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 \* செப்பனிடவதற்காக எடுத்துக் \*  
 \* கொள்ளப்பட்ட காலம் \*  
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# TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Revenue DEPARTMENT

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Not to be folded or roughly handled.

*Public Department.*  
*Proceedings of the Madras Government.*  
*Read the following.*

INDIA OFFICE;  
London, the 26th July 1877.

Statistics & Commerce.  
No. 108.

To His Excellency the Right Honourable the GOVERNOR GENERAL of India  
in Council.

MY LORD,—I transmit herewith a copy of a memorandum\*  
by the Army Sanitary Commission on the  
report of the Sanitary Commissioner for  
the Central Provinces for 1875; and, with regard to their first remark,  
I shall be glad if future reports contain more information as to  
sanitary works carried out during the year.

2. The effect of cleanliness and of pure water on outbreaks of  
cholera is clearly shown in this report. This fact, as also the wide  
divergence between fever death-rates in different localities, points to  
the necessity for local inquiries and for the execution of sanitary  
improvements where shewn to be most required.

3. I hope that the employment of the vaccination establishments  
in general sanitary work will be more and more carried out, and will  
be found increasingly productive of advantage.

I have honour to be,

MY LORD,

Your Lordship's most obedient, humble Servant,

SALISBURY.

Memorandum of the Army Sanitary Commission on the Report of the Sanitary  
Commissioner for the Central Provinces for 1875, dated the 21st May 1877.

Out of upwards of 100 pages of which this report consists, very few are  
devoted to sanitary work properly so called. The report is chiefly made up of  
statistical details, not without a certain relation to the health of the Provinces,  
but which could mostly have been supplied by another agency, so that the Sanitary  
Commissioner might have been enabled to devote his whole time to his proper  
work. It is evident that the relation of the Sanitary Commissioner to the progress  
of public health improvements requires to be considered in the Central Provinces  
as in other Governments in India. There are, nevertheless, a few matters of  
practical importance contained in the report to which attention may be directed.

1. According to the census of 1872 the population of the Central Provinces  
was constituted as follows:

|         |     |     |     |           |
|---------|-----|-----|-----|-----------|
| Males   | ... | ... | ... | 3,769,821 |
| Females | ... | ... | ... | 3,638,253 |
| Total   | ... | ... | ... | 7,408,074 |

The births were of—

|         |     |     |     |         |
|---------|-----|-----|-----|---------|
| Males   | ... | ... | ... | 139,412 |
| Females | ... | ... | ... | 122,494 |
| Total   | ... | ... | ... | 261,906 |

The deaths registered were of—

|         |     |     |         |
|---------|-----|-----|---------|
| Males   | ... | ... | 105,446 |
| Females | ... | ... | 89,577  |
| Total   | ... | ... | 195,023 |

Hence the registered births exceeded the registered deaths by 66,888.

The ratios per 1,000 of the population were—

|                      |     |     |       |
|----------------------|-----|-----|-------|
| Births               | ... | ... | 35.35 |
| Deaths               | ... | ... | 26.32 |
| Increase of the year | ... | ... | 9.03  |

The Commissioner says that the registration has on the whole improved, but there is still room for improvement in many districts. This view is borne out by the facts.

2. The registered deaths of 1875 exceeded those of the preceding year by 20,577, showing the influence of epidemics in 1875, fully confirmed by the following details of the chief death causes in that year:

|                                                                     | Number of deaths. |
|---------------------------------------------------------------------|-------------------|
| Cholera                                                             | 14,643            |
| Small-pox                                                           | 20,226            |
| Fever                                                               | 120,480           |
| Bowel complaints                                                    | 15,562            |
| Other causes, including 951 deaths from wild beasts and snake-bites | 24,112            |
| Total deaths                                                        | 195,023           |

The first four endemic and epidemic death causes gave rise to nearly 88 per cent. of the total mortality. These, in fact, constitute the sanitary problem in the Central Provinces, and it is towards their mitigation that the sanitary work of the Commissioner and local authorities has to be mainly directed.

The report contains very little information regarding removable local conditions attending on these diseases. But a special report on the cholera epidemic is promised. All that can be done at present is to deal with such facts as are before us.

3. *Cholera*.—The first cases of cholera in the Central Provinces took place in some rural circles of Bilaspur District, at a long distance from any other affected districts. There were seven deaths in February. It already existed as a severe epidemic in Bengal Proper. It was beginning to take on epidemic intensity in other parts of Bengal, in Oudh and the North-Western Provinces. Only a few cases had appeared in the Punjab. There had been only two deaths in Bombay Presidency (in the city). There had been 24 fatal cases in Madras Presidency, and none as yet in the Berars or in Rajputana, Hyderabad or Central India. The disease was epidemic in Ceylon, and there had been one death in Burma. Having attacked Bilaspur, the disease had a distinct period of rise and decline, ending in October, having occasioned 2,525 deaths in this district. The next district attacked was Raipur, in the rural circles of which there were 16 deaths in March, but none in April. The disease, however, existed till the end of the year, and occasioned a mortality of 4,449. The two district towns are about 80 miles apart, the districts adjoining each other, and the cholera in both was apparently a distinct epidemic outbreak. A similar outbreak took place in Hoshangabad and Nimar Districts, 150 to 200 miles away. It began in April and lasted to the end of the year. In other parts of the Province there were severe outbreaks lasting a shorter time, and some parts of the Province escaped comparatively, including Sambalpur and the country nearest to Balasore, Cuttack and Pooree (within the endemic area), where cholera existed during the entire year, and gave rise to nearly 8,000 deaths. Sambalpur District was not attacked until July, and had altogether 254 deaths.

