

*Bundle Copy.*

Government of  
Bengal. }

1909

{ MUNICIPAL  
DEPT.

(21)

## SANITATION.



OCTOBER.

File S.  $\frac{1-V}{11}$

Nos. 1-5.

Registration of Vital Statistics in Rural Areas.

बिहार सरकार  
मंत्रिमंडल सचिवालय विभाग  
(बिहार राज्य अभिलेखागार निदेशालय)

### LIST OF PAPERS.

PAGE.

- |      |   |     |
|------|---|-----|
| 1-2. | From the Sanitary Commissioner, Bengal, No. 5575, dated the 31st August 1909, submitting the report on the operation for testing the accuracy in the registration of vital statistics in rural areas.                                   | 1-3 |
| 3-4. | From the Sanitary Commissioner, Bengal, No. 1036 D., dated the 15th September 1909, stating that he saw no objection to the above report being utilized by the Sanitary Commissioner with the Government of India in his annual report. | 4   |
| 5.   | To the Sanitary Commissioner with the Government of India, No. 792T.—San., dated the 18th September 1909, forwarding the above report for his information.  | 4-5 |



2

REGISTRATION OF VITAL STATISTICS IN RURAL AREAS.

[Nos. 1-2.]

[FILE S.  $\frac{1-V}{11}$  3.]

No. 5575, dated Calcutta, the 31st August 1909.

From—LT.-COL. F. C. CLARKSON, I.M.S., Sanitary Commissioner, Bengal,  
To—The Secretary to the Government of Bengal, Municipal Department.

I HAVE the honour to submit, for the information of Government and for transmission to the Sanitary Commissioner with the Government of India, the accompanying report on the operation for testing the accuracy in the registration of vital statistics in rural areas carried on in a certain portion of thana Galsi, in the district of Burdwan, under Government order No. 984T.—M., dated the 9th June 1906.

*Report on the operation carried on in thana Galsi, in the district of Burdwan, for testing the accuracy in the registration of births and deaths in rural areas.*

THE operation was started at the instance of Lieutenant-Colonel Leslie, I.M.S., Sanitary Commissioner with the Government of India, with the object of ascertaining, by way of a test-experiment, how far births and deaths in rural areas are accurately registered, the knowledge of which is essential to find out what reforms are most necessary in connection with the improvement of village sanitation and what are the effects of such reforms as are from time to time introduced.

2. As ordered by Government, the operation was continued for three years, from 1st August 1906 to 31st July 1909, and was carried on strictly in the manner indicated by Lieutenant-Colonel Leslie, I.M.S., in his note forwarded by Government in March 1906. It was confined to a portion of thana Galsi, in the district of Burdwan, containing a population of about 53,000, selected for the purpose. This area was divided into three sections, and each section was placed under the charge of a medical officer (one Assistant Surgeon and two Hospital Assistants) employed in the work, the Assistant Surgeon being in charge of the whole work.

3. The arrangement for carrying on the investigation was as follows:—

The reports of births and deaths as registered in the thana by chaukidars who are the existing agency for the collection of vital statistics were obtained every week. Enquiries were then made in the villages to verify these reports and also to ascertain locally if any births and deaths remained unregistered. A special local enquiry was also made in each case of death, either recorded, or unrecorded, in the thana register, to determine its probable cause. No interference was made with the diagnosis of chaukidars as to the cause of deaths reported by them during the course of investigation. At the commencement of each year's operation a rough census of the population under observation was also taken with the object of checking the work done.

*Table A (enclosed)*—Shews the results of the census taken in respect of the area in question by the medical staff each year during the operation, and also that taken at the end of the third year's operations.

*Table B (enclosed)*—Shews, classifying according to sex and caste, the number of births in that area as entered in the thana register, and that recorded by the medical staff during the period of the operations.

*Table C (enclosed)*—Furnishes similar information with respect to deaths under different heads of diseases and the number of deaths in which the cause of death reported by chaukidars was found to be wrong.

*Table D (enclosed)*—Furnishes a synopsis of discrepancies in respect of the cause of death reported by chaukidars and that determined by the medical staff.

4. The following are the results of the investigation:—

During the period under report, viz., from 1st August 1906 to 31st July 1909, the numbers of births and deaths which actually occurred in the area were 4,670 and 6,910 respectively against 4,690 and 6,917 entered in the thana register. The difference in the case of births was due to the fact that two cases of abortion and 26 cases of still-births were entered in the thana register as births, and three cases of births were registered twice, while 11 actual births were not registered at all (*vide* Table B). In the case of deaths the difference is due to the erroneous inclusion in the thana register of three cases of abortion, 23 cases of still-births and one old case of death which occurred in May 1906, and also to the non-inclusion of 20 actual deaths (*vide* Table C). The total number of still-births recorded by the medical staff was 34 against 4 recorded in the thana register (Table B).



