The extent of sickness may be tested either by the number of cases admitted into hospital or the average proportion daily under treatment. The admission-rate was highest in Bombay, 1,588 per 1,000, the equivalent of 17,186 cases. In Bengal 55,274 gave a ratio of 1,514, and in Madras 15,670 gave 1,357. But the daily ratio of men in hospital followed the very reverse order. It was highest in Madras, 59; next highest in Bengal, 56; and lowest in Bombay, 50 per 1,000. The admission-rate in this province was very much the same as in 1871, and although somewhat higher than in three of the previous years, it was much more favourable than the average of the last ten. The daily sick-rate for Bengal, with the exception of 1867 and 1868, was slightly lower than it had ever been before. Taking a similar standard of comparison, the returns for Madras and Bombay are also favourable. In the Army of India as a whole there were 88,130 cases of sickness, or 1,497 per 1,000 of strength; 3,306 men on an average were always in hospital, or 56 out of every 6,000. In 1871, the only year with which comparison can be fully made, as the three provinces were then for the first time included in the statistics of the Annual Sanitary Report, the ratios were of admissions into hospital 1,449, and of daily sick 57—figures which vary wonderfully little from those of 1872.

In all the three provinces fevers classed under the two designations of "intermittent" and "remittent" and continued" head the list as the chief forms of sickness. In both Bengal and Madras venereal diseases come next, but in Bombay the second place is taken by dengue and venereal affections come third. Taking the 10 varieties of sickness which mainly contribute to make up the admission-rate in each province, the results are as follow:—

BENGAL.		MADRAS.		BOMBAY.	
Admissions per 1,000.					
1. Malarial Fevers ...	495	Malarial Fevers ...	267	Malarial Fevers ..	611
2 Venereal Diseases ...	190	Venereal Diseases ...	164	Dengue ...	229
3. Dengue	110	Abscess and Ulcer ...	123	Venereal Diseases ..	154
4 Wounds and Accidents,	85	Wounds and Accidents	102	Abscess and Ulcer ..	92
5. Abscess and Ulcer ...	80	Dysentery	85	Wounds and Accidents	81
6. Diarrhœa	77	Dengue	82	Diarrhœa	68
7. Respiratory Diseases	75	Diarrhœa	70	Rheumatism ...	51
8. Rheumatism ...	64	Respiratory Diseases ...	64	Respiratory Diseases ...	48
9. Hepatitis	56	Hepatitis	59	Hepatitis	34
10. Dysentery	35	Rheumatism ...	49	Dysentery	34
Total	... 1,267	Total	... 1,071	Total	... 1,397

All these ten classes of sickness make up by far the greater proportion of the whole admission-rate of the year; in Bengal 1,267 out of 1,514; in Madras 1,071 out of 1,357; and in Bombay 1,397 out of 1,588. It addition to the points already noted, the comparative frequency of dysentery in Madras deserves attention. In that province this disease stands fifth in the above statement, while in the other two it comes last.

The diseases when arranged in the order in which they caused death follow a very different sequence. In each of the three provinces the ten chief causes of mortality stand as follow: —

Bengal.		Madras.		Bombay.	
Deaths per 1,000.					
1. Cholera ...	10·63	Hepatitis ...	3·29	Cholera ...	5·33
2. Hepatitis ...	2·36	Dysentery ...	2·77	Apoplexy ...	2·59
3. Fevers ...	1·78	Apoplexy ...	2·43	Enteric Fever	2·22
4. Dysentery ...	1·75	Enteric Fever ...	2·34	Hepatitis ...	1·86
5. Enteric Fever ...	1·62	Heart Disease ...	2·08	Phthisis Pulmonalis ...	1·36
6. Apoplexy ...	1·59	Phthisis Pulmonalis ...	1,65	Dysentery ...	[illegible]
7. Respiratory Diseases	1·32	Injuries	1·05	Injuries ...	[illegible]
8. Heart Disease ...	1·12	Fevers	·69	Heart Disease ...	·92
9. Injuries	1·09	Delirium Tremens ...	·35	Fevers	·74
10. Phthisis Pulmonalis	·98	Cholera	·17	Respiratory Diseases	·65
	24·27		16·82		16·17

