

ORDINARY, MS.

Pub DEPARTMENT.
G.O., DATED 3rd July 1877
No. 477

INDEXED.

When given for copying. 6/7

[Despatch Abstract.]

Forwarding to the Board of Revenue and certain officers for early remark copies of the resolution of the Govt reviewing the work done in registering births and deaths since 1881 and desiring each local govt to report what improvements are possible in the existing machinery for the collection of these statistics.

READ AGAIN ORDER OF GOVERNMENT, DATED
189, No. MISCELLANEOUS.

ENCLOSURES.

CURRENT No.

STATEMENT WITH DITTO.

ORDER OF GOVERNMENT.

LETTER OF GOVERNMENT.

STATEMENT WITH DITTO.

PAPERS NOT FILLED UP, BEING MEANT FOR DESPATCH
IN ORIGINAL (not paged).

N.B.—

- A — Copy in full.
- B — Not to be copied.
- P — Copy abstract only.
- Q — Copy heading only.

PAPER, No.

26 27+2718 of 189 4

No 320744 fo 856

37180754 10-11-9

9-2-95

No. 2-Sanitary
106-117

Extract from the Proceedings of the Government of India in the Home Department
(Sanitary),—under date Simla, the 18th June 1894.

READ again—

Home Department Circular letter No. 1—17-26, dated the 26th January 1881, to all
Local Governments and Administrations, forwarding an extract from the Report
of the Indian Famine Commission on the subject of the registration of vital
statistics.

Home Department Resolutions Nos. 8—285-296, dated the 10th August 1882, and
Nos. 9—333-344, dated the 15th September 1882, explaining the views of the
Government of India upon the subject.

RESOLUTION.

THE Famine Commissioners in their Report of 1880 laid much stress upon
the necessity for improvement in the registration and reporting of births and deaths
throughout the country as a means of testing the condition of the people and the
progress of epidemics by indicating the localities of the severest pressure from
want and from the diseases that accompany and follow upon want. The
Government of India pointed out that both famine and pestilence should be
known to the District Officers long before they can be put in possession of any
figures of vital statistics calculated to reveal the existence of either, but that
the punctual collection and early collation of vital statistics are of the utmost
importance in enabling those responsible for the administration of the country to
use them as tests of the general information which the local officers acquire
in other ways and as aids in forming a correct estimate of the areas affected by
calamity and of the growing intensity of famine or disease.

2. The Famine Commissioners advised that the propriety of making the
registration of births and deaths legally obligatory in villages as well as in towns
should be considered by the Government in each Province, and that, if it were
found practicable to make it obligatory, this should be done. The Government
of India, however, agreed with the general opinion of the Local Governments and
Administrations that the extra-municipal villages and outlying tracts were not
yet ripe for a compulsory system, and that the development of registration upon
existing lines should be awaited.

3. The Government of India have every year devoted considerable at-
tention to the subject in reviewing the annual sanitary reports of the different Local
Governments and Administrations, but it seems to the Governor General in Council
that, as the reports of the Census of 1891 have now been before the public for some
time, the present is a suitable opportunity for reviewing generally the work done
in registering births and deaths since the issue of the Resolutions quoted in the
preamble, by a comparison of the results so obtained with the figures furnished
by the Census.

4. The population at the end of any period is equal to the population at the
beginning of the period, plus the gain by births and immigration, minus the loss
by deaths and emigration. Thus the result of the number of births regis-
tered in 1881-90, less the number of deaths registered in those years, toge-
ther with the addition or defect due to the balance of immigration or emigra-
tion, should, when conjoined with the figures of the Census of 1881, agree with the
figures of the Census of 1891. The test is not, however, a perfect one, as an error
giving an excessive number of births or immigrants may be obscured by another
error giving a corresponding deficiency of deaths or emigrants. Moreover, the
area in which births and deaths are registered is less than the whole area for
which the Census is taken, and has changed somewhat from year to year, so
that the figures are not exactly comparable. Again, it has not been found
possible to determine accurately the number of immigrants and emigrants who
have come into or left the different Provinces during the decade; in most Provinces
this is ascertainable only as an inference from the Census figures showing persons
born out of the Province who were enumerated in it on the Census night.

5. Nevertheless, it appears to the Governor General in Council that a comparison of the results of the registration of births and deaths of each Province with the Census figures and with the results in other Provinces can be made with sufficient accuracy to indicate generally where there has been progress or retrogression in registration. The appended Statement I compares the figures obtained by the Censuses of 1881 and 1891 with the numbers of births and deaths registered during the decade in each Province. Statements II (a) and (b) show Provincial birth and death ratios per mille deduced from the number of registrations for each year from 1881 to 1892, inclusive.

6. The Census Reports show that the Provinces which have gained by immigration are Assam, Lower Burma, the Punjab, Bombay, the Central Provinces and Berar; and the Provinces which have lost by emigration are Bengal, Madras and the North-Western Provinces and Oudh. Assam is estimated to have gained nearly 400,000 persons during the decade, most of whom were adults and 42 per cent. of whom were women; probably about 80,000 of this number died in the country during the ten years in question. During the ten years 1881-90 some 132,000 persons (of whom only about 20 per cent. were women), it is estimated, emigrated from India to Lower Burma, and of these probably about 23,000 died during the decade. Besides these immigrants, there was a very large exodus from Upper Burma before the war in 1885-86, in which the women probably equalled the men. It is not possible from the Census figures to estimate the gain on account of immigration from Upper Burma to Lower Burma, as the tables of the enumeration of 1891 do not show the figures separately for the two parts of the Province; it is likely, however, that of late years a large number of the immigrants from Upper Burma have returned to their previous homes. The Punjab Census Superintendent says that by a rough guess it may be taken that there was a total gain during the ten years to his Province of about 200,000 persons; he surmises that a considerable proportion of this number was due to the marriage of Punjabi husbands with wives from the North-Western Provinces and Oudh, but that on the whole the majority of the immigrants were males. The Census Superintendent for Bombay estimates that in 1891 there was a gain by that Presidency since 1881 on the balance of immigration and emigration of some 108,000 persons, of whom about 33 per cent. were women; this does not include the number of immigrants who died during the decennium. The Census Report of the Central Provinces shows that, exclusive of the immigrants who died between 1881 and 1891, there was a net gain of over 30,000 persons by immigration; the Central Provinces lost some 164,000 persons, amongst whom women were to men as 7 to 5, to Berar; these Provinces, on the other hand, gained some 110,000 persons from the North-Western Provinces and Oudh, of whom only about one-third were women, and about 74,000 from the Central India States, amongst whom women were to men as 994 to 1,000. The Hyderabad Assigned Districts gained on immigrants from the Central Provinces and lost on emigrants to the Nizam's Dominions; the net result being a gain of about 15,000, not including those who had died, in which the females probably slightly exceeded the males. The net loss of population caused by emigration in Bengal during the decade is estimated by the Superintendent at 327,527, of whom he says a little more than one-third were females; the emigration was chiefly to Assam and Burma. In Madras it is reported that the Province lost on the balance of immigration and emigration some 250,000 persons by sea and 50,000 by land; the proportion of women is not given, but it appears that a very large part of the emigrants were adult males. The Census Superintendent of the North-Western Provinces and Oudh estimates that during the decade 232,985 persons, of whom only 80,745 were women, emigrated from those Provinces in excess of those who came into them; he adds that a very large proportion of the emigrants were adults.

