165 deaths. Chikballapur taluk reported 90 attacks with 48 deaths and Malur 91 attacks with 53 deaths. Twenty-three thousand two hundred and twenty-three anti-plague inoculations were performed.

Two hundred and fourteen attacks with 27 deaths from smallpox were reported from four of the taluks, Kolar being the most affected with 117 attacks and 14 deaths, Goribidnur coming next with 74 attacks and nine deaths.

Two hundred and twenty-two villages were inspected by the District Medical and Sanitary Officer and medical subordinates, 78 by the former and the rest by the latter. They inspected 20 schools in all and examined 1,493 children.

Ten jatras were held in the District. In none, there was any epidemic outbreak. Usual sanitary arrangements were made.

The 11 Municipalities in the District spent Rs. 6,481 on drainage, Rs. 4,807 on water works, Rs. 245 on dwelling houses and Rs. 8,515 on other sanitary improvements. One hundred and sixty-two sweepers were employed by them all.

(c) Voluntary Organisations

Indian Red Cross Society, Mysore State Branch.—

The Director of Health continued as the Honorary Secretary and Treasurer of the Mysore State Branch of the Indian Red Cross Society and Sir Charles Todhunter, K.C.S.I., J.P., Private Secretary to His Highness the Maharaja of Mysore, as the Chairman of the Executive Committee.

In accordance with the suggestions made by Miss Norah Hill, Organising Secretary, Headquarters, the work

of the Society was grouped into three sections, namely, (1) General, (2) Junior Red Cross and (3) Maternity and Childwelfare, each under the management of an honorary secretary. The Director of Health and the Director of Public Instruction were appointed Honorary Secretaries to the General and Junior Red Cross sections respectively, while Mrs. Kamalamma H. Dasappa accepted the office of Honorary Secretary, the Maternity and Childwelfare section.

Dr. Ruth Young, M.B.E., W.M.S., Director of Maternity and Childwelfare Bureau, Headquarters, visited Mysore State in August 1932. She inspected the work of several childwelfare centres at Bangalore and Mysore. She gave a public lecture at Mysore on Maternity and Childwelfare and attended one of the meetings of the Mysore City Branch of the Red Cross Society.

The Society suffered a great loss in the death from plague of *Rao Bahadur Dharmaprakasha* Sowkar D. Banumaiah, who was one of its benefactors.

During the year, a successful health and baby week was organised at Mysore, which secured a certificate of merit from the All-Empire Baby Week Committee, London, having been declared the second best in the world. The occasion was availed of to open two more maternity and childwelfare centres, a Toddlers' centre in Gajasala and a creche at the Krishnarajendra Mills.

Five hundred and ninety-three persons were enrolled as members during the year, of which 2 were as life-associates, 46 as members, 358 as associates, 162 as helpers and 15 as annual members.

The Bureau of Health Education carried on the secretariat work of the Society during the year.

The Society gave donations to the extent of Rs. 1,400 to several institutions. The Junior Red Cross groups were started in nine High Schools. First Aid and Home Nursing Classes were held in 20 institutions and certificates were issued to successful candidates in the examinations on the subjects. Books on Health were sold to school students. The Mysore State team won the Obedulla Shield and money prize in the All-India Ambulance Competitions held at Lahore.

With a view to push on the Anti-Tuberculosis work, a sub-committee was formed. A donation of Rs. 500 was received from the headquarters to facilitate the work of the committee.

Civic and Social Progress Association, Mysore.—During the year under report, 1,874 ordinary baths and 1,815 oil-baths were given to the children attending the centre. The average daily attendance at the centre was 25. Three thousand two hundred and eighty-one and quarter seers of milk were distributed to poor children. The nurse in charge conducted two labour cases and vaccinated 26 children.

Civic and Social Progress Association, Bangalore.—

This Association runs a milk centre and a baby clinic at which antenatal clinics are also held. The average daily attendance of babies at the centre is 40. These are given baths daily and oil-baths occasionally. The honorary lady doctor prescribes the feeds, notes down the progress in weight and attends to minor ailments. Milk to the value of about Rs, 1,000 was distributed. The lady doctor held 12 clinics and examined 910 expectant mothers. The nurse in charge paid 60 domiciliary visits and conducted 38 labour cases. Eight children were vaccinated at the centre.

Sree Gunamba Maternity and Childwelfare Trust, Mysore.—In the month of March 1932, two more centres, the Subramanya Milk Centre and Mallamma Milk Centre, were opened in addition to the three already existing. A creche was also opened in the third quarter of the year in the Sri Krishnarajendra Cotton Mills.

Thirty-seven thousand three hundred and thirty-two ordinary and 5,983 oil-baths were given to the children attending the centres. The honorary lady doctors held clinics which were very popular. They held 25 antenatal and 28 baby clinics, examining 233 pregnant women and 943 children. They also treated 11,658 children for minor ailments. The average daily attendance at the clinics was 60. All children attending were fed on pure cow's milk. The nurses in charge paid 694 domiciliary visits and conducted 466 labour cases. They also did 381 primary vaccinations.

Childwelfare Centres, Kolar Gold Field.—All the four centres were working during the year under review. Five thousand four hundred and thirty-two children were given daily baths and 1,181 were treated for minor ailments. The Lady Health Visitor and nurses paid 2,641 pre-labour and 3,199 post-labour visits.

Mahila Seva Samaja, Bangalore.—Ante-natal and baby clinics were regularly held every week by Dr. Miss Rozario

and Miss Vaz. The attendance at these clinics was 510 and 1,943 respectively. The lady doctors examined and suitably advised the expectant mothers. They also treated 350 children for minor ailments. The nurses attached paid 35 domiciliary visits a week and conducted 20 labour cases for the year.

Dr. Mrs Ratnamma Isaac delivered a series of lectures on health subjects such as "Common Ailments of Women," "Care of Women during Pregnancy" and "Common Ailments of Children and their Simple Remedies." There was a lecture on "Temperance" by Miss. Narayana Das. Miss Sappo spoke on "Social Work in England," especially that of the Leister Sisters at Kingsley Hall. Twelve lectures on "First Aid" were also delivered and two cinema shows on health subjects were screened.

Two boys were given clothing free and two cod-liver oil.

Seva Ashram, Malleswaram, Bangalore City.—On an average, 150 children were given soap water bath every day, soap being distributed free. Lectures were delivered on health subjects, such as plague, small-pox, cholera and temperance. The Ashram dispensary catered to many of the local residents. An Ayurvedic lady doctor with maternity training joined the staff during the year.

Childwelfare Centre, Military Area, Hebbal, Bangalore.—The Social Welfare Committee, Military Area, Hebbal, runs the centre under the management of the Medical Officer, Mysore State Troops, Station Hospital, and the Lady Doctor, Female Dispensary, Hebbal. The centre is located in the Station Hospital.

The Lady Sub-Assistant Surgeon held nine weekly antenatal and baby clinics during the third quarter of the year. Eighty pregnant women and sixty children attended them. She weighed the children once a week and prescribed the feeds and attended to their minor ailments. Milk was distributed free to the poor children resident in the locality.

The nurse in charge paid 2,778 house visits, and conducted 13 labour cases.

Six lantern lectures were delivered during the quarter, July to September 1932.

Gurukula Seva Sangha, Kengeri.—During the half year, July to December 1932, 106 lectures on health

subjects aided by lantern slides were delivered in the rural areas. Pamphlets on various subjects were distributed. Thirty-six baths were given to the depressed class children in the locality. Free clothing was supplied to 30 children.

The Sangha organised a health exhibition at Yalahanka. It was attended by 2,000 factory workmen and raiyats from the neighbouring villages. The attendance in the outpatients' department of the dispensary run by the Sangha at Kengeri was 4,435.

The Shimoga Baby Clinic.—Baby clinics were held every Saturday. The babies were weighed and their progress noted. Their ailments were attended to. As an adjunct, antenatal clinics were started during the year, which gained popularity in no time. A good number of expectant mothers attended the clinics for advice. They were thoroughly examined, pelvic measurements taken and advised. Venereal cases amongst them were also treated.

BUREAU OF EPIDEMIOLOGY AND COMMUNICABLE DISEASES.

(a) Malaria Control Work.

During the year 1932, as per Government order No. G. 8617-19—P. H. 69-31-6, dated 30th April 1932, the former Malaria Officer was made Superintendent of the Bureau of Epidemiology and Communicable Diseases, and third class health officer, Mr. Nur Singh, formerly in charge of Mudigere Station, became Malaria Officer under this bureau. Consequent on the retirement of Mr. M. Muni-swamy, Mr. Cheluvvarayan was placed in charge of Hiriyyur Station after some months of training. The vacant post at Mudigere was filled by the transfer of Mr. K. R. Venkatesan from the Mandya Rural Health Unit.

The experimental control of Malaria by means of paris-green continued in the three stations of Nagenhalli, Mudigere and Hiriyyur. The control area around the village of Nagenhalli and the town of Mudigere was reduced during the year from one mile to half a mile radius. There was no apparent effect on the control by the end of the year. As was done last year, all control work was stopped in the Mudigere area for the last four months of the year. This is the only one of the three stations which seems to have one definite transmission

season. During these months, the staff was engaged in routine larval and adult catching to verify the absence of carrier species and in a sanitary survey of the town preparatory to possible later establishment of more complete health work.

Anti-malaria operations in Bangalore and Mysore cities continued during the year. Paris green for open water and Gambusia for wells were the methods employed. An examination of 777 children in Mysore city gave a spleen rate of 3.9 per cent. Previous examinations in 1927 and 1930 had given rates of 7.5 and 11.7 per cents respectively. An examination of 1,622 children in Bangalore city gave a spleen rate of 0.7 per cent. This was the sixth successive yearly examination, the previous yearly rates being 23.2, 11.5, 8.7, 6.1 and 0.6 last year.

After an initial year of observation, an experiment in the use of small weekly doses of plasmoguin compound as the only measure of control of malaria was begun in Marikanave village early in 1930. The necessary drug was purchased from a grant made by the Chitaldrug District Board and the distribution of the drug once a week, as well as the necessary spleen and blood examinations, were undertaken by the staff of Hiriur Station, which is 12 miles away. The response of the people was satisfactory and it was found possible to treat from 90 to 95 per cent of the village population each week. Examinations made during the year of observation, 1929, gave a parasite rate of 50.3 per cent and a spleen rate of 84.5 per cent. Examinations made during 1932 gave corresponding rates of 12.5 and 46.7 per cents. During 1932, the Chitaldrug District Board found it impossible to renew its grant and the stock of plasmoguin compound was exhausted in August. By the end of the year, there were signs that the parasite rate would increase. Spleen and blood examinations will continue.

Malaria control work began in Nagenhalli and Mudigere Stations early in 1930 and in Hiriur in April 1931. Examinations made in the Nagenhalli area in 1929, before control, gave parasite and spleen rates in children below ten years old of 37.5 and 83.9 per cents. The 1932 examinations of children in Nagenhalli village, for which complete control was attempted, gave parasite and spleen rates of 8.2 and 50.8 per cents. In the three surrounding villages, which were protected only partially, the 1932 rates were 18.1 and 63.8 per cents.

In the Mudigere area, the 1929 pre-control parasite and spleen rates were 31.0 and 78.6 per cents in children under ten years old. A 1932 examination of children in a village three miles from Mudigere town gave corresponding rates of 28.6 and 85.7 so that there was no evidence of a decline of malaria in this region as a whole. The 1932 rates for Mudigere town children were 7.7 and 51.0 while two partially protected villages in the peripheral area gave rates of 12.7 and 83.1 per cents.

In the Hiriyr area, the pre-control parasite and spleen rates were 33.7 and 43.1 in 1929 and 47.9 and 57.3 in 1930. In 1932, the rates for Hiriyr town were 13.7 and 36.3 while two partially protected neighbouring villages had rates of 19.9 and 26.11. Control work in this area began in April 1931.

Since dissections made in previous years of mosquitoes caught in houses of the stations had yielded low infection rates, it was decided to try tent catching of anophelines in 1932. This method was tried in two villages near Mudigere town and in Marikanave after plasmoquine distribution had ceased. Two men slept in the tent and mosquito catches were made at 8 P.M., midnight, 4 A.M. and 6 A.M. Of 50 anophelines thus caught in the Mudigere area, on dissection, one gland infection was found. In Marikanave, 102 mosquitoes were caught in the tent and on dissection, three stomach and two gland infections were found.

In addition to the tent collections, mosquitoes were taken in the usual catching stations of Marikanave. Of 343 anophelines so caught, eight stomach infections and none of glands infections were found.

Subsequent to the partial irrigation of the new Irwin Canal area, an epidemic of malaria occurred. Dissections were made of 707 anophelines caught in houses of this area in October and November. Infections were found in sixteen stomachs and ten glands.

Malaria survey of the marginally noted towns or rural areas of the State were done during the year and recommendations made for control measures. By the end of the year, no action had been taken on these recommendations.

1. Sivasamudram.
2. Akkihebbal
3. Chatnahalli
4. Hosakote town
5. Bhadravathi
6. T.-Narasipur
7. Irwin Canal Area

TABLE 1.

Blood and Spleen Examinations made in three Experimental Malaria Stations.

Protected Zone.

	0-9			10-19			20 and over			All ages		
	No. Ex.	No. Inf.	Per cent Inf.	No. Ex.	No. Inf.	Per cent Inf.	No. Ex.	No. Inf.	Per cent Inf.	No. Ex.	No. Inf.	Per cent Inf.
Spleen not examined ...	14	5	35.7	11	0	0.0	53	45	7.5	78	9	11.5
Spleen Negative ...	492	35	7.1	216	19	8.8	126	5	4.0	834	59	7.1
P ...	146	28	19.2	89	11	12.4	19	1	5.3	244	40	16.4
1 ...	187	48	25.7	88	16	18.2	20	3	15.0	295	67	22.7
2 ...	99	22	22.2	76	14	18.4	20	3	15.0	195	39	20.0
3 ...	38	7	18.4	22	3	13.6	21	2	9.5	81	12	14.8
4 ...	3	1	33.3	1	0	0.0	4	0	0.0	8	1	12.5
5 ...	...	...	...	...	...	...	2	0	0.0	2	0	0.0
All persons with palpable spleen.	473	106	22.4	276	44	15.9	86	9	10.5	825	159	19.3
Grand total, all spleens	979	146	14.9	503	63	12.5	265	18	6.8	1737	227	13.1
Spleen rates ...	965	473	49.0	492	276	56.1	212	86	40.6	1659	825	49.7

TABLE 2.

Blood and Spleen Examinations made in three Experimental Malaria Stations.

Peripheral Zone.

	0-2			10-19			20 and over			All ages		
	No. Ex.	No. Inf.	Per cent Inf.	No. Ex.	No. Inf.	Per cent Inf.	No. Ex.	No. Inf.	Per cent Inf.	No. Ex.	No. Inf.	Per cent Inf.
Spleen not examined ...	8	3	37.5	8	3	37.5	19	5	26.3	35	11	31.4
Spleen negative ...	200	21	10.5	76	8	10.5	21	4	19.1	297	33	11.1
P ...	40	8	20.0	31	5	16.1	10	2	20.0	81	15	18.5
1 ...	77	21	27.3	30	7	23.3	9	1	11.1	116	29	25.0
2 ...	43	11	25.6	20	9	45.0	3	1	100.0	66	21	31.8
3 ...	17	6	35.3	12	3	25.0	3	1	33.3	32	10	31.3
4 ...	2	0	0.0	2	0	0.0	1	0	0.0	5	0	0.0
5 ...	...	...	...	1	0	0.0	...	...	...	1	0	0.0
All persons with palpable spleen.	179	46	25.6	96	24	25.0	26	5	19.2	301	75	24.9
Grand total, all spleens	387	70	18.1	180	35	19.4	66	14	22.2	633	119	18.8
Spleen rate ...	379	179	47.2	172	96	55.8	47	26	55.3	598	301	50.4

TABLE 4.
Species of Malaria Parasites.

Age	NAGENHALLI			MUDIGERE			HIRIYUR			MARIKANAVE			PALAHALLI			TOTAL FOR YEAR																				
	Total Number Infected	Benign Tertian	Malignant Tertian	Quartan	No. Inf.	Per cent Inf.	Total Number Infected	Benign Tertian	Malignant Tertian	Quartan	No. Inf.	Per cent Inf.	Total Number Infected	Benign Tertian	Malignant Tertian	Quartan	No. Inf.	Per cent Inf.	Total Number Infected	Benign Tertian	Malignant Tertian	Quartan														
0-9	10	...	1	10-0	9-90-0	16	8-50-0	5-81-2	3	18-7	29	16-55-2	4	13-8	9-81-0	42	22-52-4	14	33-3	6	14-3	50	13-26-0	6	12-0	31	62-0	147	59-40-1	30	20-4	58	39-5			
10-19	3	1-33-3	...	...	2-66-7	20	2-10-0	13-65-0	5	25-0	15	7-46-3	5	33-7	3-20-0	17	10-58-8	3	17-6	4	23-6	9	1-11-0	1	11-0	7	77-8	64	21-32-8	22	34-4	21	32-8	
20 and over	3	1-33-3	...	...	2-66-7	...	...	...	...	...	3	0-0-0	1	33-3	2-66-7	12	9-75-0	3	25-0	...	...	...	...	...	...	...	...	18	10-55-6	4	22-2	4	22-2
All ages ...	16	2-12-5	1	6-3	13-81-2	36	10-27-8	18	50-0	8	22-2	47	23-48-9	10	21-3	14	29-8	71	41-57-7	20	28-2	10	14-1	59	14-28-7	7	11-9	38	64-4	22-9	90	39-3	56	24-5	83	36-2

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TABLE 5.
Larval and Adult Catches in Control Areas.

Species	January 1, to December 31, 1931						January 1, to December 31, 1932					
	Nagenballi		Hiriyur		Mudigere		Nagenballi		Hiriyur		Mudigere	
	Ptd. Zone	Pl. Zone	Ptd. Zone	Pl. Zone	Ptd. Zone	Pl. Zone	Ptd. Zone	Pl. Zone	Ptd. Zone	Pl. Zone	Ptd. Zone	Pl. Zone
<i>A. acoutus</i>	...	43	16	5	...	13	272	9	9	...	...	3
<i>A. aithkenii</i>	...	...	...	...	...	...	...	...	...	...	...	...
<i>A. barbirostris</i>	...	2	3	4	...	11	...	...	...	...	5	...
<i>A. culicifacies</i>	279	1,037	281	423	30	47	1,007	391	934	64	64	50
<i>A. fuliginosus</i>	75	300	8	7	38	112	628	7	20	72	72	69
<i>A. hyrcanus</i>	316	120	...	...	3	34	111	2	1	21	21	82
<i>A. jamesii</i>	9	68	...	...	25	133	98	...	...	45	45	111
<i>A. jeyporiensis</i>	...	20	...	...	959	4,866	153	...	...	2,372	2,372	7,251
<i>A. karwari</i>	...	...	...	...	46	113	...	...	...	3	3	17
<i>A. leucosphyrus</i>	...	...	...	...	1	...	...	...	...	1	1	...
<i>A. listoni</i>	64	415	73	117	11	37	653	176	479	13	13	19
<i>A. maculatus</i>	...	...	...	...	1	3	...	...	...	...	...	1
<i>A. maculipalpis</i>	3	9	2	3	3	3	11	...	2	1	1	8
<i>A. majidi</i>	...	...	5	...	3	3	...	...	...	...	...	2
<i>A. insulaeflorum</i>	...	...	...	...	...	...	...	...	...	...	...	...
<i>A. pallidus</i>	...	11	1	2	4	12	21	1	4	2	2	4
<i>A. philippinensis</i>	...	...	...	...	...	...	...	...	...	...	...	...
<i>A. stevensi</i>	3	6	296	670	...	...	9	142	449	3	3	1
<i>A. subpictus</i>	510	561	442	757	41	103	791	1,986	2,408	53	53	56
<i>A. tessellatus</i>	5	6	2	1	37	60	18	4	12	26	26	59
<i>A. turkhudi</i>	...	...	...	...	...	...	1	...	1	...	...	1
<i>A. vagus</i>	272	527	99	134	120	193	387	81	63	85	85	168
<i>A. varuna</i>	...	...	...	...	...	...	...	4	4	6	6	7

TABLE 6.
Bangalore Spleen Surveys.

Area	Survey began on June 22, 1927		Survey began on July 6, 1928		Survey began on July 15, 1929		Survey began on July 17, 1930		Survey began on July 17, 1931		Survey began on July 18, 1932	
	Number Examined	Spleen Rate	Number Examined	Spleen Rate	Number Examined	Spleen Rate	Number Examined	Spleen Rate	Number Examined	Spleen Rate	Number Examined	Spleen Rate
Lal-Bagh Area	152	37.5	127	26.0	145	14.5	134	16.4	189	1.6	186	1.1
Malleswaram Area	221	31.2	188	8.5	257	12.8	295	8.9	348	...	415	0.2
Chamarajpet Area	156	21.8	261	13.8	181	6.1	184	3.7	147	...	175	0.6
Basavangudi Area	164	15.2	200	8.0	213	4.2	206	7.3	290	0.8	331	1.2
City Area	166	8.4	161	4.8	315	7.3	327	4.2	497	1.0	515	0.8
Total	859	23.2	937	11.5	1,111	8.7	1,095	6.1	1,471	0.6	1,622	0.7

TABLE 7.

Larval and Adult Catches in Bangalore City.

Species	January 1, to Dec. 31, 1931					Adult F.	January 1, to Dec. 31, 1931					Adult F.
	Number of Larvae and Pupae						Number of Larvae and Pupae					
	2	3	4	P	Total		2	3	4	P	Total	
<i>A. barbirostris</i>	2	4	...	...	6	...	22	23	5	...	50	...
<i>A. culicifacies</i>	4	5	3	...	12	35	61	2	4	...	70	25
<i>A. fuliginosus</i>	9	19	4	...	32	157	9	8	1	...	18	50
<i>A. hyrcanus</i>	18	25	15	...	58	6	243	85	47	4	379	7
<i>A. jamesii</i>	...	...	...	...	...	...	...	...	...	...	...	...
<i>A. jeyporiensis</i>	6	2	7	...	15	...	7	2	...	...	9	6
<i>A. listonii</i>	5	1	3	...	9	1	27	1	...	...	28	1
<i>A. maculatus</i>	...	...	...	...	...	...	...	...	1	...	1	...
<i>A. maculipalpis</i>	...	...	...	...	...	...	3	...	2	...	5	...
<i>A. pallidus</i>	...	...	2	...	2	7	...	2	...	...	2	10
<i>A. subpictus</i>	157	128	75	...	360	1,063	2,004	921	311	8	3,288	1,347
<i>A. stephensi</i>	14	17	8	...	39	26	1,082	1,500	1,832	4	3,918	127
<i>A. vagus</i>	18	9	1	...	23	67	30	7	...	...	37	65

TABLE 8.

Larval and Adult Catches in Mysore City.

Species	Number of Larvae and Pupae					No. of Adult F
	2	3	4	P	Total	
<i>A. aconitus</i>	...	...	...	...	...	5
<i>A. barbirostris</i>	...	...	...	...	...	1
<i>A. culicifacies</i>	51	34	49	...	132	389
<i>A. fuliginosus</i>	125	123	33	21	302	410
<i>A. hyrcanus</i>	363	369	201	27	960	3
<i>A. jamesii</i>	32	21	8	...	61	9
<i>A. jeyporiensis</i>	38	42	10	...	90	...
<i>A. listonii</i>	...	...	...	...	...	...
<i>A. maculipalpis</i>	178	113	49	5	345	27
<i>A. maculipalpis</i>	...	...	1	...	1	...
<i>A. pallidus</i>	20	31	28	...	79	2
<i>A. stephensi</i>	43	32	24	2	101	15
<i>A. subpictus</i>	567	612	457	118	1,754	1,060
<i>A. vagus</i>	89	71	25	3	188	221

(b) Hookworm Campaign Unit.

The campaign of mass treatment in the plantations in the Kadur and Hassan Districts commenced on 1st October 1931 and was continued till the 9th of March following. The Unit operated in the following areas :—

- | | |
|---------------------|--------------------|
| 1. Balehonnur. | 6. Saklespur. |
| 2. Sangemeswarapet. | 7. Yeslurpet. |
| 3. Chikmagalur. | 8. Sukravarasante. |
| 4. Lingadahalli. | 9. Hanbal. |
| 5. Tadasa. | 10. Arehalli. |

The aid of the cinema propaganda was not availed of in this campaign, as it was thought unnecessary to repeat the shows in the same area covered in previous years.

The hookworm unit field laboratory having been removed to the Public Health Institute at Bangalore, systematic examination of faecal specimens, both before and after treatment was arranged by sending the samples by post to the Institute. Specimens were collected in seven estates both before and after treatment, except at Kathlekahn where after treatment samples were not received. The details of hookworm infestation are set down in table below :—

Table Showing the Result of Hookworm Examination before and after the Administration of the Treatment.

Name of Plantation	Before Treatment		After Treatment	
	% Infected	Av. Egg. Count	% Infected	Av. Egg. Count
1. Gantanaik ...	10.0	30	3.6	64.3
2. Karady Kahn ...	70.0	1420	4.2	8.3
3. Kathlekahn ...	77.1	1705.7	...	...
4. Uggalli ...	52.6	605.3	...	...
5. Bettadamane ...	15.3	69.3	...	...
6. Arehalli ...	84.6	1292.3	10.0	95.0
7. Biccode ...	30.0	230	...	...

On the first April the Health Officer in charge of the Hookworm Unit was drafted for charge of the Irwin Canal tract Health Survey sanctioned in G. O. No. 1446—K. S. S. 4942, dated 12th March 1932. The survey was commenced from Krishnarajasagara where the Canal starts. The survey party which consisted of the Health Officer, two Assistant Sanitary Inspectors, a temporary clerk and three menials, moved in the canal zone visiting the villages and collecting notes in respect of population, registration of births and deaths, history of previous epidemics, etc., from the village officials. Observations of general sanitary conditions as regards the character of soil, site and surroundings, housing conditions, manner of rubbish

disposal, privy arrangements and condition of water-supply were made and recorded. Systematic examinations of all available people in the village were conducted to gauge the degree of malaria, hookworm and other helminthic infections, state of vaccination and other morbid conditions in the locality. Data collected in respect of each village or hamlet together with special recommendations suited to local conditions were drawn up in individual reports.

The party was in camp till the 1st October, that is, for a period of six months and covered a substantial portion of the area just coming under the new irrigation scheme or likely to come under it in the near future. In all 161 villages including 44 villages situated just outside the canal tract were surveyed. The data obtained and the results of the examination varied to a considerable extent between place to place. However, for comparative purposes the 161 villages are grouped, according to their situation in the area, either commanded by the main canal or by one or other of its several branches as under:—

- GROUP I. Consisting of 25 villages situated in the area commanded by the main canal (6,000 acres).
- GROUP II. Consisting of 23 villages situated in the area commanded by the Maddur branch (30,000 acres).
- GROUP III. Consisting of 36 villages situated in the area commanded by the Cauvery branch (20,000 acres).
- GROUP IV. Consisting of 22 villages situated in the area commanded by the Keragode branch (10,000 acres).
- GROUP V. Consisting of 44 villages situated in the area just outside the irrigable area.

The data obtained with necessary recommendations are embodied in a special report submitted to the Director of Health.

Though the findings generally were somewhat similar to what obtained in other parts of the State, certain special conditions seem to have affected the degree of malaria in the area as was evident from a comparative study of previous and present records of survey for splenic index.

During the present survey a systematic examination of all available children in the villages by the Christopher's method of spleen examination was conducted and detailed measurements obtained. The average spleen rates for

the different groups of villages are as given in the table below :—

Table showing the Splenic Indices for the different groups of Villages.

Group	Area commanded by	Number of Villages in the Group	Average Spleen Rate for the Group
I.	The main canal ..	23	59·8
II.	The Maddur branch ..	37	59·9
III.	The Cauvery branch ..	36	37·7
IV.	The Keragode branch ..	22	20·7
V.	Outside the irrigable area	44	41·0

Forty-eight of these villages were surveyed in previous years. In groups II and III particularly, where 17 villages in each were previously surveyed, a spleen rate of only 11·3 was recorded. These are the groups of villages situated in the area where irrigation has already commenced or likely to be commenced in the near future, the network of canals and distributaries having been completed. Special recommendations were made in respect of these to control malaria. Twenty-one of the villages situated in low-lying tracts were recommended to be shifted to better situations.

During the last quarter of the year, a member of the unit toured in the Shimoga District and visited the Medical Institutions in the following places :—

- | | |
|-----------------|--------------------|
| 1. Shimoga | 10. Agumbe |
| 2. Chennagiri | 11. Megaravalli |
| 3. Basavapatna | 12. Devangi |
| 4. Santhebennur | 13. Humachadakatte |
| 5. Honnali | 14. Nagar |
| 6. Nyamati | 15. Anjanapura |
| 7. Shikarpur | 16. Hosanagar |
| 8. Malur | 17. Bhadravathi |
| 9. Thirthahalli | |

where the campaign of mass treatment for Hookworm disease of the indigenous population was demonstrated to the local medical officers since this area was not visited in previous years. As this officer had to go on leave the entire district could not be covered. Sixteen institutions still remain which will be taken up in due course.

It may be mentioned here that in spite of several circulars and reminders the response from the several Medical Officers in the heavily infected zones is still not very satisfactory.

Table showing the details of hookworm mass treatment in the heavily infected Districts

District	No. of Medical Institutions	No. Treated for Hookworm			Total attendance
		Male	Female	Total	
Shimoga ..	34	2,116	1,195	3,341	70,166
Kadur ..	30	3,308	2,125	5,434	164,115
Hassan ..	42	4,720	2,177	7,051	168,635
Mysore ..	52	708	94	1,984	234,107

From the table above it is seen that out of an attendance of 637,023 patients only 17,810 were administered the special drugs recommended, thus averaging 2·7 per cent of the total attendance. This is not in keeping with the spirit of the present campaign. Perhaps further visits to the several institutions are needed to understand the difficulty of the Medical Officers and persuade them to lend a more hearty co-operation.

(c) Control of Epidemic Diseases.

Vaccination.—Government Order No. G. 9181-91—San. 7-27-107, dated 20th May 1932 directed that the District Vaccination Staff be placed under the control of the District Health Officers in Mysore and Shimoga Districts which have full-time Health Officers. This is desirable as the responsibility for the regulation and progress of vaccination in the Districts, as well as the disciplinary control over the vaccinators being vested entirely in the Presidents of Local Bodies, the department has no control over the work of the Vaccinators.

During the year under report 245,078 vaccinations were done as compared with 169,887 in the previous year giving an excess of 75,191 vaccinations. Of these 237,691 were done by the District Board and Municipal Vaccinators and 7,387 by medical subordinates. Detailed statistics of vaccinations done in each District and the computed

success rates are given in Table 9, both for primary and for re-vaccinations. Particulars of vaccinations done by the medical subordinates are given in Table 10.

An average number of 169 vaccinators was employed during the year doing 1,406 vaccinations per vaccinator on the average against 944 in 1931.

In district board and municipal vaccinations the success rate in Mysore State was 83·37 in primary and 44·47 in re-vaccinations. In dispensary vaccinations the success rates were 84·85 and 36·55 respectively. The unknown cases in primary and re-vaccinations were 6·07 per cent and 5·06 per cent in the district board and municipal vaccinations and 7·10 per cent and 16·80 per cent in Dispensary vaccinations. These indicate that the success rate is not any the higher in vaccinations done by medical subordinates.

The cost of the vaccination establishment amounted to Rs. 72,888-4-3, the cost per vaccination being four annas and nine pies. The cost per successful vaccination was six annas and ten pies.

Anti-plague Inoculations.—The prevalence of plague was more or less uniform in all the Districts a total of 7,232 deaths being reported. Anti-plague measures were employed in many of the infected localities the chief measure being anti-plague inoculation. As per reports 234,295 inoculations were done in Mysore State, the inoculated population being approximately 3·6 per cent. In other words out of every thousand of population 36 persons were inoculated during the year.

Statistics of inoculations in each month of the year are given for each District in Table 12.

TABLE 9.
Statistics of Primary and Revaccinations done in the Districts and Cities during the year 1932.

District	2	3			6	7	8		9
		Number Vaccinated					Primary Vaccinations		
	Estimated Population in 1932.	Total	Male	Female	Average No. of Vaccinators employed during the year 1932	Average No. per Vaccinator	Total	Unknown	
Bangalore	1,103,831	34,361	20,180	14,181	26	1,322	26,093	1,840	
Chitaldrug	667,690	15,099	9,609	5,490	10	1,510	14,759	125	
Hassan	598,689	17,937	10,510	7,427	21	854	16,161	1,043	
Kadur	349,628	11,494	6,553	4,941	15	766	9,586	720	
Kolar	856,690	55,739	29,012	26,727	28	1,990	20,665	619	
Mysore	1,525,679	69,075	37,195	31,880	29	2,416	32,970	1,373	
Shimoga	523,690	15,304	9,369	5,835	20	760	14,331	1,211	
Tumkur	873,322	18,782	10,472	8,310	20	939	16,721	1,243	
Total (Mysore State)*	6,499,218	237,691	132,900	104,791	169	1,406	151,106	9,174	
Bangalore City	179,620	12,227	7,396	4,831	4	3,056	6,851	249	
Mysore City	110,273	13,890	8,548	5,342	4	3,472	6,885	502	
Kolar Gold Field	84,755	38,250	19,364	18,886	8	4,781	4,386	...	
C. & M. Station	136,162							Figures not available.	

* Excluding C. & M. Station, Bangalore.