In both Bengal and Bombay cholera caused the highest mortality. In the former the deaths from this disease far exceeded those under any of the other heads. Hepatitis stands first in Madras and second in Bengal, but it is fourth in Bombay. Dysentery, also, was more fatal in Madras than in either of the other two provinces. Enteric fever comes third in Bombay and fourth in Madras; in Bengal, it is fifth, but it occasioned the largest proportion of deaths in Madras. The ratios due to this disease are for Madras 2·34, for Bombay 2·22 and for Bengal 1·62 On the other hand, it is to be observed that the deaths recorded in Bengal as due to malarial fevers were 1·78, whereas in Madras they were only ·69 and in Bombay ·74. The ten diseases enumerated in each of the three provinces (and they are the same in all, with the exception that respiratory affections do not find a place in the Madras list, but are replaced by delirium tremens) account for nearly the whole of the deaths, for 24·27 out of 27·45 in Bengal; for 16·82 out of 18·98 in Madras and for 16·17 out of 18·86 in Bombay.

The hill stations of Bengal in 1872 yielded results much less favourable than usual. Except at Raneekhet there was no great sickness, but there, owing chiefly to the prevalence of venereal affec-

tions, of diarrhœa and respiratory diseases, the admissions into hospital equalled 1,194 and the sick-rate 69 per 1,000. The mortality also at this station was very heavy, or 37·58 per 1,000. There were 18 deaths, 7 of which were due to dysentery and 4 to enteric fever. Dugshaie, during 10 months' occupation, gives a death-rate of 27·66, a very marked contrast to the previous experience of this station. After an absence of many years cholera appeared here, and of the total of 26 deaths 20 were the result of this disease. At Subathoo and Chukrata which also experienced the influence of the epidemic, but in a very minor degree, the death-rate was under 8 per 1,000.

The strength of the troops in the hill stations was 3,379, but if the average during the seven months of the hot weather and rains, the season during which they are removed from the influences of the plains, be taken as the basis of calculation, the number is raised to 4,079. The total strength of men in the hill stations during this period of 1872 was thus 7,159 as shown in the following details :—

At Cherat	...	...	...	...	760
Hill stations	...	...	...	...	4,079
Hill Depôts	...	...	...	...	2,320
					7,159

or about a fifth of the whole force of 36,507 men forming the European Army of Bengal.

As to venereal disease the statements shew that in many stations good appears to have been done, and that with increased vigilance on the part of the authorities, the amount of disease had been materially reduced during the year. Others again shew unfavourable results. The statistics of the army in the Bengal Presidency, however, during 1872 indicate some improvement; the admissions per 1,000 equalled 190, compared with 208 in 1871.

In 1870, the admissions from primary syphilis and venereal affections other than secondary syphilis were in the proportion of 172 per 1,000. Those from secondary syphilis were 24 per 1,000. The comparison of 1872 with these results and with those of 1871 is satisfactory. Under every head there is a reduction. Primary syphilis fell from 73·3 to 61·9, Gonorrhœa from 96·1 to 87·2, other affections from 10·8 to 10·0, and the whole admissions from the diseases classed together in this group declined from 180·2 to 159·1. In secondary syphilitic affections, and also in the other diseases noted which are in great part of venereal origin, there was also a reduction.

The returns from Madras and Bombay yield nearly the same ratio for venereal affections as a whole, but primary syphilis was more prevalent in Madras than in Bombay. Both are more favourable than those of Bengal. The ratios of cases per 1,000 taken from the general tables are as follow:—Bengal 190, Madras 164, Bombay 154.

The report of the Army Medical Department for 1870 shows that in 14 stations of the United Kingdom in which the Contagious Diseases Act was in operation during the whole or very nearly the whole of the year, the cases of primary venereal sores per 1,000 of mean strength varied between 30 and 152. The average of the 14 was 65. In 14 other stations in which the Act was not in operation the proportion fluctuated between 43 and 160, the average being 90. Tried by this standard, the prevalence of venereal disease among British troops in India is not so great as might be expected; for the ratio of admissions from primary syphilis in the Bengal and Bombay Provinces during 1872 was less, and that in Madras no greater, than the ratio of admissions for 1870 in those stations of the United Kingdom in which the Act was in force.