The first effect to be noticed of immigration or emigration during a decade between two censuses upon birth and death ratios is that, as no addition or deduction is made on this account to or from the population upon which the ratios are calculated, immigration to a Province causes the ratios to be somewhat higher than they otherwise would be, whilst in Provinces where there is a balance of emigration the reverse is the case. Then the real effect of immigration or emigration upon births and deaths depends not only upon the number of immigrants or emigrants, but upon their ages and sexes. Thus, when the immigrants to a Province are mostly adults, they should die at a rate very much less than the normal rate for persons of

all ages; but, for the reason given above, every death amongst them, if reported, will increase the death ratio of the Province until the next Census is taken; after that, they would tend to bring the ratio below the normal. The converse is the case in a Province from which there is emigration. As regards births amongst immigrants, the numbers will depend chiefly on the women of the reproductive ages; every birth reported amongst them will, however, increase the ratio of the Province until the next Census is taken; after that the ratio of the Province for births will be increased or decreased according to the proportion and ages of females amongst the immigrants. The effect of the emigration of a considerable number of adult males from a Province would seem to be to decrease the number of births in that Province slightly and for a short time only.

7. Broadly, after making such allowances as are possible on account of immigration and emigration, it appears from Statement I that in the North-Western Provinces and Oudh the registration of births and deaths is performed with an approach to accuracy, whilst in the Central Provinces, the Punjab and the Hyderabad Assigned Districts the work is fairly well done. Bombay, Madras and Assam come a long way after the Provinces named as regards the sufficiency of the returns. The figures for Burma show that there has been very great inaccuracy in that Province. As regards Bengal, the circumstances are peculiar: no village agency exists in that Province, and for this reason, until 1892, births were not registered outside towns.

8. In Statement II the ratios have been calculated not upon the total population of the Province, but upon the population returned in the different Sanitary Reports as under registration. The ratios for the years 1881-90 are calculated upon the Census of 1881 of the areas under registration; the ratios for the years 1891 and 1892 are calculated on the Census of 1891 of those areas, with the ratios according to the previous Census shown in italics below them. The Census of 1891 shows that there has been a general increase in the population of India since 1881, which is estimated by the Census Commissioner for India (page 73 of his Report) at an annual rate of 9.30 per mille in British India. So that, even if the registration of births and deaths were uniform in accuracy throughout the period under review, this increase of population would cause an ascent in the ratios till the following Census, as they were calculated on a population less than actually existed during the greater part of the decade. It has been suggested more than once that the ratios should be calculated each year upon the population as found at the last Census, plus an assumed annual increase, as is done in England and some European countries; but the Government of India and the Secretary of State are of opinion that this cannot usefully be done until at least another Census has been taken and data extending over a sufficient number of years are obtained.

9. The Census Commissioner for India estimates from the age returns (pages 61 and 282 of his Report) that for the whole of India the average annual birth-rate reaches nearly 48 per mille and the death-rate about 41 per mille. The ratios in Statement II are throughout considerably below these figures. There the ratios for births are highest in the Hyderabad Assigned Districts and the Central Provinces. In the Central Provinces, however, they show some falling off towards the end of the period under review. In the North-Western Provinces and Oudh, where the figures were high at the beginning of the period, there has been retrogression rather than advance, the ratio of 43.78 in 1884 declining to 33.26 in 1891. In the Punjab there is a want of sustained improvement; no year since 1884 has reached the figure (42.98) attained in that year, and in 1891 the ratio fell to 34.02. In the Bombay Presidency there has been a fairly-sustained rise. In Madras the increase has been slight and not well maintained. In Bengal, where, as the figures are for municipalities only, greater accuracy should have been found than elsewhere, the ratios are not only behind those of the other large Provinces, but have during the last seven years shown, except 1892, been retrogressive. Assam shows a well-sustained improvement, but this is probably due largely to the increasing number of male and female immigrants of the reproductive ages who come into the Province every year. In Burma there has been some improvement; yet the figures are still the worst in the whole of India. The Governor General in Council is well aware that the true birth-rate throughout India is not constant, and that in the Provinces of Madras and Bombay, as remarked by the Census Commissioners, a special stimulus was given to it some

years ago owing to the depletion of large tracts by famine prior to 1881. In other Provinces where the increase of population in 1891 was found to be below the average for the whole Empire, it was not to be expected that the highest ratios would be maintained. It seems to His Excellency in Council, nevertheless, that where there are considerable variations and decreases, such as have been pointed out, it behoves the local authorities to endeavour to arrive at the real explanation of them.

10. The ratios of deaths show considerably more improvement generally than those of births. There have been no extensive famines or epidemics during the period under review, and the Government of India consider that the figures demonstrate that a distinct advance is being made in the registration of mortality throughout the country. Still, in many Provinces, it is evidently far from approaching the truth. The Punjab has the highest figure of late years, *viz.*, 49.48 in 1892, which is known to have been a particularly unhealthy year, but the ratio in the previous year was only 29.13; in the years 1881-1886 the death-rate in that Province was shown much below what it must have been. The Hyderabad Assigned Districts showed the highest figure of all (51.36) in 1883; but the ratio for the next year was returned at 24.64, and for the last five years in the table the ratios have been 24.75, 42.57, 35.50, 40.68 and 28.91, exhibiting variations for which the Government of India are unable to find a sufficient explanation. In the North-Western Provinces and Oudh and the Central Provinces the death ratios are fairly high; in the former Provinces they are tolerably well-sustained, whilst in the latter they are somewhat variable. In Bombay they have fluctuated, but have on the whole improved. In Madras they were lower in the early years of the period than elsewhere (except in Lower Burma), and have improved little since. In Bengal the figures are still low, but there are signs of improvement. In Assam the ratios have risen not very irregularly from 16.04 in 1881 to 34.21 in 1892; but as the Census Superintendent estimates the death-rate amongst the large number of newly-arrived immigrants at more than 40 per mille per annum, it seems that the increase is to some extent due to these people. In Lower Burma the ratios for deaths, like those for births, are the worst in all India; and they do not show much improvement.

11. On the whole, after making allowances for the different considerations set out in the preceding paragraphs, the Government of India consider that the figures in the statements appended to this Resolution show that there has been since 1881 a gradual, if slight, improvement in the registration of both births and deaths throughout the areas in which they are registered. The Governor General in Council is, however, of opinion that a much greater improvement is to be expected, especially in the larger Provinces of Madras, Bombay and Bengal, and in Burma. The success which has been attained in some parts of India, compared with the failure in others, shows that the problem of accurate registration is not insoluble when sustained attention is devoted to it. His Excellency in Council accordingly, in view of the great importance of the subject, desires each Local Government to consider carefully its existing machinery for the collection and collation of these statistics, and to report what improvements are possible, and how it is proposed to give effect to them. The Government of India fully appreciate the difficulties which surround the subject, but they trust that Local Governments will recognise, in consideration of the improvements which have taken place, especially in some Provinces, that the time has come to endeavour to remove, as far as possible, the former untrustworthiness of these returns, which, when fairly accurate, will be of the greatest value to all concerned in the administration of the country.