TABLE 9—*concl.*

District	Primary Vaccinations				Revaccinations				Total No. of Successful Vaccinations	Successful Vaccination per 1000 of population
	Successful				Total	Unknown	Successful	Success Rate		
	Under one year	Over 1 & under 6 years	Total of all ages	Success Rate						
	10	11	12	13						
	10	11	12	13	14	15	16	17	18	19
Bangalore	8,889	11,295	21,182	80.99	8,268	528	1,641	19.85	22,773	20.63
Chitaldrug	3,462	6,154	14,592	98.87	340	140	175	51.47	14,767	22.12
Hassan	2,373	8,557	11,880	73.20	1,776	321	310	17.45	12,140	20.28
Kadur	1,162	4,234	7,716	80.49	1,908	373	757	39.67	8,473	24.23
Kolar	7,447	8,758	17,409	84.24	35,074	1,302	17,409	49.64	84,818	40.64
Mysore	10,862	14,223	28,337	85.95	36,105	1,285	17,502	48.48	45,839	30.04
Shimoga	1,690	7,095	10,702	74.68	873	189	262	30.01	10,964	20.74
Tumkur	3,538	9,169	14,265	85.82	2,062	242	447	21.68	14,712	16.85
Total (Mysore State)*	39,422	69,465	125,983	83.37	86,585	4,380	38,503	44.47	164,486	25.31
Bangalore City	3,421	1,631	5,314	77.57	5,376	331	1,299	24.16	6,613	36.82
Mysore City	2,565	2,474	5,393	78.90	7,055	607	115	1.63	5,508	49.95
Kolar Gold Field	2,897	844	3,837	87.48	33,864	1,251	17,310	51.12	21,147	249.51
C. & M. Station	...	...	...	...	...	...	...	...	...	...

* Excluding C. & M. Station, Bangalore.

TABLE 10.
 Statistics of Vaccinations done by Medical Subordinates in Mysore State in the year 1932.

District	Number of Dispensaries	Number of Vaccinations done	Primary and Secondary Vaccinations						Re-vaccination				
			Total	Unknown	Unsuccessful	Under one year	Successful		Total	Unknown	Unsuccessful	Successful	Success Rate
							Over one and under six years	Total of All Ages						Success Rate
Bangalore	80	1,058	718	22	17	363	282	674	845	41	199	105	30.43
Chitaldrug	19	424	276	16	58	162	54	202	148	29	83	86	58.11
Hassan	42	604	402	80	76	296	40	346	202	51	68	80	39.60
Kadur	27	528	339	6	57	192	14	276	189	1	79	109	57.67
Kolar	25	347	211	5	39	87	64	167	136	42	18	76	55.88
Mysore	49	3,629	2,907	195	162	344	489	2,550	732	131	460	131	18.14
Shimoga	30	202	192	98	27	34	17	67	10	...	8	2	20.00
Tumkur	22	595	287	6	43	170	56	238	308	48	96	164	53.25
Total (Mysore State)	244	7,387	5,327	378	429	1,578	966	4,520	2,060	316	961	753	36.55

TABLE 11.
Cost of the Vaccination Establishment in Mysore State in the year 1932.

District	Establishment			Expenditure						Paid from			
	Vaccinators			Pay of Establishment	Travelling Allowances	Contingencies	Total	Local Funds	Municipality	Malnad Improvement	Total		
	Total	I	II									III	
Bangalore	26	6	6	14	Rs. a. p. 7,360 0 0	Rs. a. p. 2,112 0 0	Rs. a. p. 4,405 0 0	Rs. a. p. 13,877 0 0	Rs. a. p. 10,897 0 0	Rs. a. p. 2,980 0 0	Rs. a. p. ...	Rs. a. p. 13,877 0 0	
Chitaldrug	10	3	3	4	2,940 0 0	960 0 0	108 0 0	4,008 0 0	4,008 0 0	...	...	4,008 0 0
Hassan	21	4	6	11	5,946 4 4	1,563 5 4	2,646 9 3	10,156 2 11	7,784 2 5	906 1 6	1,465 15 0	10,156 2 11	
Kadur	15	3	2	10	6,493 2 0	...	...	6,493 2 0	4,911 0 0	...	1,582 2 0	6,493 2 0
Kolar	28	...	...	...	4,898 5 0	1,862 5 2	1,442 0 0	8,202 10 2	7,718 10 2	484 0 0	...	8,202 10 2
Mysore	29	6	3	15	10,391 0 6	...	2,233 7 8	12,624 8 2	8,624 7 10	4,000 0 4	...	12,624 8 2	
Shimoga	20	3	3	14	4,414 5 0	1,862 5 2	1,442 0 0	7,718 10 2	7,718 10 2	...	...	7,718 10 2
Tumkur	20	5	5	10	5,585 8 8	1,665 4 10	2,557 5 4	9,808 2 10	9,808 2 10	...	...	9,808 2 10
Total (Mysore State)*	169	...	...	...	45,028 9 6	10,025 4 6	14,834 6 3	72,888 4 3	61,470 1 5	8,370 1 10	3,048 1 0	72,888 4 3
Bangalore City	4	1	1	2	1,180 0 0	...	1,800 0 0	2,980 0 0	...	2,980 0 0	...	2,980 0 0	
Mysore City	4	...	2	2	1,286 8 8	...	2,233 7 8	3,520 0 4	...	3,520 0 4	...	3,520 0 4	
Kolar Gold Field	8	...	...	8	484 0 0	...	...	484 0 0	...	484 0 0	...	484 0 0
C. & M. Station.	...	...	...	...	...	...	...	...	...	...	...	...

*Excluding C. & M. Station, Bangalore.

TABLE 12.
Statistics of Anti-plague inoculations done in Mysore State in the year 1932.

District	Estimated population in 1932	Month												Anti-plague inoculations	
		January	February	March	April	May	June	July	August	September	October	November	December	Number	Rate per cent population
Bangalore	1,103,831	12,832	7,876	2,606	1,193	990	1,023	3,043	6,762	7,655	6,359	5,342	2,430	58,011	5.25
Chitaldrug	667,690	431	634	172	495	48	13	591	2,728	5,601	4,345	4,402	7,017	26,479	1.74
Hassan	598,689	...	...	...	...	...	...	...	...	...	...	...	...	11,759	1.96
Kadur	349,628	1,226	955	632	592	210	955	360	2,667	2,784	1,097	1,712	1,146	14,386	4.10
Kolar	856,690	7,711	8,559	4,817	1,302	988	63	289	652	3,923	1,865	1,775	4,569	36,513	4.18
Mysore	1,525,679	1,755	2,006	1,431	2,380	1,287	2,971	3,333	8,310	21,802	4,250	3,508	2,541	55,554	8.32
Shimoga	528,690	1,064	348	187	37	110	358	1,268	8,493	4,587	2,892	1,348	1,862	24,554	2.87
Tumkur	873,322	2,862	1,960	154	132	172	...	221	187	300	324	105	644	7,091	1.35
Total (Mysore State)	6,499,218	...	...	...	...	...	...	...	...	...	...	...	...	2,34,295	3.60
Bangalore City	179,620	1,966	2,998	795	203	...	16	1,026	1,616	865	2,931	1,968	1,411	15,784	8.79
Mysore City	110,273	242	189	...	30	18	...	273	3,766	13,620	2,349	454	449	21,890	19.40
Kolar Gold Field	84,755	3,438	1,537	1,749	332	134	63	88	88	2,935	1,479	954	3,620	16,417	19.37
C. and M. Station	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Figures not available.

BUREAU OF LABORATORIES.

(a) Public Health Institute.

The work at the Institute is under three main sections, *viz.*, Bacteriological, Chemical and Medico-legal.

In the Bacteriological section, 9,362 examinations were made during the year as against 12,305 in the previous year.

TABLE 1.

Examinations	Posi- tive	Nega- tive	Total 1932
1. Blood for Wassermann test ...	2,800	3,573	6,373
2. Do Widal's test ...	143	271	414
3. Do Kahn's test ...	2	1	3
4. Do Malarial Parasites ...	15	57	72
5. Do Blood count ...	...	...	61
6. Do Urea ...	...	...	1
7. Sputum for Tuberculosis ...	12	52	64
8. Do Pneumococci ...	1	...	1
9. Smear for Gonococci ...	23	22	45
10. Do Filaria ...	3	3	6
11. Smear from rat for B. Pestis ...	3	32	35
12. Brain of dog for rabies ...	1	...	1
13. Motion for Ova ...	15	64	79
14. Do Cholera Vibrios ...	3	12	15
15. Do Dysentery bacilli ...	4	7	11
16. Do Typhoid do ...	3	43	46
17. Urine for B. Coli ...	11	7	18
18. Smear for Leptra bacilli ...	1	16	17
19. Pathological specimen for section cutting.	...	...	10
20. Preparation of Auto vaccine ...	...	...	40
21. Water samples ...	...	...	1,279
22. Throat smear for Diphtheria bacilli ...	...	...	3
23. Motion for Tubercle bacilli ...	...	3	3
24. Smear from the ear ...	...	...	1
25. Water for B. Typhosus ...	...	...	714
26. Do Cyclops ...	...	...	1
27. Relapsing fever ...	...	2	2
28. Urine for Typhoid ...	2	44	46
29. Berk-feld candle ...	...	...	1
Total ...	...	...	9,362

A very large number of waters examined was received from the Sanitary Engineer, Rockefeller Foundation and the Health Department, Bangalore City. They were

examined for the presence of enteric and cholera. No evidence of contamination was found.

Extra bacteriological work was carried out in connection with the Typhoid epidemic in Bangalore City.

The Wassermann technique has been standardised and it is found that the complement titre has been maintained at a reasonable level throughout the year. Kolmer has recently pointed out that Ice-box complement fixation test is an efficient check on the routine technique carried out at 37-deg. C. The Ice-box test has been in vogue in the Institute for three years and it is found that the discrepancy between this and the routine test at 37-deg. C. varies only between 2 and 2½ per cent, specially as regards the binding of the complement.

In the Typhoid survey carried out in Bangalore City, a very few positive isolations of *B. Typhosus* were obtained in spite of a rigid standardised technique employed. On the other hand, other bacteria of the "Salmonella" group of organisms were often isolated. Possibly other bacterial infections are also responsible in causing enteric type fevers. In cases where blood only was examined, a great number of positives for only enteric was noticed. Great care was taken in the maintenance of the virulence of typhoid group of organisms. It was noticed that 'Somatic' agglutination was by far the most commonly found in widal reactions.

Preventive vaccines against typhoid, A and B group of organisms were prepared from strains isolated locally and supplied to the municipality at their request. As this work was attempted very recently, it is not possible to assess the protective value of the vaccines.

In the Chemical section 615 specimens were received for analysis chiefly from Government departments and a few from private persons as against 351 in the preceding year :—

Number	Items	Number of specimens	From
1	Urine ...	310	Government
2	Waters ...	86	Do
3	Blood sugar estimation ..	39	Do
4	Tea ...	34	Do

Number	Items	Number of specimens	From
5	Wash ...	22	Government
6	Aerated waters ...	22	Do
7	Ghee ...	17	
8	Butter ...	10	Do
9	Coffee powder ...	10	Do
10	Toddy ...	8	Do
11	Blood Calcium ...	7	Do
12	Spirits ...	6	Do
13	Castor Oil ...	5	Government & Private
14	Bread ...	4	Do
15	Quinine tablets ...	4	Do
16	Soap ...	3	Government & Private
17	Disinfectant ...	3	Do
18	Pyridine ...	3	Do
19	Sulphate of Alumina ...	2	Do
20	Sweetmeats ...	2	Government
21	Brandy ...	2	Do
22	Woodnaphtha ...	2	Do
23	Grape fruit ...	2	Do
24	Rum ...	1	Do
25	Kolu Kalli ...	1	Do
26	Edible fat ...	1	Do
27	Muck ...	1	Do
28	Halva ...	1	Do
29	Sewage effluent ...	1	Do
30	Bengal gram ...	1	Do
31	Paris green ...	1	Do
32	Cooked ragi ...	1	Do
33	Milk powder ...	1	Private
34	Groundnut oil ...	1	Government
35	Opium ...	1	Do
	Total ...	615	

Disturbances in the use of Antigen due to acidified distilled water with a low P_H were very often noticed and it is found necessary to use perfectly neutral water for such reaction. This was observed to be more common during summer months.

Waters sprayed with Parisgreen were sent by the executive staff of Bangalore City Municipality for analysis. These were found to be free from arsenic, a finding which admits of no rational explanation as yet.

Chemical analyses of butter and ghee were done.

Eighty-six waters received from various Districts were examined chemically.

No.	Name of the District	No. of Samples	Remarks
1	Mysore ...	8	Sent by the Public.
2	Bangalore ...	37	Works Department,
3	Kolar ...	3	Bureau of Sanitary Engineering,
4	Hassan ..	3	Medical Department,
5	Shimoga ...	14	and the Local Bodies.
6	Tumkur ...	8	
7	Kadur ...	5	
8	Chitaldrug ...	8	
	Total ...	86	

In the Medico Legal Section 196 cases with 663 articles were received for examination as compared with 198 cases with 852 articles in the preceding year.

No.	Items	Number of Cases	Number of Articles
1	Blood ...	82	266
2	Suspected human poisoning ...	84	311
3	Abortion ...	10	42
4	Acid ...	1	1
5	Rape ...	14	33
6	Oil ...	1	1
7	Ragi ...	1	1
8	Explosives ...	2	4
9	Hanging ..	1	4
	Total ...	196	663

In 42 cases mammalian blood, in 8 arsenic, in 3 mercury, in 1 opium, in 1 carbon-dioxide, in 1 croton oil, in 1 oleander, in 4 spermatozoa and in 2 formaldehyde were detected.

A greater number of poisons were detected than were before. One of the rare poisons used was "Formaldehyde". There are on record very few authentic cases of poisoning with Formaldehyde. The commonly used poison appears to be mercury.

As before, Bangalore and Mysore districts supplied much of the medico-legal material.

Under other examinations, 3,866 faecal samples were received for Helminthic infection and the results are classified below :—

1.	No. Positive for Hookworm	...	1,707
2	No. ,, ,, Ascaris	...	828
3.	No. ,, ,, Trichiuris	...	222
4.	No. ,, ,, Others	...	69

Statement showing the money value of the work done at the Public Health Institute during the year 1932 :—

No.	Items	No. of Samples	Rate	Amount	Total
I. BACTERIOLOGICAL SECTION.					
1	Wassermann reaction	6,373	10	63,730	82,530
2	Waters	1,279	10	12,790	
3	Preparation of Auto-vaccine	40	25	1,000	
4	Other specimens	1,670	3	5,010	
II. CHEMICAL SECTION.					
1	Waters	86	25	2,150	8,060
2	Urine	310	3	930	
3	Blood sugar estimation	39	15	585	
4	Blood calcium	7	10	70	
5	Other specimens	173	25	4,325	
III. MEDICO-LEGAL SECTION.					
1	Medico-legal cases	196	25	4,900	4,900
Total					95,450

Statement according to districts of the blood samples examined for Wassermann of the Institute:—

District	Positive	Negative	Total
Mysore	457	745	1,202
Bangalore	1,136	1,250	2,386
Kolar	274	273	547
Hassan	179	185	364
Shimoga	255	356	611
Tumkur	231	390	621
Kadur	150	200	350
Chitaldrug	118	174	292
Total for the State ...	2,800	3,573	6,373

(b) Vaccine Institute.

As in previous years calves required for lymph production were supplied by an approved contractor. Twenty one calves remained at the close of the previous year, including four done calves. Four hundred and eight calves were purchased during the year under report making a total of 429 calves. Of these, 31 were buffalo-calves for production of "seed" lymph and the rest cow-calves for the production of issue lymph.

The gross cost of calves purchased during the year was Rs. 4,001-14-0 and the net cost after deducting the proceeds by sale of "done" calves Rs. 2,953-13-0 or an average of Rs. 7-3-10 per calf as against Rs. 9-5-10 during the year previous.

Three hundred and seventy-six cow-calves and 31 buffalo-calves were vaccinated during the year.

Of the calves vaccinated 10 or 2·4 per cent had to be rejected owing to abnormal reaction. Quantity of pulp collected was 41,617 grains (including 11,322 grains used in manufacture of Glycerine lymph for "seed", experiments, etc.) equivalent to 416,170 cases. The average yield per calf vaccinated was 105 grains of pulp against 132 in the year previous. The fall in the average is rather difficult to explain and was probably due to the "calf" factor.

Two "waiting" cow-calves and one vaccinated cow-calf died. After the postmortem examination, the deaths were declared to be due to—

Occlusion of the pyloric orifice	...	1	"Waiting Calf"
Anæmia and Enteritis	...	1	"Waiting Calf"
Anæmia and Debility	...	1	"Done Calf"

The usual precautions to prevent the possible spread of any communicable diseases amongst other calves in the stalls were taken.

The expenditure under feeding amounted to Rs. 723-8-0 or an average of Rs. 1-11-3 against Rs. 788-10-0 or an average of Rs. 2-2-10 per calf during the year previous. The fall was due to more satisfactory arrangements with the contractor to remove the done calves from the Institute immediately they were available. This resulted in some savings under feeding of calves.

The amount realised by the sale of done calves was Rs. 1,048-1-0 or an average of Rs. 2-9-0 per calf as against Rs. 2-2-2 per calf during the year previous.

Lanoline vaccine continued to be issued during the year. The quantities issued as detailed in Table 2 were enough for 2,32,177 cases as against 2,00,565 cases during the year previous. Besides this, it was possible to issue only 17,400 cases of vaccine outside the State as against 46,920 cases in the previous year. There was no difficulty in meeting the full demand for vaccine at any time.

TABLE 2.

Particulars of issue of Lanoline lymph from the Vaccine Institute, Bangalore, during the year 1932.

District	Vaccinators or Medical Officers and Subordinates	1931	1932
Bangalore	Vaccinators	21,835	22,670
	Medical Officers and Subordinates	2,565	3,301
Mysore	Vaccinators	26,382	23,952
	Medical Officers and Subordinates	2,142	4,130
Kolar	Vaccinators	19,370	17,670
	Medical Officers and Subordinates	354	836
Tumkur	Vaccinators	21,080	20,733
	Medical Officers and Subordinates	461	596
Shimoga	Vaccinators	18,509	18,702
	Medical Officers and Subordinates	495	817
Hassan	Vaccinators	18,910	18,420
	Medical Officers and Subordinates	1,087	615
Kadur	Vaccinators	13,056	20,010
	Medical Officers and Subordinates	837	564
Chitaldrug	Vaccinators	17,980	15,725
	Medical Officers and Subordinates	808	601
Health Officer, Bangalore City		9,020	11,260
Do Mysore City		11,975	14,375
Do Rural Health Unit, Mandya		2,075	2,550
Do Kolar Gold Field		10,430	33,430
Model Range		1,193	1,220
	Total	2,00,565	2,32,177
Outstations		46,920	17,400
	Grand Total	2,47,485	2,49,577

Out of a total of 2,49,577 cases for which the lymph was issued, the results of 1,30,756 primary cases or about 52 per cent of total issues have been reported to the Institute against 56 per cent during the year previous. It is hoped that local bodies will see that their vaccination staff do send in the returns to the Institute promptly and regularly. There is no reason why cent per cent returns should not be furnished.

The average percentage of successful primary vaccinations reported between January and June was 86 per cent and that between July and December 94 per cent. The average for the whole year was 90 per cent against 85 per cent for the year previous.

TABLE 3.

Analysis of percentage of successful primary cases of vaccinations by months during the several years.

Months	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923
January	90	89	86	82	82	92	92	93	93	93
February	87	85	86	80	79	83	90	92	92	93
March	86	78	91	65	73	47	87	87	63	86
April	81	79	89	74	78	48	88	82	75	76
May	85	76	93	81	81	71	90	88	90	90
June	88	80	93	87	77	81	87	91	85	90
	86%	81.1%	89.0%	78.0%	78.0%	70.0%	89.0%	89.0%	83.0%	89%
July	92	89	81	83	83	71	89	92	92	93
August	95	86	88	93	83	84	98	94	89	92
September	95	91	86	95	77	83	92	94	85	93
October	93	89	84	94	81	84	93	92	92	90
November	94	92	80	91	75	86	92	92	85	87
December	93	92	87	93	85	84	93	91	94	94
	94%	89.8%	84.3%	91.5%	80.6%	82%	92.5%	92.5%	90%	92%
Yearly general average	90%	85.0%	87.0%	85.0%	79.0%	76.0%	91.0%	91.0%	86.0%	90.0%

Results classified according to months for the past 10 years (1923 to 1932) are tabulated in Table 3. Those classified according to districts and months, for the whole year are furnished in Table 5. Reporting, however, is obviously too defective and no useful comment or inference as to seasonal and geographical variations of results is possible.

TABLE 4.
Districtwar classification of results of Primary Vaccination reported to the Vaccine Institute.

Districts	January to June 1932				July to December 1932					
	Total No. of cases vaccinated	Successful	Unsuccessful	Unknown	Percentage	Total No. of cases vaccinated	Successful	Unsuccessful	Unknown	Percentage
Bangalore	8,371	6,403	1,225	743	84	8,847	7,720	477	650	94
Mysore	13,968	11,931	1,332	705	90	11,840	10,810	708	322	93
Kolar	6,960	5,868	742	350	89	6,774	6,220	307	287	95
Tumkur	8,354	6,785	914	655	88	7,820	7,010	316	494	96
Shimoga	5,900	4,523	887	490	84	6,242	5,517	466	259	92
Hassan	7,854	6,811	967	576	87	6,767	5,834	596	337	91
Kadur	3,859	2,923	602	334	82	3,412	2,956	281	175	91
Chitaldrug	5,994	4,829	798	367	86	4,925	4,497	248	180	95
Model Range, Vaccinator	464	426	27	11	94	543	525	9	9	98
Rural Health Unit, Mandya	1,751	1,422	259	70	84	1,955	1,737	133	65	93
Stations outside the State.	Average for the whole State (For the whole year, January to December).	Average for the whole State	Average for the whole State 86%	Average for the whole State	86	Average for the whole State 8,056	Average for the whole State 7,238	Average for the whole State 628	Average for the whole State 170	94

TABLE 5.

Percentage success of Primary Vaccinations classified by districts monthwar during 1932.

District	January	February	March	April	May	June	July	August	September	October	November	December
Bangalore	88	84	85	76	87	82	90	95	97	92	95	93
Mysore ...	92	90	90	89	89	90	92	96	93	92	94	96
Kolar ...	93	89	86	83	90	92	92	97	96	95	96	96
Tumkur ...	94	88	85	82	91	89	95	97	97	93	96	93
Shimoga ...	87	80	84	78	83	88	92	93	94	92	90	91
Hassan ...	86	86	87	86	87	86	89	90	93	92	92	89
Kadur ...	84	83	81	83	82	84	90	92	93	90	91	92
Chitaldrug	93	89	88	73	74	89	90	96	97	94	95	97
Total (Mysore State).	90	87	86	81	85	88	92	95	95	93	94	93

Reports of the vaccinal state of only 163 attacks of smallpox during the year are available. These are shown in Table 6. The vaccinal state of 1,840 cases known in Mysore State is analysed in Table 7. The protection which vaccination affords amongst all ages against death from smallpox in our State is quite obvious.

TABLE 6.

Analysis of the vaccinal state of 163 cases of smallpox reported from the State in 1932.

Districts	Age 0-5						Age over 5					
	Vaccinated			Unvaccinated			Vaccinated			Unvaccinated		
	Attacks	Deaths	Fatality per cent	Attacks	Deaths	Fatality per cent	Attacks	Deaths	Fatality per cent	Attacks	Deaths	Fatality per cent
Bangalore ...	1	1	...	4	4	...	49	5	...	22	7	...
Mysore ...	...	...	...	6	4	...	18	...	...	11	4	...
Kolar ...	2	...	...	4	3	...	32	1	...	14	4	...
Total ...	3	1	33.3	14	11	78.6	99	6	6	47	15	32

TABLE 7.

Analysis of the vaccinal state of 1,840 smallpox cases recorded in Mysore State available up to date.

Age 0-5						Age over 5					
Vaccinated			Unvaccinated			Vaccinated			Unvaccinated		
Attacks	Deaths	Fatality	Attacks	Deaths	Fatality	Attacks	Deaths	Fatality	Attacks	Deaths	Fatality
		Percent			Percent			Percent			Percent
72	12	17	1177	642	55	233	26	11	368	120	33

The advantage possessed by the vaccinated over the unvaccinated as regards the liability to suffer from a severe type of the disease is obvious from a perusal of the above analysis. Incidentally also it furnishes some evidence regarding the efficacy of our paste which had been used for protection of the vaccinated.

TABLE 8.

Complications and Sequelæ reported in 1932.

District	Number of cases	Age			Complications			Period	
		Infant under 1	1-5	Over 5	Ulcers	Abcess	Erruptions	1st week	2nd week
Kolar Gold Field	...	2	...	2	...	2	...	...	2

The period of occurrence of the complications in the two cases during the second week after vaccination is significant of injury to vesicles due to want of sufficient care in handling the vaccinated. The vaccinators should draw attention to this risk during their visits.

TABLE 9.
Complications and Sequelæ from 1929 to 1932.

Year	District	No. of Cases	Age				Complications			Period		
			Infant under 1	1-5	Over 5	Ulcers	Abscess	Eruptions	1st week	2nd week	3rd week	
1929	Bangalore	2	1	1	...	1	1	...	...	2	...
	Kolar	12	4	8	...	11	1	...	3	9	...	
	Chitaldrug	1	...	1	...	1	...	...	...	1	...
	Tumkur	5	2	3	...	5	...	...	...	5	...
	Mysore	8	4	4	...	...	...	6	...	8	...
1930	Bangalore	1	...	1	...	1	...	...	...	1	...
	Kolar	4	3	1	...	4	...	...	...	4	...
	Chitaldrug	1	...	1	...	...	...	1	...	...	1
	Tumkur	1	...	1	...	...	...	1	...	1	...
1931	Shimoga	4	3	1	...	2	1	1	...	1	3	
1932	Kolar Gold Field.	2	...	2	...	...	2	...	...	2	...
Total		41	17	24	...	25	5	11	3	34	4	

From a detailed study made of the reports of all these cases, it is seen they were all due to sepsis either during vaccination or subsequent injury to vesicles from scratching, etc. Greater care during vaccination and paring the nails of children before vaccination and at the time of inspection will prevent this complication.

TABLE 10.
Statement showing the number of kit-boxes supplied during the year 1932.

No.	Name of Parties	Number of boxes supplied
1.	The Health Officer, Mysore City	4
2.	The President, Municipal Council, Krishnarajpet	1
3.	Do do Kolar Town	1
4.	The President, District Board, Kolar District	10
5.	The President, Municipal Council, Kunigal	1
6.	The Health Officer, Mudigere, (Malaria Station)	2
7.	The President, Municipal Council, Gubbi	1
Total		20

The Superintendent, Vaccine Institute, continued to supervise the vaccinations in the Model Range to test the several strains of lymph produced in the Institute. This range consists of about 111 villages within a radius of about 16 miles of Bangalore. The total number of primary vaccinations done in the Range during the year was 1,007. Ninety-six per cent of these proved successful (Table 4.)

During the year 20 vaccinators were equipped with the new type of kit-boxes on payment by their respective local bodies (Table. 10). This brings up the total number of vaccinators thus equipped to 41 in the State. It is hoped that others also will be equipped early.

Reports of only two instances from Kolar Gold Field of complications and sequelae following vaccination were made to the Institute. Death in one instance and protracted convalescence in the other were stated to have resulted. Both were traced on investigation to have followed uncleanly vaccination by the same vaccinator. The defaulting vaccinator was removed from service. Particulars are analysed in Table 8. The present "domiciliary" type of vaccination does not, under the existing field conditions, permit of satisfactory practice of requisite degree of asepsis in vaccination by the vaccinator. It is hoped that whenever conditions permit "stationary" vaccination, in which all the children to be vaccinated are made to congregate in a place, will be adopted. This is calculated to facilitate, to a greater degree, aseptic vaccination, and prevent or at least minimise, chances of complications.

The following statement shows the Income and Expenditure for 1932 as compared with the previous year.—

Items	1931			1932		
INCOME.	Rs.	a.	p.	Rs.	a.	p.
Sale of vaccinated calves ..	723	12	0	1,048	1	0
Sale of Lymph.—						
Within the State (on account of fixed annual contribution for 1932-33) Rs. 15,540; For actual supplies up to 31st December 1932 to the rest Rs. 2,777-2-0.	14,851	13	8	18,317	2	0

Items	1931	1932
Out Stations ..	4,698 14 0	1,748 14 0
Amount outstanding at the close of the year for supplies during the year. (on account of fixed annual contribution for 1932-33) Rs. 1,904; for actual supplies up to 31st December 1932 to the rest Rs. 1,810-8-0.	4,853 0 0	3,714 8 0
Total ..	25,127 7 8	24,828 9 0
EXPENDITURE.		
Salaries	4,894 0 0	4,806 0 0
Travelling Allowance to Officers...	264 12 0	138 12 0
Establishment	6,554 4 0	5,996 1 0
Cost of calves and experimental animals.	3,804 10 0	4,001 14 0
Cost of feeding	788 11 0	723 8 0
Contingencies—Usual Rs. 3,129-6-6, Unusual Rs. 6,000, (for acquisition of new land effected in April 1932.)	4,267 4 0	9,129 6 6
Total ...	20,573 9 0	24,795 9 0

The following local bodies have availed themselves of the option given by G. O. No. G. 4755—P. H. 32-31-3, dated 12th December 1931, of not accepting the fixed annual contribution as per G. O. No. G. 9466-87—San. 84-29-7, dated 12th March 1931 but agreeing to pay as and when lymph is issued.—

1. President, District Board, Kadur.
2. " " " " Hassan.
3. " Municipal Council, Hassan.
4. " City Municipality, Mysore.

A statement of progress in demand and collection for the several years subsequent to issue of Government Order No. L. 5137-210—Sany. 1925-2, dated 18th January 1926 is detailed in Table 11. It is possible that in some cases

dues might have been credited to the treasury but no intimation of the same has been received in the Institute. Some items might have been shown as outstandings owing to credit not having been given in the books for want of sufficient information to identify the amounts. Even the monthly departmental credit statements sent from the comptroller are often returned unverified on this account.

Outstandings to the extent of Rs. 25,085-5-8 as per books of this office remain yet unadjusted by the several local bodies. Of this, a sum of Rs. 3,714-8-0 is due for supplies during the current year and Rs. 21,370-13-8 for previous years.

TABLE 11.
Progress of Collections against Demands for Supplies of Lymph in the years 1925-32.

Year	Outstanding demands			Collections			Balance		
	Arrears due	Current year's due	Total	Towards arrears	Towards Current	Total	Towards Current	Towards arrears	Total
1925	23,615 14 11	20,341 4 5	43,957 3 4	3,572 9 4	8,918 6 10	12,491 0 2	11,422 13 7	20,043 5 7	31,466 3 2
1926	31,466 3 2	17,218 11 2	48,684 14 4	1,419 0 0	8,102 11 9	9,521 11 9	9,116 15 5	30,047 3 2	39,163 2 7
1927	39,163 2 7	17,718 8 0	56,881 10 7	5,065 6 4	10,657 3 4	15,722 9 8	7,061 4 8	34,097 12 3	41,159 0 11
1928	41,159 0 11	24,205 9 0	65,364 9 11	7,348 7 6	16,923 3 0	24,271 10 6	7,282 6 0	33,610 9 5	41,092 15 5
1929	41,092 15 5	22,907 7 11	64,000 7 4	19,353 15 9	15,670 3 7	35,024 3 4	7,237 4 4	21,738 15 8	28,976 4 0
1930	28,976 4 0	24,319 6 2	53,295 10 2	7,686 14 8	15,822 9 10	23,509 8 6	8,496 12 4	21,289 5 4	29,786 1 8
1931	29,786 1 8	24,403 11 8	54,189 13 4	8,261 5 4	19,550 11 8	27,812 1 0	4,853 0 0	21,524 12 4	26,377 12 4
1932	26,377 12 4	23,780 8 0	50,158 4 4	5,006 11 8	20,066 0 0	25,072 14 8	3,714 8 0	21,370 13 8	25,085 5 8

The outstanding for the previous years has resulted from accumulation of unadjusted outstandings since 1921 when the taluk boards were in existence. Their abolition and subsequent non-acceptance of their full liabilities by the district boards accounts for the heavy outstandings. The matter is under detailed investigation.

No difficulty is anticipated in the adjustment of outstandings for current supplies.

The cost of lymph issued during the year works out to be Rs. 0-1-8 per case against Rs. 0-1-6 per case during the year previous. The slight increase is due to the inclusion of Rs. 6,000, an unusual item, incurred during the year, for making payment for certain land acquired for the Institute's premises in April 1932. Excluding the unusual item, the cost per case issued works out Re. 0-1-3 per case against Re. 0-1-6 during the year previous indicating cheaper cost of production of the issued lymph.

Ten candidates for qualifying in vaccination were trained and nine were granted certificates during the year. Besides 17 pupil compounders and two midwives were also given the training.

The usual course of demonstration in vaccination for the final M. B. B. S. and L. M. P. of the Mysore University was also held during the year.

During the year, 99 lanoline samples were plate cultured 113 times to ensure their freedom from pathogenic organisms at the time of issue. Besides this, 104 glycerine samples were examined 364 times to study the several problems incidental to issue of such a lymph from the Institute.

Lanoline lymph enough for 14,647 cases had to be rejected for defective potency resulting from storage incidental to its issue on rotation as per demand.

Anti-cholera vaccine was stored and distributed this year also by this Institute. Out of 5,590 doses stocked, 2,080 doses were issued out and 120 doses (all time expired) were written off the accounts as per Government Order No. 8138—9. P. H. 72-31-3, dated 13th April 1932, leaving a balance of 2,790 doses on 1st January 1933.

Out of 183 doses of bilivaccine tablets on hand no issues were made during the year under report as there was no demand for the same.