This experience is important on account of an opinion which has prevailed that cholera invades the Central Provinces from the endemic area, and is carried into these Provinces by pilgrims. So far as can be gathered from the statistics, the

late epidemic appears to have been made up of sudden and severe local outbreaks in special districts of these Provinces.

4. The conditions which determined the greater prevalence of cholera in some districts than in others will be included in the Sanitary Commissioner's promised report, but in the meantime some useful points of experience in this matter may be gathered from the 4th section of the present report on "*Sanitary Progress*". The following abstract contains the results for the year.

No works of any magnitude have been carried out, but improvements generally in cleanliness, conservancy and drainage in the towns have been progressing. Water-supply has been attended to so far as means have been available. Wells have been cleaned out, deepened, and kept in repair, and precautions generally taken to prevent pollution. But in many large towns much more than this is required.

Improvements in drainage water-supply have been carried out at Saugor, Deori, Garha Khota and Damoli. These towns appear to have escaped cholera.

Narsingpur had no conservancy arrangements. It had two deaths from cholera.

Hoshangabad is undergoing improvement. It had 14 deaths from cholera out of a population of 11,613. Other towns in the district, Sohagpur, Seoni and Harda, have also been improved. They had altogether 39 deaths from cholera out of an aggregate population of 24,701.

Khandwa, with 14,199 inhabitants, had five cholera deaths among them. The town was cleansed, and the water-supply protected as far as practicable.

Burhanpur is drained into cesspits, and the people do not desire to change the system. Fortunately the water-supply is from a distance. There were in this town 75 deaths from cholera from among 29,303 inhabitants.

Betul.—A dirty town, with 4,600 inhabitants, had 34 cholera deaths.

Chhindwara.—An unimproved town, of 8,626 inhabitants, had 14 cholera deaths.

Jodikhara.—Town in the same district, in which "measures of conservancy are urgently called for", had 114 deaths from cholera among 5,219 people. The conservancy and water-supply are both equally bad.

Seoni, with a population of 9,557, was being supplied with good water, and was fairly clean. It had no cholera.

Bhandara.—Conservancy has been greatly improved, and suspicious wells were closed. There were two deaths from cholera in the town during the rains, and 12 afterwards among low caste people in the outskirts using tank water. In 1866 there were 150 cholera deaths, and in 1869 there were 185 cholera deaths. The epidemic on each occasion appeared in the same months. The population is 11,433.

Nagpur.—The experience of this city, of 84,441 inhabitants, is sufficiently striking to be given entire.

"The conservancy system, which was introduced in 1873, has continued to work well. Considerable improvements have been effected in the drainage of certain parts of the town and in the Setauldee bazaar, but a comprehensive scheme of drainage for the town, which is much required, cannot yet be undertaken for want of funds, the cost of the new water works being still a heavy burden on the finances of the municipality. The people fully appreciate the boon that has been conferred on them in an abundant supply of good water, and there is every reason to believe that the health of the population has been greatly improved thereby.

"In 1866 cholera visited the town in the rainy season, and in the months July to September 635 cases were reported, of which 383 were fatal.

"In 1869 it came again at the same season of the year, and 640 cases were reported, of which 343 were fatal. In that year there were 1,292 deaths from cholera in the district.

"The water from the Ambajhari reservoir was let into the town on the 23rd July 1872. A few cases of cholera had occurred in the town in June, and it was commencing to spread in July before the water was let into the mains. The epidemic did not cease till the end of August, but it was remarkable for the small fatality of the cases.

"Between the 16th and 23rd July inclusive 27 cases occurred, of which nine proved fatal. Between the 24th July and the 31st August 115 cases were reported, of which only 11 proved fatal. Epidemic cholera did not prevail in the district in 1872.



In many districts the fever death-rates appear to be increasing, and there is a general uniformity in different years, as is shown in the above abstract, which gives the key to the remedy. Within the districts themselves these fever death-rates vary greatly, as will be seen from the following instances, showing the fever deaths per 1,000 of the population :

| Towns.                 | Fever deaths per 1,000 in 1875. |
|------------------------|---------------------------------|
| Ratanpur               | 32.08                           |
| Bilaspur               | 25.72                           |
| Hoshungabad            | 27.81                           |
| Betul                  | 23.29                           |
| Nagpur                 | 14.25                           |
| Chindwara              | 10.20                           |
| Khurai                 | 9.26                            |
| Jubbulpore, cantonment | 7.85                            |
| Damoh                  | 3.90                            |
| Lodikhara              | 1.91                            |

These data, if representing the current relative proportion of fever deaths in different districts and towns, show clearly where inquiry should be made for the discovery of sources of malaria. There is no information in the present report on this very important subject, and it may be suggested whether it is not one to which special attention should be given. If the worst localities in the tables were taken in hand at once, there would be little difficulty in dealing with the causes. By pursuing this course Mr. Planck has been able to do good service in the fever localities of the North-West Provinces.