ORDER.—Ordered, that a copy of this Resolution be forwarded to Local Governments and Administrations for information and guidance, and that a copy be communicated to the Sanitary Commissioner with the Government of India for information.

(True Extract.)

[Signature]

Secretary to the Government of India.

To The Govt. of Madras.

Statement I.

Provinces in British India.	Total population according to the Census of 1881.	Total population according to the Census of 1891.	Actual increase of population in 1891 according to the Census.	Increase per mille in population in 1891 according to the Census.	Total number of births registered during the years 1881-90.	Total number of deaths registered during the years 1881-90.	Actual increase obtained by deducting deaths registered from births registered during 1881-90.	Increase per mille on Census population in 1891 according to results of births and deaths registered during 1881-90.	Difference between columns 5 and 9.
	1	2	3	4	5	6	7	8	10
Madras	30,827,113	35,630,440	4,803,327	155.82	8,243,165	5,811,385	2,431,780	78.88	76.94
Bombay (excluding Aden)	16,471,107	18,857,744	2,385,937	144.86	5,646,001	4,313,729	1,332,272	80.89	63.97
Bengal	66,750,520	71,346,987	4,596,467	68.86	436,289	14,467,685	-14,031,396	-210.21	-279.06
North-Western Provinces and Oudh	44,107,869	46,995,085	2,797,216	63.42	17,423,357	14,462,639	2,960,718	67.12	-37
Punjab	18,843,186	20,866,847	2,023,661	107.39	7,338,003	5,857,545	1,480,458	78.56	28.83
Central Provinces	9,838,791	10,784,294	945,503	96.1	3,594,873	2,859,900	734,973	74.70	21.40
Lower Burma	3,736,771	4,658,627	921,856	246.7	825,641	640,104	185,537	49.65	197.05
Assam	4,881,426	5,476,833	595,407	121.97	1,133,584	1,120,007	13,577	2.78	119.19
Hyderabad Assigned Districts	2,672,673	2,897,491	224,818	84.12	1,070,798	928,106	142,692	53.39	30.73
Total (excluding Bengal)*	131,378,936	146,076,661	14,697,725	111.87	45,275,422	35,993,415	9,282,007	70.65	41.22

Statement 7.

A. Births were not registered outside towns during the decade.

* As births were not registered outside towns during the decade.

Statement II (a).

Provincial Birth-rates, 1881 to 1892.

(Calculated upon the population of the areas under registration.)

Provinces in British India.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.
Madras	25.52	26.00	27.18	28.78	28.70	29.85	30.44	29.92	30.93	31.33	27.44	25.08
Bombay	27.94	29.86	30.50	32.50	34.79	35.34	38.18	38.57	36.49	38.96	32.43	29.64
Bengal*	25.52	22.49	22.08	23.52	24.71	21.04	19.36	20.63	22.77	21.54	21.47	28.16
North-Western Provinces and Oudh.	40.34	37.55	40.84	43.78	41.25	37.62	38.74	38.26	36.94	39.70	33.26	36.17
Punjab†	37.25	36.97	39.35	43.37	39.19	39.82	39.23	37.65	40.64	39.43	35.37	38.46
Central Provinces	41.21	41.73	40.59	41.75	45.36	37.79	40.21	41.52	39.30	38.41	39.99	38.39
Lower Burma	19.98‡	22.07	22.92	22.66	25.51	22.57	21.74	23.91	21.16	23.20	21.13	24.83
Assam	19.20§	26.35§	23.91	26.61	27.96	27.55	28.50	31.62	31.20	30.56	28.59	31.05
Hyderabad Assigned Districts...	39.89	42.00	40.27	41.34	42.88	37.35	40.51	41.36	39.60	42.53	42.87	40.01
											44.09	41.34

* Births registered only in certain municipal towns.
† Excluding the population of Military Cantonments.
‡ Excluding two districts (Aracan and Salween Hill tracts).
§ Excluding Sylhet and Cachar.

N.B.—The figures in italics in the columns for 1891 and 1892 are the ratios for the other years shown, on the population in 1881.

Statement II (b).

Provincial Death-rates from 1881 to 1892.

(Calculated upon the population of the areas under registration.)

Provinces in British India.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.
Madras	16.24	16.29	19.01	23.10	21.89	19.75	21.67	21.43	23.57	22.80	22.19	22.28
Bombay	23.18.	20.87	25.54	24.82	28.78	23.17	27.67	28.44	31.52	28.18	27.26	26.33
Bengal	20.97	20.42	18.83	20.84	22.74	22.00	23.46	22.95	24.26	24.48	26.95	31.93
North-Western Provinces and Oudh.	31.80	33.67	27.58	35.26	31.98	33.27	35.86	30.09	31.11	37.27	31.14	34.11
Punjab	27.83	27.03	25.47	35.36	27.15	26.84	34.61	30.16	31.90	47.29	29.13	49.48
Central Provinces	27.43	29.98	34.56	27.30	34.22	33.24	32.70	28.70	43.80	32.52	31.78	53.98
Lower Burma	15.75	16.14	14.67	18.95	19.89	15.54	16.18	23.40	17.07	17.40	16.22	20.00
Assam	16.04	25.85	27.15	29.37	27.91	27.77	24.52	27.98	30.70	29.04	29.91	34.21
Hyderabad Assigned Districts...	29.15	29.36	51.36	24.64	34.05	36.71	45.33	24.75	42.57	35.50	33.17	28.91
											44.10	31.34

N.B.—The figures in italics in the columns for 1891 and 1892 are the ratios calculated, as are the ratios for the other years shown, on the population in 1881.

Current No. 1903

Public DEPARTMENT.

From J

The Govt of India
Home Dept (Sanitary)

No. 2. Sanitary
106-117.

Dated 18/6

Received 27/6 } 1894

Enclosures 7. S.C. of this current.

SUBJECT.

Forwarding its Resolution
regarding improvement
in the registration & reporting
of births and deaths throughout
India.

Pub go. 1167 7/14-6-83 Ac
1166 7/14-6-83 Ac
1169-207/18-10-81 Ac
508 7/9-4-81 Ac
2747 28-2-81 Ac

Hand

Order 3 July 1894. No. 47

Copies of the Resolu-
tion will be forwarded
to the Board of Revenue
the Surgeon General
and the Sanitary
Comm. for early remark

J.B.
29/6

18
27/7/94

Bd of Rev
Surgeon Gen
Sanitary Comm
3 A.C. (Recd)
DESPATCHED
7 JUL 94
MS

Home Dept (H.C.)