The value of the cholera vaccines distributed during the year amounted to Rs. 155-6-0. Out of this, a sum of Rs. 108-2-0 was adjusted and Rs. 47-4-0 remained

unadjusted. Besides this, an amount of Rs. 2,095-10-0 remained unadjusted up to 31st December 1932 for supplies made during 1931, making a total of Rs. 2,142-14-0 as shown in table 12.

Plague serum bulbs and agar tubes were also made available in this Institute for distribution, 120 of the former and 58 of the latter being stocked. Fifty-four plague serum bulbs and 12 agar tubes were issued during the year under report. The rest of the agar tubes having become contaminated were discarded. This leaves a balance of 63 plague serum bulbs on hand on 1st January 1933.

Observations and experiments detailed in previous years' reports incidental to evolution of our local standards of potency and purity were continued. Results noted under different heads are recorded in tables [13 (a)—13 (h)].

Steady increase in the initial potency of our lymph may be observed to have been maintained during the year.

Works to meet some of the most urgent wants of the Institute were under execution by the Department of Public Works at the close of the year. They were completed and handed over to the Department of Health only on 2nd February 1933. As by that time the cold weather, the most favourable season for production of vaccine lymph had passed, no material progress was possible towards the solution of the question of replacement of lanoline lymph by glycerine lymph. It is hoped that some definite advance in this direction will be made during 1933.

TABLE 14.—Summarises the more important facts regarding the work of the Institute during the year as compared with that of the year previous.

The stock-books of this Institute have been as per standing orders brought up-to-date, duly verified and found correct during the year.

TABLE 12.

Statement showing the amount due from the several Local Bodies for Anti-cholera vaccine supplied up to 31st December 1932.

Districts	Name of Parties	Amount due up to 31st December 1931	Amount due up to 31st December 1932	Total amount due up to 31st December 1932
Bangalore ...	President, District Board, Bangalore.	1,146 12 0	...	*1,146 12 0
Do ...	Municipal Commissioner, Bangalore City Municipality.	567 3 0	31 4 0	598 7 0
Mysore ...	President, District Board, Mysore.	132 11 0	16 0 0	148 11 0
Chitaldrug ...	President, District Board, Chitaldrug.	39 7 0	...	39 7 0
Hassan ...	President, District Board, Hassan.	156 12 0	...	156 12 0
Shimoga ...	President, District Board, Shimoga.	52 13 0	...	52 13 0
	Total ...	2,095 10 0	47 4 0	2,142 14 0

* Adjusted subsequent to 31st December 1932. *Vide* Comptroller's letter No. B 11-491 D-27-4-33, to the Director of Health in Mysore.

TABLE 13 (a).

The Vesicular Rates resulting from vaccination of the several strains in different dilutions.

Quarter	Years	1 in 50	1 in 100	1 in 500	1 in 1,000	No. of observations
January to March ...	1929	3.6	3.1	1.3	1.1	*
	1930	4.7	3.9	2.4	1.4	40
	1931	4.8	3.7	2.4	2.2	24
	1932	4.9	4.7	4.1	3.2	29
April to June ..	1929	3.1	2.5	1.2	0.8	*
	1930	4.4	3.8	3.0	2.2	30
	1931	4.9	3.9	2.9	1.7	23
	1932	4.8	4.4	3.6	3.2	22
July to September ..	1929	4.1	3.2	1.6	1.2	*
	1930	4.3	3.1	2.7	2.6	23
	1931	4.9	4.5	3.8	2.8	24
	1932	4.9	4.6	4.3	3.3	26
October to December ..	1929	4.9	4.5	2.7	1.8	*
	1930	4.9	4.6	3.4	2.6	24
	1931	4.9	4.7	3.8	3.3	18
	1932	4.7	4.3	3.6	2.6	23
Average	1929	3.9	3.3	1.7	1.2	190
	1930	4.5	3.8	2.8	2.2	117
	1931	4.8	4.2	3.2	2.5	89
	1932	4.7	4.3	3.9	3.1	100

* Data for 1929 not available quarter by quarter.

TABLE 13 (b).

Average yield in grains per inch of insertion.

Quarter	year	Yield	No. of obser- vations
January to March ..	1929	0.9	*
	1930	1.3	91
	1931	1.5	77
	1932	0.9	99
April to June ..	1929	0.8	*
	1930	1.1	85
	1931	1.0	72
	1932	1.0	83
July to September ..	1929	1.0	*
	1930	1.1	80
	1931	1.0	82
	1932	0.9	95
October to December ..	1929	1.4	*
	1930	1.2	67
	1931	1.0	63
	1932	1.1	91
Average ..	1929	1.0	378
	1930	1.2	323
	1931	1.2	304
	1932	1.0	368

* Data for 1929 not available quarter by quarter.

TABLE 13 (c).

The Potency Unit of the several Pastes.

Quarter	1929	1930	1931	1932
January to March ...	3.0	3.6	3.8	4.0
April to June ...	2.3	3.3	3.6	3.6
July to September ...	3.1	3.4	3.6	3.6
October to December ...	3.7	3.7	3.8	4.0
Average for the year ..	3.0	3.5	3.7	3.8

N.B.—A note on unit employed:—

Over an area of about $\frac{1}{4}$ " by $\frac{1}{4}$ " 4 linear incisions each about $\frac{1}{4}$ " long are made on the prepared skin of a calf. For each sample, 4 such insertions are made. If the resulting vesiculation was one continuous patch over the whole area, it was graded 4.

If at least two such lines coalesced and discrete vesicles were present in the other two, it was graded 3.

If at least discrete vesicles resulted along the four line, it was graded 2.

If at least one discrete vesicle resulted along one line, it was graded 1.

The arithmetical averages of the values of the four individual insertions was the value given to the reaction in the experiment. The "Calf Factor" was eliminated as far as possible by taking the values of reaction in several calves and calculating the average. The personal factor was minimised by the same observer making the experiments and reading the result of the whole series.

TABLE 13 (d).

Average period of preservation in days after production of seed-lymph prior to vaccination of calves.

Quarter	1929	1930	1931	1932
January to March ...	16	18	7	7
April to June ...	9	13	6	8
July to September ...	6	17	5	7
October to December ...	10	13	6	10
Average for the year ...	10	15	6	8

TABLE 13 (e).

Average period of preservation in days of the lymph produced prior to issue.

Quarter	1929	1930	1931	1932
January to March ...	12	15	20	17
April to June ...	16	24	23	16
July to September ...	17	18	23	12
October to December ...	17	19	21	15
Average for the year ..	16	19	21	15

TABLE 13 (f).

Average period in days of stabling the calves in the Institute prior to vaccination.

Quarter	1929	1930	1931	1932
January to March ...	9	8	11	14
April to June ...	8	10	11	13
July to September ..	8	9	9	10
October to December ...	6	9	10	14
Average for the year ...	8	9	10	12

TABLE 13 (g).

Average reported field result of the several pastes issued out from the Institute.

Quarter	1929	1930	1931	1932
	Per cent	Per cent	Per cent	Per cent
January to March ...	75.5	88	84	87.6
April to June ...	80.3	92	78	84.6
July to September ...	90.5	85	89	94
October to December ...	92.1	84	91	93.3
Average for the year ...	85	87	85	90

TABLE 13 (h).

Record of observations noted relating to the several possible factors influencing quality of Vaccine Lymph.

Year	Average period in days of stabling the calves in the Institute prior to vaccination	Average period of preservation in days after production of seed lymph prior to vaccination of calves	Average yield per inch of incision	Average potency unit of the several pastes	Average vesicular rate			Average period of preservation in days of lymph produced prior to issue	Field result reported of the several pastes issued out from the Institute
					1 in 50	1 in 100	1 in 500		
1929	8	10	1.0	3.9	3.3	1.7	16	85.0	
1930	9	15	1.2	4.5	3.8	2.8	19	87.0	
1931	10	6	1.2	4.8	4.2	3.2	21	85.0	
1932	12	8	1.0	4.7	4.3	3.6	15	90.0	

TABLE 14.

Some of the more important facts regarding the work of the Institute as compared with the previous year.

No	Particulars	1931	1932
1	Calves remaining ...	No. 33	No. 21
2	Calves purchased ...	„ 309	„ 377
3	Buffalo calves ...	„ 20	„ 31
4	Number of calves that died ..	„ 2	„ 3
5	Number of ' Done ' calves ...	„ 339	„ 409
6	Number of calves remaining on 1st January 33.	„ 21	„ 17
7	Gross cost ...	Rs. 3,804 10 0	4,001 14 0
8	Net cost ..	„ 3,080 14 0	2,953 13 0
9	Average cost of calves ...	„ 9 5 10	7 3 10
10	Calves vaccinated ..	No. 315	No. 376
11	Buffalo calves vaccinated ...	„ 19	„ 31
12	Calves rejected	„ 11 (or 3'3%)	„ 10 (or 2'4%)
13	Lymph produced ...	42,673 grs.	41,617 grs.
14	Lymph preserved for stock ...	15,178 grs.	11,322 grs.
15	Average yield per calf ..	132 grs.	105 grs.
16	Cost of feeding calves ..	Rs. 788 10 0	723 8 0
17	Cost of feeding per calf ...	„ .2 2 10	1 11 3
18	Sale of calves ...	„ 723 12 0	1,048 1 0
19	Average sale price per calf ...	„ 2 2 2	2 9 0
20	Lymph issued ..	2,47,485 grs.	2,49,577 grs.
21	Lymph issued outside Mysore State.	46,920 „	17,400 „
22	Issue in May and June (Hot Weather).	Not Curtailed	Not Curtailed
23	Results of primary vaccination reported.	56 per cent of cases	52 per cent of cases.
24	Average percentage success reported.	86%	90%
25	Complication, and sequelae re- ported.	No. 4	No. 2
26	Number of new kit boxes issued to vaccinators.	„ 21	„ 21
27	Cost of lymph issued per case	17 pies.	15 pies
28	Candidates trained in Vaccina- tion.	No. 9	No. 10
29	Number granted certificates ...	„ 6	„ 9
30	Pupil Compounders trained ...	„ 7	„ 17
31	Midwives trained in vaccina- tion.	Nil	„ 2
32	Sanitary Inspectors ...	„ 1	Nil

BUREAU OF HEALTH EDUCATION.

Since the reorganisation of the Bureau of Health Education under Government Order No. G. 4647-9—P. H. 16-31-6 dated 7—9th December 1931, the secretariat work of the Indian Red Cross Society, Mysore State Branch, was taken over by the bureau with the Director of Health as the Honorary Secretary.

In pursuance of Government Order No. G. 8617-19—P.H. 69-31-6 dated 30th April 1932, the Bureau of Health Education was placed in charge of Mr. E. Anantha Rao, B.Sc., M.B.B.S., Health Probationer under the general control and direction of the Director of Health. He was designated Superintendent of the Bureau.

During the year under report, 162 cinema shows were given to a total audience of about 1,24,485 persons.

During his intinerary in the districts, the Publicity Officer visited primary boys' and girls' schools and a few middle schools and gave health talks to the teachers and pupils.

The officers of the bureau actively co-operated in the State-wide Health and Baby Week celebrations. For this purpose, in addition to the films already with the department, special films relating to mothercraft were hired from Madras and Delhi. The department organised a health exhibition in connection with the second State Conference of the Primary and Middle School teachers in Bangalore.

During the year, 22 articles on the following subjects were published in the local Kannada and English newspapers :—

- | | |
|-------------------------------|-----------------------------|
| 1. Borehole Sanitary Latrines | 6. Plague |
| 2. Rural Sanitation | 7. Soil Pollution |
| 3. Smallpox | 8. Typhoid Fever |
| 4. Mothercraft | 9. General Health Subjects. |
| 5. Tuberculosis | |

A leaflet entitled "Smallpox in Mysore" was published at the Government Press, Bangalore, in five languages for free distribution in the State.

The bureau printed leaflets and pictorial posters on Smallpox, Plague, Soil Pollution and Borehole Latrines in large numbers in Kannada, Urdu and English. They are being distributed free all over the State through the agency of the revenue and educational authorities, district boards, village panchayets and municipalities. A consignment of

leaflets was sent to the District Educational Officers for distribution in the primary and middle schools. Two thousand Kannada leaflets on Smallpox, Plague, Soil pollution and Borehole latrine were distributed among the visitors to the Health Stall at the Educational Health Exhibition Buildings, Bangalore.

A set of posters and leaflets was supplied to the Rural Reconstruction Society, Agricultural School, Hebbal, for health propaganda in the rural area.

The motor van which is now over three years old has become greatly depreciated, needing frequent repairs. The question of purchasing a new vehicle was considered but owing to financial stringency, it was deferred.

BUREAU OF SANITARY ENGINEERING.

The Bureau of Sanitary Engineering of the Département of Public Health, Mysore State, had as its major activities in 1932, problems relating to public water supplies, public sewage, drainage and sanitary works, town improvements, construction of borehole latrines and composting of night soil and town refuse.

The activities of the Bureau of Sanitary Engineering were increased during the year 1932 by Government Order No. G. 7496-519—P. H. 69-31-5, dated 19th March 1932 which authorised that the entire control of water supplies in the State be vested in the Bureau of Sanitary Engineering except the Bangalore Water Supply which will remain under the Chief Engineer until all major works in connection with the improvement to the Bangalore Water Supply are completed.

The maintenance and operation of the Vani Vilas Water Works at Mysore, the Kolar Gold Field Water Works at Bethamangala and the Shimoga Water Works at Shimoga were taken over by the Bureau of Sanitary Engineering with the addition of the following staff transferred from the Water Supply Division :—

Assistant Engineer	...	...	1
Sub-Engineer	...	...	1
Overseers	...	...	2
Sub-Overseers	...	...	5
Head Driver	..	...	1
Drivers	...	...	5
Assistant Drivers	...	...	3
Apprentice Driver	...	...	1

Chief Operator	...	...	1
Electric Operator	...	...	1
Assistant Operators	...	...	2
Tank Inspector	...	...	1
Meter Inspectors	...	...	2
Water Inspectors	...	...	4
Sub-Assistant Surgeon	...	...	1
Sanitary Inspector	...	...	1
Assistant Draftsman	...	...	1
Clerks	...	...	6
Accounts Clerks	...	...	3
Compounder	...	...	1
Midwife	...	...	1
Surgery cooly	...	...	1
Peons	...	...	4
Maistry	...	...	1
Sweepers	...	...	4

Government also directed that the work of sinking boreholes for drinking water supplies should be done by the well boring staff attached to the Department of Industries and Commerce in strict accordance with the instructions issued by the Bureau of Sanitary Engineering with whom all initiative in the matter will lie.

Government further directed that all grants for Public Improvements under the following heads will be operated upon under the orders of the Sanitary Engineer.

1. Improvement of Water Supply in towns.
2. Improvements of towns and minor municipalities.
3. Rural reconstruction.
4. Drinking water wells in villages.

Item No. 3 above relating to the grant for Rural Reconstruction was subsequently ordered to remain with the Revenue Commissioner as hitherto while item No. 4 Drinking water wells in villages was ordered to be distributed among the several Districts by Government.

The following table shows the personnel of the Bureau of Sanitary Engineering at the close of the year.

Executive Engineer	...	...	1*
Assistant Engineers	...	...	3**
Sub-Engineers	...	...	2
Overseers	...	...	2
Sub-Overseers	...	...	15
Head Driver	...	...	1
Drivers	...	...	5
Assistant Drivers	...	...	3
Apprentice Driver	...	...	1
Chief Operator	...	...	1
Electric Operator	...	...	1

Assistant Operators	...	...	2
Tank Inspector	...	...	1
Meter Inspectors	...	...	2
Water Inspectors	...	...	4
Sub-Assistant Surgeon	...	...	1
Sanitary Inspector	...	...	1
Draftsmen	...	...	3
Assistant Draftsmen	...	...	1
Head Clerk	...	...	1
Clerks	...	...	9
Accountant	...	...	1
Accounts Clerks	...	...	4
Stenographer	...	...	1
Chauffeur	...	...	1
Tracer	...	...	1
Chemist	...	...	1
Compounder	...	...	1
Midwife	...	...	1
Surgery Cooly	...	...	1
Peons	...	...	16
Maistry	...	...	1
Sweepers	...	...	4
Mechanic	...	...	1

* Mr. B. R. Garudachar, Executive Sanitary Engineer, returned from a year's deputation to the United States and resumed his duties in May 1932.

The Executive Engineer of the Water-Supply Division acting as Executive Sanitary Engineer was reverted to the Department of Public Works.

** Mr. K. S. Hutcha Rao, Assistant Sanitary Engineer, left for the United States in September 1932 for a period of one year on a Fellowship for the study and investigation of modern methods employed in Water-Supplies.

At the close of the year 1931, there were 25 piped water supplies in the State serving a population of 6,78,893 or 10.4 per cent of the total population of the State. During the year 1932, four new water works were installed serving an additional population of 13,098. Two existing water-supplies were improved and their capacities enlarged. Nine existing water-supplies were equipped with chlorinators resulting in an additional 86,335 people being benefited by safer drinking water.

New designs and estimates were prepared for 20 water-supply systems. Sixteen of these are from borewells, two from infiltration wells, one from an impounded reservoir and one an extension from an existing water-supply. The original estimates and designs of nine

proposed water-supplies were investigated and the designs modified and the estimates reduced. Designs and estimates were prepared for improvements and extensions to 11 existing water-supply systems.

The collection of samples from drinking water-supplies was continued by the Bureau of Sanitary Engineering. One thousand, four hundred and ninety-seven samples of water were collected from piped Municipal water-supplies, Rural water-supplies and dug wells, step wells and tanks.

Plans and estimates were prepared for improvements to four drainage systems, ten designs and estimates for sewage systems and 19 designs and estimates for improvements to existing sanitary works.

Town Survey Work was undertaken at 13 Municipalities for the investigation and design of town improvements.

A section of borehole latrine construction was organized with an Assistant Engineer in charge. One hundred and-fifty borehole latrines were excavated and squatting slabs and enclosures completed during the year.

The Bureau of Sanitary Engineering continued to assist in the composting of night soil and refuse at Mysore City.

WATER-SUPPLY.

Design and Execution.

Rajankunte.—Plans and estimates were prepared for using the yield from a borewell sunk by the Industries Department. The project was designed so as to provide drinking water to the large number of people congregating on shandy days.

Arasikere.—The work in connection with the distribution system and extensions to the distribution system was completed.

Pavagada.—A hand pump was installed on a borewell sunk by the Department of Industries and Commerce.

Improvements and Extensions.

Kolar.—The final execution work in connection with the improvements to Kolar Water Works were completed and the water works officially opened by the Dewan *Amin-ul-Mulk* Sir Mirza M. Ismail, K.T., C.I.E., O.B.E., on the 24th October 1932.

Tiptur.—The distribution work has been completed and the water-supply plant from borewells is being operated.

New Design.

Chitaldrug.—As the pumping scheme from Kathral tank involved necessary sedimentation tanks and filters at a cost of about Rs. 2 lakhs, the Municipality was advised to instal five boreholes within the town which could be worked by air lift equipment and pumped to a masonry reservoir on the top of the Fort Tower.

Yediyur.—Plans and estimates for utilising the water to be obtained from a borewell under construction were forwarded to the Amildar.

Talaguppe.—Plans and estimates for utilising the water to be obtained from a borewell under construction were forwarded to the Amildar.

Santhemaranhalli.—Plans and estimates costing Rs. 4,250 were prepared for water-supply to shandy grounds. The system includes deep well pump, elevated tank and distribution with eight or nine taps.

Kengeri.—Plans and estimates were prepared for a simple water-supply scheme from an infiltration well in a nearby nallah.

Dodballapur.—The modified estimate for Rs. 32,862 for water-supply to Dodballapur town has had to be further modified to bring it within the available sum of Rs. 16,000 which the Municipality has set aside for this purpose. Government has been addressed to supply the necessary cast iron pipes from Bhadravati Iron Works as a loan to the Municipality and to waive the 18 per cent Establishment, Tools and Plant Charges in order that the scheme may be within the means of the Municipality and execution may be carried out immediately.

Madhugiri.—An abstract estimate amounting to Rs. 15,000 for a pumping scheme of water-supply from a borewell in the local hospital compound has been prepared and sent to the President for approval.

Whitefield.—An original estimate for Rs. 19,824 for water-supply from a borewell was modified and reduced to Rs. 10,655 for the first stage and forwarded to the Municipal President for approval.

Central Distillery, Bangalore.—An estimate amounting to Rs. 9,300 was prepared for supplying pure water to the Central Distillery from a borewell.

Chickthirupathi.—An estimate for Rs. 4,000 for supplying drinking water to Chickthirupathi by putting a borewell with a masonry tank and distribution was prepared and sent for approval.

Tyakal.—An estimate amounting to Rs. 2,500 for construction of a borewell and putting a hand rotary pump was prepared and sent for approval.

Challakere.—An estimate for Rs. 1,240 for constructing a borewell and putting a hand pump was proposed for the supply of water to the Town Hall at Challakere.

Hebbal.—An estimate amounting to Rs. 487 for water-supply to the Hebbal Agricultural School from the borewell of the Serum Institute was prepared and forwarded for approval.

A further estimate for Rs. 165 for supplying drinking water to the nearby village of Hebbal was also prepared.

Malur.—An estimate amounting to Rs. 10,440 was prepared for water-supply to Malur Town for a pumping scheme from an infiltration well near the town tank.

Tuberculosis Sanatorium, Mysore.—An estimate costing Rs. 3,622 for supplying filtered water to the Princess Krishnammanni's Tuberculosis Sanatorium, Mysore was prepared.

Arasikere.—The following estimates for improvements and extensions to water-supplies of Arasikere have been prepared.

1. An estimate costing Rs. 4,000 for water-supply to Chickthirupathi near Arasikere by means of a borewell, pump, masonry tank and limited distribution.
2. An estimate for Rs. 2,800 for providing additional sub-mains and taps to Arasikere town distribution.
3. Proposals for improving the present pumping arrangements have been worked out and are under execution.

Nidaghatta.—An estimate for water-supply costing Rs. 3,730 for a borewell with power pump, a small elevated tank and a few taps was prepared.

Anekal.—An estimate for water-supply costing Rs. 3,150 including borewell pump and distribution was prepared.

Indavala Village.—An estimate costing Rs. 3,780 for water-supply to the village from an infiltration well and pump power by a windmill was proposed.

Chickballapur.—A proposal to supply water to Chickballapur town from Ramasagara Tank was investigated

and found to cost Rs. 3 lakhs. It was recommended that the scheme is too costly for the size of the town.

Subrahmanya Ghati.—An estimate amounting to Rs. 15,000 was prepared for supplying water to the Subrahmanya Ghati jatra grounds.

The following designs were modified and the estimates reduced.

Hosadurga.—A modified estimate amounting to Rs. 3,622 for complete water-supply distribution from an elevated reservoir was prepared and forwarded to the Municipality.

Seringapatam.—An original estimate amounting to Rs. 31,180 and providing for water supply by means of an hydraulic ram had been modified and reduced to Rs. 22,140. The new scheme involved pumping arrangements from the river with filtration through pressure filters, elevated tank and distribution.

Hole-Narsipur.—The original estimate costing Rs. 62,460 had been modified and reduced to Rs. 46,000. This scheme provides for pumping from the river and filtration through pressure filters, elevated tank and distribution.

Sollebyle.—A proposal for the supply of water to Sollebyle through borewells from an hydraulic ram scheme was considered undesirable in view of the perennial supply of water in the stream.

Maddur.—A modified estimate amounting to Rs. 54,700 had been forwarded for sanction to Government.

Channapatna.—The original estimate of Rs. 1,19,000 for a pumping scheme from the Kanva river for water supply to the town was modified to first stage including pumping plant, rising main, elevated tank and thirty public taps costing Rs. 56,400. Government have been addressed to furnish the necessary cast iron pipes from Bhadravati Iron Works as a loan and to waive the 18% Establishment, Tools and Plant Charges.

Konanur.—The original estimate costing Rs. 44,500 for water supply to Konanur was revised and reduced to Rs. 28,400. The scheme involves pumping from the river with filtration through pressure filters, elevated tank and distribution.

French Rocks.—An original estimate costing Rs. 48,700 for water supply to French Rocks town from

an hydraulic ram scheme was modified and reduced to Rs. 28,320. The new scheme provides for electric pumping from the irrigation canal, sedimentation tanks, pressure filters, elevation tank and distribution.

Designs and estimates were prepared for improvements to the following water supplies.

Hassan.—Two estimates amounting to Rs. 3,690 for water supply to the northern and Krishnaraja extension from two experimental borewells were prepared and sent to the President, Municipal Council.

Mysore.—An estimate costing Rs. 22,550 for installing a new 3-million gallon pumping unit at Belagola was sent for approval.

Belagola.—An estimate amounting to Rs. 2,150 for replacing the present $\frac{3}{4}$ " line by $1\frac{1}{2}$ " galvanised iron pipe and giving four additional taps to Belagola village was forwarded to the Amildar.

Robertsonpet.—An estimate amounting to Rs. 11,000 for improvements of water supply to Robertsonpet was prepared.

Bhadravati.—The present water supply to Bhadravati old town is through a 4" cast iron line from a Booster plant connected to the Bhadravati Iron Works water filtration system. Estimates for Rs. 8,730 for extending the distribution system to the rest of the old town area was prepared.

Nanjangud.—An estimate costing Rs. 11,600 for improving the water supply to Nanjangud town by providing for settling tanks, coagulent feed apparatus and low lift pump was prepared.

New Yedatore Town.—An estimate costing Rs. 12,000 for improving the present water supply system by providing a pumping set with pressure filters and settling tanks was prepared.

Tumkur.—An estimate amounting to Rs. 3,800 for installing an electric pumping unit on Mydala tank bund was prepared to increase the capacity of the present water supply system.

Chintamani.—The present water supply to Chintamani through slow sand filters proved very unsatisfactory. An estimate amounting to Rs. 29,500 has been prepared for improving the water supply by installing an electric pumping unit and pressure filters.

In order to improve the present bad quality of the filtered water, one of the slow sand filters has been overhauled under the supervision of a Sub-Overseer deputed from the Bureau of Sanitary Engineering.

Kolar:—

1. An estimate costing Rs. 2,688 for extending the present water supply distribution to the new extension, Bar Lines Katarpet, and Electric colony was prepared.
2. An estimate for emergency work done on the Mederhally tank bund which threatened to breach during the last rains was prepared.

Tiptur.—The following improvements to Tiptur water supply system were proposed.

1. An estimate costing Rs. 12,036 for water supply to the new extension.
2. An estimate costing Rs. 5,290 for extending the present distribution system.

Chlorination.

Because of the poor bacteriological results obtained from some of the piped water supplies of the State, Chlorinators were installed at the following water supply systems for sterilisation.

Shimoga.	Hunsur.
Kolar.	Tiptur.
Chickmagalur.	Chintamani.
Hassan.	Mudigere.
Nanjangud.	

Collection of Water Samples.

One thousand, four-hundred and ninety-seven samples of water were collected from public water supplies for bacteriological examination at the Public Health Institute, Bangalore.

Bangalore.—Nine hundred and sixty-three samples of water were collected from the Filter plant and distribution

reservoirs in Bangalore City. The results of the examination were as follows:—

Source	Number of samples	B. Coli Index per 100 c. c.										
		0	2	4	6	8	10	20	100	1,000	10,000	1,00,000
Applied water ...	286	229	9	11	2	6	2	10	17	...	...	...
Clear well ...	288	190	44	18	10	7	9	4	6	...	...	...
Malleswaram Reservoir.	29	24	2	2	...	...	...	1	...	...	...	...
Palace Reservoir	25	11	5	1	2	1	1	2	2	...	...	...
High Level Reservoir.	27	20	2	3	1	...	...	...	1	...	...	...
Low Level Reservoir.	27	13	5	4	...	1	1	3	...	...	...	...
Basavangudi Reservoir.	24	4	5	8	3	2	1	1	...	...	...	...
Chamarjpet Reservoir.	22	3	1	4	2	1	3	7	1	...	...	...
Taps ...	95	59	6	7	4	3	5	4	7	...	...	...
Raw Water ...	17	1	...	...	...	...	6	6	3	1	...	...
Experimental filters.	123	21	19	21	11	9	20	16	6	...	...	...
Total ...	963	575	98	79	35	30	48	53	44	1	...	...

Thippagondanhalli.—One hundred and eighty-five samples of water were sent in from Thippagondanhalli Reservoir Colony water supply. The results of the bacteriological examination were as follows:—

Source	Number of samples	B. Coli per 100 c. c.										
		0	2	4	6	8	10	20	100	1,000	10,000	1,00,000
River water ...	41	1	...	...	...	...	1	2	8	15	13	1
Applied water ...	7	...	...	...	...	...	...	2	2	3	...	...
Filter test cock ...	36	2	...	...	...	...	...	8	15	11	...	...
Reservoir ...	41	...	...	...	...	...	2	8	13	17	1	...
Tap ...	26	...	...	...	...	...	1	6	11	7	1	...
Suction well ...	34	...	...	...	...	...	...	3	12	10	8	1
Total ...	185	3	...	...	...	...	4	29	61	63	23	2

Municipal Water Supplies.

Two hundred and forty-one samples of water were collected from municipal water supplies. The results of the bacteriological examination were as follows:—

Source	Number of samples	B. Coli Index per 100 c. c.										Remarks
		0	2	4	6	8	10	20	100	1,000	10,000	
SIVASAMUDRAM—												
Rain water ...	6	2	1	1	2	Coagulation Pressure filters.
Filter water ...	8	1	2	...	1	...	1	2	1	...	...
Channel water ...	2	...	...	...	...	...	...	...	...	2	...
MYSORE—												
Raw water ...	3	1	1	1	...	Coagulation Gravity filters Chlorinated
Applied water ...	4	...	...	...	...	...	...	...	4	...	...
Filtered water ...	5	1	...	2	1	...	...	1	...	...	...
Tap water ...	4	3	...	...	...	...	...	...	1	...	...
Reservoir ...	1	1	...	...	...	...	...	...	...	...	...
NANJANGUD—												
Raw water ...	4	1	...	3	...	Pressure filters.
Filtered water ...	5	1	...	...	...	...	...	1	2	1	...
Tap water ...	3	...	...	...	...	...	...	...	2	1	...
River water ...	1	...	...	...	...	...	...	...	...	1	...
HUNSUR—												
Raw water ...	4	1	1	2	Pressure filters.
Filtered water ...	5	...	...	...	...	...	...	1	3	1	...
Tap water ...	4	...	...	...	...	...	...	2	2	...	...
River water ...	1	...	...	...	...	...	...	...	...	1	...
YEDATORE—												
Raw water ...	2	2	...	Pressure filters.
Filtered water ...	3	...	...	...	...	...	1	1	...	1	...
Tap water ...	4	...	...	...	...	...	...	2	2	...	...
KOLAR—												
Filtered water ...	4	1	...	3	Slow sand filters. Pressure filters.
Reservoir ...	1	...	...	...	...	...	...	...	...	1	...
Tap water ...	3	...	...	...	...	...	...	...	3	...	...
Raw water ...	3	...	...	...	...	...	...	...	1	2	...
Applied water ...	1	...	...	...	...	...	...	1	...	...	...
CHINTAMANI—												
Raw water ...	2	1	...	1	...	Slow sand filters.
Filtered water ...	2	1	...	...	...	...	...	1	...	...	...
Tap water ...	2	...	...	1	...	...	...	...	1	...	...
KOLAR GOLD FIELD—												
Raw water ...	2	1	...	1	...	Coagulation Gravity filters Chlorinated.
Applied water ...	2	...	...	...	...	...	...	1	1	...	...
Filtered water ...	7	2	5	...	...	...	...	...	...	...	...
Tap water ...	2	2	...	...	...	...	...	...	...	...	...
Reservoir ...	8	3	1	2	1	...	...	1	...	...	...
TUMKUR—												
Reservoir ...	1	1	
Tap water ...	7	2	...	3	1	...	1	...	...	...	...
Raw water ...	6	...	...	...	...	...	2	...	3	1	...
Applied ...	4	...	1	1	...	...	1	1	...	...	...
Filter ...	3	1	...	...	...	...	1	...	1	...	...
MUDGERE—												
Reservoir ...	4	1	3	Raw water pumped.
Tap water ...	1	...	...	...	...	...	...	1	...	...	...

Source	Number of samples	B. Coli Index per 100 c. c.										Remarks
		0	2	4	6	8	10	20	100	1,000	10,000	
CHIKMAGALUR—												
Raw water ...	4	3	1	Slow sand filters.
Filtered water ...	5	...	...	...	...	...	...	1	4	...	...
Reservoir ...	2	...	...	1	...	...	...	...	1	...	...
Tap water ...	1	...	...	...	...	...	...	...	1	...	...
BHADRAVATI—												
Tap water ...	5	1	1	2	1	Pressure filters.
Raw water ...	4	...	...	...	...	...	...	1	1	2	...
Filter ...	6	1	...	...	1	1	...	2	1	...	...
SHIMOGA—												
River water ...	3	1	1	1	Pressure filters.
Filter ..	7	...	1	1	...	...	1	3	1	...	...
Reservoir ...	4	...	...	...	...	...	...	2	2	...	...
Tap water ...	5	...	1	...	...	...	...	2	2	...	...
Raw ..	3	...	...	...	...	...	...	...	1	...	2
KADUR—												
Raw water ...	3	2	...	1	Slow sand filters.
Filter water ...	3	1	1	...	...	...	...	1	...	...	...
Tap water ...	3	2	...	...	1	...	...	...	...	...	...
SOLLEBYLE—												
Reservoir ...	1	1	Spring water.
Tap water ...	1	...	...	...	...	...	...	1	...	...	...
KOPPA—												
Raw water ...	1	1	Tank water settled and raw.
Tap water ...	1	...	...	...	1	...	...	...	...	...	...
HARIHAR—												
River water ...	3	1	1	1	Pressure filters.
Filter ..	2	...	...	...	...	...	...	...	2	...	...
Tap ..	3	...	...	...	...	...	...	...	3	...	...
DAVANGERE—												
River water ...	1	1	Coagulated Gravity filters.
Applied water ..	3	...	...	...	...	...	...	1	2	...	...
Filtered water ...	6	...	...	2	...	...	...	2	2	...	...
Tap water ...	5	1	...	...	...	...	1	...	3	...	...
Raw water ...	3	...	...	...	...	...	...	...	2	1	...
CHITALDRUG—												
Raw water ...	1	1	Tank water settled and raw.
Tap ..	3	2	...	...	...	...	...	...	1	...	...
HIRIYUR—												
Tap water ...	7	...	1	1	2	...	2	...	1	Settled and raw water
HULIKERE--												
Raw water ...	2	1	1	...	Settled and raw water
First filter ..	1	...	...	...	...	...	...	...	1	...	...
Final filter ...	1	...	...	...	...	...	...	...	1	...	...
Filtered water ...	1	...	...	...	...	...	...	...	1	...	...
Reservoir ...	1	...	...	...	...	...	...	1	...	...	...
Tap water ...	1	...	...	...	...	...	...	...	1	...	...