It will be observed from Table D that out of 6,890 actual deaths entered in the thana register, the cause of deaths in no less than 2,751 cases was found to have been wrongly reported, and that almost half of the fever deaths recorded were deaths from other causes, such as diarrhoea, dysentery, respiratory diseases, cholera, small-pox, etc.

5. From Table A it will be seen that the population of the area under operation was 53,277 when the work commenced and 51,112 when it ended, or in other words, the population decreased in three years by 2,165. Calculated according to the number of births and deaths that actually occurred, the population should have decreased by 2,240. The slight difference in the decrease is apparently due to the ingress and egress of inhabitants.

CALCUTTA,  
The 31st August 1909.

F. C. CLARKSON, LT.-COL., I.M.S.,  
Sanitary Commissioner for Bengl.

TABLE A.

Statement showing the total number of inhabitants in the area under operation as it stood at the commencement of each year's operations as well as at the end of the third year's operations.

Heads of information.	Total population.	HINDUS.		MUHAM-MADANS.		CHRISTIANS.		AGE.								
		Males.	Females.	Males.	Females.	Males.	Females.	Under 1.	1-5.	5-10.	10-20.	20-30.	30-40.	40-50.	50-60.	60-up.
1. Total population as it stood on 1st August 1906.	53,277	20,231	20,862	6,036	6,072	10	16	1,680	7,782	8,680	8,178	7,231	7,189	6,500	4,780	1,307
2. Total population as it stood on 1st August 1907.	52,724	20,091	20,623	5,932	6,002	10	16	1,228	8,060	9,543	8,013	7,036	6,934	6,310	4,528	1,022
3. Total population as it stood on 1st August 1908.	50,973	19,475	19,992	5,753	5,726	6	21	823	7,331	8,993	8,846	6,837	6,671	6,065	4,415	992
4. Total population as it stood on 1st August 1909.	51,112	19,536	20,007	5,771	5,772	7	19	1,305	6,585	8,557	9,688	6,894	6,549	5,966	4,414	1,154

TABLE B.

Statement showing the results of investigation relating to births at Galsi from 1st August 1906 to 31st July 1909.

Heads of information.	Total.	SEX.		CASTE.		REMARKS.
		Males.	Females.	Hindus.	Muhammadans.	
(1) Number of births entered in the thana register.	4,690	2,389	2,301	3,652	1,038	
(2) Number of births recorded by the medical officers.	4,670	2,377	2,293	3,634	1,036	Two cases of abortion and 26 cases of still-births were registered in the thana as births. Three cases of birth were registered twice. Eleven cases of birth were not recorded in the thana register.
(3) Number of births wrongly registered in the thana.	31	19	12	26	5	
(4) Number of births not recorded in the thana.	11	7	4	8	3	
(5) Number of still-births registered in the thana.	4	1	3	3	1	
(6) Number of still-births recorded by the medical officers.	34	22	12	28	6	



TABLE C.

Statement showing the results of investigation relating to deaths at Galsi from 1st August 1906 to 31st July 1909.

Heads of information.	Cholera.	Small-pox.	Plague.	Fever.	Diarrhoea and dysentery.	Respiratory diseases.	Injuries.	Other causes.	Total.	REMARKS.
(1) Number of deaths entered in the thana register since the commencement of the operations under the chief heads of diseases.	718	48	...	4,867	297	92	12	883	6,917	One case occurred in May 1906 and registered as a case of fever in August 1906.
(2) Number of deaths investigated by the medical officers under these heads.	751	57	...	2,545	1,023	1,628	15	891	6,910	Three cases of abortion registered as cases of fever.
(3) Number of cases in which the cause of deaths as entered in the thana register was found correct on investigation.	716	48	...	2,508	277	82	12	496	4,139	Four cases of still-birth registered as cases of fever. Nineteen cases of still-birth entered in the thana register as cases having died of "other causes." Twenty cases not registered at all—vide footnote.
(4) Number of cases in which the cause of deaths as entered in the thana register disagreed with that found out on investigation.	2	...	...	2,351	20	10	...	368	2,751	

N.B.—Out of the cases registered in the thana we find actual deaths registered are 713 cases of cholera, 48 small-pox, 4,859 fever, 297 diarrhoea and dysentery, 92 respiratory diseases, 12 injury, and 864 other causes.