[Ref.]
15,00

Public

DEPARTMENT.

Paper taken out of the Records from the charge of the Referencer.

Press
Miscellaneous
Routine No 477, dated 3-7-94 190

Date taken out.	FOR WHAT PURPOSE.			Initials of clerk taking the paper or of attender.	Date returned.	Initials of attender.
	Department.	C. No.	Year.			
15/1/07	Rev	1178			7-4-08	16
8/12/10	Public	6325				
	Mr Re	2617	10		3-2-10	100
8/9/15	Pub Supdt				26-10-15	11
2-3-17	Mr	834	17		15-4-17	11
13-11-20	Mr	4624	20		16-12-20	11

[illegible]

TRAVEL ORDER

Statement I.

Provinces in British India.	Total population according to the Census of 1881.	Total population according to the Census of 1891.	Actual increase of population in 1891 according to the Census.	Increase per mille in population in 1891 since 1881 according to the Census.	Total number of births registered during the years 1881-90.	Total number of deaths registered during the years 1881-90.	Actual increase obtained by deducting deaths registered from births registered during 1881-90.	Increase per mille on Census population in accordance with results of births and deaths registered during 1881-90.	Difference between columns 8 and 9.
	2	3	4	5	6	7	8	9	10
Madras	30,827,113	35,630,440	4,803,327	155.82	8,243,165	5,811,385	2,431,780	78.88	76.94
Bombay (excluding Aden)	16,471,107	18,857,044	2,385,937	144.86	5,646,001	4,313,729	1,332,272	80.89	63.97
Bengal	66,750,520	71,346,987	4,596,467	68.86	436,289	14,467,685	-14,031,396	-210.21	-279.06
North-Western Provinces and Oudh	44,107,869	46,905,085	2,797,216	63.42	17,423,357	14,462,639	2,960,718	67.12	-3.7
Punjab	18,843,186	20,866,847	2,023,661	107.39	7,338,003	5,857,545	1,480,458	78.56	28.83
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Lower Burma	3,736,771	4,658,627	921,856	246.7	825,641	640,104	185,537	49.65	197.05
Assam	4,881,426	5,476,833	595,407	121.97	1,133,584	1,120,007	13,577	2.78	119.19
Hyderabad Assigned Districts	2,672,673	2,897,491	224,818	84.12	1,070,798	928,106	142,692	53.39	30.73
Total (excluding Bengal)*	131,378,936	146,076,661	14,697,725	111.87	45,275,422	35,993,415	9,282,007	70.65	41.22

* As births were not registered outside towns during the decade.

years ago owing to the depletion of large tracts by famine prior to 1881. In other Provinces where the increase of population in 1891 was found to be below the average for the whole Empire, it was not to be expected that the highest ratios would be maintained. It seems to His Excellency in Council, nevertheless, that where there are considerable variations and decreases, such as have been pointed out, it behoves the local authorities to endeavour to arrive at the real explanation of them.

10. The ratios of deaths show considerably more improvement generally than those of births. There have been no extensive famines or epidemics during the period under review, and the Government of India consider that the figures demonstrate that a distinct advance is being made in the registration of mortality throughout the country. Still, in many Provinces, it is evidently far from approaching the truth. The Punjab has the highest figure of late years, *viz.*, 49.48 in 1892, which is known to have been a particularly unhealthy year, but the ratio in the previous year was only 21.13; in the years 1881-1886 the death-rate in that Province was shown much below what it must have been. The Hyderabad Assigned Districts showed the highest figure of all (51.36) in 1883; but the ratio for the next year was returned at 24.4, and for the last five years in the table the ratios have been 24.75, 42.57, 35.0, 40.68 and 28.91, exhibiting variations for which the Government of India are unable to find a sufficient explanation. In the North-Western Provinces and Oudh and the Central Provinces the death ratios are fairly high; in the former Provinces they are tolerably well-sustained, whilst in the latter they are somewhat variable. In Bombay they have fluctuated, but have on the whole improved. In Madras they were lower in the early years of the period than elsewhere (except in Lower Burma), and have improved little since. In Bengal the figures are still low, but there are signs of improvement. In Assam the ratios have risen not very irregularly from 16.04 in 1881 to 34.21 in 1892; but as the Census Superintendent estimates the death-rate amongst the large number of newly-arrived immigrants at more than 40 per mille per annum, it seems that the increase is to some extent due to these people. In Lower Burma the ratios for deaths, like those for birth, are the worst in all India; and they do not show much improvement.

11. On the whole, after making allowances for the different considerations set out in the preceding paragraphs, the Government of India consider that the figures in the statements appended to this Resolution show that there has been since 1881 a gradual, if slight, improvement in the registration of both births and deaths throughout the area in which they are registered. The Governor General in Council is, however, of opinion that a much greater improvement is to be expected, especially in the larger Provinces of Madras, Bombay and Bengal, and in Burma. The success which has been attained in some parts of India, compared with the failure in others, shows that the problem of accurate registration is not insoluble when sustained attention is devoted to it. His Excellency in Council accordingly, in view of the great importance of the subject, desires each Local Government to consider carefully its existing machinery for the collection and collation of these statistics, and to report what improvements are possible, and how it is proposed to give effect to them. The Government of India fully appreciate the difficulties which surround the subject, but they trust that Local Governments will recognize, in consideration of the improvements which have taken place, especially in some Provinces, that the time has come to endeavour to remove, as far as possible, the former untrustworthiness of these returns, which, when fairly accurate, will be of the greatest value to all concerned in the administration of the country.

ORDER.—Ordered, that a copy of this Resolution be forwarded to Local Governments and Administrations for information and guidance, and that a copy be communicated to the Sanitary Commissioner with the Government of India for information.

(True Extract.)

C. J. LYALL,

Secretary to the Government of India.

5. Nevertheless, it appears to the Governor General in Council that a comparison of the results of the registration of births and deaths of each Province with the Census figures and with the results in other Provinces can be made with sufficient accuracy to indicate generally where there has been progress or retrogression in registration. The appended Statement I compares the figures obtained by the Censuses of 1881 and 1891 with the numbers of births and deaths registered during the decade in each Province. Statements II (a) and (b) show Provincial birth and death ratios per mille deduced from the number of registrations for each year from 1881 to 1892, inclusive.