Source	No. of samples	B. Coli Index per 100 c.c.										
		0	2	4	6	8	10	20	100	1000	10,000	
Kyamantanhalli.— River water ..	1	..	..	..	..	..	..	..	..	..	..	1
Total ..	241	26	13	14	9	2	14	41	76	32	12	

Municipal Borewells.

Sixty-seven samples of water were collected from Municipal Borewells and the results of the bacteriological examinations were as follows :—

Source	No. of samples	B. Coli Index per 100 c.c.										
		0	2	4	6	8	10	20	100	1000	10,000	
Channapatna ..	3	3	..	..	..	..	..	..	..	..	..	..
Mysore ..	1	1	..	..	..	..	..	..	..	..	..	..
Arkalgud ..	2	..	..	..	..	..	..	..	2	..	..	..
Hassan ..	11	2	1	3	2	..	2	1	..	..	..	..
Tarikere ..	7	1	..	..	..	..	1	1	4	..	..	..
Davangere ..	3	..	..	..	1	..	..	1	1	..	..	..
Chitaldrug ..	11	4	..	..	..	1	..	2	4	..	..	..
Hosadurga ..	3	3	..	..	..	..	..	..	..	..	..	..
Sira ..	1	..	..	..	..	..	..	..	1	..	..	..
Madhugiri ..	2	..	1	..	..	..	1	..	..	..	..	..
Arsikere ..	7	2	2	1	..	1	1	..	..	..	..	..
Tiptur ..	7	2	1	1	..	..	1	1	1	..	..	..
Kunigal ..	4	1	..	..	..	..	..	2	1	..	..	..
Dodballapur ..	5	1	..	..	..	1	..	..	3	..	..	..
Total ..	67	20	5	5	3	3	6	8	17	..	..	..

Forty-one samples of water were collected from step wells, dug wells and tanks used as water supplies. The results of the bacteriological examination were as follows:—

Source	No. of samples	B. Coli Index per 100 c.c.										
		0	2	4	6	8	10	20	100	1000	10,000	100000
Channarayapatna.— Step well ...	1	...	...	...	...	...	...	...	...	1	...	...
Nandhi.— Step well ...	2	2	...	...	...	...	...	...	...	...	...	...
Mulbagal.— Well water ...	1	...	...	...	...	...	...	...	...	...	...	1
Srinivasapur.— Well water ...	1	...	...	...	...	...	...	...	...	...	...	1
Hoskote.— Well water ...	1	...	...	...	...	...	...	...	...	...	...	1
Seringapatam.— Well water ...	1	...	...	...	...	...	...	...	...	...	...	1
Maddur.— Well water ...	1	...	...	...	...	...	...	...	...	...	...	1
Channapatna.— Well water ...	1	...	...	...	...	...	...	...	...	...	...	1
Malur.— Well water ...	2	...	...	...	...	...	...	...	1	...	...	1
Malur.— Step well ...	1	...	...	...	...	...	...	...	...	...	...	1*
Belur.— Dug well ...	1	...	...	...	...	...	1	...	...	...	...	...
Bangalore.— Dug well ...	6	...	...	...	...	...	1	1	...	1	3	...
Malur.— Dug well ...	1	...	...	...	...	...	...	...	...	...	1	...
Chikballapur.— Dug well ...	1	...	...	...	...	...	...	...	...	...	1	...
Devanhalli.— Dug well ...	1	...	...	...	...	...	...	...	...	...	1	...
Srinivasapur.— Dug well ...	1	...	...	...	...	...	...	...	...	1	...	...
Bowringpet.— Dug well ...	1	...	...	...	...	...	...	...	...	...	1	...
Hoskote.— Dug well ..	2	...	...	...	...	...	...	...	...	...	1	1
Kunigal.— Dug well ...	2	...	...	...	...	...	...	...	...	...	2	...
Saklespur.— Dug well ...	1	...	...	...	...	...	...	...	...	...	1	...
Nelamangala.— Dug well ...	1	...	...	...	...	...	...	...	...	...	...	1

*Pond.

Source	No. of samples	B. Coli Index per 100 c.c.										
		0	2	4	6	8	10	20	100	1000	10,000	100000
Madhugiri.— Dug well ...	5	.....	.....	.....	.....	.....	.....	.....	2	...	2	1
Kyamantan- halli.— Dug well ...	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Chitaldrug.— Dug well ...	1	.....	.....	.....	.....	.....	.....	.....	1	...	...	...
Tank (tap)...	2	.....	.....	.....	.....	.....	.....	.....	1	1	...	...
Nandi.— Tank ...	1	...	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total ...	41	2	1	.....	.....	.....	2	3	3	4	13	13

DRAINAGE, SEWAGE AND SANITARY WORKS.

Nandi Village.—The drains constructed by a local contractor were inspected and found to be defective. Orders were issued for re-advertising the scheme.

Kalasa.—An estimate for the drainage of Kalasa town was modified to facilitate the work being undertaken in stages.

Chikballapur.—The main drain estimate for Chikballapur town was scrutinised and a modified estimate prepared and sent to the municipal council.

Tiptur.—Estimate for a pipe drain for diverting sullage away from the borewells and to the other side of the town was sent to the president, municipal council.

The following proposals were made for the sewage collection and disposal systems.

Bangalore.—Estimates and plans were prepared for the disposal of the effluent from the septic tank at the Bangalore Palace. The Palace authorities are undertaking the improvement.

Bangalore—Plans and estimates were prepared for diverting the waste-matter of the Vaccine Institute and providing a flushing latrine and septic tank.

Central Jail Extension.—The sub-main sewer No. 2 of the comprehensive scheme for Bangalore City providing for the drainage of Central Jail Extension by way of

Balepet, Chikpet and Sultanpet and emptying into the flood water main drain was estimated for Rs. 34,140.

Basavangudi.—Sub-main sewer No. 9 of the comprehensive scheme for Bangalore city providing for drainage from Basavangudi Mohamadan Block by way of Mavalli and Lal-bagh is being prepared.

Malleswaram.—The design for a settling tank for the sewage from the Maharaja Mills and Malleswaram was sent to the Municipal Engineer.

Central Distillery, Bangalore.—An alternate estimate costing Rs. 19,724 was prepared for purifying and softening the waters of the Chickakere tank used by the Government Central Distillery.

Soap Factory, Bangalore.—Plans and estimates were prepared for the removal of waste-matter and sewage from the Soap Factory, Central Industrial Workshop, Century Club and the Electric Offices with an underground pipe sewer to be connected to the existing underground drain.

Bodyguard Lines, Mysore.—An estimate for Rs. 4,148 for drainage arrangements and sewage disposal plant was sanctioned and the execution was undertaken by the bureau.

Railway Colony, Mysore.—The drainage scheme for the Railway Colony and the station yard was completed and forwarded to the Railway authorities.

*The following estimates were prepared for
Sanitary Works.*

Bangalore.—Plans and estimates were prepared for providing flushing latrine facilities at the Race Track which borders the Low Level Reservoir of Bangalore City.

Bangalore.—The construction of the sanitary fittings to the New Insurance Building was completed and handed over.

Intermediate College, Bangalore.—An estimate for providing sanitary fittings to the latrine amounting to Rs. 1,000 was sent to the Assistant Engineer, Headquarters Range.

Central College, Bangalore.—An estimate for Rs. 2,575 for providing a flushing latrine of six seats and six urinals was sent to the Assistant Engineer, Headquarters Range.

New Medical School, Bangalore.—An estimate for the fixing of sanitary and lavatory fittings was prepared and work executed.

Carlton House, Bangalore.—An estimate for Rs. 4,800 was prepared for providing sanitary fittings to seven bath rooms and necessary drainage and sewage disposal arrangements. The work was executed during the quarter.

Kumara Park, Bangalore.—An estimate costing Rs. 15,126 for providing sanitary fittings for six bath rooms with necessary drainage and sewage disposal arrangements was prepared. The work was executed during the year.

Bangalore.—Repairs to sanitary fittings in Victoria Hospital.

Repairs to sanitary fittings in Minto Ophthalmic Hospital.

An estimate costing Rs. 806 was prepared for providing sanitary fittings with flushing arrangements for the latrines at the City Market.

Mysore :—

- (a) Improvements to the Lavatories of the Medical College.
- (b) Improvements to the automatic flushing latrines of the Jumma Mosque.
- (c) Repairs to the sanitary fittings in Vani Vilas Hospital.

Railway Audit Office, Mysore.—An estimate for construction of flushing latrine and scwage disposal plant for Rs. 1,687 was sent to the Agent, Mysore Railways, Mysore.

Maharaja's College Hostel, Mysore.—An estimate for providing a lavatory and repairs to the flushing cistern was sent to the Executive Engineer, Special Division, Mysore.

Lalitha Mahal, Mysore.—An estimate for Rs. 250 for repairs and sanitary fittings was prepared and the work executed.

Ayurvedic College, Mysore.—An estimate was prepared for shifting lavatories and the work executed.

Ophthalmic Hospital, Mysore.—An estimate for Rs. 2,175 for sanitary installations for the Ophthalmic

Hospital was sent to the Executive Engineer, Special Division, Mysore.

Exhibition Buildings, Mysore.—Estimates for constructing an additional flushing latrine and installing one borehole latrine for demonstration purposes were prepared and the work executed.

Town Improvements.

Survey works were executed at the following towns and villages for investigation and design of town improvements:—

Tumkur	...	Survey work of Tumkur was completed.
Dodballapur	...	Survey work of Dodballapur was completed.

Lay out plans for proposed extensions at Maddur and Chennarayapatna were proposed:—

Chennarayapatna...	A lay out for shop sites at Chennarayapatna was prepared.
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Survey works of the following towns are in progress:—

1. Kolar	6. Kunigal
2. Honnali	7. Hassan
3. Saklespur Extension	8. Chikmagalur
4. Arkalgud	9. Shimoga
5. Chikballapur	

Construction of Borehole Latrines.

Borehole latrine construction was carried out by a separate section of the Bureau of Sanitary Engineering under the charge of an Assistant Engineer. The first units were confined to jatra grounds where there was no facility for night soil collection or disposal. Additional installations were made at Hessarghatta Grass Farm and the Hebbal Agricultural School. Municipalities were then interested in the installation of borehole latrines and numerous requests were received for instructions in the construction and the loan of the necessary apparatus. Four requests for information were received from parts outside Mysore State. It was found necessary to order 32 additional pairs of augers in order to meet the demand. Bangalore City, Mysore City and the Bhadravati Iron Works each purchased their own equipment from the Bureau of Sanitary Engineering for borehole latrine

installation. The following table shows the number of borehole installations made during the year 1932 :—

Name of place	No. of holes bored		Depth of bores		Nature of soil	Number of latrines completed and in use	Enclosures and squatting slabs under construction.	Remarks
	Successful	Unsuccessful	Minimum	Maximum				
BANGALORE DISTRICT.								
Bangalore City ...	34	8	16	19	Gravel ...	11	17*	*6 were used temporarily.
Hebbal ...	6	2	16	19	Do ...	5	1	
Krishnarajapuram ...	2	...	20	20	Soft soil ...	2	...	
Varthur ...	1	14	14	14	Hard Gravel	1	...	
Ginjoor ...	2	...	17	17	Soft do ...	1	1	
Ramagondanhalli ...	2	...	13	13	Hard do ...	1	...	
Yemalur ...	1	...	13	13	Do ...	1	...	
Gottigere ...	1	...	16	16	Do ...	1	...	
Sarakki ...	1	...	...	16	Gravel ...	...	1
Yediyoor ...	2	...	14	15	Do ...	...	2
Anekal ...	1	1	16	18	Do ...	1	...	
Hessarghatta ...	6	...	16	18	Do ...	6	...	
Adigodi ...	2	...	17	18	Do ...	2	...	
Koramangala ...	2	...	18	18	Do ...	2	...	
Benuganahalli ...	1	...	17	17	Do ...	1	...	
Chikballapur Taluk ...	13	3	13	17	Hard Gravel	10	3	
Dodballapur do ...	6	...	14	16	Do ...	6	...	
Madhugiri do ...	20	2	14	16	Do ...	16	4	
Mysore City ...	16	4	14	17	Do ...	14	3	
Hassan ...	19	1	14	17	Do ...	13	6	
Arsikere ...	9	3	14	15	Do ...	3	6	
Davangere ...	3	1	14	16	Do ...	3	...	
Total ...	150	39	100	44	

Compost.

Numerous trips of inspection to the compost field were made during the year and experiments proposed by the Committee consisting of the Director of Agriculture, Dr. Fowler and the Sanitary Engineer were carried out at the compost field under the supervision of the Sanitary Engineer. It was definitely determined that fly breeding could be controlled by proper emulsion of the ingredients before application. The strength of application, the amount to be used, the interval of application and the period of turning were definitely established for compost experiments under Mysore Conditions.

The following method of composting proved to give the best results with the least amount of labour.

Raw Rubbish. The street rubbish collected from the City was first dumped outside the area on which the pile was to be formed. The rubbish was then carefully worked

into position excluding all bricks, stones, chatties, tins, glass, fine dust, etc. The size of the pile before treatment was six feet wide at the base, four feet wide on top and with a depth of two feet. The length of the pile depends upon the amount of material available.

Emulsion.—An emulsion of night soil and water carefully prepared so that all extraneous matter, such as leaves, etc., were removed and prepared so that all solid particles of night soil were broken down to form a homogeneous emulsion.

(a) *Method of Treatment.*—The rubbish pile was first trenched by pulling the centre of the pile toward the edges. The emulsion was then applied to this trench covered over again by pulling in the sides.

(b) *The amount of emulsion.*—Two gallons per running foot of pile.

(c) *The strength of emulsion.*—One part of night soil to four parts of liquid.

(d) *Period of application.*—Daily until the entire pile is moist without being wet and then applications every third day.

(e) *Period of turning.*—Once each week.

Mysore City continued the process of composting the night soil and rubbish throughout the year. Some difficulty was encountered during the heavy rains of the monsoon season and it was definitely established that fly breeding was the result of improper emulsifying of the night soil and liquid before application.

It was necessary to determine more or less accurately the amount of fly breeding taking place in the compost heaps. A concrete fly trap platform based on the design of the fly traps successfully used at Coonoor was constructed for fly breeding investigation. The platform is 40 feet long and 20 feet wide separated into two sections by a fly larvae baffle constructed down the centre. The entire platform is surrounded by a special concrete fly trap trench. A compost heap was formed on one half of the platform and received treatment similar to the 500 feet compost heaps of the Municipality. Compost heaps of the same raw material but treated with emulsions properly prepared were formed on the other side of the fly platform. A Sanitary Inspector was detailed to make daily counts

of fly larvae on either side of the platform, or in the fly trap trench. The results of these investigations proved conclusively that fly breeding can be expected where the night soil is applied to the compost heaps in the crude condition in which they are brought to the Sewage Farm. The demonstration heaps on the other side of the platform were entirely free from fly larvae and investigations proved that where special pains are taken to prepare a proper emulsion of night soil and liquid that fly breeding is negligible or is entirely prevented by the uniformly high temperatures maintained throughout the pile.

During the first half of the year, 1,811 tons were manufactured, of which 1,070 tons were sold to the Agricultural Department for a sum of Rs. 3,902. The production of the latter half of the year was screened and piled into storage heaps to meet this year's demand of the Department of Agriculture.

Numerous persons interested in the process of composting visited the Mysore City Sewage Farm to witness the process. Among those who visited the Farm were Lieut. Colonel, J. R. D. Webb, O.B.E., I.M.S., Director of Public Health, Madras, who later started composting in Madras Presidency and Mr. A. M. Brodie of Ceylon who was interested in starting the process at Jaffna, Ceylon and the officials of the Bangalore City Municipality who were interested in starting the process at Bangalore.

BUREAU OF RURAL HEALTH.

Rural Health Unit, Mandya Taluk, Mysore District.

During the year the Assistant Health Officer of the Unit was transferred to Mudgere Malaria Station and in his place a Probationary Sub-Assistant Surgeon was appointed for training.

In the early part of the year under review, water was turned on in the Maddur branch of the Irwin Canal and Irrigation was commenced in a few villages. Immediately after, a large increase in the number of mosquitoes was observed in the cultivated area, and coincident with this, cases of malaria were reported from this hitherto comparatively malaria-free locality. The disease attained epidemic proportions by April. Six villages were very severely

affected. The spleen rate in them rose markedly from insignificant figures to 80 per cent.

No.	Name of village	Spleen rate before water was let into canal	Spleen rate after water was let into canal
		Per cent	Per cent
1	Komerhalli	4	81'0
2	Gigundipatna	11'4	68'1
3	H. Malligere	3'3	82'0
4	Horganhalli	0'0	55'3
5	Satnur	12'0	32'8
6	Chikmandya	20'0	32'5

In four villages the disease was particularly severe accounting for about 100 deaths, for a total population of 3,500. With a view to determine the changed local conditions, a health survey of the village in the Irwin Canal Zone was undertaken under orders of Government. Subsequently, Government sanctioned a special grant of Rs. 15,000 for free distribution of quinine and other relief measures in the affected area. The villages in the locality were dry with no canals and irrigation. With the advent of the Irwin Canal, the local conditions have entirely changed and there is danger of many of the villages, which are, as a rule, situated in the valleys and near tanks, getting water logged. To avert this, the engineering and revenue officials are trying to carry out minor alterations in the alignment of the canal, etc.

The Dewan and the Second Member of Council paid a visit to the locality during the year.

Plague which prevailed during the tail end of 1931 continued during the early part of the current year. Twenty-one villages were reported infected. A total of 181 attacks with 112 deaths occurred. All the places infected were visited by the Unit staff for anti-plague

measures. Six thousand and twenty-nine anti-plague inoculations were done as per statement given below:—

*Monthwar statement of anti-plague inoculations
in the Rural Health Unit, Mandya.*

Month	Plague Infection				Number of Inocula- tions
	Inoculated		Uninoculated		
	Attacks	Deaths	Attacks	Deaths	
January ...	5	1	87	52	2,001
February ...	1	...	5	3	492
March ...	...	...	31	23	278
April ...	...	...	...	...	...
May ...	...	...	...	...	...
June ...	...	...	10	8	15
July ...	...	...	3	3	5
August ...	1	1	3	2	661
September ...	...	...	1	1	...
October ...	1	...	1	1	54
November ...	1	...	12	8	1,664
December ...	2	...	17	9	859
Total ...	11	2	170	110	6,029

Eleven attacks with two deaths among the inoculated were reported, as detailed below:—

Details of attacks and deaths among the inoculated.

Period between inoculation and attacks in days	Number of attacks	Number of deaths	Period between attacks and deaths in days						Recoveries
			1	2	3	4	5	6	
7— 14 ...	2	1	...	...	...	1	...	...	1
15— 21 ...	2	...	...	...	...	...	...	...	2
22— 30 ...	...	...	...	...	...	...	...	...	...
31— 60 ...	4	1	...	...	...	...	1	...	3
61— 90 ...	1	...	...	...	...	...	...	...	1
91—120 ...	1	...	...	...	...	...	...	...	1
121—150 ...	...	...	...	...	...	...	...	...	...
151—180 ...	...	...	...	...	...	...	...	...	...
Unknown ...	1	...	...	...	...	...	...	...	1
Total ...	11	2	...	...	...	1	1	...	9

Four cases of diarrhoea and vomiting were reported from the Voddar Cooly Colony in February. The cases were not clinically cholera. Steps were taken to protect the immediate neighbourhood. Six hundred and five anti-cholera inoculations were given.

Five attacks with one death from smallpox were reported in the months of June and July among the Voddar Coolies. The spread of the disease was controlled by promptly resorting to intensive vaccination.

During November a village in the Unit area reported smallpox. The source of infection was traced to a boy of the neighbouring village who returned with smallpox from Ganjam (Seringapatam) a few days prior to the outbreak and formed the focus of infection. The attempts of the vaccination staff were thwarted for a considerable time by the villagers concealing the unprotected. Before systematic vaccination campaign was commenced 14 attacks with one death had already occurred. This was a lesson to the villagers and they finally agreed for vaccination. One hundred and seven primary vaccinations were done in the village out of a total population of 700. The staff did 3,491 primary, 215 secondary and 442 re-vaccinations in the Unit area.

Measles prevailed severely in the area. The actual number of attacks and deaths could not be recorded due to inefficient reporting. An attempt was made to ascertain the incidence of the disease in Mandya town by a house to house survey, and this revealed 97 attacks and eight deaths, all due to the complication of broncho-pneumonia.

Forty-eight cases of typhoid with ten deaths were registered. The disease broke out in an epidemic form in Nidaghatta, Maddur taluk, where 15 attacks and four deaths occurred. The infection was mainly among children of school-going age, and as far as could be elicited, eatables from the local coffee hotel were probably responsible for the spread of the disease. The village water supply was chlorinated as a precautionary measure. Thirty-three T.A.B. injections were given in Nidaghatta and six in Mandya town.

The midwives of the Unit paid 477 visits to 22 villages in the Unit area. They made 3,301 pre-labour and 2,042 post-labour visits and 63 visits for miscellaneous cases. They also conducted 66 labour cases.

Statement according to months of the work of the midwives for 1932.

Month	Number of villages visited	Number of visits paid to villages	Nature of visit			Cases conducted
			Pre-labour	Post-labour	Miscellaneous	
January ...	26	45	272	156	3	1
February ...	22	46	252	131	12	3
March ...	23	46	308	185	4	6
April ...	21	40	308	136	8	8
May ...	19	39	285	178	12	4
June ...	22	41	285	146	4	5
July ...	21	36	261	178	4	5
August ...	22	37	283	214	4	9
September ...	24	44	309	231	2	9
October ...	19	39	273	178	4	6
November ...	21	34	228	144	2	8
December ...	16	30	245	165	4	2
Total ...	...	477	3,309	2,042	63	66

The Unit conducted spleen survey in 34 villages in and outside the area. Three hundred and ten were found positive out of 2,099 children examined for enlarged spleens.

Table showing the results of spleen survey.

Age group	Total	Negative	Size of spleen					Percentage
			Palpable	1	2	3	4	
0-1 ...	49	48	1	..	...	...	...	...
1-4 ...	497	459	12	17	7	2	...	...
5-9 ...	1,083	911	78	68	23	7	1	...
10-14 ...	426	340	30	33	14	9	...	...
15 and above ...	44	31	5	3	3	...	...	...
Total ...	2,099	1,789	121	123	47	18	1	10.0

After a lapse of three months (January to March) the lady doctor from the Zenana Mission Hospital, commenced the Maddur Maternity Clinic work. She held 114 clinics and examined 1,050 cases. The lady doctor extended her work to Somenhalli Village from May. These clinics are being held in three places now. They continue to be popular.

Statement of clinics held.

Month	Clinics	
	Number held	Number attended
January to March ...	...	...
April ...	8	67
May ...	13	189
June ...	16	164
July ...	12	142
August ...	15	123
September ...	12	106
October ...	12	88
November ...	14	94
December ...	12	67
Total ...	114	1,050

The Unit laboratory examined 246 blood-smears, 12 spleen-smears from dead rats, 12 samples of faeces, 37 of urine and eight of sputum.

The Public Health Institute examined for the Unit 33 samples of blood for Wassermann and two for Widal, one sample of sputum for bacillus pestis, one throat-smear for diphtheria and four samples of motion for dysentery.

Statement of Clinical Laboratory

Month	Number of specimens		Number of patients	
	Examined	Not Examined	Examined	Not Examined
January to March	121	10	10	10
April	100	10	10	10
May	100	10	10	10
June	100	10	10	10
July	100	10	10	10
August	100	10	10	10
September	100	10	10	10
October	100	10	10	10
November	100	10	10	10
December	100	10	10	10
Total	1000	100	100	100

The clinical laboratory examined 1000 specimens of blood and 100 specimens of sputum during the year. The Public Health Institute examined for the total 33 samples of blood for Wassermann and two for Widal. One sample of sputum for bacillus culture one for tubercle bacillus and four samples of sputum for diphtheria.

Month	Number of specimens	Number of patients
January	100	100
February	100	100
March	100	100
April	100	100
May	100	100
June	100	100
July	100	100
August	100	100
September	100	100
October	100	100
November	100	100
December	100	100
Total	1000	1000

The clinical laboratory examined 1000 specimens of blood and 100 specimens of sputum during the year. The Public Health Institute examined for the total 33 samples of blood for Wassermann and two for Widal. One sample of sputum for bacillus culture one for tubercle bacillus and four samples of sputum for diphtheria.

CONTENTS

	PAGES
I. <i>Report.</i> —	101-114
(i) Population	101
(ii) Births	101-102
(iii) Deaths	102-114
(a) Death Rate	102-104
(b) Infant Mortality	104
(c) Statistical History of Chief Diseases	105-114
II. <i>Statistical Tables—As per Monthly Returns.</i> —	
Table 1.—Reported Births in the Districts and Cities of the Mysore State in each month of the Year 1932	115-116
Table 2.—Reported Deaths in the Districts and Cities of the Mysore State in each month of the Year 1932	117-118
Table 3.—Deaths reported in the Districts and Cities of the Mysore State classified according to Hindus, Mussalmans and other Classes in the Year 1932	119
Table 4.—Deaths reported in the Districts and Cities of the Mysore State classified according to Age and Sex in the Year 1932	120-121
Table 5.—Births and Deaths reported in the Districts and Cities of the Mysore State classified according to Sex and Disease in the year 1932	122-123
Table 6.—Births and Deaths reported in the Districts, classified according to Rural and Urban Areas, in the year 1932	124
Table 7.—Deaths of Infants under one Year of Age Reported in the Districts and Cities of the Mysore State in each Month of the Year 1932	125
Table 8.—Deaths from Plague reported in the Districts and Cities of the Mysore State in each month of the Year 1932	126
Table 9.—Deaths from Smallpox	127
Table 10.—Deaths from Cholera	128
Table 11.—Deaths from Malaria (Figures included under Other Fevers)	...
Table 12.—Deaths from Typhoid	...
Table 13.—Deaths from Other Fevers	129
Table 14.—Deaths from Dysentery and Diarrhoea	130
Table 15.—Deaths from Respiratory Diseases	131
Table 16.—Deaths from Consumption (Figures included under Respiratory Diseases)	...
Table 17.—Deaths from Leprosy (Figures not available)	...

	PAGES
Table 18.—Deaths from Child-birth reported in the Districts and Cities of the Mysore State in each month of the year 1932 (Figures not available) ... ..	...
Table 19.—Deaths from Injuries do ...	132
Table 20.—Deaths from Suicide do ...	133
Table 21.—Deaths from Drowning do (Figures included under Wounds and Accidents) ... ..	...
Table 22.—Deaths from Wounds and Accidents do ...	134
Table 23.—Deaths caused by Wild Animals do ...	135
Table 24.—Deaths from Snake-bite do (Figures included under Deaths caused by Wild Beasts)	...
Table 25.—Deaths from Rabies do (Figures not available) ... ..	...
Table 26.—Deaths from All Other Causes do ...	136
Table 27.—Alphabetical List of Taluks in Mysore State, giving statistics of Births, classified Deaths and of Infant Mortality in the Year 1932... ..	137-139
Table 28.—Alphabetical List of Municipalities in Mysore State, giving statistics of Births, classified Deaths and of Infant Mortality in the Year 1932	140-144
III. <i>Statistical Tables—As per Daily Reports.—</i>	
Table 29.—Alphabetical List of Places affected with Plague in each Taluk of the Mysore State, giving Attacks and Deaths in each Month of the year 1932	145-163
Table 30.—Alphabetical List of Places affected with Smallpox do ...	164-168
Table 31.—Alphabetical List of Places affected with Cholera do ...	169
IV. <i>Graphs.—</i>	To face Page
Graph 1.—Reported Births and Deaths in Mysore State in each Month of the Year 1932 (Males and Females)	102
Graph 2.—do (Males) ...	103
Graph 3.—do (Females)...	104
Graph 4.—Reported Deaths from Chief Diseases in Mysore State. (Percentage of Total Deaths)	105
Graph 5.—Attacks and Deaths from Plague in Mysore State in each Month of the Year 1932 (Daily Returns)	107
Graph 6.—Attacks and Deaths from Smallpox in Mysore State in each Month of the Year 1932 (Daily Returns)	109
V. <i>Maps.—</i>	
Map 1.—Geographical Distribution of Plague in 1932 (Daily Returns)	106
Map 2.—Do Smallpox ...	108
Map 3.—Do Cholera ...	110

VITAL STATISTICS.

(i) Population.

At the recent Census of the Mysore State taken on February 26, 1931, the enumerated population was 6,423,189 excluding Civil and Military Station, Bangalore. Assuming this to be the true population on that date, the estimated population on July 1, 1931 was 6,442,584.

The following are the estimated populations in the Districts and Cities as on July 1, 1932 :—

<i>District or City</i>	<i>Estimated Population (July 1, 1932.)</i>
Bangalore	1,103,831
Chitaldrug	667,690
Hassan	598,689
Kadur	349,628
Kolar	856,690
Mysore	1,525,679
Shimoga	523,690
Tumkur	873,322
Total (Mysore State) ..	6,499,218
Bangalore City	179,620
Mysore City	110,273
Kolar Gold Field	84,755
Civil and Military Station, Bangalore ..	136,162

The rates computed in the following report on Vital Statistics are based on the estimated populations and are therefore comparable with similar rates in other countries.

(ii) Births.

During the year under report, 115,627 births were reported as compared with 119,762 in 1931. Of these, 58,778 were male and 56,849 female, the ratio of male to female births being 103 to 100. The birth-rate during the year was slightly less than in 1931, the rates being 17.79 and 18.64 respectively. Table 1 gives the recorded births in the districts and cities in each month.

Analysing the figures by months, it is seen that the maximum number (11,054) of births was registered in

October and the minimum (8,405) in January. In the three cities together, 12,556 births were reported, the greatest and smallest monthly totals being 1,174 in April and 928 in January.

The birth-rates in the districts varied from 11·36 in Hassan District to 20·85 in Kolar District. Assuming, as a result of the survey made in 1929, that 44 is the normal birth-rate in the districts, it may be stated that the recorded rates are less than 50 per cent of the true rates.

In cities, however, the rates are more reliable than in the districts. Kolar Gold Field reported a birth-rate of 44·47 whilst Mysore City recorded a low rate of 25·11. Bangalore City rate is between these two, being 33·50.

In this connection, it is significant to notice that the following 11 Municipalities have reported birth-rates exceeding 40 per mille of population :—

Chintamani, Goribidnur, Heggaddevankote, Krishnarajpete, Koppa, Madhugiri, Nagar, Nagamangala, Sarjapur, Sira and Tirthahalli.

It follows therefore that only 11 out of 106 (or about 10 per cent of) Municipalities have registered fairly reliable birth-rates, the estimated birth-rates for urban areas being about 40 and over.

Tables 27 and 28 give a complete alphabetical list of Taluks, and City and Town Municipalities in Mysore State, respectively with statistics of births and deaths from different diseases. It is proposed to publish such statements in future for reference purposes and for the use of research workers in the field of public health.

(iii) Deaths.

