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Sanitary.

No. 3. *Read the following Despatch from the Right Honorable the Secretary of State for India:—*

Statistics and Commerce,
No. 61.

INDIA OFFICE, LONDON,
6th July 1876.

MY LORD,—I forward herewith a Memorandum by the Army Sanitary Commission on the Report of the Sanitary Commissioner for the Hyderabad Assigned Districts for 1874.

2. In connection with the remarks made in my Despatch of this date on the Central Provinces Report, I commend to your notice the observations made by the Commission on Dr. Abbott's inquiries into the conditions affecting fevers and bowel-complaints.

3. I am glad to find that in the Assigned Districts the importance of interesting the people in the sanitation of their own towns and villages appears to be fully borne in mind, and that this plan of action has already borne some fruit.

I have, &c.,

SALISBURY.

To His Excellency the Right Honorable
The Governor-General of India in Council.

Memorandum of the Army Sanitary Commission on the Report of the Sanitary Commissioner for the Hyderabad Assigned Districts for 1874, dated 1st May 1876.

Dr. Abbott's Report for 1874 is mainly occupied with the sanitary statistics of his district, which are based on a census taken in 1867. The figures therefore even if the death registration were all that could be desired, can only be considered as approximate, and scarcely admit of being used for statistical purposes except very generally.

1. The population of East and West Berars amounted in 1867 to 2,184,918, and out of this number there were 30,797 deaths registered (viz., 34,148 males and 26,651 females) in the year 1874.

Woon District, in East Berar, showed a registered death-rate of 18.4 per 1,000, while Akola, in West Berar, gave a rate of 24.8 per 1,000, showing either defective registration or considerable displacement of population since the census year, or probably both.

The death-rate in 92 rural circles, with a census population of 1,902,605, was 27.7 per 1,000, and in 82 towns, with a population of 232,076, the death-rate was 23.6 per 1,000, less than 1 per 1,000 above the country rate. Again, the highest death-rate (38.1 per 1,000) registered in any one town may be compared with the lowest rate (12.8 per 1,000) in another town. The facts all leading apparently to the same conclusion, namely, that, while it may be admitted that registration is becoming more extended, it is not yet altogether to be relied on, and that in the interests of the public health it would be advisable to use continued efforts for insuring greater accuracy in the launch of the public service, and at the same time to obtain a more recent census.

2. Perhaps the most important point in the mortality statistics relates to the death rate, and large mortality ascribed to diseases classed under the general head of "bowel-complaints."

The Army Sanitary Commission called attention to this subject in their remarks on the Report on the Ceded Districts for 1872, and, seeing that this year was a year of epidemic cholera, during which these districts apparently escaped the disease, it was suggested that some of the cases might have been cholera in character. Inquiry was subsequently made into this matter, with the result that deaths registered as due to bowel-complaints were exceptionally numerous in the Berars. It does not appear that these deaths were due to pestilential cholera, nor were the facts of a rarely exceptional character as regards the Berars, for in the

Proceedings of the Madras Government, Public Department,
4th October 1876. No. 1102.

Report for 1874 under review similar facts are reproduced in the statistical tables. It is therein stated that 18,693 persons died of bowel-complaints in 1874 — a death-rate of 8.5 per 1,000 of the estimated population.

The corresponding death-rates for three years were as follow:—

Indian Provinces, except Bengal	1.56 per 1,000.
Berars	8.48

The proportion of deaths to total deaths was for the Provinces 8 per cent., and for the Berars 25 per cent.

In 1874 the deaths ascribed to bowel-complaints in the Berars were no less than 30.4 per cent. of the total mortality.

The present report cannot be said to throw much additional light on the nature of these diseases, although the report shows that there is a certain numerical and time relation between "fevers" and "bowel-complaints," which he expresses as follows:— "The rise and fall of mortality from the two diseases is almost identical, so that inquiring into the causes which give rise to one disease, we are seeking for what produces the other also."

The great difficulty in accepting this proposition is connected with the fact that we have no knowledge as to the real nature of the diseases classed as "bowel-complaints," and very little as regards registered "fevers."

What is wanted is an adequate account of both classes of disease. We must know something of their nature before we can investigate their cause as a preliminary step to their mitigation.

3. Assuming each disposition to be representing factors in the problem, we may so far accept the following observations introduced by the reporter, showing the relation of both classes to rainfall:—

Year.	Deaths.		Rainfall.
	Fevers.	Bowel Complaints.	
1870-71 to 1874-75 (four years)	25,834	18,288	Feet.
	21,407	10,460	28.86
	28,425	20,749	19.12
	22,061	14,180	38.49

The rainfall appears to be the first year of every two.

There is an inverse relation between the two classes of facts, but no practical deduction can be drawn from this relation in the present state of our knowledge.

The connection between humidity of the air, subsoil water-level, and bowel-complaints is shown in the following average summary of a table for four years ending 1874 given by Dr. Abbott:

	Humidity, and Depth of Seasonal Water along Surface of Ground.		
	July to October.	November to February.	March to June.
Bowel-complaints	1,916	972	908
Fevers	2,499	1,802	1,779
Humidity	60.7	46	37.5
Subsoil water	29.7 ft.	30.2 ft.	35.0 ft.

Proceedings of the Madras Government, Public Department,
4th October 1876. No. 1102.

This abstract shows a more definite relation between atmospheric and subsoil moisture and mortality from fevers and bowel-complaints. Dryness of atmosphere, subsidence of water-level, and diminution of mortality from both diseases, are shown by the figures. These are of course by no means the only elements in the problem, but it is a step to more exact knowledge of the climatic causes to have been able to connect the data for four years.

Inquiries and comparisons similar to those made by Dr. Abbott should be extended to other parts of India, and observations in the same direction should be continued in the Berars.

4. Another branch of the same inquiry, viz., the comparative health of populations using well water and river water, affords some interesting results tabulated below; the fractional mortality per 1,000 has been converted into whole numbers, to make the comparison more easy:—

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Total deaths from all causes.												
Well water	24	16	17	21	22	20	34	41	55	28	21	22
River water	17	13	16	21	22	18	21	37	41	31	24	21
Deaths from bowel-complaints.												
Well water (towns)	3	4	4	5	7	6	12	18	20	3	6	4
River water (towns)	6	3	4	7	8	7	9	13	16	12	9	8

The year's ratio of deaths from all causes on the months in this abstract would be represented by 265 for well-water places, and 243 for river-water places.

The ratios for bowel-complaints would be 41 for well-water towns, and 23 for river-water towns. It can scarcely be said that these results show special impurities in well water, although the total death-rates are higher in localities where well waters are used.

5. The Berars afford good opportunities of studying the effects of local subsoils on disease and mortality, and it may be useful to copy the following results of Dr. Abbott's inquiries for future comparisons:—

Subsilla.	Death-rates per 1,000.				
	Cholera.	Small-pox.	Fevers.	Bowel Complaints.	Other causes.
Rural Districts.					
Trap	3	22.8	10.2	5.4	7.4
Alluvial	6	37.9	10.4	3.6	8.7
Town Districts.					
Trap	1.4	1.4	10.8	11.3	10.3
Alluvial	2.2	2.1	10.7	9.2	4.4

In the country districts trap subsoil appears to be the more healthy, but in the town districts there appear to be countervailing influences at work.

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