6. The Census Reports show that the Provinces which have gained by immigration are Assam, Lower Burma, the Punjab, Bombay, the Central Provinces and Berar; and the Provinces which have lost by emigration are Bengal, Madras and the North-Western Provinces and Oudh. Assam is estimated to have gained nearly 400,000 persons during the decade, most of whom were adults and 42 per cent. of whom were women; probably about 80,000 of this number died in the country during the ten years in question. During the ten years 1881-90 some 132,000 persons (of whom only about 20 per cent. were women), it is estimated, emigrated from India to Lower Burma, and of these probably about 23,000 died during the decade. Besides these immigrants, there was a very large exodus from Upper Burma before the war in 1885-86, in which the women probably equalled the men. It is not possible from the Census figures to estimate the gain on account of immigration from Upper Burma to Lower Burma, as the tables of the enumeration of 1891 do not show the figures separately for the two parts of the Province; it is likely, however, that of late years a large number of the immigrants from Upper Burma have returned to their previous homes. The Punjab Census Superintendent says that by a rough guess it may be taken that there was a total gain during the ten years to his Province of about 200,000 persons; he surmises that a considerable proportion of this number was due to the marriage of Punjabi husbands with wives from the North-Western Provinces and Oudh, but that on the whole the majority of the immigrants were males. The Census Superintendent for Bombay estimates that in 1891 there was a gain by that Presidency since 1881 on the balance of immigration and emigration of some 108,000 persons, of whom about 33 per cent. were women; this does not include the number of immigrants who died during the decennium. The Census Report of the Central Provinces shows that, exclusive of the immigrants who died between 1881 and 1891, there was a net gain of over 30,000 persons by immigration; the Central Provinces lost some 164,000 persons, amongst whom women were to men as 7 to 5, to Berar; these provinces, on the other hand, gained some 110,000 persons from the North-Western Provinces and Oudh, of whom only about one-third were women, and about 74,000 from the Central India States, amongst whom women were to men as 994 to 1000. The Hyderabad Assigned Districts gained on immigrants from the Central Provinces and lost on emigrants to the Nizam's Dominions; the net result being a gain of about 15,000, not including those who had died, in which the females probably slightly exceeded the males. The net loss of population caused by emigration in Bengal during the decade is estimated by the Superintendent at 37,527, of whom he says a little more than one-third were females; the emigration was chiefly to Assam and Burma. In Madras it is reported that the Province lost on the balance of immigration and emigration some 250,000 persons by sea and 50,000 by land; the proportion of women is not given, but it appears that a very large part of the emigrants were adult males. The Census Superintendent of the North-Western Provinces and Oudh estimates that during the decade 2,985 persons, of whom only 80,745 were women, emigrated from those Provinces in excess of those who came into them; he adds that a very large proportion of the emigrants were adults.

The first effect to be noticed of immigration or emigration during a decade between two censuses upon birth and death ratios is that, as no addition or deduction is made on this account to or from the population upon which the ratios are calculated, immigration to a Province causes the ratios to be somewhat higher than they otherwise would be, whilst in Provinces where there is a balance of emigration the reverse is the case. Then the real effect of immigration or emigration upon births and deaths depends not only upon the number of immigrants or emigrants, but upon their ages and sexes. Thus, when the immigrants to a Province are mostly adults, they should die at a rate very much less than the normal rate for persons of

all ages; but, for the reason given above, every death amongst them, if reported, will increase the death ratio of the Province until the next Census is taken; after that, they would tend to bring the ratio below the normal. The converse is the case in a Province from which there is emigration. As regards births amongst immigrants, the numbers will depend chiefly on the women of the reproductive ages; every birth reported amongst them will, however, increase the ratio of the Province until the next Census is taken; after that the ratio of the Province for births will be increased or decreased according to the proportion and ages of females amongst the immigrants. The effect of the emigration of a considerable number of adult males from a Province would seem to be to decrease the number of births in that Province slightly and for a short time only.

7. Broadly, after making such allowances as are possible on account of immigration and emigration, it appears from Statement I that in the North-Western Provinces and Oudh the registration of births and deaths is performed with an approach to accuracy, whilst in the Central Provinces, the Punjab and the Hyderabad Assigned Districts the work is fairly well done. Bombay, Madras and Assam come a long way after the Provinces named as regards the sufficiency of the returns. The figures for Burma show that there has been very great inaccuracy in that Province. As regards Bengal, the circumstances are peculiar: no village agency exists in that Province, and for this reason, until 1892, births were not registered outside towns.

8. In Statement II the ratios have been calculated not upon the total population of the Province, but upon the population returned in the different Sanitary Reports as under registration. The ratios for the years 1881-90 are calculated upon the Census of 1881 of the areas under registration; the ratios for the years 1891 and 1892 are calculated on the Census of 1891 of those areas, with the ratios according to the previous Census shown in italics below them. The Census of 1891 shows that there has been a general increase in the population of India since 1881, which is estimated by the Census Commissioner for India (page 73 of his Report) at an annual rate of 30 per mille in British India. So that, even if the registration of births and deaths were uniform in accuracy throughout the period under review, this increase of population would cause an annual ascent in the ratios till the following Census as they were calculated on a population less than actually existed during the greater part of the decade. It has been suggested more than once that the ratios should be calculated each year upon the population as found at the last Census, plus an assumed annual increase, as is done in England and some European countries; but the Government of India and the Secretary of State are of opinion that this cannot usefully be done until at least another Census has been taken and data extending over a sufficient number of years are obtained.

9. The Census Commissioner for India estimates from the age returns (pages 61 and 282 of his Report) that for the whole of India the average annual birth-rate reaches nearly 48 per mille and the death-rate about 41 per mille. The ratios in Statement II are throughout considerably below these figures. There the ratios for births are highest in the Hyderabad Assigned Districts and the Central Provinces. In the Central Provinces, however, they show some falling off towards the end of the period under review. In the North-Western Provinces and Oudh, where the figures were high at the beginning of the period, there has been retrogression rather than advance, the ratio 43.78 in 1884 declining to 33.26 in 1891. In the Punjab there is a want of sustained improvement; no year since 1884 has reached the figure (42.98) attained in that year, and in 1891 the ratio fell to 34.02. In the Bombay Presidency there has been a fairly-sustained rise. In Madras the increase has been slight and not well maintained. In Bengal, where, as the figures are for municipalities only, greater accuracy should have been found than elsewhere, the ratios are not only behind those of the other large Provinces, but have during the last seven years shown, except 1892, been retrogressive. Assam shows a well-sustained improvement, but this is probably due largely to the increasing number of male and female immigrants of the reproductive ages who come into the Province every year. In Burma there has been some improvement; yet the figures are still the worst in the whole of India. The Governor General in Council is well aware that the true birth-rate throughout India is not constant, and that in the Provinces of Madras and Bombay, as remarked by the Census Commissioners, a special stimulus was given to it some

years ago owing to the depletion of large tracts by famine prior to 1881. In other Provinces where the increase of population in 1891 was found to be below the average for the whole Empire, it was not to be expected that the highest ratios would be maintained. It seems to His Excellency in Council, nevertheless, that where there are considerable variations and decreases, such as have been pointed out, it behoves the local authorities to endeavour to arrive at the real explanation of them.