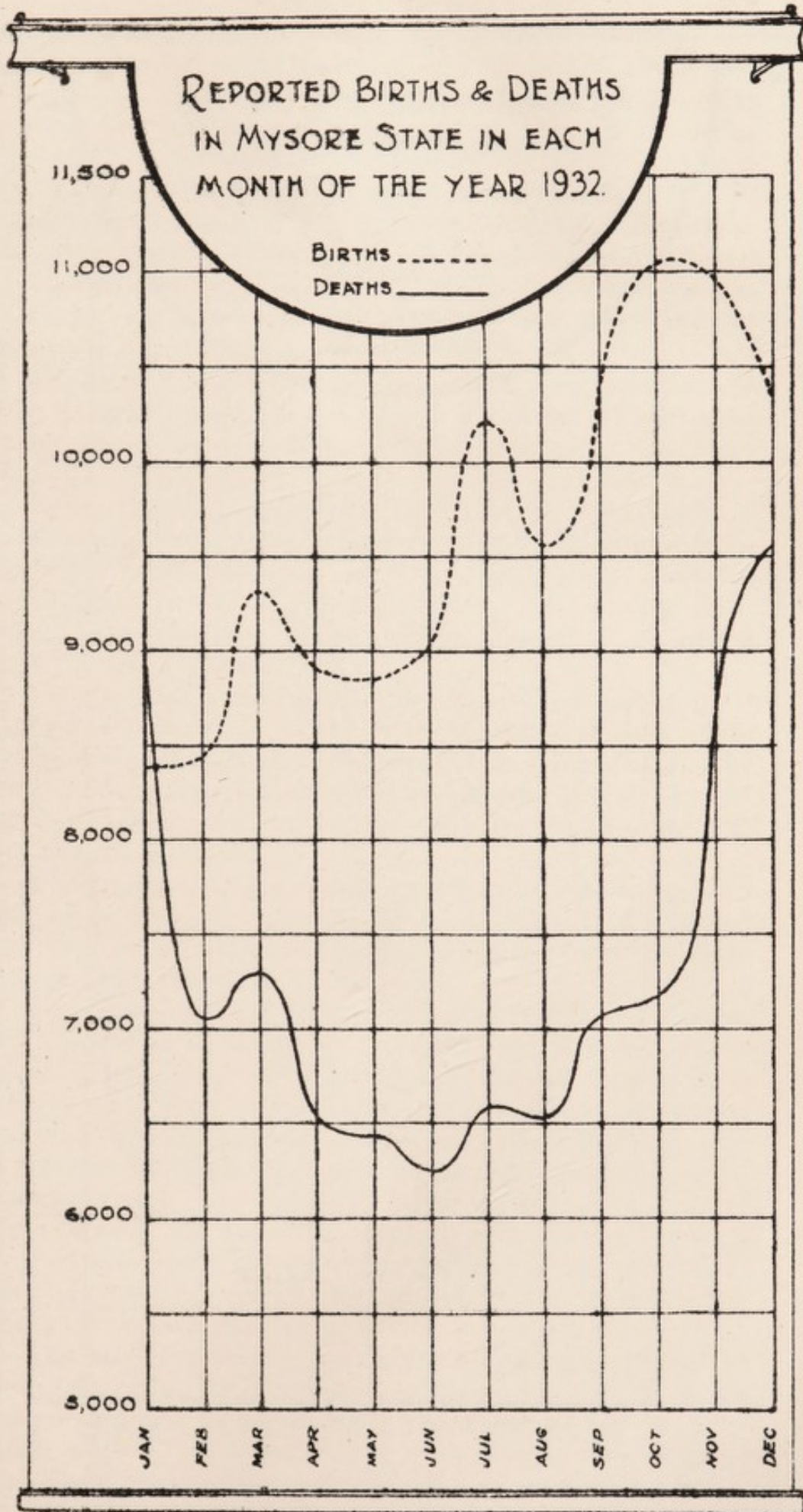
(a) *Death Rate.*

During the year, 88,175 deaths were reported as against 94,265 in 1931, the death rates in the two years being 13·57 and 14·67 respectively. Assuming the reported figures to be equally significant in the two years considered, it may be stated that there was a fall in the death-rate in the year under review.

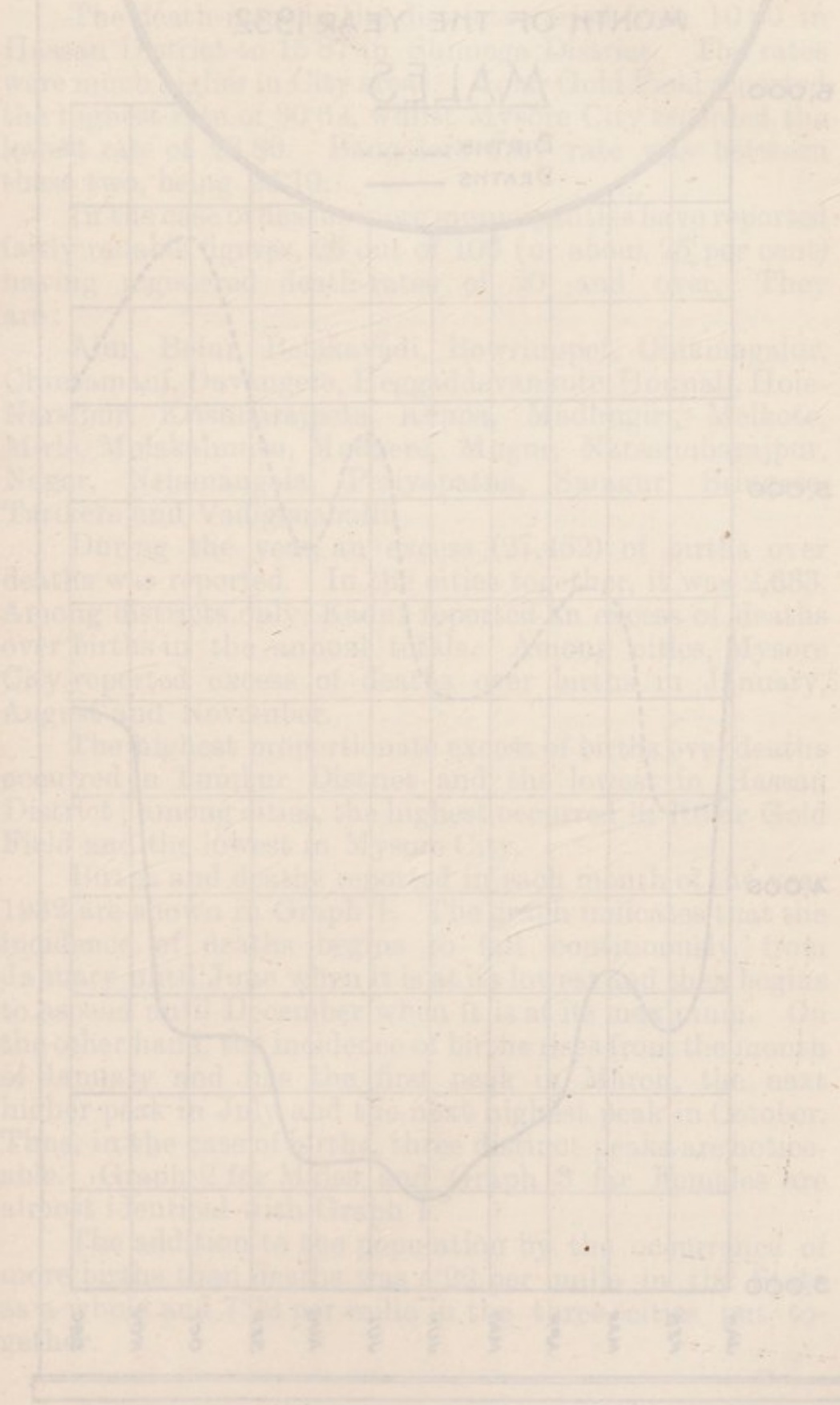
Of the 88,175 deaths registered, 45,389 were male and 42,786 female, the ratio of male to female deaths being 106 to 100.

Table 2 gives the recorded deaths in the districts and cities in each month. The maximum number of deaths

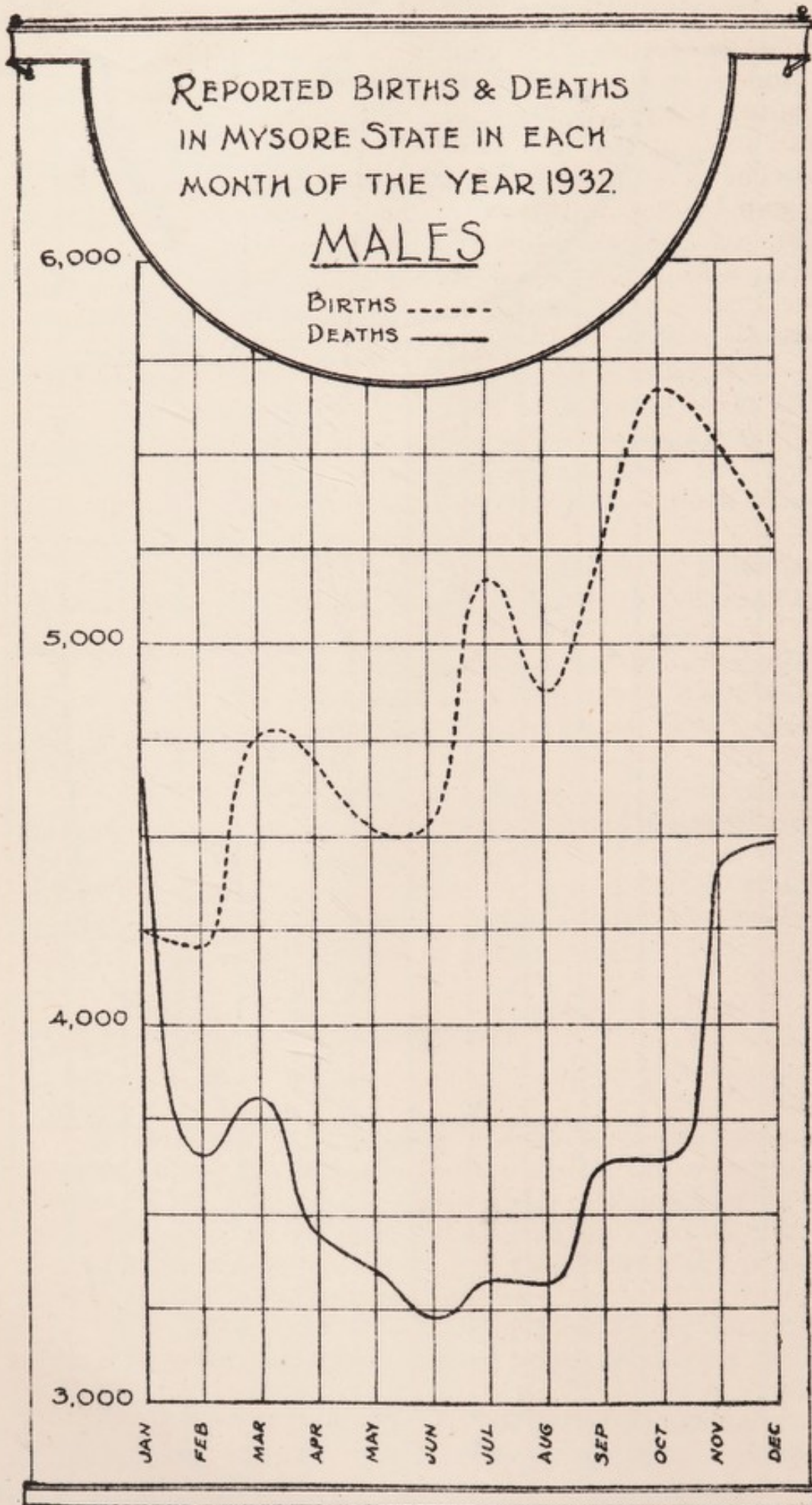
Graph 1.



REPORTED BIRTHS & DEATHS IN MYSORE STATE IN EACH MONTH OF THE YEAR 1922



Graph 2.



(9,533) was reported in December and the minimum (6,213) in June. In the three cities together, 9,923 deaths were reported, the greatest and smallest monthly totals being 1,001 in December and 725 in June.

The death-rates in the districts varied from 10.80 in Hassan District to 15.87 in Shimoga District. The rates were much higher in City areas. Kolar Gold Field reported the highest rate of 30.62, whilst Mysore City recorded the lowest rate of 23.80. Bangalore City rate was between these two, being 26.19.

In the case of deaths more municipalities have reported fairly reliable figures, 26 out of 106 (or about 25 per cent) having registered death-rates of 20 and over. They are :

Alur, Belur, Belakavadi, Bowringpet, Chikmagalur, Chintamani, Davangere, Heggaddevankote, Honnali, Hole-Narsipur, Krishnarajpete, Koppa, Madhugiri, Melkote, Mirle, Molakalmuru, Mudgere, Mugur, Narasimharajpur, Nagar, Nelamangala, Periyapatna, Saragur, Sringeri, Tarikere and Vadigenahalli.

During the year, an excess (27,452) of births over deaths was reported. In the cities together, it was 2,633. Among districts only, Kadur reported an excess of deaths over births in the annual totals. Among cities, Mysore City reported excess of deaths over births in January, August and November.

The highest proportionate excess of births over deaths occurred in Tumkur District and the lowest in Hassan District; among cities, the highest occurred in Kolar Gold Field and the lowest in Mysore City.

Births and deaths reported in each month of the year 1932 are shown in Graph 1. The graph indicates that the incidence of deaths begins to fall continuously from January until June when it is at its lowest and then begins to ascend until December when it is at its maximum. On the other hand, the incidence of births rises from the month of January and has the first peak in March, the next higher peak in July and the next highest peak in October. Thus, in the case of births, three distinct peaks are noticeable. Graph 2 for Males and Graph 3 for Females are almost identical with Graph 1.

The addition to the population by the occurrence of more births than deaths was 4.22 per mille in the State as a whole and 7.22 per mille in the three cities put together.

Table 3 gives the distribution of deaths among Hindus, Mussalmans and other classes.

The Age and Sex distribution of reported deaths is shown in Table 4. Assuming that the age distribution of the population remains practically constant from year to year in the inter-censal period, the following differential rates of mortality occurred in the different age groups. In the age period 0-1, in every 1,000 of the population of that age, 62·94 deaths occurred. In the age groups 1-5, 5-10, 10-15, 15-20, 20-30, 30-40, 40-50, 50-60 and 60 and over, the corresponding rates were 14·85, 6·43, 5·12, 8·30, 8·44, 9·91, 12·42, 19·99 and 63·05 respectively. The rates of mortality in the two periods, *viz.*, under one year of age and 60 and over, are almost equal among both males and females. The female death rates are lower than the rates for males except in the age period 5-40, in which period the rates for females are higher than those of males. The difference in the rates is small in the period 5-15 and pronounced in the child bearing period 15-40. It is significant that the rate of mortality among male infants is much higher than among female infants under one year.

Table 5 gives a comparative statement of births and deaths from the different diseases listed.

Table 6 gives the same comparative statement for rural and urban areas in the districts and in the State as a whole. It is significant that the urban birth-rate in 1932 was 27·94, whilst the rural birth-rate was only 16·09. The urban and rural death-rates were 19·56 and 12·56 respectively.

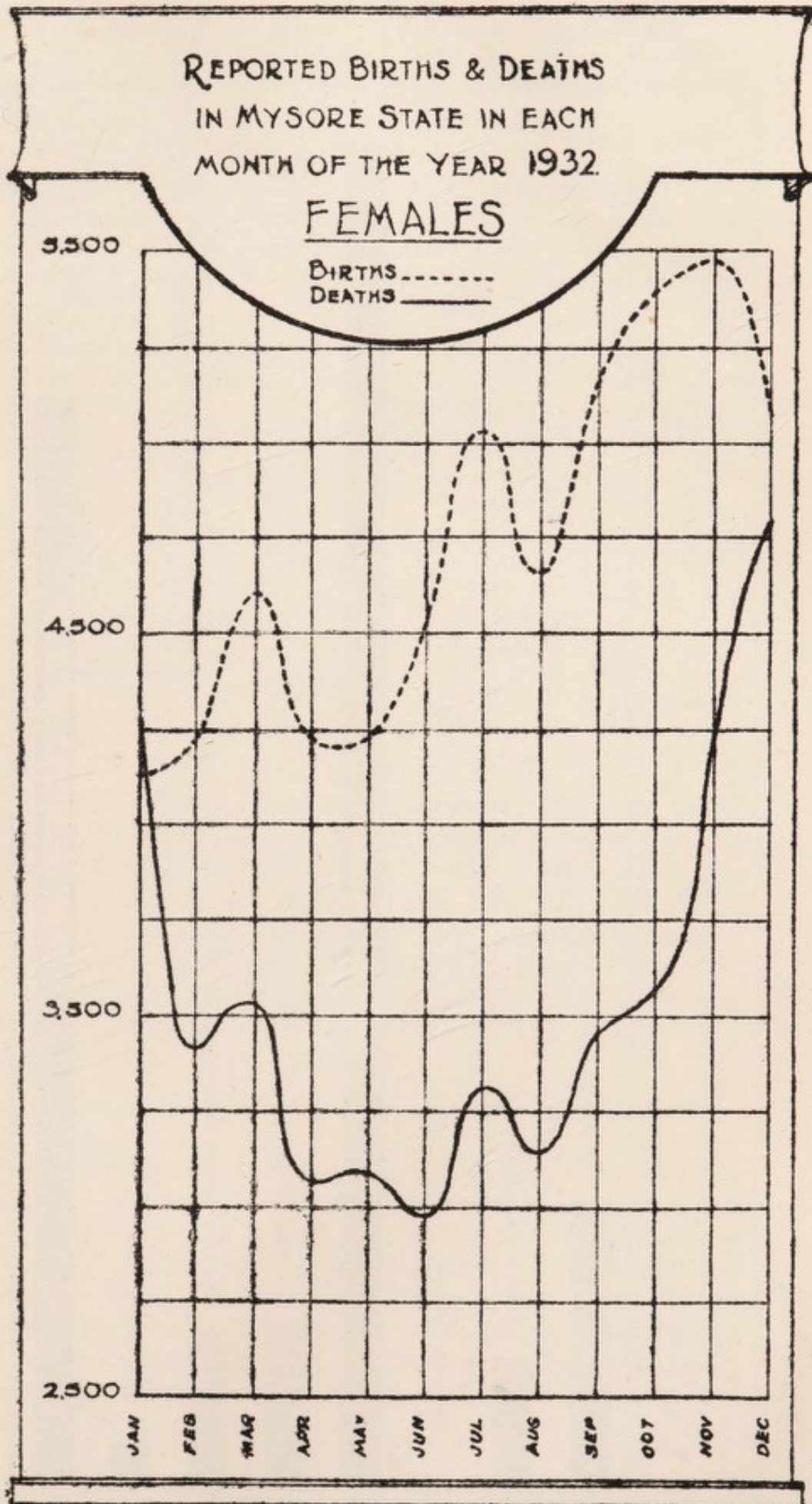
(b) *Infant Mortality.*

In the year under report, 11,026 deaths of infants under one year of age were reported, yielding an infant mortality rate of 95·36 per thousand births. Particulars of live births and of those born dead are not available and the rate given here is therefore very crude and can be used only for tentative comparisons.

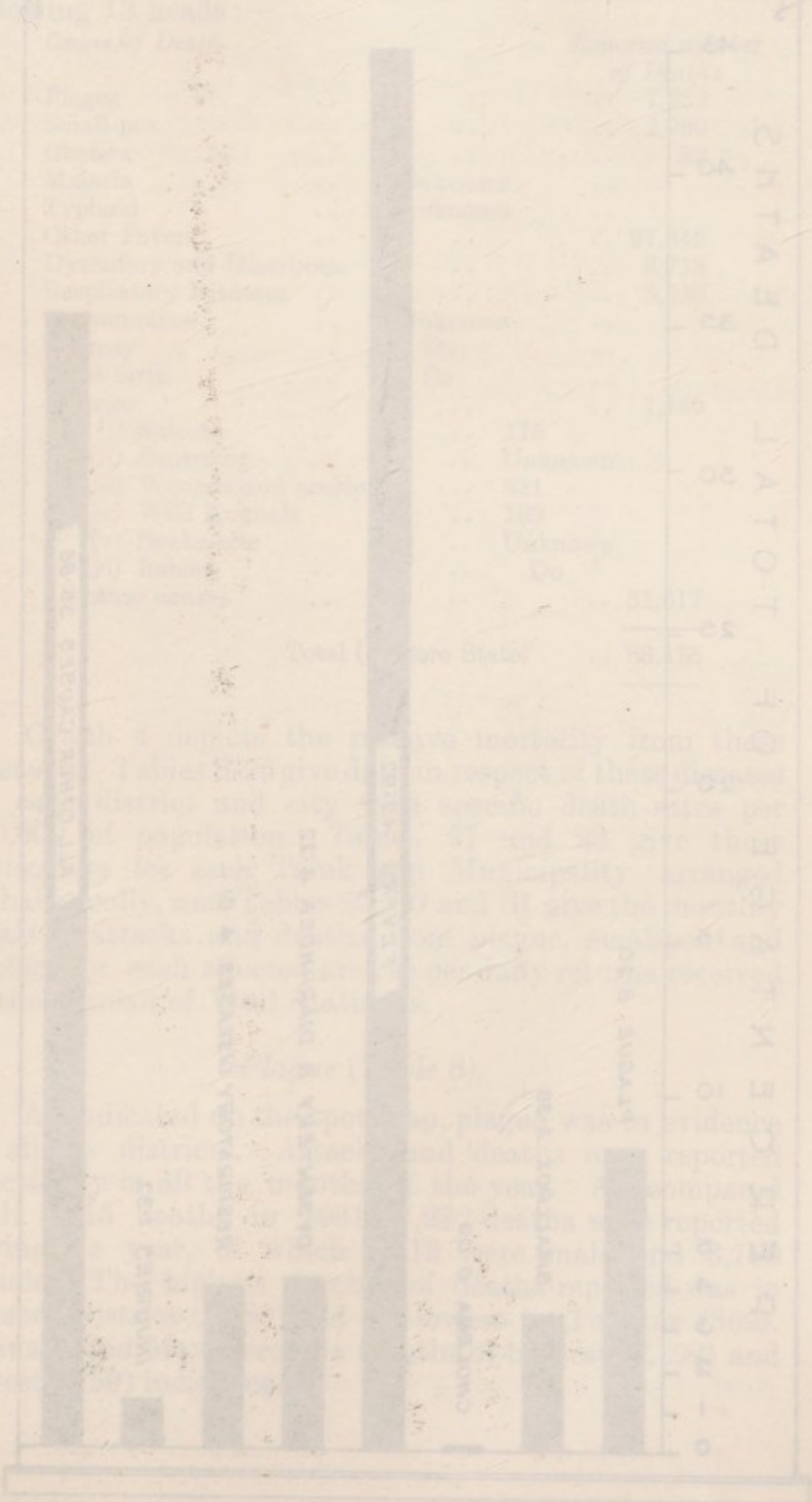
The highest infant mortality rate (116·22) was reported in Kolar District, the lowest (62·67) being recorded in Mysore District.

In the cities, the rates were higher and as shown in Table 7, Kolar Gold Field reported a rate of 183·60, Mysore City 118·82 and Bangalore City the intermediate rate of 180·13.

Graph 3.

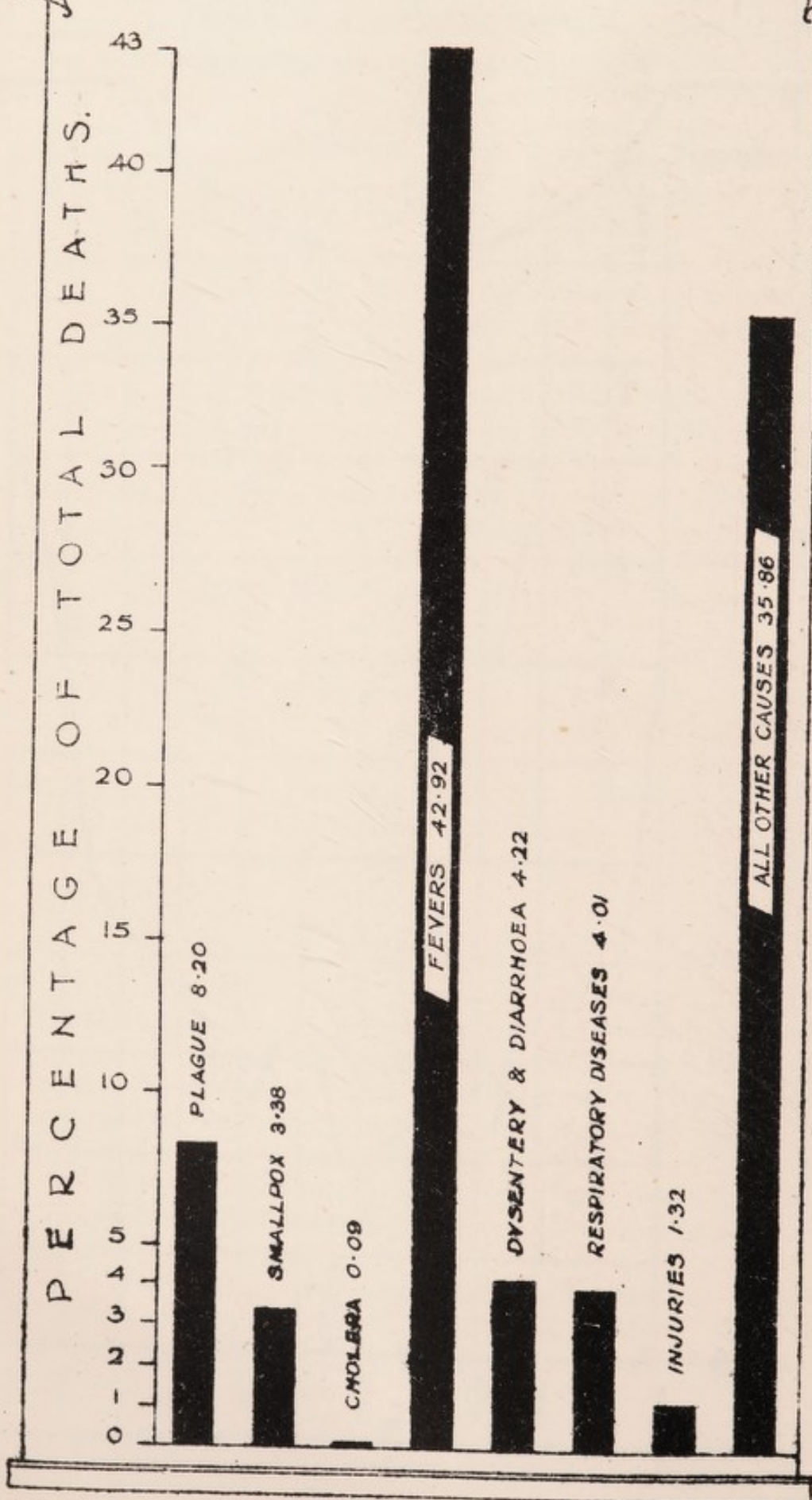


REPORTED DEATHS FROM CHIEF DISEASES IN MYSORE STATE FOR THE YEAR 1932



Graph 4.

REPORTED DEATHS FROM CHIEF DISEASES
IN MYSORE STATE FOR THE YEAR 1932.



(c) Statistical History of Chief Diseases.

Deaths reported in 1932 may be classified under the following 13 heads:—

<i>Cause of Death.</i>			<i>Reported number of Deaths</i>
Plague	..	..	.. 7,232
Small-pox	..	..	.. 2,980
Cholera	..	..	.. 83
Malaria	..	Unknown	..
Typhoid	..	Unknown	..
Other Fevers	..	..	.. 37,842
Dysentery and Diarrhoea	..	..	.. 3,718
Respiratory Diseases	..	..	.. 3,538
Consumption	..	Unknown	..
Leprosy	..	Do	..
Child-birth	..	Do	..
Injuries	..	..	.. 1,165
(i) Suicide	..	..	.. 175
(ii) Drowning	..	..	.. Unknown
(iii) Wounds and accidents	..	..	.. 821
(iv) Wild Animals	..	..	.. 169
(v) Snake-bite	..	..	.. Unknown
(vi) Rabies	..	..	.. Do
All other causes	..	..	.. 31,617
Total (Mysore State)			.. 88,175

Graph 4 depicts the relative mortality from these diseases. Tables 8-26 give data in respect of these diseases for each district and city with specific death-rates per 100,000 of population. Tables 27 and 28 give these particulars for each Taluk and Municipality arranged alphabetically, and Tables 29, 30 and 31 give the monthly totals of attacks and deaths from plague, smallpox and cholera for each affected area as per daily returns received in the Bureau of Vital Statistics.

Plague (Table 8).

As indicated on the spot map, plague was in evidence in all the districts. Attacks and deaths were reported practically in all the months of the year. As compared with 5,715 deaths in 1931, 7,232 deaths were reported during the year, of which 3,513 were male and 3,719 female. The highest number of deaths reported was in Mysore District (2,030) and the lowest in Tumkur (369). January and May were the months of highest (1,122) and lowest (159) incidence.

In Bangalore City, 116 deaths were reported and in Mysore City 175, whilst Kolar Gold Field and Civil and Military Station reported 119 and 101 respectively.

The specific rates of mortality per 100,000 of population are given in Table 8 for each district and city. The order of incidence in the districts was: Bangalore, Mysore, Kadur, Chitaldrug, Kolar, Hassan, Shimoga and Tuinkur. In cities, the order was: Mysore City (158·70), Kolar Gold Field (140·40), Civil and Military Station (74·18) and Bangalore City (64·58).

Table 29 gives a list of places affected with plague and Map 1 indicates the geographical distribution of the disease as per daily returns.

The following Taluks, Cities and Towns reported about 100 or more deaths from plague :—

Taluk or city	Attacks	Deaths	Fatality Rate
Davangere Taluk ..	606	393	64·86
Shimoga Taluk ..	319	215	67·40
Mysore City ..	237	168	70·89
Chamarajnagar Taluk ..	233	150	64·38
Tumkur Taluk ..	221	137	61·99
T.-Narsipur Taluk ..	203	128	63·05
Davangere Town ..	191	125	65·44
Kolar Gold Field ..	198	121	61·11
Chikmagalur Taluk ..	188	121	64·36
Bangalore City ..	133	102	76·69
Chintamani Taluk ..	155	99	63·87

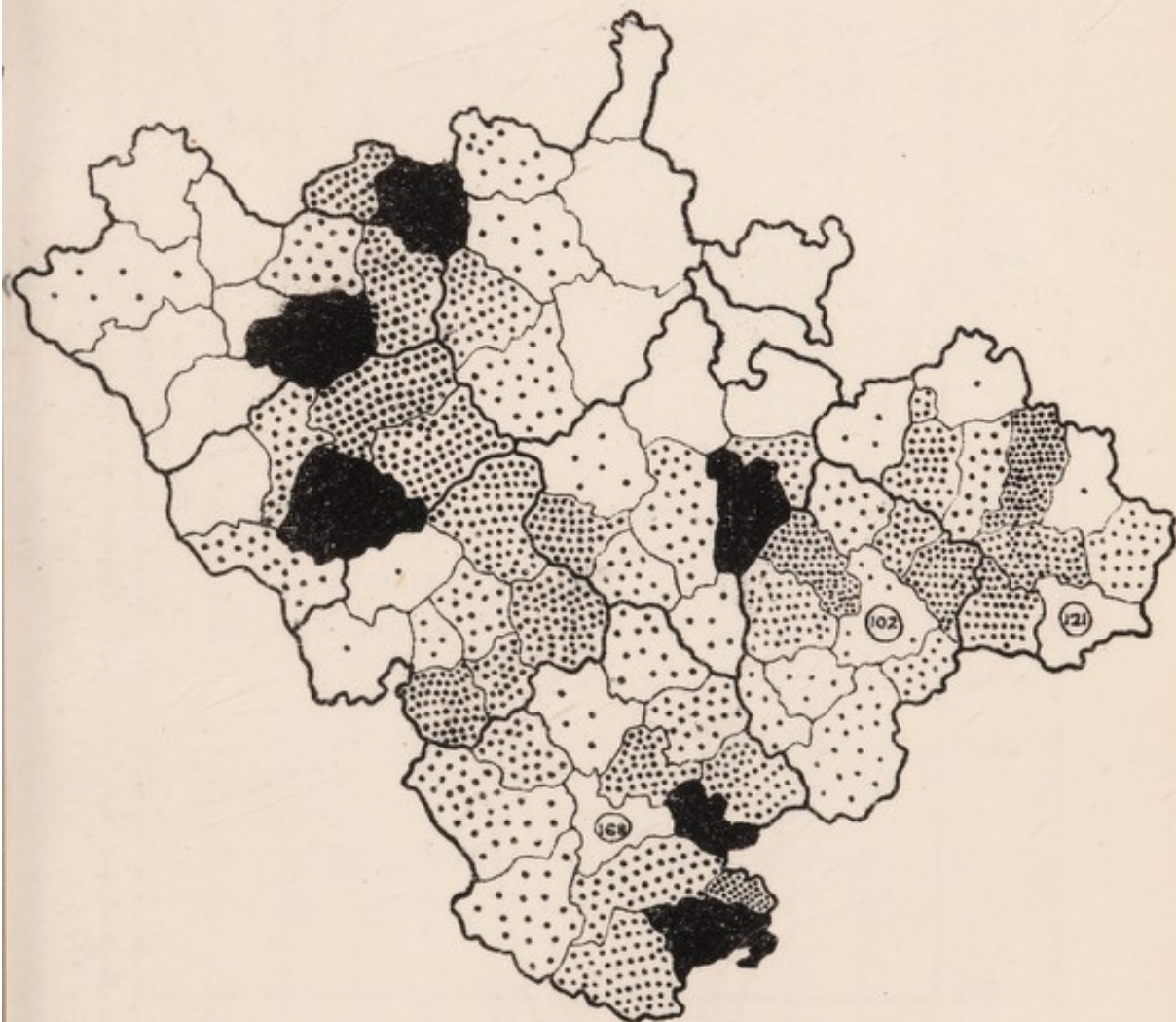
It will be noticed that the fatality rate for each one of these areas exceeds 60 per cent.

Graph 5 indicates the relative incidence of attacks and deaths from plague in each month of the year 1932. It shows that plague has the lowest incidence in May and the highest in August. A small drop in October and November is followed by a second rise in December.