9. This is the chief point of practical importance in the fever statistics, and the relation of fever mortality to the amount of rainfall apparently suggests that inquiry might be made into the condition of the drainage by which the rainfall has to escape.

Take, for example, the following striking points in the relation of rainfall to fever deaths in two or three of the districts during the second half of the years 1872 to 1875:

|                                             | Saugor.   | Betul.    | Bilaspur. | Sambalpur. |
|---------------------------------------------|-----------|-----------|-----------|------------|
| 1872 { Monsoon rainfall ...                 | 45.80 in. | 35.86 in. | 43.02 in. | 65.51 in.  |
| 1872 { Fever deaths per 1,000 per annum ... | 17.26     | 22.74     | 20.67     | 7.74       |
| 1873 { Monsoon rainfall ...                 | 40.17 in. | 25.78 in. | 30.41 in. | 48.91 in.  |
| 1873 { Fever deaths per 1,000 per annum ... | 14.67     | 11.19     | 17.14     | 7.29       |
| 1874 { Monsoon rainfall ...                 | 66.56 in. | 30.44 in. | 48.27 in. | 61.87 in.  |
| 1874 { Fever deaths per 1,000 per annum ... | 17.64     | 21.98     | 23.22     | 9.39       |
| 1875 { Monsoon rainfall ...                 | 59.76 in. | 52.23 in. | 36.95 in. | 60.88 in.  |
| 1875 { Fever deaths per 1,000 per annum ... | 16.33     | 16.26     | 26.06     | 9.90       |

From these examples it is evident that there must be some reason (probably connected with local elevation and drainage capabilities) why rainfall should give rise to such very different results in different localities.

It is possible that by following up this inquiry a clue might be found to the death-rates and their causes.

10. There is one other point in the report which has an important bearing on the recommendation of the Army Sanitary Commission to make use of the vaccination service for general sanitary purposes, the first result of which received from India is stated as follows :

"The employment of the vaccination establishment in general sanitary work, as suggested in the orders of Government on the vaccination report of these Provinces for 1873, and again referred to in the orders on the report of 1874, has

been kept in view. Cholera has been prevalent in nearly all the districts of the Provinces during the last two years, and the district vaccination establishments have been found most useful in distributing medicines in the villages suffering from the epidemic, and in urging on the malguzars and the people generally attention to the precautions prescribed with a view to mitigating the ravages of the epidemic, and I believe that, as the men become more trained to the work, and gain the confidence of the people, the district vaccination establishment will every year be found more useful in sanitary work."

There is thus a fair prospect that before long the vaccination establishment will become one of the most efficient agencies for improving public health in India.

11. In conclusion the experience of the great cholera epidemic of 1875 shows that increasing care should be bestowed on cleansing, draining and water-supply of the towns in these Provinces; but the statistical facts show how large a share of the mortality fell to the village populations, and the great prospective advantages which may be derived from the vaccination establishments in forwarding sanitary improvements among them.

And, as regards the fever mortality, there is quite sufficient in the statistics appended to this report to show where the chief death-rates take place, and where inquiries into local causes of malaria with a view to their mitigation may be most usefully carried out.

Lastly, it may be suggested that in any future cholera reports the number of villages attacked, and the number which escaped the pestilence, would be a useful addition to the epidemic history of these Provinces.

Copy forwarded to the <sup>No. 6/243</sup> Government of Madras for information.

Copy forwarded to the <sup>No.</sup> Military and Public Works Departments for information.

By Order of the Governor General of India in Council,

HOME DEPARTMENT,  
SANITARY,  
Fort William;  
The 7<sup>th</sup> December 1877.

Signed/ L. Neill.

Under Secretary to the Govt. of India.

Order thereon, 19 December 1877, No. 1711

Communicated to the Board of Revenue and Sanitary Commissioner for information.

(True Extract)

Exd.—N. C. D.

Home Dept. Press—No. 395—0-12-77—127.

Sturrock  
Under-Secretary

To, The Revenue Department.  
" Board of Revenue.  
" Sanitary Commissioner  
" Surgeon General Indian Med. Department

Revenue 1877 Department

No. 52857

Pro: of Govt Public Dept

Batch 19 } Recd  
Recd 20 }

17/11

Comm 5 for reference

2. 1st Resolution of Government of

India regarding Budgets from

Secy of State on Memo of the

Army Sanctioning Commission for

the Central Division for 1875.

20/12

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14 Jan 1878