10. The ratios of deaths show considerably more improvement generally than those of births. There have been no extensive famines or epidemics during the period under review, and the Government of India consider that the figures demonstrate that a distinct advance is being made in the registration of mortality throughout the country. Still, in many Provinces, it is evidently far from approaching the truth. The Punjab has the highest figure of late years, *viz.*, 49.48 in 1892, which is known to have been a particularly unhealthy year, but the ratio in the previous year was only 21.13; in the years 1881-1886 the death-rate in that Province was shown much below what it must have been. The Hyderabad Assigned Districts showed the highest figure of all (51.36) in 1883; but the ratio for the next year was returned at 24.4, and for the last five years in the table the ratios have been 24.75, 42.57, 35.0, 40.68 and 28.91, exhibiting variations for which the Government of India are unable to find a sufficient explanation. In the North-Western Provinces and Oudh and the Central Provinces the death ratios are fairly high; in the former Provinces they are tolerably well-sustained, whilst in the latter they are somewhat variable. In Bombay they have fluctuated, but have on the whole improved. In Madras they were lower in the early years of the period than elsewhere (except in Lower Burma), and have improved little since. In Bengal the figures are still low, but there are signs of improvement. In Assam the ratios have risen not very irregularly from 16.04 in 1881 to 34.21 in 1892; but as the Census Superintendent estimates the death-rate amongst the large number of newly-arrived immigrants at more than 40 per mille per annum, it seems that the increase is to some extent due to these people. In Lower Burma the ratios for deaths, like those for births, are the worst in all India; and they do not show much improvement.

11. On the whole, after making allowances for the different considerations set out in the preceding paragraphs, the Government of India consider that the figures in the statements appended to this Resolution show that there has been since 1881 a gradual, if slight, improvement in the registration of both births and deaths throughout the areas in which they are registered. The Governor General in Council is, however, of opinion that a much greater improvement is to be expected, especially in the larger Provinces of Madras, Bombay and Bengal, and in Burma. The success which has been attained in some parts of India, compared with the failure in others, shows that the problem of accurate registration is not insoluble when sustained attention is devoted to it. His Excellency in Council accordingly, in view of the great importance of the subject, desires each Local Government to consider carefully its existing machinery for the collection and collation of these statistics, and to report what improvements are possible, and how it is proposed to give effect to them. The Government of India fully appreciate the difficulties which surround the subject, but they trust that Local Governments will recognise, in consideration of the improvements which have taken place, especially in some Provinces, that the time has come to endeavour to remove, as far as possible, the former untrustworthiness of these returns, which, when fairly accurate, will be of the greatest value to all concerned in the administration of the country.

ORDER.—Ordered, that a copy of this Resolution be forwarded to Local Governments and Administrations for information and guidance, and that a copy be communicated to the Sanitary Commissioner with the Government of India for information.

(True Extract.)

C. J. LYALL,

Secretary to the Government of India.

No. 25.

Extract from the Proceedings of the Government of India in the Home Department (Sanitary),—under date Simla 18th June 1894.

READ again—

Home Department Circular letter No. 1—17 dated the 26th January 1881, to all Local Governments and Administrations forwarding an extract from the Report of the Indian Famine Commission on subject of the registration of vital statistics.

Home Department Resolutions Nos. 8—285, dated the 10th August 1882, and Nos. 9—333-344, dated the 15th September 1882, explaining the views of the Government of India upon the subject.

RESOLUTION.

THE Famine Commissioners in their Report of 1880 laid much stress upon the necessity for improvement in the registration and reporting of births and deaths throughout the country as a means of testing condition of the people and the progress of epidemics by indicating the localities of the severest pressure from want and from the diseases that accompany and follow upon want. The Government of India pointed out that both famine and pestilence should be known to the District Officers long before they can be put in possession of any figures of vital statistics calculated to reveal the existence of either, but that the punctual collection and early collation of vital statistics are of the utmost importance in enabling those responsible for the administration of the country to use them as tests of the general information which the local officers acquire in other ways and as aids in forming a correct estimate of the areas affected by calamity and of the growing intensity of famine or disease.

2. The Famine Commissioners advised at the propriety of making the registration of births and deaths legally obligatory in villages as well as in towns should be considered by the Government of each Province, and that, if it were found practicable to make it obligatory, this should be done. The Government of India, however, agreed with the general opinion of the Local Governments and Administrations that the extra-municipal villages and outlying tracts were not yet ripe for a compulsory system, and that the development of registration upon existing lines should be awaited.

3. The Government of India have every year devoted considerable attention to the subject in reviewing the annual sanitary reports of the different Local Governments and Administrations, but it seems to the Governor General in Council that, as the reports of the Census of 1891 have now been before the public for some time, the present is a suitable opportunity for reviewing generally the work done in registering births and deaths since the issue of the Resolutions quoted in the preamble, by a comparison of the results so obtained with the figures furnished by the Census.

4. The population at the end of any period is equal to the population at the beginning of the period, plus the gain by births and immigration, minus the loss by deaths and emigration. Thus the rest of the number of births registered in 1881-90, less the number of deaths registered in those years, together with the addition or defect due to the balance of immigration or emigration, should, when conjoined with the figures of the Census of 1881, agree with the figures of the Census of 1891. The test is not, however, a perfect one, as an error giving an excessive number of births or immigrants may be obscured by another error giving a corresponding deficiency of deaths or emigrants. Moreover, the area in which births and deaths are registered is less than the whole area for which the Census is taken, and has changed somewhat from year to year, so that the figures are not exactly comparable. Again, it has not been found possible to determine accurately the number of immigrants and emigrants who have come into or left the different Provinces during the decade; in most Provinces this is ascertainable only as an inference from the Census figures showing persons born out of the Province who were enumerated in it on the Census night.

5. Nevertheless, it appears to the Governor General in Council that a comparison of the results of the registration of births and deaths of each Province with the Census figures and with the results of other Provinces can be made with sufficient accuracy to indicate generally where there has been progress or retrogression in registration. The appended Statement I compares the figures obtained by the Censuses of 1881 and 1891 with numbers of births and deaths registered during the decade in each Province. Statements II (a) and (b) show Provincial birth and death ratios per mille deduced from the number of registrations for each year from 1881 to 1892, inclusive.