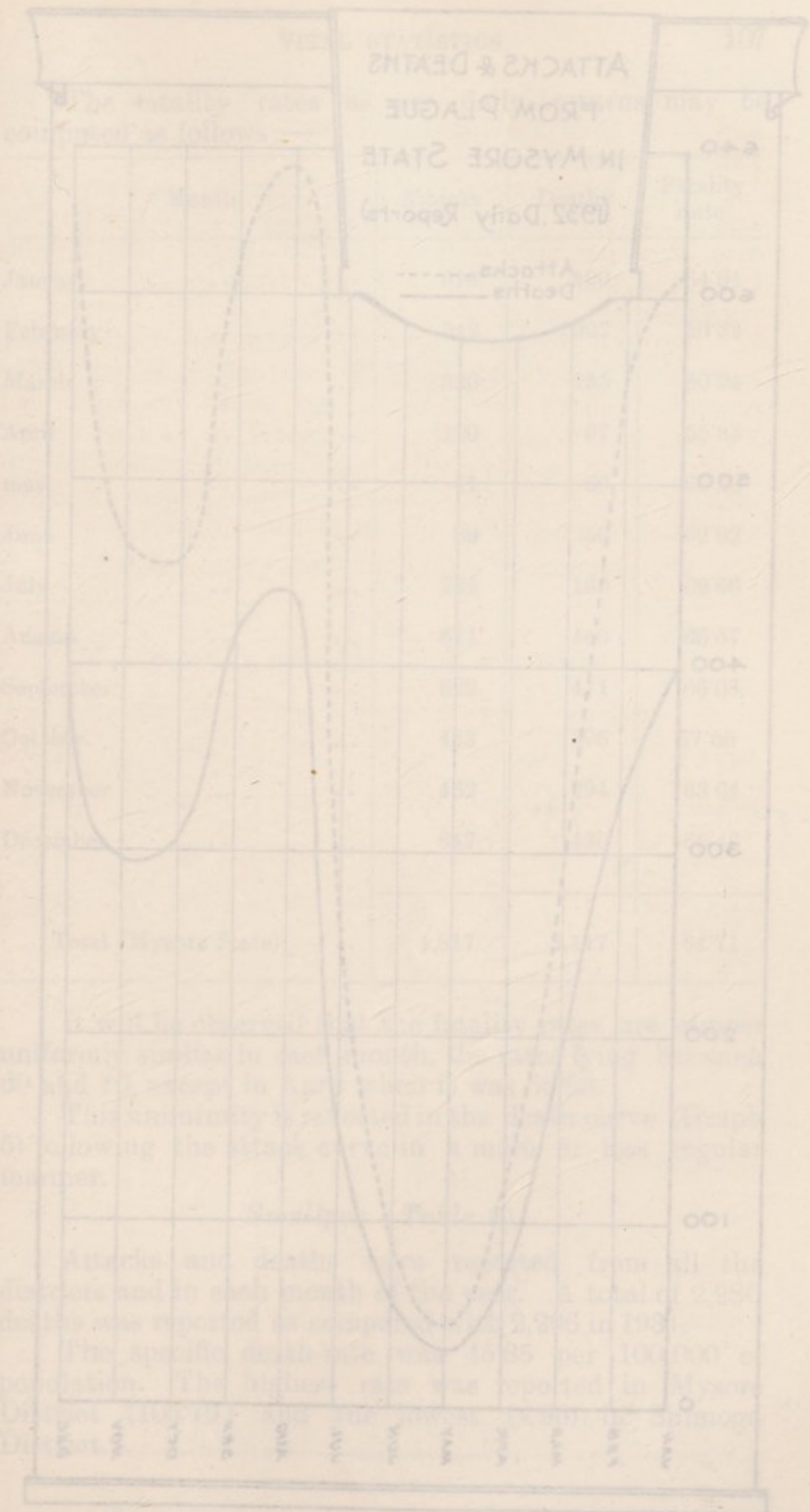
MAP I.

— PLAGUE IN MYSORE STATE —

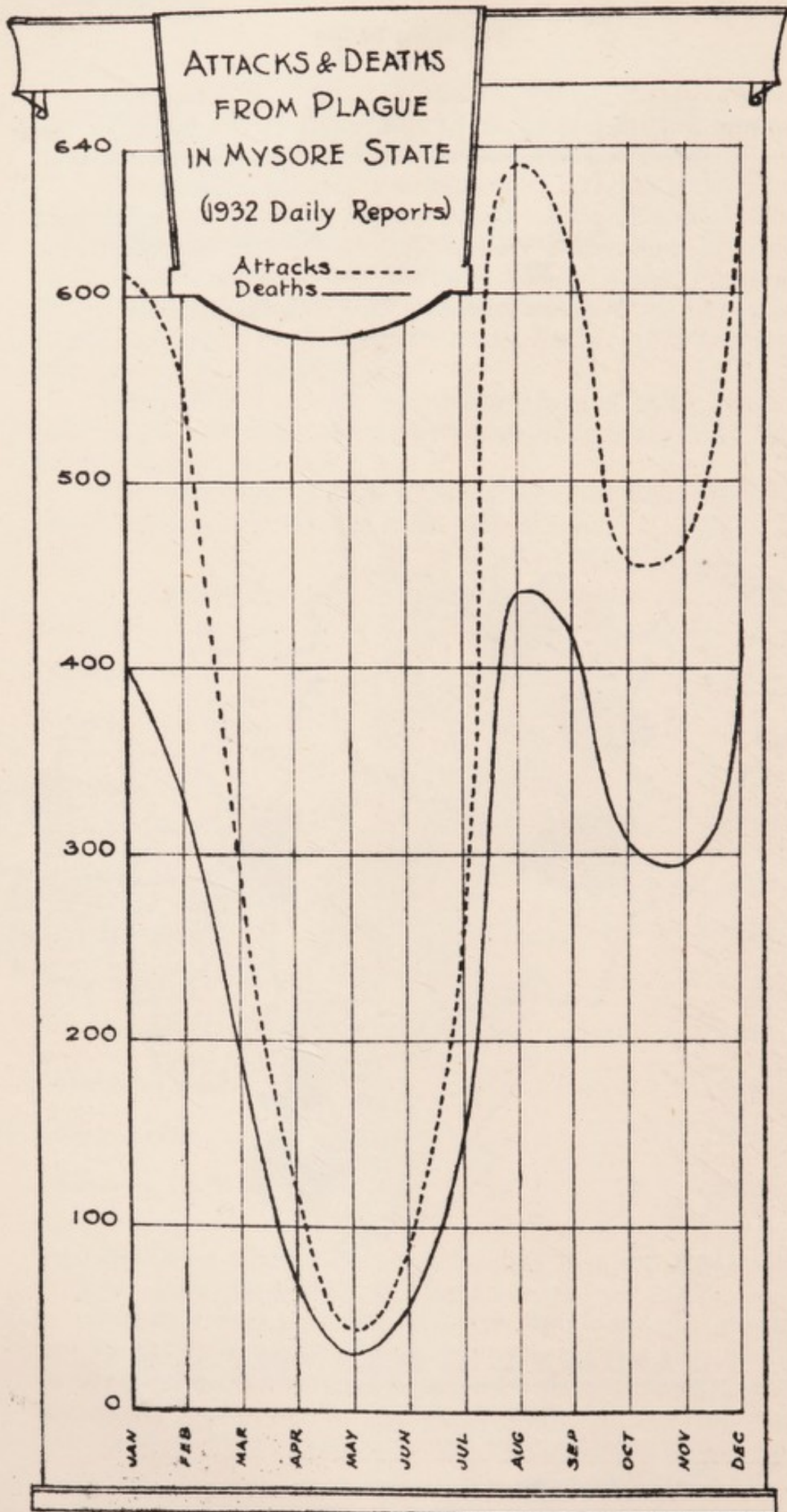
Dot indicates One Reported Death
■ indicates 100 & over
Figures indicate Total Deaths in Cities.



JANUARY 1, TO DECEMBER 31, 1932.



Graph 5.



The fatality rates as per daily returns may be computed as follows:—

Month	Attacks	Deaths	Fatality Rate
January	616	400	64·94
February	542	327	60·33
March	320	195	60·94
April	120	67	55·83
May	41	28	68·29
June	89	56	62·92
July	234	163	69·66
August	671	440	65·57
September	622	411	66·08
October	453	306	67·55
November	462	294	63·64
December	647	430	66·46
Total (Mysore State) ..	4,817	3,117	64·71

It will be observed that the fatality rates are almost uniformly similar in each month, the rates lying between 60 and 70, except in April when it was 55·83.

This uniformity is reflected in the death curve (Graph 5) following the attack curve in a more or less regular manner.

Smallpox (Table 9).

Attacks and deaths were reported from all the districts and in each month of the year. A total of 2,980 deaths was reported as compared with 2,296 in 1931.

The specific death-rate was 45·85 per 100,000 of population. The highest rate was reported in Mysore District (105·79) and the lowest (4·96) in Shimoga District.

Bangalore City reported 125 deaths, Mysore City 57, and Kolar Gold Field and Civil and Military Station 13 and 28 respectively.

Table 30 gives a list of places affected with smallpox and Map 2 indicates the geographical distribution of the disease, as per daily returns. Only Bangalore and Mysore Cities reported 50 or more deaths from smallpox in the year under report.

Graph 6 gives the curve of attacks and deaths from smallpox in each month of the year 1932, as per daily returns. There are two distinct peaks in April and August, the death peaks corresponding to the attack peaks. There is, however, a significant difference in the fatality rates at the two peaks, the fatality rates in April and August being 42·26 and 18·47 respectively.

The computed fatality rates are given below :—

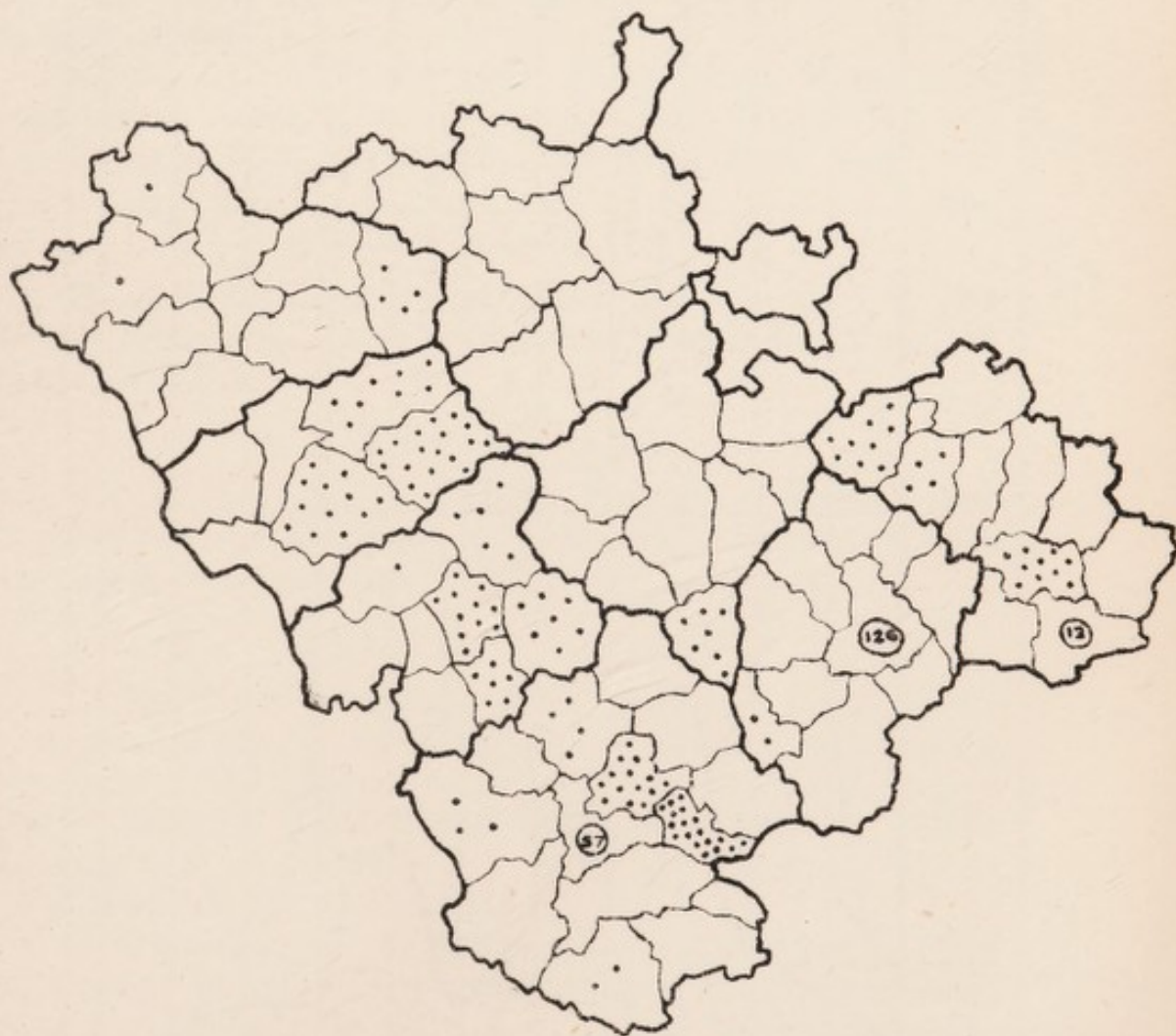
Month	Attacks	Deaths	Fatality rate
January	26	12	46·15
February 33	71	19	26·76
March	150	27	18·00
April	168	71	42·26
May	110	58	52·73
June	82	35	42·68
July	121	19	15·70
August	249	46	18·47
September	101	19	18·81
October	31	19	61·29
November	51	14	27·45
December	33	4	12·12
Total (Mysore State) ..	1,176	343	29·16

MAP 2.

— SMALLPOX IN MYSORE STATE —

Dot indicates One Reported Death

Figures indicate Total Deaths in Cities.



JANUARY 1. TO DECEMBER 31, 1932.

MAP 2

SMALL POX IN MADRAS STATE

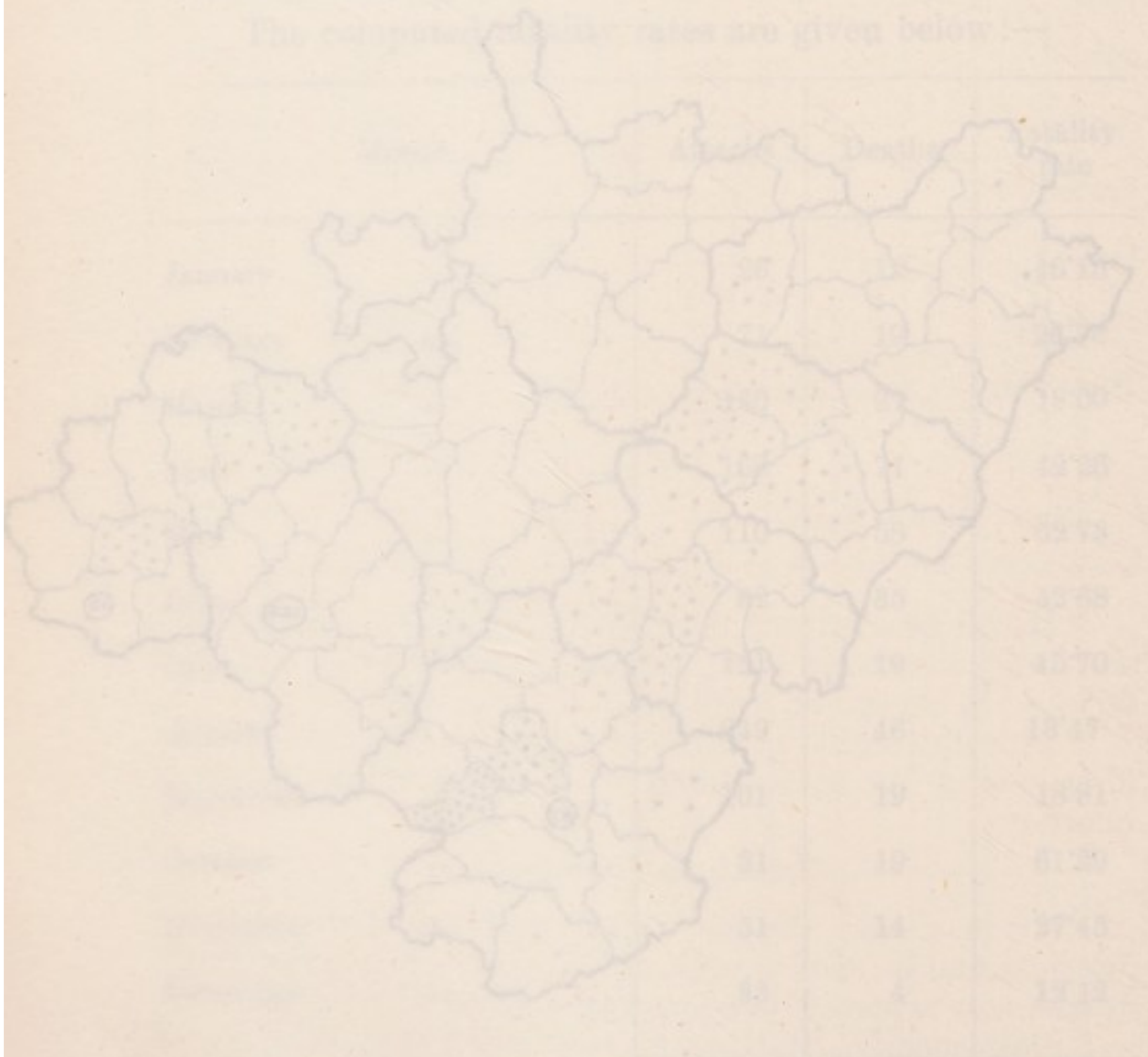
Dot indicates one reported case.

Figures indicate total deaths in Districts.

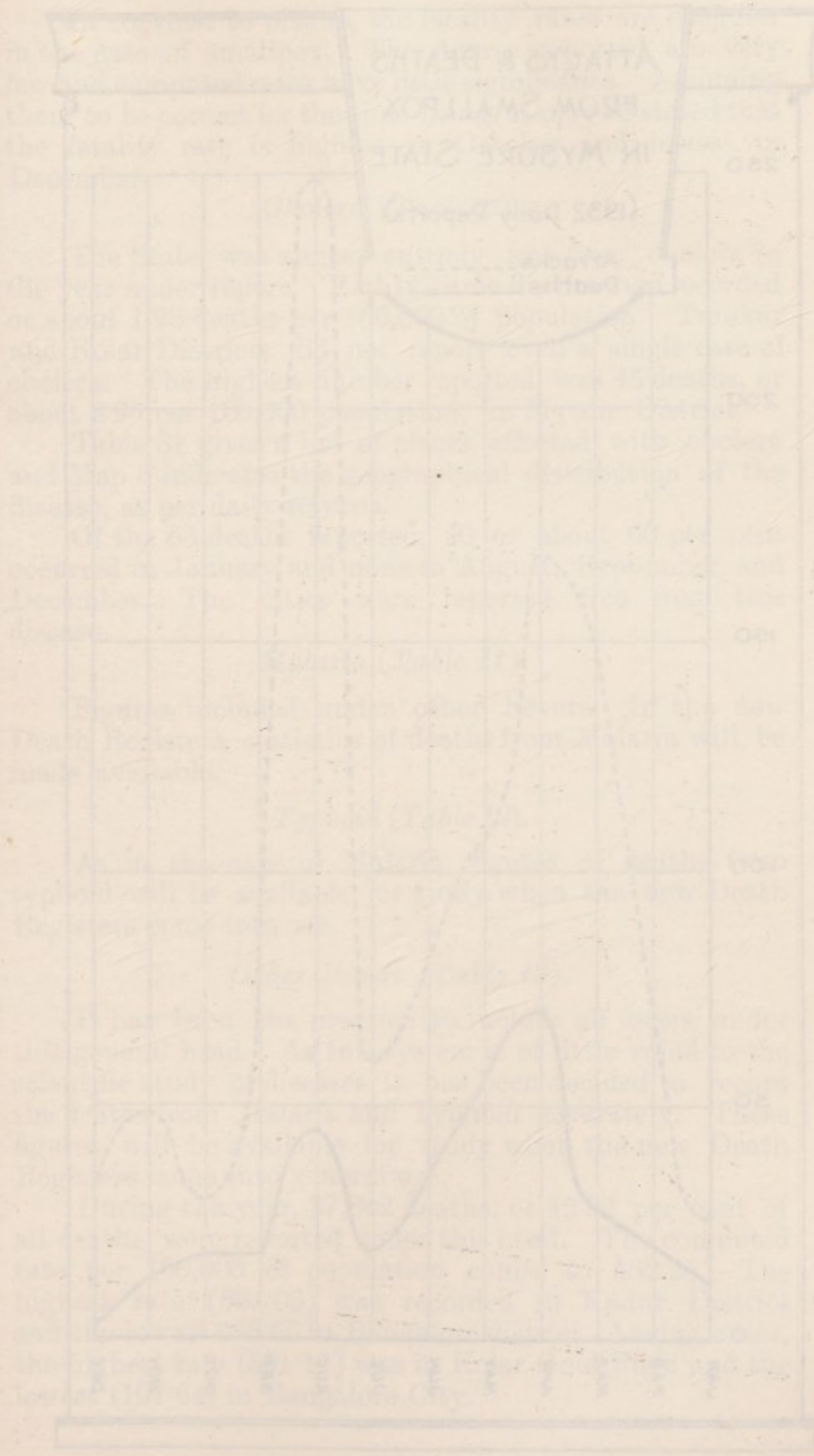
Area in which total deaths were 10 or more.

Area in which total deaths were 5 or more.

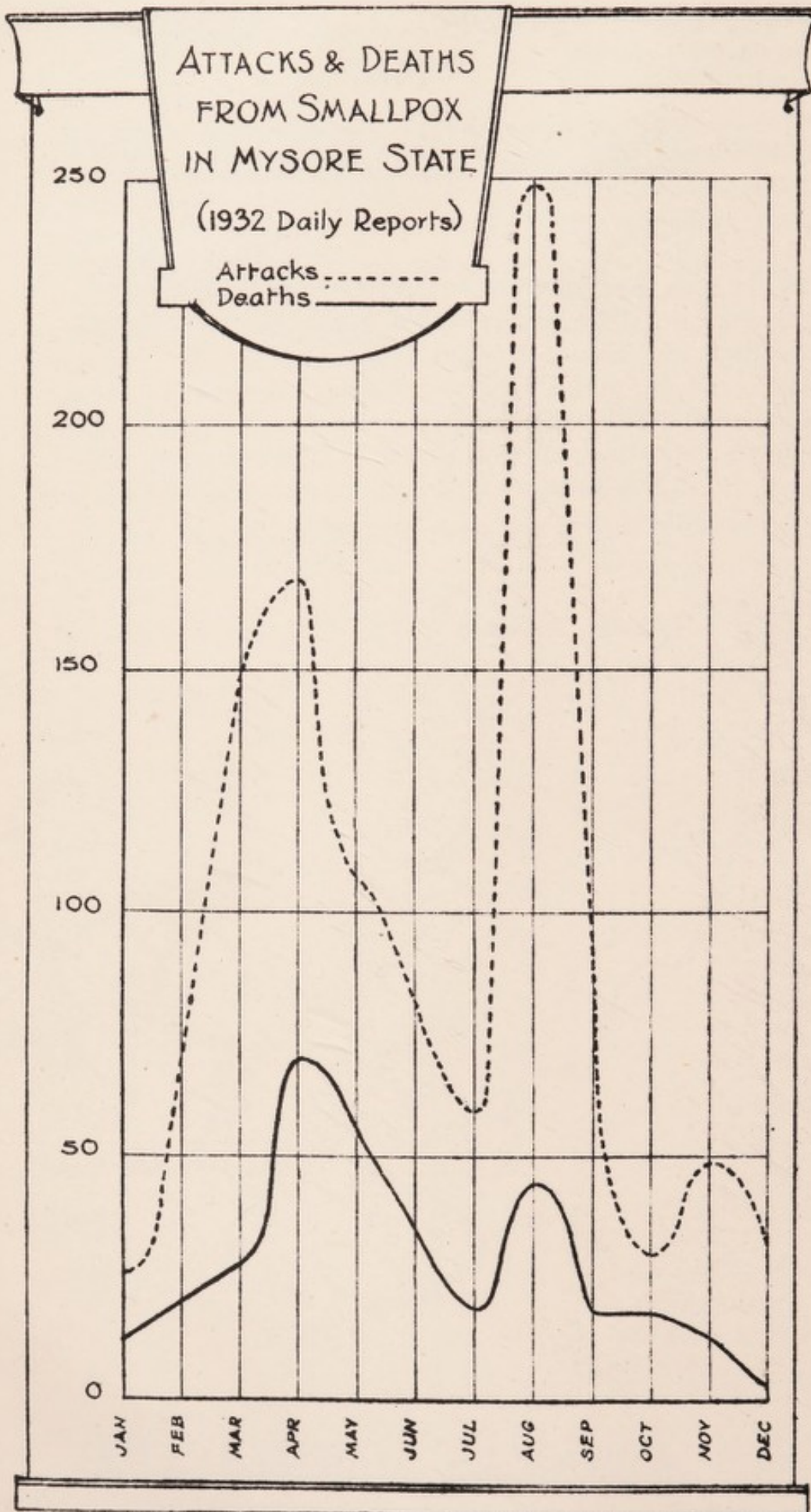
Area in which total deaths were 1 or more.



JANUARY 1 TO DECEMBER 31, 1932



Graph 6.



In contrast to plague, the fatality rates are irregular in the case of smallpox. The figures reported are very few and computed rates have little significance. Assuming them to be correct for the time being, it may be stated that the fatality rate is highest in October and lowest in December.

Cholera (Table 10).

The State was almost entirely free from cholera in the year under report. Eighty-three deaths were recorded or about 1.28 deaths per 100,000 of population. Tumkur and Kolar Districts did not report even a single case of cholera. The highest number reported was 45 deaths, or about 2.95 per 100,000 population, in Mysore District.

Table 31 gives a list of places affected with cholera and Map 3 indicates the geographical distribution of the disease, as per daily returns.

Of the 83 deaths reported, 50 or about 60 per cent occurred in January and none in August, September and December. The cities were reported free from this disease.

Malaria (Table 11).

Figures included under other Fevers. In the new Death Registers, statistics of deaths from Malaria will be made available.

Typhoid (Table 12).

As in the case of Malaria, figures of deaths from typhoid will be available for study when the new Death Registers come into use.

Other Fevers (Table 13).

It has been the practice to include all fevers under this general head. As this system is of little value to the scientific study of diseases, it has been decided to record the deaths from Malaria and Typhoid separately. These figures will be available for study when the new Death Registers come into general use.

During the year, 37,842 deaths, or 42.92 per cent of all deaths, were reported under this head. The computed rate per 100,000 of population comes to 582.25. The highest rate (834.03) was recorded in Kadur District and the lowest 333.66 in Bangalore district. Among cities, the highest rate (591.11) was in Kolar Gold Field and the lowest (197.64) in Bangalore City.

There was more or less uniform incidence in each month of the year. The largest number of deaths was reported in December (4,096) and the lowest number in August (2,500).

Dysentery and Diarrhoea (Table 14).

During the year, 3,718 deaths were reported, 2,064 being male and 1,654 female. Mysore District reported the highest number (1,228) of deaths and Kadur the lowest (125). The incidence was highest in December (433) and lowest in March (210).

Computing rates per 100,000 of population, it is seen that the highest (80.49) and lowest (26.05) rates were recorded in Mysore and Hassan Districts respectively. Kolar Gold Field recorded the highest rate of 353.96 and Mysore City the lowest rate of 225.80.

Respiratory Diseases (Table 15).

A total of 3,538 deaths was reported in the year under report, 1,922 being male and 1,616 female. Of these, 1,384 deaths (or 39 per cent) were recorded in Bangalore District; and of these, as many as 1,153 (or 83 per cent) were reported in Bangalore City.

In December, the largest number of deaths (368) was recorded, whilst the smallest number (247) was reported in August.

Comparing rates for 100,000 population, it will be seen that Bangalore District had the highest rate of 125.38, whilst the next highest was as low as 59.53 in Kolar District, the lowest rate being 13.36 in Hassan District.

Bangalore City had the highest rate of 641.91, Kolar Gold Field the next highest rate of 418.85, whilst Mysore City reported as low a rate as 80.71.

Consumption (Table 16).

It is usual to include this disease under Respiratory Diseases. A separate classification will be made as soon as returns are made in the new Death Registers.

At the Princess Krishnammanni's Tuberculosis Sanatorium in Mysore City, 171 new patients were treated during the year, of whom 23 died, 49 got worse, 22 were stationary and 24 quiescent. The disease was arrested in its progress in 53 cases.

MAP 3.

— CHOLERA IN MYSORE STATE —

Dot indicates One Reported Death

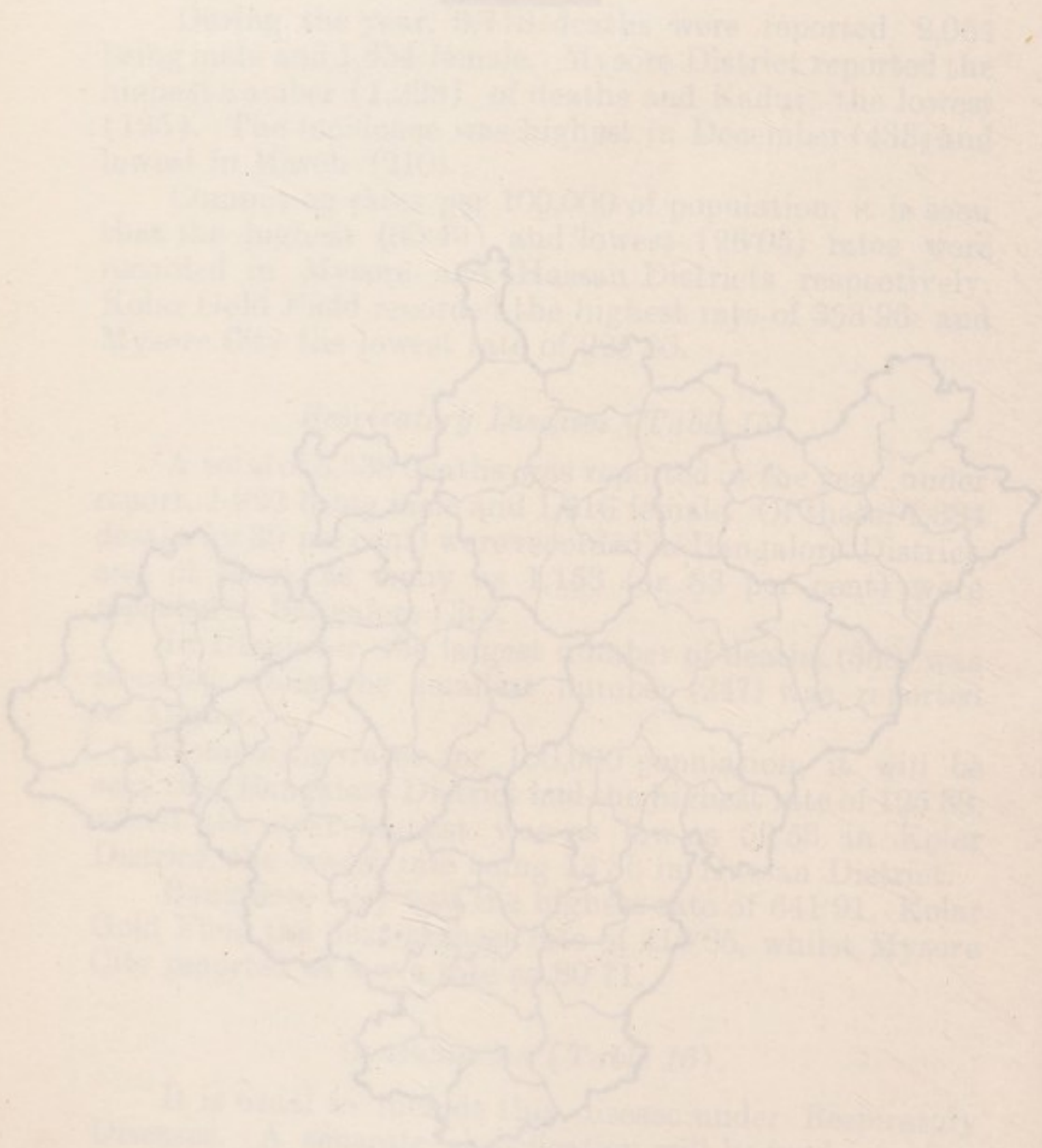


JANUARY 1, TO DECEMBER 31, 1932.

MAP 3

CHOLERA IN MYSORE STATE

Index of One Reported Death



ANNUAL TO DECEMBER 31 1932

Leprosy (Table 17).

In the revised forms of Death Registers, a new column has been added for entering particulars of deaths from leprosy in rural and urban areas. At the present time, all that is known about the geographical or quantitative distribution of this disease is mainly in respect of the in-patients at the Leper Asylum, Bangalore, and in some of the Epidemic Diseases Hospitals. A few years ago, an investigation into the incidence of leprosy was made in Mandya and Malvalli Taluks, but unless extensive investigations are made in a scientific manner, the real position with regard to this disease will remain unknown.

At the Leper Asylum, Bangalore, 169 patients were treated of whom 129 were male, 36 female and 6 children. Eight patients died during the year and 17 discharged.

Of the 98 new admissions, 66 were Mysoreans and 32 non-Mysoreans; 89 were voluntary admissions, whilst 5 were sent by the Inspector of Lepers and 4 by the Health Officer, Civil and Military Station, Bangalore.

Ten cases were treated in the Mysore Epidemic Diseases Hospital, of whom one died during the year.

Child-birth (Table 18).

As in the case of Rabies, figures of deaths from child-birth are available only in the Institutions listed in the following statement. In the year under report, 6,257 labour cases were conducted in the Maternity Hospitals and 108 maternal deaths were reported. Some of the more important causes of death are listed below:—

<i>Cause of Death.</i>	<i>No. of Deaths.</i>	<i>Percentage of Total.</i>
(1) Anæmia ...	32	29·6
(2) Sepsis ...	9	8·3
(3) Heart Disease ...	9	8·3
(4) Difficult labour ...	7	6·5
(5) Eclampsia ...	6	5·6
(6) Diarrhoea ...	5	4·6
(7) Pneumonia ...	5	4·6
Total ...	73	67·5

It will be seen that 67.5 per cent (or two-thirds) of deaths from child-birth are due to the seven causes listed above. Under-feeding, poverty and over-exertion during the later stages of pregnancy and improper care before admission into hospitals appear to be largely responsible for this.