TABLE D.

Statement showing the results of verification as to the cause of the respective deaths reported by chaukidars from 1st August 1906 to 31st July 1909.

I	II	III	IV						
Heads of diseases.	Total number of actual deaths recorded in the thana register.	Total number of cases in which the cause of death recorded in the register found wrong.	CAUSE AS DETERMINED BY THE MEDICAL OFFICERS IN RESPECT OF DEATHS ENTERED IN COLUMN III.						
			Cholera.	Small-pox.	Fever.	Diarrhoea and dysentery.	Injuries.	Respiratory diseases.	All other causes.
Fever ...	4,859	2,351	19	9	...	468	1	1,476	378
Small-pox ...	48	...	...	...	...	...	...	...	...
Respiratory diseases ...	92	10	...	...	3	...	...	...	7
Diarrhoea and dysentery ...	297	20	12	...	2	...	...	...	6
Cholera ...	718	2	...	...	...	2	...	...	...
Injuries ...	12	...	...	...	...	...	...	...	...
All other causes	864	368	3	...	21	286	2	56	...
Total ...	6,890	2,751	34	9	26	756	3	1,532	391



[Nos. 3-4.]

[FILE S.  $\frac{1-V}{11}$  4.]

No. 1036 D., dated Darjeeling, the 15th September 1909.

From—LT.-COL. F. C. CLARKSON, I.M.S., Sanitary Commissioner for Bengal,  
 To—The Secretary to the Government of Bengal, Municipal Department.

IN continuation of this office letter No. 5575, dated the 31st August last, submitting the final report on the experiment carried on in a certain portion of thana Galsi, in the district of Burdwan, with the object of testing the accuracy in the registration of vital statistics in rural areas, I have the honour to submit herewith a copy of letter No. 1605, dated the 7th instant, from the Sanitary Commissioner with the Government of India, and to request that when transmitting the above report to that officer, the Government may be pleased to communicate its orders on paragraph 2 thereof as to whether there is any objection to the information furnished in the report being utilised by him in his annual report. I do not see any objection to this.

2. An advance copy of the report in question has been sent to the Sanitary Commissioner with the Government of India.

No. 1605, dated Simla, the 7th September 1909.

From—LT.-COL. J. T. W. LESLIE, M.B., C.I.E., I.M.S., Sanitary Commissioner with the Government of India,

To—The Sanitary Commissioner for Bengal.

WITH reference to paragraph 2 of this office letter No. 1310, dated the 7th July 1909, I have the honour to enquire when it is expected that a copy of the final report on the work in connection with testing the accuracy in the registration of vital statistics in a portion of Galsi thana during 1908-09 can be supplied to this office.

It is understood that there will be no objection to the information being utilized in this office annual report for 1908.

[No. 5.]

[FILE S.  $\frac{1-V}{11}$  5.]

No. 792 T.—San., dated Darjeeling, the 18th September 1909.

From—H. WHEELER, Esq., Secy. to the Govt. of Bengal, Municipal Dept.,  
 To—The Sanitary Commissioner with the Government of India.

WITH reference to the correspondence ending with your letter No. 1181, dated the 4th July 1908, to the address of the Sanitary Commissioner, Bengal, on the subject of the enquiry being conducted in a portion of the Galsi thana of the Burdwan district with the view of testing the accuracy of the registration of births and deaths, I am directed to forward, for your information, a copy of the final report showing the results achieved.

2. From the facts now ascertained, the conclusion may be drawn that in respect of total numerical accuracy, the system of registration of births and deaths now followed is fairly satisfactory. It is of course possible that the fact that such an enquiry was known to have been in progress may have induced the exercise of greater care in the registration of births and deaths in this particular area. Burdwan, again, is a comparatively advanced district, and less satisfactory results might be anticipated in the more backward portions of the province, but generally the results may be taken as fairly typical of the state of things elsewhere.

3. From the point of view, however, of the accuracy of diagnosis of the cause of death, the system of registration is eminently defective. It is in respect of fever diagnosis that most mistakes occur, deaths being credited to that cause which in most instances are more properly due to diarrhoea and dysentery and respiratory diseases. It cannot, however, be assumed that the deaths returned in the course of the present investigation as due to fever were actually due to malaria. The enquiring agency was not competent to decide how far such deaths were actually due to malaria or to other forms of fever, such as *kala azar*, and any deductions based upon the figures now



supplied as regards the number of deaths occurring in Bengal from malaria would be inaccurate. At the present stage of administration in this province, the Lieutenant-Governor is not prepared to propose any remedy for this difficulty of ascertaining the exact cause of deaths. The chaukidars by whom reports are submitted are not competent to return an exact diagnosis, and there is little prospect at present of replacing them by any more reliable reporting agency.