6. The Census Reports show that the Provinces which have gained by immigration are Assam, Lower Burma, Punjab, Bombay, the Central Provinces and Berar; and the Provinces which have lost by emigration are Bengal, Madras and the North-Western Provinces and Oudh. Assam is estimated to have gained nearly 400,000 persons during the decade, most of whom were adults and 42 per cent. of whom were women; probably about 80,000 of this number died in the country during the ten years' immigration. During the ten years 1881-90 some 132,000 persons (of whom about 20 per cent. were women), it is estimated, emigrated from India to Lower Burma, and of these probably about 23,000 died during the decade. Besides the immigrants, there was a very large exodus from Upper Burma before the war 1885-86, in which the women probably equalled the men. It is not possible from the Census figures to estimate the gain on account of immigration from Upper Burma to Lower Burma, as the tables of the enumeration of 1891 do not show the figures separately for the two parts of the Province; it is likely, however, that of late years a large number of the immigrants from Upper Burma have returned to their previous homes. The Punjab Census Superintendent says that by a rough guess it may be taken that there was a total gain during the decade to his Province of about 200,000 persons; he surmises that a considerable proportion of this number was due to the marriage of Punjabi husbands with wives from the North-Western Provinces and Oudh, but that on the whole the majority of the immigrants were males. The Census Superintendent for Bombay estimates that in 1891 there was a gain by that Presidency since 1881 on the balance of immigration and emigration of some 108,000 persons, of whom about 33 per cent. were women; this does not include the number of immigrants who died during the decennium. The Census Report of the Central Provinces shows that exclusive of the immigrants who died between 1881 and 1891, there was a net gain of over 30,000 persons by immigration; the Central Provinces lost 164,000 persons, amongst whom women were to men as 7 to 5, to Berar; the Provinces, on the other hand, gained some 110,000 persons from the North-Western Provinces and Oudh, of whom only about one-third were women, and about 7,000 from the Central India States, amongst whom women were to men as 994 to 1,000. The Hyderabad Assigned Districts gained on immigrants from the Central Provinces and lost on emigrants to the Nizam's Dominions; the net result being a gain of about 15,000, not including those who had died, in which the females probably slightly exceeded the males. The net loss of population caused by emigration in Bengal during the decade is estimated by the Superintendent at 27,527, of whom he says a little more than one-third were females; the emigration was chiefly to Assam and Burma. In Madras it is reported that the Province lost on the balance of immigration and emigration some 250,000 persons by sea and 50,000 by land; the proportion of women is not given, but it appears that a very large part of the emigrants were adult males. The Census Superintendent of the North-Western Provinces and Oudh estimates that during the decade 232,985 persons, of whom only 80,745 were women, emigrated from those Provinces in excess of those who came into them; he adds that a very large proportion of the emigrants were adults.

The first effect to be noticed of immigration or emigration during a decade between two censuses upon birth and death ratios is that, as no addition or deduction is made on this account to or from the population upon which the ratios are calculated, immigration to a Province causes the ratios to be somewhat higher than they otherwise would be, whilst in Provinces where there is a balance of emigration the reverse is the case. Then the real effect of immigration or emigration upon births and deaths depends not only upon the number of immigrants or emigrants, but upon their ages and sexes. Thus, when the immigrants to a Province are mostly adults, they should die at a rate very much less than the normal rate for persons of

all ages; but, for the reason given above, even death amongst them, if reported, will increase the death ratio of the Province the next Census is taken; after that, they would tend to bring the ratio below normal. The converse is the case in a Province from which there is emigration. As regards births amongst immigrants, the numbers will depend chiefly on the women of the reproductive ages; every birth reported amongst them, however, increases the ratio of the Province until the next Census is taken, that the ratio of the Province for births will be increased or decreased according to the proportion and ages of females amongst the immigrants. The effect of the emigration of a considerable number of adult males from a Province would be to decrease the number of births in that Province slightly and for a time only.

7. Broadly, after making such allowances as are possible on account of immigration and emigration, it appears from Statement I that in the North-Western Provinces and Oudh the registration of births and deaths is performed with an approach to accuracy, whilst in the Central Provinces, the Punjab and the Hyderabad Assigned Districts the work is fairly done. Bombay, Madras and Assam come a long way after the Provinces as regards the sufficiency of the returns. The figures for Burma show there has been very great inaccuracy in that Province. As regards Bengal, circumstances are peculiar: no village agency exists in that Province, and for this reason, until 1892, births were not registered outside towns.

8. In Statement II the ratios have been calculated not upon the total population of the Province, but upon the population returned in the different Sanitary Reports as under registration. The ratios for the years 1881-90 are calculated upon the Census of 1881 of the population under registration; the ratios for the years 1891 and 1892 are calculated upon the Census of 1891 of those areas, with the ratios according to the previous census shown in italics below them. The Census of 1891 shows that there has been a general increase in the population of India since 1881, which is estimated by the Census Commissioner for India (page 73 of his Report) at an annual rate of 5 per mille in British India. So that, even if the registration of births and deaths were uniform in accuracy throughout the period under review, this increase of population would cause an annual ascent in the ratios till the following Census, they were calculated on a population less than actually existed during the greater part of the decade. It has been suggested more than once that the ratios should be calculated each year upon the population as found at the last Census, plus assumed annual increase, as is done in England and some European countries, but the Government of India and the Secretary of State are of opinion that this cannot usefully be done until at least another Census has been taken and data extending over a sufficient number of years are obtained.

9. The Census Commissioner for India estimates from the age returns (pages 61 and 282 of his Report) that for the whole of India the average annual birth-rate reaches nearly 48 per mille and the death-rate about 41 per mille. The ratios in Statement II are throughout considerably below these figures. There the ratios for births are highest in the Hyderabad Assigned Districts and the Central Provinces. In the Central Provinces, however, they show some falling off towards the end of the period under review. In the North-Western Provinces and Oudh, where the figures were high at the beginning of the period, there has been retrogression rather than advance, the ratio 43.78 in 1884 declining to 33.26 in 1891. In the Punjab there is a want of sustained improvement; no year since 1884 has reached the figure (42.98) attained in that year, and in 1891 the ratio fell to 34.02. In the Bombay Presidency there has been a fairly-sustained rise. In Madras the increase has been slight and not well maintained. In Bengal, where, as the figures are for municipalities only, greater accuracy should have been found than elsewhere, the ratios are not only behind those of the other large Provinces, but have during the last seven years shown, except 1892, been retrogressive. Assam shows a well-sustained improvement, but this is probably due largely to the increasing number of male and female immigrants of the reproductive ages who come into the Province every year. In Burma there has been some improvement; yet the figures are still the worst in the whole of India. The Governor General in Council is well aware that the true birth-rate throughout India is not constant, and that in the Provinces of Madras and Bombay, as remarked by the Census Commissioners, a special stimulus was given to it some

years ago owing to the depletion of tracts by famine prior to 1881. In other Provinces where the increase of population in 1891 was found to be below the average for the whole Empire it was not to be expected that the highest ratios would be maintained. It seems to His Excellency in Council, nevertheless, that where there are considerable variations and decreases, such as have been pointed out, it behoves the authorities to endeavour to arrive at the real explanation of them.

10. The ratios of deaths show considerably more improvement generally than those of births. There have been extensive famines or epidemics during the period under review, and the Government of India consider that the figures demonstrate that a distinct advance has been made in the registration of mortality throughout the country. Still, in many Provinces, it is evidently far from approaching the truth. The Punjab has the highest figure of late years, *viz.*, 49.48 in 1892, which is known to have been a particularly unhealthy year, but the ratio in the previous year was only 43; in the years 1881-1886 the death-rate in that Province was shown much better than it must have been. The Hyderabad Assigned Districts showed the highest figure of all (51.36) in 1883; but the ratio for the next year was returned at 24 and for the last five years in the table the ratios have been 24.75, 42.57, 34.06, 28.91, exhibiting variations for which the Government of India are unable to find a sufficient explanation. In the North-Western Provinces and Oudh the Central Provinces the death ratios are fairly high; in the former Province they are tolerably well-sustained, whilst in the latter they are somewhat variable. In Bombay they have fluctuated, but have on the whole improved. In Madras were lower in the early years of the period than elsewhere (except in Lower Burma), and have improved little since. In Bengal the figures are still low, but there are signs of improvement. In Assam the ratios have risen not very irregularly from 16.04 in 1881 to 34.21 in 1892; but as the Census Superintendent estimates the death-rate amongst the large number of newly-arrived immigrants at more than 40 per mille per annum, it seems that the increase is to some extent due to these people. In Lower Burma the ratios for deaths, like those for births, are the worst in all India; and they do not show much improvement.