The following statement gives the statistics of labour cases conducted and the causes of death from child-birth in the different hospitals and dispensaries in Mysore State.

Child-birth (Table 13)

As in the case of Rabies, figures of deaths from child-birth are available only in the institutions listed in the following statement. In the year under report, 6,257 labour cases were conducted in the State, 115 girls and 108 maternal deaths were reported. Some of the more important causes of death are listed below—

Percentage of Total	No. of Deaths	Cause of Death
23.6	28	(1) Anaemia
1.3	2	(2) Septic
1.1	1	(3) Heart Disease
1.1	1	(4) Exhaustive labour
1.3	2	(5) Eclampsia
1.6	2	(6) Diarrhoea
1.1	1	(7) Pneumonia
67.5	82	Total

Statistics of Labour Cases conducted and the Causes of Death from Child-birth in the different Hospitals and Dispensaries in Mysore State in the year 1932.

Name of Institution	Number of Labour cases conducted	No. of deaths from Child-birth	Causes of Deaths from Child-birth																														
			Sepsis	Anæmia	Mycarditis	Albuminuria	Pneumonia	Eclampsia	Hæmorrhage	Pernicious Anæmia	Difficult labour	Chronic Malaria	Complex Delivery due to bad handling outside	Brought in Septic and Exhausted condition	Carcinoma Oris	Jandice	Tuberculosis	Anæmia and Heart disease	Diarrhoea	Dysentery	Premature Labour	Heart Disease	Septicæmia	Chronic Nephritis	Plague	Peritonitis	Post Partum Hæmorrhage	Payenia	Typhoid				
1. Maternity Hospital Bangalore	2,423	22	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
2. Vani Vilas Hospital, Mysore	1,248	36	2	19	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
3. Wesleyan Mission do	237	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4. Red Fern Memorial Hospital, Hassan	61	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5. Maternity Hospital, K.G.F.	872	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6. Maternity Hospital, Chintamani	193	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7. Maternity Hospital, Shimoga	130	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Do H.-Narsipur	109	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8. Do Davangere	133	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9. Do Tumkur	232	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10. Do Chennapatna	75	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11. Do Tiptur	69	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12. Do Saklespur	56	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13. Do Chitaldrug	65	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14. Female Dispensary, Sagar	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15. Do Kolar	32	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16. Do Chikballapur	20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17. Do Nanjangud	129	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18. Do Mudgere	89	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19. Do Tirbahalli	17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20. Do Chikballapur	102	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21. Total	6,257	108	9	32	1	4	5	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Assuming for the moment that the statistics given in the preceding statement is really representative of the whole State it may be stated that the maternal mortality in 1932 was 17·26 per thousand births.

Injuries (Table 19).

Of the total of 1,165 deaths from injuries, 675 were male and 490 female. The Cities reported as many as 191 deaths, 115 (or 60 per cent) being registered in Kolar Gold Field. It may be remarked however, that in Mysore City only three deaths were reported as due to injuries. Bangalore City reported 73 deaths, 46 male and 27 female.

Classified by months August had the highest (117) total of deaths from injuries and January the least (66).

Comparing the rates per 1,00,000 of the population it is seen that the highest rate (35·84) was in Kolar District and lowest (11·80) in Mysore District. The rates in the Cities were in order Kolar Gold Field (135·69), Bangalore (40·64), C. and M. Station (32·31) and Mysore (2·72).

Suicide (Table 20).

During the year 175 suicides, (86 male and 89 female) were reported. Of these, one suicide was reported in Bangalore City, one in Mysore City and two in Kolar Gold Field. The largest number reported, *viz.*, 23 was in December, the next largest being 22 in October.

Drowning (Table 21).

Figures included under Wounds and Accidents. In the new Death Registers particulars of deaths from drowning will be made available.

Wounds and Accidents (Table 22).

A total of 821 deaths was reported as due to wounds and accidents. Of these, 69 deaths occurred in Bangalore City, 111 in Kolar Gold Field and only one in Mysore City.

Wild Beasts (Table 23).

Monthwar figures of 169 deaths caused by wild beasts are given in Table 23. These figures include also the deaths from snake-bites. Deaths reported from this cause in Bangalore City were three, in Kolar Gold Field two, and one in Mysore City.

Snake-bite (Table 24).

Figures included under deaths caused by wild beasts. Separate figures will be available for study in the new Death Registers.

Rabies (Table 25).

In the new Death Registers it is also proposed to collect data in respect of deaths from Rabies in all urban and rural areas. The following statistics refer to 752 treatments for rabies in the Institutions listed:—

<i>Institutions.</i>		<i>Number treated.</i>
(1) Victoria Hospital, Bangalore	...	356
(2) Krishnarajendra Hospital, Mysore	...	341
(3) District Hospital, Chikmagalur	...	20
(4) District Hospital, Chitaldrug	...	6
(5) Civil Hospital, Kolar	...	29
(6) Civil Hospital, Kolar Gold Field	...	Nil.
	Total	...
		<u>752</u>

All Other Causes (Table 26).

Under this general head, 31,617 deaths have been lumped together without specifying the cause of death. It has become increasingly necessary to open a new Table to record the differences in the percentages these figures bear to total deaths in each district and city. Table 26 indicates that approximately 36 per cent of all deaths reported in 1932 were not classified at all. In Bangalore District, the percentage was as high as 44, the lowest being 25 in Hassan District.

In city areas 53 per cent of deaths were unclassified indicating that the practice of reporting deaths without classifying them are popular. Mysore City tops the list, having reported 63 per cent of all reported deaths unclassified. Bangalore City comes next with 52 per cent. In Kolar Gold Field it was 46 per cent.

TABLE 1.
Reported Births in the Districts and Cities in each month of the year 1932.
(As per Monthly Returns.)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total (Reported Births)	Born alive	Born dead	Birth-rate
Bangalore ...	Male	797	871	902	1,005	818	874	970	981	1,081	1,014	970	11,257	Figures not available.	Figures not available.	20-34
	Female	792	825	919	906	849	843	962	1,061	1,038	1,056	967	11,195			20-34
	Total	1,589	1,696	1,821	1,911	1,667	1,717	1,931	1,932	2,042	2,119	2,070	1,937			22,452	19-47
Chitaldrug ...	Male	458	491	500	548	514	520	581	590	616	638	542	6,880	Figures not available.	Figures not available.	11-36
	Female	440	505	534	491	481	521	576	527	537	637	551	6,420			11-36
	Total	898	996	1,034	1,039	995	1,041	1,262	1,157	1,057	1,153	1,275	1,093			13,000	14-31
Hassan ...	Male	307	295	327	219	270	288	113	359	366	375	442	3,513	Figures not available.	Figures not available.	20-85
	Female	319	298	252	227	269	278	135	325	312	395	362	3,288			20-85
	Total	626	593	579	446	539	566	248	268	684	678	770	804			6,801	15-77
Kadur ...	Male	218	147	224	197	233	154	216	226	221	247	271	2,560	Figures not available.	Figures not available.	20-85
	Female	209	168	197	153	211	174	200	203	221	203	252	2,422			20-85
	Total	427	315	421	350	444	328	457	416	429	442	450	523			5,002	15-77
Kolar ...	Male	582	544	629	655	652	680	913	918	978	844	677	8,940	Figures not available.	Figures not available.	20-85
	Female	594	571	582	564	646	783	833	951	978	901	708	8,922			20-85
	Total	1,176	1,115	1,211	1,219	1,298	1,463	1,746	1,679	1,869	1,956	1,745	1,385			17,862	15-77
Mysore ...	Male	942	921	991	969	1,010	959	1,028	1,063	1,159	1,244	1,156	12,395	Figures not available.	Figures not available.	20-85
	Female	918	890	932	903	902	932	987	923	1,114	1,164	1,071	11,636			20-85
	Total	1,860	1,811	1,923	1,872	1,912	1,891	2,015	1,883	1,986	2,273	2,408	2,227			24,061	15-77

	18-69	19-08	17-79	33-50	25-11	44-47	39-45
Shimoga ...	360	286	422	402	464	439	396
Female ...	346	267	351	414	489	410	415
Total ...	706	553	776	816	953	849	811
Tumkur ...	584	660	664	654	835	706	778
Female ...	539	701	634	585	757	647	752
Total ...	1,123	1,361	1,298	1,239	1,592	1,353	1,530
Total (Mysore State)*	4,248	4,215	4,699	4,531	5,195	4,885	5,251
Female ...	4,157	4,225	4,232	4,530	5,029	4,652	5,157
Total ...	8,405	8,440	8,911	9,061	10,224	9,537	10,408
Bangalore City	198	250	371	225	235	220	219
Female ...	209	262	345	234	265	232	227
Total ...	407	512	716	459	500	452	446
Mysore City...	122	111	102	90	121	102	151
Female ...	115	104	94	86	112	96	120
Total ...	237	215	195	176	233	199	271
Kolar Gold Field.	122	115	147	163	184	181	181
Female ...	162	117	115	166	172	168	175
Total ...	284	232	262	329	356	349	356
C. and M. Station.	214	213	176	198	238	280	257
Female ...	212	218	174	178	214	235	211
Total ...	426	431	350	376	452	515	468

* Excluding C. and M. Station, Bangalore.

Figures not available.

Figures not available.

(% of Mysore Population)

Religious Districts in Mysore State and Census of Mysore State, 1935

TABLE 5

TABLE 2.
 Reported Deaths in the Districts and Cities in each month of the year 1932.
 (As per Monthly Returns.)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total	Death rate
Bangalore	738	629	613	561	543	560	596	560	566	560	637	751	7,314	
	750	598	554	515	514	498	639	552	608	570	610	695	7,098	
	1,488	1,222	1,167	1,076	1,057	1,058	1,235	1,112	1,174	1,130	1,247	1,446	14,412	13.06
Chitaldrug	423	347	422	432	344	265	288	413	411	445	532	657	4,980	
	372	309	372	350	284	249	289	360	391	462	577	668	4,683	
	795	656	794	782	628	515	577	773	802	907	1,109	1,325	9,663	4.47
Hassan	365	305	324	230	284	279	115	118	310	258	333	358	3,279	
	382	285	282	220	292	262	112	102	260	258	343	386	3,184	
	747	590	606	450	576	541	227	220	570	516	676	744	6,463	10.80
Kadur	303	293	239	201	226	182	196	184	204	210	273	283	2,794	
	305	251	213	173	193	173	172	176	219	189	224	301	2,589	
	608	544	452	374	419	355	368	360	423	399	497	584	5,383	15.40
Kolar	836	627	630	560	513	520	567	544	566	535	579	582	7,069	
	725	576	562	523	467	468	509	507	528	584	517	559	6,480	
	1,561	1,203	1,192	1,088	980	998	1,076	1,051	1,094	1,069	1,096	1,141	13,549	15.82
Mysore	973	756	757	729	773	757	849	854	860	875	1,121	1,001	10,305	
	887	732	710	670	722	736	863	831	817	817	1,036	1,114	9,935	
	1,860	1,488	1,467	1,399	1,495	1,493	1,712	1,685	1,677	1,692	2,157	2,115	20,240	13.27
Shimoga	484	237	367	285	271	253	335	334	334	350	463	582	4,296	
	407	233	382	239	248	240	298	278	294	342	487	568	4,016	
	891	470	749	524	519	493	634	612	628	692	950	1,150	8,312	15.87

Tumkur	...	541	475	468	456	416	414	389	390	392	416	470	525	5,352	11-63
	Male	...	431	464	370	359	346	386	338	340	390	420	503	4,801	
	Female	...	906	922	826	775	760	775	728	728	782	806	890	1,028		10,153
Total (Mysore State)*	Male	4,663	3,669	3,820	3,454	3,370	3,241	3,336	3,397	3,643	3,619	4,408	4,789	45,389	13-57
	Female	4,292	3,410	3,529	3,065	3,079	2,972	3,268	3,144	2,457	3,562	4,214	4,794	42,786	
	Total	8,955	7,079	7,349	6,519	6,449	6,213	6,604	6,541	7,100	7,211	8,622	9,583	88,175	
Bangalore City	Male	170	170	186	219	209	192	189	185	176	197	226	270	2,380	26-19
	Female	177	169	194	177	216	176	194	187	186	200	217	231	2,324	
	Total	347	339	380	387	425	368	383	372	362	397	443	501	4,704	
Mysore City	Male	113	101	105	99	100	79	95	109	115	119	147	104	1,286	28-80
	Female	132	95	109	93	95	83	117	103	115	125	139	132	1,338	
	Total	245	196	214	192	195	162	212	212	230	244	286	236	2,624	
Kolar Gold Field.	Male	140	130	128	108	108	110	124	127	126	103	106	149	1,459	30-62
	Female	112	85	84	86	94	85	101	104	104	84	78	115	1,136	
	Total	252	219	212	194	202	195	225	231	230	187	184	264	2,595	
C. & M. Station	Male	207	179	148	128	123	154	158	152	175	169	160	175	1,933	28-52
	Female	166	167	153	132	143	146	159	142	158	164	179	192	1,951	
	Total	373	346	296	260	266	300	317	354	333	333	339	367	3,884	

* Excluding C. & M. Station, Bangalore.

TABLE 3.
Reported Deaths Classified according to Hindus, Musalmans and other Classes in the year 1932.

District	Estimated Population as on July 1, 1932				Number of Deaths Registered				Death Rates per 1,000 of Population			
	Musalmans	Hindus	Other Classes	Total	Musalmans	Hindus	Other Classes	Total	Musalmans	Hindus	Other Classes	Total
	Bangalore	81,584	999,874	22,197	1,103,831	985	13,077	350	14,412	12.07	18.09	15.77	13.06
Chitaldrug	37,667	626,280	3,745	667,690	495	8,945	220	9,633	13.14	14.29	58.74	14.47
Hassan	21,813	569,091	7,785	598,689	377	5,910	176	6,463	17.28	10.38	22.61	10.80
Kadur	19,627	321,810	8,130	349,628	412	4,467	481	5,383	20.99	13.94	59.10	15.40
Kolar	66,794	764,515	25,381	856,690	1,050	10,977	1,522	13,549	15.72	14.36	59.97	15.82
Mysore	69,308	1,445,810	17,559	1,525,679	968	19,147	125	20,240	13.97	13.24	7.12	13.27
Shimoga	41,641	465,994	14,975	523,690	488	7,612	212	8,312	11.72	16.83	14.16	15.87
Tumkur	45,265	817,743	10,314	873,322	354	9,754	45	10,153	7.82	11.93	4.36	11.63
Total (Mysore State)*	3,77,376	6,012,911	110,146	6,499,218	5,129	79,912	3,184	88,175	13.59	13.29	28.45	13.57
Bangalore City	20,788	150,649	8,232	179,620	574	3,963	167	4,704	27.68	26.31	20.29	26.19
Mysore City	18,314	87,236	4,721	110,273	578	1,983	63	2,624	31.56	22.73	13.34	23.80
Kolar Gold Field	6,712	61,702	16,340	84,755	237	1,755	603	2,595	35.31	28.44	33.90	30.62
C. & M. Station	29,104	75,075	31,981	136,162	2,185	1,032	667	3,884	75.08	13.75	20.86	28.52

*Excluding C. & M. Station, Bangalore.

TABLE 4.

Deaths reported in Districts and Cities classified according to Age and Sex in the year 1932.

District	Under one year	One year to five years	5-10	10-15	15-20	20-30	30-40	40-50	50-60	60 and over	Total all ages
Bangalore	...	1,087	449	364	362	591	569	534	489	1,672	7,314
	...	1,040	428	354	493	764	586	454	429	1,522	7,098
	...	2,127	877	718	855	1,355	1,155	988	918	3,194	14,412
Chitaldrug	...	662	322	241	292	490	511	409	395	1,047	4,970
	...	622	360	251	358	703	481	343	302	739	4,683
	...	1,284	682	492	650	1,193	992	752	697	1,786	9,653
Hassan	...	361	203	169	184	398	412	348	281	553	3,279
	...	299	211	168	207	479	415	265	232	530	3,184
	...	660	414	337	391	877	827	613	513	1,083	5,463
Kadur	...	255	190	137	170	304	427	383	274	340	2,794
	...	290	175	128	181	463	354	244	182	310	2,589
	...	545	365	265	351	767	781	627	456	650	5,383
Kolar	...	954	354	250	254	567	577	569	566	1,905	7,069
	...	817	380	275	357	632	563	446	410	1,597	6,450
	...	1,771	734	525	611	1,199	1,140	1,015	976	3,502	13,549
Mysore	...	1,429	789	537	535	986	1,156	1,037	671	2,142	10,305
	...	1,492	805	519	657	1,309	978	772	761	1,957	9,935
	...	2,921	1,594	1,056	1,192	2,295	2,134	1,809	1,632	4,099	20,240
Shimoga	...	475	231	191	202	498	627	487	399	619	4,296
	...	465	216	175	283	630	496	338	302	542	4,016
	...	940	477	366	485	1,128	1,123	825	701	1,161	8,312

Table 4—concl'd.

District	Under one year	One year to five years	5-10	10-15	15-20	20-30	30-40	40-50	50-60	60 and over	Total all ages
Tumkur	921	570	234	213	213	353	392	390	512	1,554	5,352
... Male	741	504	219	187	266	558	410	311	392	1,213	4,801
... Female	1,662	1,074	453	400	479	911	802	701	904	2,767	10,153
Total (Mysore State)* ...	5,865	5,793	2,782	2,102	2,212	4,187	4,671	4,157	3,787	9,882	45,389
... Male	5,160	5,529	2,824	2,057	2,802	5,538	4,283	3,173	3,010	8,410	42,786
... Female	11,026	11,322	5,606	4,159	5,014	9,725	8,954	7,330	6,797	18,242	88,176
Estimated Population	86,015	373,936	435,804	418,413	305,411	561,603	486,583	330,035	176,918	150,196	3,324,916
... Male	89,175	388,336	435,448	393,361	298,690	590,098	416,804	260,129	163,094	139,127	3,174,302
... Female	175,190	762,272	871,252	811,774	604,151	1,151,701	908,387	590,164	340,012	289,323	6,499,218
Total	68-20	15-49	6-38	5-02	7-24	7-46	9-60	12-60	21-40	65-46	13-65
Death rates in each age group.	57-86	14-24	6-49	5-23	9-38	9-38	10-28	12-20	18-45	60-45	13-48
... Male	62-94	14-85	6-43	5-12	8-30	8-44	9-91	12-42	19-99	63-05	13-57
... Female	576	437	130	90	112	197	184	156	163	345	2,380
... Male	508	481	123	98	177	215	171	108	126	324	2,324
... Female	1,084	918	253	188	289	412	355	259	279	669	4,704
Bangalore City	177	176	81	44	43	131	152	139	109	234	1,286
... Male	152	189	98	73	93	218	132	97	73	213	1,338
... Female	329	365	179	117	136	349	284	286	182	447	2,624
Total	358	260	39	38	41	166	140	123	98	202	1,460
Kolar Gold Field	334	220	59	36	36	88	64	50	40	206	1,135
... Male	692	480	98	71	77	254	204	178	138	408	2,595
... Female	...	...	...	...	...	...	...	...	...	...	...
... Total	...	...	...	...	...	...	...	...	...	...	...
Civil and Military Station.	...	...	...	...	...	...	...	...	...	...	...
... Male	...	...	...	...	...	...	...	...	...	...	...
... Female	...	...	...	...	...	...	...	...	...	...	...
... Total	...	...	...	...	...	...	...	...	...	...	...

* Excluding Civil and Military Station, Bangalore.

TABLE 5.
Statistics of Births and Deaths from different diseases among Males and Females in Mysore
State in the year 1932.

District	Estimated Population in 1932		Sex		Total Reported Births			Plague	Small-pox	Cholera	Malaria	Typhoid	Other Fevers	Dysentery and Diarrhoea	Respiratory Diseases	Consumption	Leprosy	Child-birth	Suicide	Drowning	Wounds and Accidents	Killed by Wild beasts	Snake-bite	Rabies	All other Causes	Total Reported Deaths	
	Males	Females	Total	Births		Birth Rate	Total																				
				Born alive	Born dead																					Death Rate	
Bangalore	565,707	...	...	11,257	...	19.99	766	212	4	...	...	1,915	371	669	...	...	...	12	105	15	8,242	7,314	12.99
	588,124	...	...	11,195	...	20.80	849	226	2	...	...	1,765	345	715	...	...	...	11	66	5	3,114	7,098	13.19
	1,103,831	...	Total	22,452	...	20.34	1,615	438	6	...	...	3,683	716	1,384	...	...	...	23	171	20	6,356	14,412	13.06
Chitaldrug	342,432	...	...	6,580	...	19.22	387	130	6	...	...	2,632	145	149	...	...	...	8	33	12	1,478	4,980	14.54
	325,258	...	...	6,420	...	19.74	424	118	7	...	...	2,471	119	100	...	...	...	9	35	3	1,897	4,683	14.40
	667,690	...	Total	13,000	...	19.47	811	248	13	...	...	5,103	264	249	...	...	...	17	68	15	2,875	9,663	14.47
Hassan	301,892	...	...	3,513	...	11.64	286	48	5	...	...	1,984	90	48	...	...	...	10	28	9	776	3,279	10.86
	296,795	...	...	3,288	...	11.08	344	57	2	...	...	1,831	66	32	...	...	...	4	31	4	813	3,184	10.73
	598,687	...	Total	6,801	...	11.36	630	105	7	...	...	3,815	156	80	...	...	...	14	54	13	1,589	6,463	10.80
Kadur	185,708	...	...	2,580	...	13.89	228	63	1	...	...	1,533	82	109	...	...	...	7	18	10	743	2,794	15.05
	163,920	...	...	2,422	...	14.78	209	81	2	...	...	1,383	43	66	...	...	...	...	11	6	788	2,589	15.79
	349,628	...	Total	5,002	...	14.31	437	144	3	...	...	2,916	125	175	...	...	...	7	29	16	1,531	5,883	15.40

TABLE 5.—concl'd.

District	Estimated Population in 1932		Sex		Total Reported Births			Plague	Small-pox	Cholera	Malaria	Typhoid	Other Fevers	Dysentery and Diarrhoea	Respiratory Diseases	Consumption	Leprosy	Child-birth	Suicide	Drowning	Wounds and Accidents	Killed by Wild beasts	Snake-bite	Rabies	All other Causes	Total Reported Deaths			
	Males	Females	Total	Males	Females	Total	Born alive																			Born Dead	Birth Rate	Total	Death Rate
Kolar	438,275	...	...	...	...	8,940	...	20.40	442	175	...	...	2,762	330	298	...	...	17	...	153	21	...	...	2,871	7,069	16.81
	418,416	...	...	...	...	8,922	...	21.32	469	165	...	...	2,527	226	212	...	...	24	...	82	10	...	...	2,765	6,480	15.49
	856,690	...	...	...	...	17,862	...	20.85	911	340	...	...	5,289	556	510	...	...	41	...	235	31	...	...	5,636	13,549	15.82
Mysore	768,396	...	...	...	...	12,395	...	16.13	1,022	774	28	...	4,246	675	282	...	...	19	...	55	26	...	...	3,178	10,805	13.41
	757,283	...	...	...	...	11,666	...	15.41	1,058	840	17	...	3,861	553	226	...	...	23	...	45	12	...	...	3,800	9,935	13.12
	1,525,679	...	...	...	...	24,061	...	15.77	2,080	1,614	45	...	8,107	1,228	508	...	...	42	...	100	38	...	...	6,478	20,240	13.27
Shimoga	277,389	...	...	...	...	4,989	...	17.81	199	12	5	...	2,074	205	153	...	...	3	...	26	8	...	...	1,611	4,296	15.49
	246,301	...	...	...	...	4,848	...	19.68	180	14	4	...	1,923	179	78	...	...	8	...	24	5	...	...	1,601	4,016	16.31
	523,690	...	...	...	...	9,787	...	18.69	379	26	9	...	3,997	384	231	...	...	11	...	50	13	...	...	3,212	8,312	15.87
Tumkur	445,117	...	...	...	...	8,574	...	19.26	183	28	...	...	2,660	166	214	...	...	10	...	56	13	...	...	2,022	5,352	12.02
	428,205	...	...	...	...	8,088	...	18.89	186	37	...	...	2,272	123	187	...	...	10	...	58	10	...	...	1,918	4,801	11.21
	873,322	...	...	...	...	16,662	...	19.08	369	65	...	...	4,932	289	401	...	...	20	...	114	23	...	...	3,940	10,153	11.63
Mysore State	3,324,916	...	...	...	...	58,778	...	17.63	3,513	1,442	49	...	19,809	2,064	1,922	...	...	86	...	469	114	...	...	15,921	45,389	13.65
	3,174,302	...	...	...	...	56,849	...	17.91	2,719	1,538	34	...	18,033	1,654	1,616	...	...	89	...	352	55	...	...	15,696	42,786	13.48
	6,499,218	...	...	...	...	115,627	...	17.79	7,232	2,980	83	...	37,842	3,718	3,538	...	...	175	...	821	169	...	...	31,617	88,175	13.57

TABLE 6.
Statistics of Births and Deaths from different diseases in Urban and Rural Areas of Mysore State in the year 1932.

District	Area	Estimated population as on July 1, 1932	Total Reported Births			Small-pox	Cholera	Malaria	Typhoid	Other Fevers	Dysentery and Diarrhoea	Respiratory Diseases	Consumption	Leprosy	Child-birth	Suicide	Drowning	Wounds and Accidents	Killed by Wild beasts*	Snake-bite	Rabies	Total Reported Deaths	
			Born Alive	Birth Rate																		Total	Death Rate
				Born Dead	Births																			Deaths
Bangalore	Urban	258,986	7,873	30.40	128	617	469	1,064	2	82	4	2,859	5,664	21.87	21.87		
	Rural	844,845	14,579	17.26	310	6	3,066	247	220	21	89	16	3,497	8,748	10.35	10.35		
Chitaldrug	Urban	68,249	1,513	22.17	10	..	..	352	15	27	..	..	..	4	6	2	508	1,106	16.21	16.21
	Rural	599,441	11,487	19.16	238	13	..	4,751	249	222	..	..	..	13	62	13	2,367	8,557	14.27	14.27
Hassan	Urban	54,497	1,202	22.06	..	..	..	234	62	45	..	..	..	8	7	..	405	828	15.19	15.19
	Rural	544,192	5,599	10.29	105	7	..	3,581	94	35	..	..	..	6	47	13	1,184	5,635	10.35	10.35
Kadur	Urban	40,735	873	21.43	22	2	..	267	33	22	8	8	3	337	814	19.98	19.98		
	Rural	308,892	4,129	13.37	122	1	..	2,649	92	153	..	..	..	7	21	13	1,194	4,569	14.79	14.79
Mysore	Urban	22,797	5,388	23.63	183	19	..	934	348	134	..	..	..	5	12	3	2,326	4,429	19.43	19.43
	Rural	1,297,702	18,673	14.39	1,431	26	..	7,173	880	374	..	..	..	37	88	35	4,162	15,811	12.18	12.18
Kolar	Urban	156,403	6,009	38.42	30	..	..	867	324	386	..	..	..	5	129	7	1,713	3,710	23.72	23.72
	Rural	700,287	11,853	16.93	310	..	..	4,422	232	124	..	..	..	36	106	24	3,923	9,839	14.05	14.05
Shimoga	Urban	64,514	1,463	22.68	3	..	..	291	19	26	..	..	..	..	12	2	397	810	12.56	12.56
	Rural	459,176	8,324	18.13	23	9	..	3,706	365	205	..	..	..	11	38	11	2,815	7,502	16.34	16.34
Tumkur	Urban	62,943	1,788	28.33	..	..	..	241	49	76	..	..	..	2	12	3	463	916	14.55	14.55
	Rural	810,379	14,879	18.36	65	..	..	4,691	240	325	..	..	..	16	102	20	3,471	9,237	11.40	11.40
Mysore State	Urban	984,305	26,104	27.94	376	21	..	3,803	1,319	1,880	..	..	..	26	268	24	9,014	18,277	19.56	19.56
	Rural	5,564,913	89,523	16.09	2,604	62	..	34,039	2,339	1,658	..	..	..	149	553	145	22,603	69,896	12.56	12.56

* These figures include deaths from Snake-bite.

TABLE 7.
Reported Deaths of Infants under one year of age in the Districts and Cities for each month of the year 1932. (As per Monthly Returns.)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total (Deaths of infants under one year)			Born Alive	Born Dead	Infant Mortality	
													Male	Female	Total				
													Figures not available.						
Bangalore	183	162	144	169	170	200	209	184	201	174	198	241	1,197	1,028	2,225	Figures not available.			99-10
Chitaldrug	126	77	80	86	91	71	86	88	91	101	100	128	601	524	1,125	Figures not available.			86-84
Hassan	77	57	61	54	61	59	43	28	65	70	74	99	370	378	748	Figures not available.			109-98
Kadur	75	50	40	34	39	46	38	39	55	49	48	63	314	262	576	Figures not available.			115-15
Kolar	265	150	139	125	125	145	166	181	204	161	183	231	1,073	1,008	2,076	Figures not available.			116-22
Mysore	124	106	89	101	112	106	181	154	117	154	149	165	823	685	1,508	Figures not available.			62-67
Shimoga	100	50	64	70	58	87	97	73	115	106	126	160	567	539	1,106	Figures not available.			118-01
Tan.kur	184	131	126	127	123	132	116	116	131	141	152	183	921	741	1,662	Figures not available.			99-75
Total Mysore State*	1,135	773	743	766	779	846	886	863	979	956	1,030	1,270	5,866	5,160	11,026	Figures not available.			95-96
Bangalore City	72	69	75	97	99	94	90	87	87	99	95	120	576	508	1,084	Figures not available.			180-13
Mysore City	35	24	24	20	29	10	38	36	27	27	28	31	177	152	329	Figures not available.			118-82
Kolar Gold Field	92	47	49	31	48	49	58	66	68	55	52	77	358	334	692	Figures not available.			183-60
C. & M. Station	115	76	93	50	77	68	98	94	120	85	90	108	572	502	1,074	Figures not available.			199-93

* Excluding C. & M. Station, Bangalore.

TABLE 8.
Reported Deaths from Plague in the Districts and Cities in each month of the
year 1932. (As per Monthly Returns.)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total (Deaths from Plague)			Number of Deaths per 1,00,000 of population
													Male	Female	Total	
Bangalore	401	289	170	62	16	22	98	182	187	123	89	76	766	849	1,615	146.31
Chitaldrug	20	15	5	5	...	6	30	114	95	126	168	227	387	424	811	121.46
Hassan	118	63	68	50	40	14	4	27	62	15	39	124	286	344	630	105.23
Kadur	40	71	42	12	21	9	21	33	49	57	35	47	228	209	437	124.99
Kolar	268	149	141	31	7	7	23	46	58	47	45	89	442	469	911	106.34
Mysore	186	222	127	85	75	116	194	317	279	154	153	173	1,022	1,058	2,080	136.33
Shimoga	16	5	4	3	...	27	74	102	43	26	52	27	199	180	379	72.37
Tumkur	73	75	32	4	...	...	42	48	33	17	21	24	183	186	369	42.25
Total (Mysore State)*	1,122	889	589	252	159	200	486	819	762	565	602	787	3,513	3,719	7,232	111.27
Bangalore City	12	13	9	9	...	...	6	8	5	22	11	21	70	46	116	64.58
Mysore City	8	1	4	6	...	3	6	22	34	33	29	29	94	81	175	158.70
Kolar Gold Field	11	16	11	4	1	1	6	12	19	11	7	20	71	48	119	140.40
C. & M. Station	20	84	10	2	1	1	...	14	6	5	5	3	...	...	101	74.16

* Excluding C. & M. Station, Bangalore.

TABLE 9.
Reported Deaths from Small-pox in the Districts and Cities, in each month of the year 1932.
(As per Monthly Returns.)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total		Number of deaths per 1,00,000 of population	
													Male	Female		Total
Bangalore	10	12	20	49	52	47	59	30	26	47	28	58	212	226	438	39.68
Chitaldrug	21	1	5	17	23	25	22	32	52	16	17	17	130	118	248	37.14
Hassan	16	17	13	7	10	6	5	5	7	8	4	7	48	57	105	17.54
Kadur	16	22	12	11	22	17	12	5	8	6	4	9	63	81	144	41.19
Kolar	28	52	30	28	22	27	16	26	30	41	24	6	175	165	340	39.69
Mysore	52	105	128	158	185	177	218	149	117	32	124	109	774	840	1,614	105.79
Shimoga	3	...	...	2	...	6	5	1	1	3	5	...	12	14	26	4.96
Tumkur	...	...	1	1	7	1	10	10	11	4	4	16	28	37	65	7.44
Total (Mysore State)*	146	209	209	273	321	306	347	268	252	217	210	222	1,442	1,538	2,980	45.85
Bangalore City	1	...	1	31	43	28	6	3	5	5	...	2	60	65	125	69.59
Mysore City	4	10	10	15	9	1	3	4	...	1	...	...	26	31	57	51.69
Kolar Gold Field	...	:	...	1	...	1	...	8	1	..	1	...	10	3	13	15.34
C. & M. Station	...	...	4	8	7	4	1	2	1	...	...	1	...	...	28	20.56

* Excluding C. & M. Station, Bangalore.