4. The Lieutenant-Governor regrets to notice the decrease in the total population of the area under enquiry, which has been calculated in the course of the investigation.

5. There is no objection to the information being utilised in your annual report.

बिहार सरकार  
मंत्रिमंडल सचिवालय विभाग  
(बिहार राज्य अभिलेखागार निदेशालय)



7

MUNICIPAL DEPARTMENT.

SANITATION.

FILE S.  $\frac{1-V}{11}$

K.-W.—A PROGS. FOR OCTOBER 1909, Nos. 1-5.

*Registration of Vital Statistics in Rural Areas.*

From the Sanitary Commissioner, Bengal, No. 5575, dated the 31st August 1909.

HIS HONOUR—

For three years an enquiry has been in progress in a portion of the Galsi thana, in the Burdwan district, for the check of registration of vital statistics. We now have the final report which may be read.

2. The results are in corroboration of what we already knew, but in so far as they have been ascertained after more detailed enquiry than is usually possible, they are of interest. The following conclusions may be drawn :—

(a) From the point of view of total numerical accuracy our registration system is now fairly satisfactory.

(b) From the point of view of the accuracy of diagnosis of the cause of death the system is eminently unsatisfactory. It is in respect of fever diagnosis that most mistakes occur, deaths being credited to that cause which in most instances are more properly due to diarrhoea and dysentery and respiratory diseases.

3. The decrease in the total population of the area under investigation is noticeable.

4. It is of course possible that the fact that such an enquiry was known to have been in progress may have caused greater care to be taken by the ordinary reporting agency in the registration of births and deaths. To that extent the results may possibly be better than those obtained elsewhere, while Burdwan again is a fairly advanced district in comparison with others in the province, where possibly the same degree of accuracy may not be attained.

5. We may send a copy of the report to the Sanitary Commissioner with the Government of India (at whose request the enquiry was instituted) with a brief covering letter on the above lines.

H. WHEELER—10-9-1909.

I SHOULD like the opinion of the Inspector-General of Civil Hospitals.

E. N. B[AKER].—10-9-1909.

SECRETARY—

I quite agree with the conclusions drawn by Secretary in his note.

This enquiry was undertaken on the initiative of the Sanitary Commissioner with the Government of India. If his principal object was to ascertain to what extent deaths reported as due to fever were actually due to malaria, this report is by no means conclusive.

It shows that about half the cases reported as due to fever were actually due to other general diseases; but the enquiring agency were not competent to decide how many of the other moiety were actually due to *kala azar* and not malaria, so that arguments based on these figures as showing the number of malaria deaths on the Province would be highly inaccurate.

It is very difficult to suggest any remedy for inaccurate diagnosis. There does not seem to be any early prospect of replacing the chaukidari agency.

The decrease in the total population of the area is a serious matter. Burdwan district is in parts notoriously unhealthy, since the time of the great Burdwan fever epidemic. Many people believe that the disease which caused the great mortality during that epidemic was *kala azar* not malaria. In those days *kala azar* was unknown, i.e., not differentiated.

R. MACRAE—14-9-1909.

HIS HONOUR—

With reference to His Honour's order of the 10th instant, Colonel Macrae's remarks above may be read. I have embodied these in a draft which is for approval.

H. WHEELER—16-9-1909.

E. N. B[AKER].—17-9-1909.



From the Sanitary Commissioner, No. 1036D., dated the 15th September 1909.

PLEASE see a fresh letter from Sanitary Commissioner just received.

The letter to Sanitary Commissioner, India, has not yet issued.

With reference to the present communication, a sentence may be added that this Government has no objection to the information given in the papers forwarded being utilized in the annual report of the Sanitary Commissioner, India.

E. H. P.—19-9-1909.

H. WHEELER—19-9-1909.


To the Sanitary Commissioner with the Government of India, No. 792 T.—San., dated the 18th September 1909.

बिहार सरकार  
मंत्रिसंघ सचिवालय विभाग  
(बिहार राज्य अभिलेखागार निदेशालय)



REFERENCE TO FORMER CASES.

B PROCEEDINGS FOR AUGUST 1909, Nos. 10-12. 9

बिहार  REFERENCE TO LATER CASES.

मंत्रिमंडल सचिवालय विभाग  
(बिहार राज्य अभिलेखागार निदेशालय)

KEEP-WITH.

Office notes (printed).