11. On the whole, after making allowances for the different considerations set out in the preceding paragraphs, the Government of India consider that the figures in the statements appended to this Resolution show that there has been since 1881 a gradual, if slight improvement in the registration of both births and deaths throughout the area in which they are registered. The Governor General in Council is, however, of opinion that a much greater improvement is to be expected, especially in the larger Provinces of Madras, Bombay and Bengal, and in Burma. The success which has been attained in some parts of India, compared with the failure in others, shows that the problem of accurate registration is not insoluble when sustained attention is devoted to it. His Excellency in Council accordingly, in view of the great importance of the subject, desires each Local Government to consider carefully its existing machinery for the collection and collation of these statistics, and to report what improvements are possible, and how it is proposed to give effect to them. The Government of India fully appreciate the difficulties which surround the subject, but they trust that Local Governments will recognize, in consideration of the improvements which have taken place, especially in some Provinces, that the time has come to endeavour to remove, as far as possible, the former untrustworthiness of these returns, which, when fairly accurate, will be of the greatest value to all concerned in the administration of the country.

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(True Extract.)

C. J. LYALL,
Secretary to the Government of India.

Statement I.

Provinces in British India.										
	Total population according to the Census of 1881.	Total population according to the Census of 1891.	Actual increase of population in 1891 since 1881 according to the Census.	Increase per mille in population in 1891 since 1881 according to the Census.	Total number of births registered during the years 1881-90.	Total number of deaths registered during the years 1881-90.	Actual increase obtained by deducting deaths registered from births registered during 1881-90.	Increase per mille on Census population in 1891 according to results of births and deaths registered during 1881-90.	Difference between columns 9 and 10.	
	1	2	3	4	5	6	7	8	9	10
Madras	...	30,827,113	35,630,440	4,803,327	155.82	8,243,165	5,811,385	2,431,780	78.88	76.94
Bombay (excluding Aden)	...	16,471,107	18,857,044	2,385,937	144.86	5,646,001	4,315,729	1,330,272	80.89	63.97
Bengal	...	66,750,520	71,346,987	4,596,467	68.86	436,289	14,467,685	-14,031,396	-210.21	-279.06
North-Western Provinces and Oudh	...	44,107,889	20,866,847	2,023,661	107.39	7,338,003	5,857,545	1,480,458	78.56	28.83
Punjab	...	18,843,186	10,784,294	945,503	96.1	3,594,873	2,859,900	734,973	74.70	21.40
Central Provinces	...	9,838,791	4,658,627	921,856	246.7	825,641	640,104	185,537	49.65	197.05
Lower Burma	...	3,736,771	5,476,833	595,407	121.97	1,133,584	1,120,007	13,577	2.78	119.19
Assam	...	4,881,426	2,897,491	224,818	84.12	1,070,798	928,106	142,692	53.39	30.73
Hyderabad Assigned Districts	...	2,672,673	2,897,491	224,818	84.12	1,070,798	928,106	142,692	53.39	30.73
Total (excluding Bengal)*	...	131,378,936	146,076,661	14,697,725	111.87	45,275,422	35,993,415	9,282,007	70.65	41.22

* As births were not registered outside towns during the decade.

Statement II (a).

Provincial Birth-rates, 1881 to 1892.
(Calculated upon the population of the areas under registration.)

Provinces in British India.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.
Madras	...	25.52	27.18	28.78	28.70	29.85	30.44	29.92	30.93	31.33	27.44	25.08
Bombay	...	27.94	30.50	32.50	34.79	35.34	38.18	38.57	36.49	38.96	32.43	29.64
Bengal*	...	25.52	22.08	23.52	24.71	21.04	19.36	20.63	22.77	21.54	41.40	34.37
North-Western Provinces and Oudh.	40.34	37.55	40.84	43.72	41.25	37.62	38.74	38.26	36.94	39.70	23.42	28.15
Punjab†	...	37.25	39.35	43.37	39.19	39.82	39.23	37.05	40.64	39.43	33.26	36.17
Central Provinces	...	41.21	40.59	41.75	45.36	37.79	40.21	41.52	39.30	38.41	37.11	41.63
Lower Burma	...	19.98‡	22.92	22.66	25.51	22.57	21.74	23.91	21.16	23.20	43.09	38.39
Assam	...	19.20§	23.91	26.61	27.96	27.55	28.60	31.62	31.20	30.56	28.59	41.37
Hyderabad Assigned Districts...	39.89	42.00	40.27	41.34	42.88	37.35	40.51	41.36	39.60	42.53	31.70	24.83
											42.87	30.67
											44.09	31.05
											34.44	34.44
											40.01	40.01
											41.34	41.34

* Births registered only in certain municipal towns.
† Excluding the population of Military Cantonments.
‡ Excluding two districts (Aracan and Salween Hill tracts).
§ Excluding Sylhet and Cachar.

N.B.—The figures in Italics in the columns for 1891 and 1892 are the ratios calculated, as are the ratios for the other years shown, on the population in 1881.

Statement II (b).

Provincial Death-rates from 1881 to 1892.
(Calculated upon the population of the areas under registration.)

Provinces in British India.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.
Madras	16.24	16.29	19.01	23.10	21.89	19.75	21.67	21.43	23.57	22.80	22.19	22.28
Bombay	23.18	20.87	25.54	24.82	28.78	23.17	27.67	28.44	31.52	28.18	26.22	26.33
Bengal	20.97	20.42	18.83	20.81	22.74	22.00	23.46	22.95	24.26	24.48	27.26	32.50
North-Western Provinces and Oudh.	31.80	33.67	27.58	35.26	31.98	33.27	35.86	30.09	31.11	37.27	31.14	37.18
											34.12	31.93
											34.11	34.11
											33.12	36.28
Central Provinces	27.43	29.98	34.56	27.30	34.22	33.24	32.70	28.70	43.80	32.52	32.98	34.14
Lower Burma	15.75	16.14	14.67	18.95	19.89	15.54	16.18	23.40	17.07	17.40	35.54	36.79
Assam	16.04	23.95	27.15	20.37	27.91	27.77	24.52	27.98	30.70	29.64	20.03	20.00
Hyderabad Assigned Districts...	29.15	29.36	51.36	21.64	34.05	36.71	45.33	24.75	42.57	35.50	29.91	24.70
											33.17	34.21
											40.68	37.95
											28.91	28.91
											44.10	31.34

N.B.—The figures in Italics in the columns for 1891 and 1892 are the ratios calculated, as are the ratios for the other years shown, on the population in 1881.