TABLE 10.
Reported deaths from Cholera in the Districts and Cities in each month of the year 1932.
(As per Monthly Returns.)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total deaths from Cholera			Number of Deaths per 1,00,000 population
													Male	Female	Total	
Bangalore	3	..	1	..	..	2	..	..	..	1	..	..	4	2	6	0.54
Chitaldrug	6	..	5	..	..	..	..	..	..	1	1	..	6	7	13	1.95
Hassan	..	..	1	4	2	..	..	..	..	..	..	..	5	2	7	1.17
Kadur	1	..	..	..	1	1	..	..	..	..	..	..	1	2	3	0.86
Kolar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.00
Mysore	34	2	1	2	..	1	5	..	..	..	..	..	28	17	45	2.95
Shimoga	6	..	3	..	..	..	..	..	..	..	..	..	5	4	9	1.72
Tumkur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.00
Total (Mysore State)*	50	2	10	6	3	4	5	..	..	2	1	..	49	34	83	1.28
Bangalore City	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.00
Mysore City	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.00
Kolar Gold Field	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.00
C. & M. Station	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.00

* Excluding C. & M. Station, Bangalore.

TABLE 13.
Reported deaths from other Fevers in the Districts and Cities in each month of the year 1932.
(As per Monthly Returns.)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total deaths from Fevers			Number of Deaths per 1,00,000 of population
													Male	Female	Total	
Bangalore	349	279	326	334	314	323	326	258	296	274	281	323	1,918	1,765	3,683	383.66
Chitaldrug	424	300	559	505	333	297	264	347	350	443	567	714	2,632	2,171	5,103	764.28
Hassan	428	369	360	274	351	358	177	122	262	328	397	389	1,984	1,831	3,815	637.23
Kadur	375	265	240	202	234	201	191	176	207	181	297	347	1,533	1,388	2,916	834.08
Kolar	569	421	429	479	441	444	459	422	403	372	444	402	2,762	2,527	5,289	617.38
Mysore	811	592	634	618	630	605	598	564	571	659	926	899	4,246	3,861	8,107	531.37
Shimoga	520	246	316	227	263	212	294	280	349	301	449	540	2,074	1,923	3,997	763.24
Tumkur	503	358	496	433	421	417	362	331	335	374	480	482	2,660	2,272	4,932	564.74
Total (Mysore State)*	3,379	2,830	3,300	3,072	2,987	2,837	2,670	2,500	2,778	2,932	3,841	4,096	19,809	18,033	37,842	582.25
Bangalore City	36	36	50	34	27	42	28	22	32	22	32	14	168	187	355	197.64
Mysore City	43	38	43	26	28	23	27	83	32	17	54	34	193	205	398	360.92
Kolar Gold Field	57	38	34	47	34	39	37	44	47	30	44	50	300	201	501	591.11
C. & M. Station	98	68	49	44	43	43	58	53	56	68	79	62	...	...	719	578.05

* Excluding C. & M. Station, Bangalore.

TABLE 14.
Reported deaths from Dysentery and Diarrhoea in the Districts and Cities in each month of the year 1932.
(As per Monthly Returns.)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total (Deaths from Dysentery and Diarrhoea)			Number of deaths per 1,00,000 of population
													Male	Female	Total	
Bangalore	35	51	51	36	56	51	80	58	56	57	83	102	371	845	716	64.87
Chitaldrug	14	36	15	8	18	19	19	21	17	29	34	94	145	119	264	39.54
Hassan	10	6	3	7	17	14	7	7	24	16	25	20	90	66	156	26.05
Kadur	21	9	7	10	20	9	12	7	13	6	7	4	82	43	125	35.75
Kolar	33	28	36	38	46	38	51	41	77	61	58	49	380	226	556	64.90
Mysore	105	73	58	82	88	78	111	130	180	126	124	123	675	553	1,228	80.49
Shimoga	37	13	25	31	32	31	35	22	18	24	38	75	205	179	384	73.33
Tunkur	22	25	15	18	26	25	24	26	35	28	19	26	166	123	289	33.09
Total (Mysore State)*	277	241	210	233	303	285	339	312	370	347	386	433	2,064	1,654	3,718	57.21
Bangalore City	23	27	32	27	43	35	58	36	29	31	36	51	203	225	428	238.28
Mysore City	29	16	16	12	18	16	32	24	23	19	22	22	113	136	249	225.80
Kolar Gold Field	17	20	23	25	32	30	37	17	33	16	19	31	172	128	300	353.96
C. & M. Station	14	19	12	21	22	34	45	59	25	30	20	33	...	...	334	245.30

* Excluding C. & M. Station, Bangalore.

TABLE 15.
Reported Deaths from Respiratory Diseases in the Districts and Cities in each month of the year 1932.
(As per Monthly Returns.)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total (Deaths from Respiratory Diseases)		Number of Deaths per 1,00,000 of population	
													Male	Female		Total
Bangalore	110	109	90	117	115	96	117	100	107	120	145	158	669	715	1,384	125.88
Chitaldrug	37	20	19	27	17	8	18	12	22	13	29	27	149	100	249	87.29
Hassan	15	7	9	1	11	7	5	5	9	3	2	6	48	32	80	13.86
Kadur	18	19	17	23	4	12	8	6	21	7	17	23	109	66	175	50.05
Kolar	60	36	51	45	39	42	50	38	44	35	32	38	298	212	510	59.53
Mysore	48	34	42	24	70	52	50	44	41	26	36	41	282	226	508	33.80
Sbimoga	36	33	21	26	12	20	7	15	5	7	26	23	158	78	231	44.11
Tumkur	38	29	22	29	31	28	39	27	28	41	37	52	214	187	401	45.92
Total (Mysore State)*	362	287	271	292	299	265	294	247	277	252	324	368	1,922	1,616	3,538	54.44
Bangalore City	86	89	70	100	98	90	101	87	89	96	119	128	549	604	1,153	641.91
Mysore City	11	5	9	6	7	7	5	9	7	10	7	6	47	42	89	80.71
Kolar Gold Field	44	30	37	33	30	34	30	24	25	27	13	28	213	142	355	418.85
Civil and Military Station	19	28	11	10	5	10	15	14	7	17	10	12	...	...	158	116.04

* Excluding Civil and Military Station, Bangalore.

TABLE 19.
Reported Deaths from Injuries in the Districts and Cities in each
Month of the Year 1932.
(As per Monthly Returns.)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total (Deaths from Injuries)		Number of deaths per 1,00,000 of population	
													Male	Female		Total
Bangalore	12	21	19	23	27	13	7	10	15	22	15	25	129	85	214	19.39
Chitaldrug	4	11	4	6	8	4	15	13	13	11	4	7	57	43	100	14.98
Hassan	5	7	14	8	8	5	2	3	9	10	8	2	47	34	81	13.53
Kadur	2	...	7	1	3	13	4	7	7	5	1	2	35	17	52	14.87
Kolar	21	35	21	31	25	20	24	36	13	25	34	22	190	117	307	35.84
Mysore	16	11	14	10	16	15	13	17	21	12	17	18	101	79	180	11.80
Shimoga	5	3	4	7	2	4	5	16	6	10	4	8	37	37	74	14.13
Tumkur	1	16	11	10	7	18	16	15	19	21	7	16	79	78	157	17.98
Total (Mysore State) *	66	104	94	96	96	97	86	117	103	116	90	100	675	490	1,165	17.93
Bangalore City	7	12	6	6	10	3	1	3	4	5	7	9	46	27	73	40.64
Mysore City	...	...	...	...	..	...	1	1	...	...	...	1	...	3	3	2.72
Kolar Gold Field	7	25	10	7	5	6	7	22	5	6	10	5	91	24	115	135.69
Civil and Military Station	8	2	4	5	2	4	4	3	4	2	2	4	...	...	44	32.31

* Excluding Civil and Military Station, Bangalore.

TABLE 22.
Reported Deaths from Wounds or Accidents in the Districts and Cities of the Mysore State
in each Month of the Year 1932. (As per Monthly Returns).

District	January	February	March	April	May	June	July	August	September	October	November	December	Total
Bangalore ...	10	20	17	19	28	12	5	6	11	15	14	19	711
Chitaldrug ...	3	8	2	3	6	2	12	11	8	5	3	5	86
Hassan ...	4	5	12	2	6	3	2	3	4	8	4	1	54
Kadur ...	...	...	5	1	1	12	...	5	2	1	1	1	29
Kolar ...	18	33	18	18	16	14	17	30	7	16	33	15	35
Mysore ...	5	5	6	5	6	7	9	10	15	8	12	12	200
Shimoga ...	4	1	2	6	1	3	1	15	6	6	2	3	150
Tumkur ...	...	10	11	8	7	16	13	13	10	14	3	9	114
Total (Mysore State)* ...	44	82	73	62	66	69	59	93	63	73	72	65	821
Bangalore City ...	7	12	5	6	9	2	1	3	4	5	7	6	69
Mysore City ...	...	...	...	...	...	...	...	1	...	...	...	...	1
Kolar Gold Field ...	7	25	10	6	5	6	7	21	4	5	10	5	1
Civil and Military Station													

Figures not available

* Excluding C. & M. Station, Bangalore.

TABLE 23.
Reported Deaths from Injuries caused by Wild Beasts in the Districts and Cities of the Mysore State in each Month of the Year 1932. (As per Monthly Returns.)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total
Bangalore ...	1	1	1	...	3	5	...	2	3	3	1	...	20
Chitaldrug ...	...	...	1	2	...	2	3	2	4	3	...	1	23
Hassan ...	1	1	2	5	...	1	...	...	1	1	...	1	13
Kadur ...	1	...	1	...	2	...	4	2	3	2	...	1	16
Kolar ...	...	1	1	7	8	2	1	2	4	4	...	1	31
Mysore ...	2	3	5	3	4	5	4	4	3	1	2	2	38
Shimoga ...	...	...	...	1	...	...	2	1	...	3	2	4	13
Tumkur ...	...	6	...	2	...	2	3	2	4	3	...	1	23
Total (Mysore State)* ...	5	12	11	16	19	17	15	15	21	21	5	10	169
Bangalore City ...	...	...	1	...	1	1	...	...	...	...	...	...	3
Mysore City ...	...	...	...	...	...	...	1	...	...	...	...	...	1
Kolar Gold Field ...	...	...	...	...	...	...	...	...	1	1	...	...	2
Civil and Military Station													

Figures not available

* Excluding C. & M. Station, Bangalore.

TABLE 26.
 Reported Deaths from all other Causes in the Districts and Cities of the Mysore State in each Month of the Year 1932.
 (As per Monthly Returns.)

District	January	February	March	April	May	June	July	August	September	October	November	December	Total Reported Deaths A. O. C.	Percentage of total Reported Deaths
Bangalore	568	461	491	455	477	439	548	524	537	486	606	704	6,356	44.10
Chitaldrug	269	273	182	214	229	156	209	234	253	268	289	299	2,875	29.75
Hassan	155	121	138	99	137	137	27	51	191	136	201	196	1,589	24.59
Kadur	135	158	127	115	114	93	120	126	118	137	136	152	1,531	28.44
Kolar	582	482	483	437	400	420	454	432	464	488	459	535	5,636	41.60
Mysore	608	449	463	420	431	450	522	463	518	623	777	755	6,478	32.01
Shimoga	268	170	376	225	210	193	214	176	206	321	376	477	3,212	38.64
Tumkur	368	403	405	331	283	271	232	271	271	321	322	412	3,940	38.81
Total (Mysore State)	2,953	2,517	2,665	2,296	2,281	2,219	2,376	2,277	2,558	2,790	3,166	3,330	31,617	35.86
Bangalore City	182	162	212	180	204	170	183	213	208	216	248	276	2,454	52.17
Mysore City	150	126	132	127	133	112	138	119	134	164	174	145	1,654	63.02
Kolar Gold Field	116	90	96	78	99	84	108	104	100	97	90	130	1,192	45.93
Civil and Military Station	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Figures not available.

TABLE 27.
Alphabetical List of Taluks in Mysore State giving Statistics of Births and Deaths from different Diseases in the Year 1932.

No.	Taluks, District	Estimated population as on July 1, 1932	Total Reported Births			Total Reported Deaths of Infants under one year		Causes of Deaths															Total Reported Deaths					
			Born Alive	Born Dead	Birth Rate	No. of infant deaths	Infant Mortality Rate	Plauge	Small-pox	Cholera	Malaria	Typhoid	Other Fevers	Dysentery and Diarrhoea	Respiratory Diseases	Consumption	Leprosy	Child-birth	Suicide	Drowning	Wounds and Accidents	Killed by Wild beasts	Snake-bite	Rabies	All other Causes	Total Deaths	Death Rate	
1	Alur (Sub) Hassan	23,830	355		16.16	52	135.06	20					9								4					4	397	16.66
2	Anekal, Bangalore	68,007	1,695		24.92	162	95.57	70				26	29								2					2	858	12.62
3	Arkalrud, Hassan	73,587	759		10.31	58	76.42	151				15	4								5					5	626	8.51
4	Arsikere, Hassan	109,792	1,259		11.47	123	97.70	112				17	10								8					8	1,319	12.01
5	Bagepalli, Kolar	57,995	1,114		19.21	94	84.38	14				28	23								12					12	1,050	18.10
6	Bangalore, Bangalore	153,874	1,445		9.39	98	67.82	159				44	45								13					13	1,973	6.32
7	Belur, Hassan	67,437	759		11.25	142	187.09	729				15	22								8					8	1,023	15.16
8	Bowringpet, Kolar	71,049	1,555		23.31	260	157.00	52				1															1,197	16.71
9	Challakere, Chitaldrug	95,827	1,456		15.19	128	87.91	18				10									8					8	1,109	11.57
10	Chamarajanager Mysore	133,561	2,269		16.99	582	86.14	247				286	38								21					21	1,682	14.09
11	Channagiri, Shimoga	87,701	1,588		18.11	159	100.13	74				13	3								12					12	1,378	15.71
12	Channapattana, Bangalore	96,319	1,846		19.17	93	50.38	370				20									2					2	879	9.18
13	Channarayapattana, Hassan	102,245	1,561		15.17	187	120.57	77				54									20					20	1,311	12.82
14	Chikballapur, Kolar	62,683	10,13		16.16	93	91.81	80				12									4					4	858	13.69
15	Chikmagalur, Radur	80,060	1,085		13.55	145	133.64	134				32									1					1	1,366	17.06
16	Cuiknaikanhalli, Tumkur	69,845	1,489		21.32	174	116.86	2				20									13					13	929	13.30
17	Chintamani, Kolar	80,115	1,346		16.80	87	64.64	147				4									16					16	1,221	15.24
18	Chitaldrug, Chitaldrug	109,619	2,183		19.91	74	33.90	7				23									4					4	859	13.93
19	Clospet, (Sub) Bangalore	63,036	1,620		25.70	93	57.41	48				15															1,527	10.80
20	Davanagere, Chitaldrug	96,341	1,979		20.54	181	91.46	623				36															1,860	19.31
21	Devanahalli, Bangalore	67,350	1,100		16.33	81	73.64	162				3									26					26	928	13.78

22	Dodballapur, Bangalore	84,072	1,589	18-90	120	75-52	342	59	3	373	54	42	2	22	2	355	1,254	14-92	
23	Goribidnur, Kolar	102,663	2,312	22-52	211	91-26	9	83	...	472	8	...	8	14	6	789	1,384	12-92	
24	Gubbi, Tumkur	113,625	2,409	21-20	199	82-60	121	1	...	567	80	84	4	20	4	609	1,440	24-21	
25	Gudibanda (Sub) Kolar	18,337	434	22-67	60	138-25	19	...	...	181	18	12	4	4	3	203	444	24-21
26	Gundlupet, Mysore	82,468	1,370	16-61	36	26-28	144	...	...	647	61	44	4	8	7	115	1,030	12-49
27	Harihar, (Sub) Chitaldrug	44,048	1,313	29-51	130	99-01	70	13	...	166	18	16	1	1	3	425	713	16-19	
28	Hassan, Hassan	104,217	971	9-82	98	95-78	190	6	3	265	9	18	1	5	4	263	761	7-80	
29	Heggadevankote, Mysore	58,472	1,148	19-63	84	50-2	4	7	...	502	4	5	1	13	4	181	1,199	20-51	
30	Hiriyur, Chitaldrug	76,933	1,478	19-21	147	93-17	185	303	...	746	14	7	5	6	3	294	1,107	14-39	
31	Holalkere, do	75,490	1,406	18-62	155	110-24	77	16	10	520	60	77	1	12	1	287	1,060	14-04	
32	Hole-Narsipur, Hassan	66,821	668	10-00	45	67-37	44	7	...	305	88	15	...	6	...	142	559	8-37	
33	Honnali, Shimoga	71,223	1,631	22-87	125	78-03	20	12	...	498	115	60	...	8	...	480	1,199	16-82	
34	Hosdurga, Chitaldrug	71,528	1,115	15-59	87	73-92	226	51	...	413	89	14	...	...	...	239	749	10-47
35	Hoskote, Bangalore	82,833	1,481	17-88	108	65-42	133	32	1	360	37	30	...	2	...	364	959	16-35	
36	Hunsur, Mysore	58,652	1,070	18-24	70	141-09	14	24	...	562	42	15	5	5	...	254	981	16-08	
37	Jagalur, Chitaldrug	57,909	1,134	19-58	160	107-52	75	76	2	632	12	6	...	8	...	320	1,143	12-36	
38	Kadur, Kadur	92,453	1,144	12-37	123	29-95	86	25	...	540	57	20	...	16	...	395	1,155	9-31	
39	Kankanhalli, Bangalore	124,018	2,371	19-12	71	85-70	158	47	...	308	88	21	...	16	...	303	920	9-63	
40	Kolar, Kolar	95,563	1,587	16-61	136	105-60	1	...	...	222	24	20	...	22	2	139	410	12-39
41	Koppa, Kadur	33,051	464	14-03	49	65-06	17	...	...	267	34	30	...	3	...	192	552	8-38
42	Kortagere, (Sub) Tumkur	65,851	953	14-47	62	68-22	88	125	5	627	49	22	...	7	...	549	1,484	12-64	
43	Krishnarajpete, Mysore	117,393	1,627	13-86	111	174-24	...	...	...	130	29	70	...	3	...	124	360	19-23
44	Kumsi, (Sub) Shimoga	18,716	350	18-70	61	32-02	3	10	...	432	...	26	...	7	...	444	922	8-96	
45	Kunigal, Tumkur	102,906	2,155	20-94	69	48-21	99	10	...	225	40	18	...	...	...	364	794	8-71
46	Maddur, Mysore	91,193	975	10-69	47	153-19	...	...	...	686	...	62	...	24	...	476	1,250	12-87
47	Madhugiri, Tumkur	97,156	1,880	19-35	288	91-60	92	14	...	267	1	10	...	3	...	444	831	7-90	
48	Magadi, Bangalore	105,139	1,703	16-20	156	28-92	96	20	2	488	90	20	...	3	...	224	950	8-84	
49	Malvalli, Mysore	107,504	1,883	12-86	40	70-04	98	15	...	359	28	22	...	14	...	342	883	11-82	
50	Malur, Kolar	74,687	1,285	17-21	90	68-43	62	...	...	765	69	12	...	5	...	199	1,159	12-58
51	Mandya, Mysore	92,130	1,096	11-90	75	103-13	1	1	...	372	10	2	...	2	...	79	467	9-21	
52	Manjarabad, Hassan	50,711	449	8-85	49	67-31	...	...	...	365	...	15	...	6	...	225	614	15-35
53	Molakalmuru, Chitaldrug	39,998	936	23-40	63	166-05	46	...	...	439	3	3	...	6	...	133	630	13-65
54	Mudgere, Kadur	46,149	542	8-85	90	155-43	28	137	...	477	22	12	...	6	...	488	1,164	15-40	
55	Mulbagal, Kolar	75,607	1,216	16-08	189	29-38	72	104	3	456	52	8	...	...	...	180	885	11-37
56	Mysore, Mysore	77,844	1,089	13-99	32	48-86	22	45	...	554	64	82	...	6	...	340	1,063	12-51	
57	Nagamangala, Mysore	84,967	1,780	20-95	87	141-79	...	...	...	398	7	...	...	1	...	49	458	13-27
58	Nagar, Shimoga	34,512	670	19-41	95	61-39	193	306	...	438	87	...	...	4	...	365	1,480	11-09
59	Nanjangud, Mysore	128,920	1,580	12-26	97	2

24	Chintamani	4,958	214	42-93	20	5	38	8	4	1	57	117	7-423
25	Chitaldrug	10,732	386	35-97	...	...	101	8	4	...	73	191	17-79
26	Closepet	6,571	89	13-54	16	...	9	2	2	1	38	66	10-04
27	Davangere	23,155	441	19-05	142	...	102	17	17	1	210	475	20-51
28	Devanahalli	6,152	93	15-12	3	...	19	8	...	2	38	62	10-08
29	Dodballapur	8,853	233	26-32	39	...	38	8	...	...	13	102	11-52
30	French-Rocks	3,016	63	22-55	...	11	3	2	2	...	26	43	14-26
31	Goribidnur	4,606	188	40-82	...	...	33	4	6	...	11	35	6-08
32	Gubbi	5,663	124	21-90	7	...	15	4	...	1	32	59	0-423
33	Gudibanda	2,803	97	34-61	...	...	28	3	1	2	22	45	6-05s
34	Gundlupet	5,759	81	14-06	1	...	17	3	1	2	11	35	16-01
35	Haranhalli	2,459	45	18-30	...	...	9	4	4	...	6	20	8-13
36	Harthar	6,884	192	27-89	29	2	10	2	3	1	73	121	17-58
37	Hassan	10,544	299	28-36	2	...	9	6	16	1	95	131	12-42
38	Heggaddevankote	1,250	61	48-80	...	4	20	...	...	...	7	32	25-60
39	Hiriyur	2,748	65	23-65	...	...	28	...	1	...	23	52	18-92
40	Holkere	3,243	118	36-39	3	2	7	2	1	1	23	39	12-03
41	Holenarsipur	8,238	138	16-75	13	...	50	26	9	2	84	185	22-46
42	Honnali	3,968	151	38-05	10	...	34	2	3	...	43	92	23-19
43	Hosdurga	3,513	124	35-31	2	...	19	1	...	2	28	52	14-81
44	Hoskote	4,960	105	21-17	13	...	32	2	...	...	42	89	17-94
45	Hunsur	6,777	98	14-46	12	...	35	3	4	1	35	91	13-43
46	Jagalur	3,707	53	14-30	6	...	15	...	...	...	40	65	17-53
47	Kadur	3,822	58	15-18	4	...	9	1	2	...	18	34	8-90
48	Kansanhalli	7,203	106	14-72	10	...	28	2	3	...	25	68	9-44
49	Kolar	16,161	609	37-13	31	...	72	6	2	...	119	235	14-54
50	Kolar Gold Field	84,755	3,769	44-47	119	13	2414	463	300	100	82	2,595	30-62
	(a) Balghat Mine	...	61	...	8	...	19	15	...	...	215	274	...
	(b) Champion Reef	...	586	...	9	2	8	2	64	...	215	390	...
	(c) Marikuppam	...	660	...	9	ava	2	101	39	15	168	361	...
	(d) Mysore Mine	...	421	...	3	1	3	2	35	6	59	172	...
	(e) Nundidrug Mine	...	655	...	6	4	3	2	73	69	103	298	...
	(f) Oorgaum Mine	...	...	...	...	...	...	...	...	...	...	...	...
	(g) Robertsonpet	...	137	...	89	ava	4	15	3	4	573	1,100	...
	(h) Villages of Sautary Board Area.
	(i) E. D. Hospital

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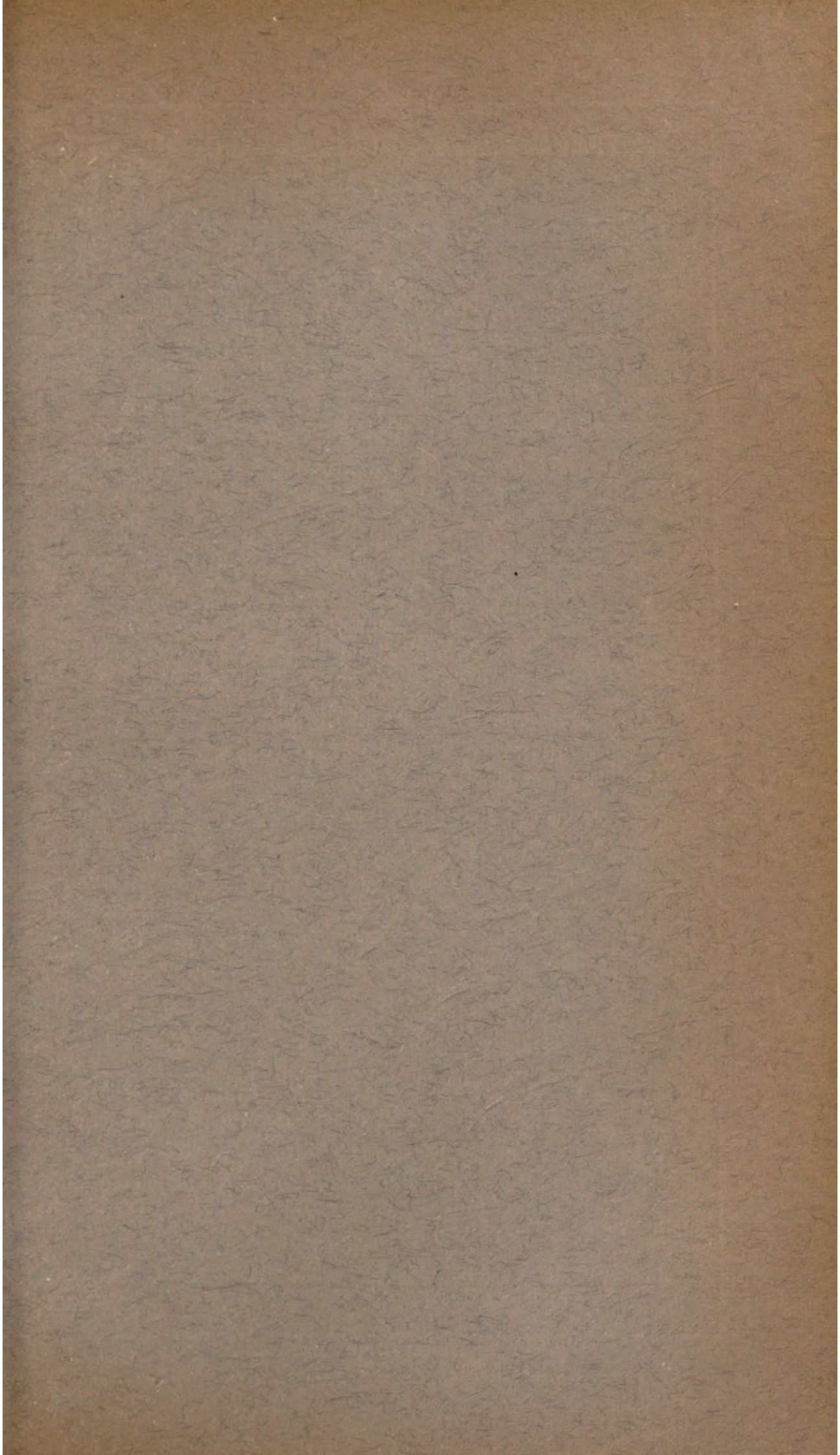
70	Nagamangal	8,780	171	45-24	7	1	Figures not available.	20	53	14-02
71	Nagar	1,077	55	51-07	24	11	35	32-50
72	Naikanhatti	2,902	...	...	44	6	...	...	...	16-31
73	Nanjangud	8,215	154	18-75	17	1	...	21	55	24-64
74	Narasimharajpur	2,232	86	38-53	24	3	...	35	110	28-80
75	Nelamangala	3,820	91	23-82	21	2	...	11	36	10-71
76	Nyamthi	3,362	88	26-17	4	...	...	29	38	12-00
77	Pavagada	2,750	84	30-55	40	2	...	23	74	28-01
78	Periyapatna	3,216	104	32-34	18	3	...	29	76	15-23
79	Ramasamudra	4,990	93	18-64	47	2	...	48	99	17-38
80	Sagar	5,696	177	31-07	10	2	...	23	37	12-65
81	Saklespur	2,925	110	37-61	15	1	...	24	52	12-49
82	Saligrama	4,163	153	36-75	9	...	...	14	53	25-62
83	Saragur	2,069	52	25-13	6	4	...	29	55	18-56
84	Sarjapur	2,973	134	45-07	13	1	...	75	107	16-98
85	Seringapatam	6,300	81	12-86	4	...	...	80	34	6-98
86	Shikarpur	4,872	95	19-50	21	7	...	109	187	9-05
87	Shimoga	20,661	250	12-10	18	2	...	28	58	9-11
88	Sidlaghatta	6,368	171	26-85	36	3	...	48	100	14-51
89	Sira	6,894	302	43-81	16	2	...	27	53	18-56
90	Shraikoppa	2,855	80	28-02	5	...	...	15	20	12-04
91	Sorab	1,661	66	39-74	14	18	...	22	59	22-88
92	Sringeri	2,679	86	33-35	9	4	...	20	39	16-45
93	Sravanbelgola	2,371	86	36-27	27	...	...	32	70	16-36
94	Srinivasapur	3,812	120	31-48	32	3	...	80	70	15-48
95	Talakat	4,521	118	26-10	76	5	...	82	82	26-92
96	Tarikere	8,211	168	20-46	13	...	...	26	55	19-60
97	T.-Narsipur	2,806	93	33-14	83	3	...	33	90	17-44
98	Tiptur	5,160	160	31-01	24	1	...	13	38	10-74
99	Tirthahalli	3,538	154	43-53	46	3	...	162	277	15-22
100	Tumkur	18,196	410	22-58	8	...	...	20	29	13-58
101	Turvekere	2,136	55	25-75	24	2	...	20	69	18-05
102	Tyragondlu	3,823	111	29-03	15	...	...	82	80	20-94
103	Vadigenhalli	3,820	124	32-46	5	...	...	6	12	3-58
104	Yedatore	3,849	50	14-93	17	...	...	6	45	13-57
105	Yelahanka	3,315	77	23-23	24	4	...	10	45	13-03
106	Yelandur	3,453	75	21-72	...	...	...	...	...	...

TABLE 29—contd.

Name of Village, Town or City	Jan.		Feb.		March		April		May		June		July		August		Sept.		Oct.		Novr.		Decr.		Total											
	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D										
SHIMOGA DISTRICT—concl'd.																																				
Shimoga Taluk.—	22	8	1	2	3	3	2	3	1	4	2	1	16	11	41	35	88	55	18	11	52	82	70	55	319	215										
Anaveri								
Arbatholain						
Arakere				
Arasanaghatta				
Arabilichi		
Attigunda		
Bhadravathi Town	4	1	..	..	..	..	2	1	1	0	..	..	..	..	1	1	2	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Biranahalli		
Denaveri		
Gidamaghatta	0	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gojanoor		
Holahatti	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hole-honnur
Holathihalu
Hadamahalli
Itteballi
Jambarghatta
Kadokai	0	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Knoligere	18	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kannekoppa
Kanallikatte
Koppa
Katthalli
Kumbanvitalpura
Maderipalya
Mandli
Malliganahalli
Myoolalu
Nimbegudi
Sanyasikodumagge
Shimoga Town
Sagur
Thattihalli
Total	36	17	9	4	5	3	2	1	4	1	20	12	54	44	44	38	90	56	22	15	63	38	88	64	437	293										

TABLE 31.
 Alphabetical list of places affected with Cholera in Mysore State in the Year 1932.
 (Attacks and Deaths given for each Month.)

Name of Village, Town or City	Jan.		Feb.		March		April		May		June		July		Aug.		Sept.		Octr.		Novr.		Decr.		Total			
	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D		
BANGALORE DISTRICT.																												
CHITABDRUG DISTRICT.																												
HASSAN DISTRICT.																												
Chennarayapatna Taluk—	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	2	2	2
Bagur	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	2	2	2
KADUR DISTRICT.																												
KOLAR DISTRICT.																												
MYSORE DISTRICT.																												
Malvalli Taluk—	6	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	3	3
Koragala	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1
Chickmalagodu	5	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	2	2
SHIMOGA DISTRICT.																												
Channagiri Taluk—	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1
Hodigere	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1
Honnali Taluk—	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1
Nelabonne	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1
TUMKUR DISTRICT.																												
Total (Mysore State)	6	3	...	...	...	...	2	2	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	10	7	7	7



MYSORE STATE DEPARTMENT OF HEALTH.

The following Bulletins are published by Government.

No. 1. Report on a Health Survey of Mysore—

By DR. W. C. SWEET, B.SC., M.D., DR. P.H., Field Director, International Health Division, Rockefeller Foundation, Consultant in Health in Mysore, Bangalore, 1928.

No. 2. Report on Tuberculosis in Mysore State—

By DR. P. S. CHANDRASEKHAR, M.D., some time Officer-in-charge of Tuberculosis Survey in Mysore, 1928.

No. 3. Report on a Sanitary Survey of the City of Bangalore for the Year 1927—

By DR. B. MAHOMED USMON, L.M.S., (Retired), Senior Surgeon and Sanitary Commissioner with the Government of Mysore, Bangalore, 1928.

No. 4. Guinea-worm Disease in the State—

By DR. J. V. KARVE, M.B., CH.B., D.P.H., Director of Health in Mysore, Bangalore, 1929.

No. 5. Report of the Delegation of the British Social Hygiene Council, (Inc.) to the Government of Mysore, 1929.

No. 6. Report on the Present Status of Birth, Death and Epidemic Diseases Reports in Mysore District, Bangalore City and Kolar Gold Field, with Suggestions for Improvement—

By MR. E. R. SUNDARARAJAN, M.A., (Hons.), Technical Officer, Bureau of Vital Statistics, Mysore Department of Health, Bangalore, 1929.

No. 7. A Survey of Mysore State for Enlarged Spleens and for Hookworm and other Helminthic Infections—

By DR. W. C. SWEET, B.SC., M.D., DR. P.H., Field Director, International Health Division, Rockefeller Foundation, Consultant in Health in Mysore, Bangalore, 1929.

No. 8. Physicians' Pocket Reference to the International List of Causes of Death, 1932.