For the Army as a whole, percentages of liability to deaths from all causes at the different periods stand thus:—Under 20 years, 8·17: 20—24 years, 23·51: 25—29 years, 26·28: 30 years and upwards, 42·04.

Marriage.—Of 812 staff sergeants in the army of India on 1st May 1872 there were 556 married, or 72·30 per cent. Of 2,801 sergeants there were 1,365 or 51·29 per cent. Of 56,412 rank and file there were only 4,867 married or 8·61 per cent. In all grades there were 6,788 married against 53,167 unmarried or 11·32 per cent.

Intemperance.—From Madras no return showing the extent of intemperate habits among the European troops has been received. In Bengal and Bombay, cases of drunkenness continued to be very numerous. In the former the total 11,779 compared with 11,750 in 1871: in the latter 4,552 compared with 4,643. In the Cavalry Regiments they vary from a minimum of 37 to a maximum of 258. In the Batteries from 6 in one to 136 in another of very nearly the same strength. In one Infantry Regiment the cases of drunkenness are returned as only 16; in another they are 861.

As to the *Invaliding* 2,438 men of the army in India were invalided, of whom 1,731 were recommended for change of climate

and 707 for discharge. The total loss under this head was 43·21 per 1,000—a ratio very nearly the same as that of 1871, in which it equalled 43·62. The proportion of the men sent home for change, and for discharge also, does not present any great difference, for of the total of 2,381 invalided in 1871, 1,692 are entered under the former head and 689 under the latter.

At the head of the causes to which invaliding was due stand Hepatitis, contributing a ratio of from 6·77 to 4·97 per 1,000. Next come Phthisis, secondary Syphilis and Rheumatism, which is no doubt often of venereal origin. From these two last causes 234 men were invalided during the year. Among the groups of diseases, heart affections and bowel complaints occupy a prominent place, and from general debility more men were considered unfit for service than from any other causes. The number returned under this one head is 442, equal to nearly ten per 1,000, or more than one-fifth of the whole invaliding of the year. The total loss due to death and invaliding in the three Provinces was as follows :—

	Per 1,000 of average strength.		
	Died.	Invalided.	Total loss.
Bengal	27·45	43·73	71·18
Madras	18·98	41·96	60·94
Bombay	18·86	42·46	61·32
India	24·21	43·21	67·42

In 1871 the total for Bengal was 65·36, for Madras 65·19, for Bombay 44·28 and for the Army as a whole 61·15.

Soldiers' Families.—Among soldiers' wives throughout India, representing a strength of 6,650, the admissions into hospital equalled 1,164, the daily sick 42, and the deaths 36·54 per 1,000. No comparison can be drawn between the extent of sickness among the women and that among the men, for women are frequently treated in their own quarters, or do not apply for medicine in the case of ailments which, though slight, would yet be sufficient to incapacitate a man for duty and so oblige him to go to hospital.

Of 11,657 children belonging to the European Regiments composing the Army of India 459 were daily sick and 1,155 died during the year. The ratios for admissions into hospital, daily sick and deaths were respectively 946·39 and 99·08. Of this mortality 10·12 was due to cholera. The epidemic prevalence of this disease in Bengal very materially affects the returns for this Province, but does not account by any means for the excessive death-rate as compared with Madras. In Bengal the deaths equalled 112·95 per 1,000, of which 16·61 were due to cholera. In Madras there was no death from this cause among the children, but the total ratio is only 68·36. In Bombay again the proportion is very high, 96·83, of which cholera contributed only 3·91. In all three provinces the results of 1872 were more unfavourable than in the year previous, in which the deaths among children in Bengal equalled 86·11, in Madras 50·12 and in Bombay 69·11. For the army of India as a whole, the ratio was 74·21 or nearly 25 per cent. under the ratio of 1872.

Officers.—The annual statement of deaths among officers of the British and Indian Armies, compiled in the Office of the Adjutant General of the Army, shows that among the former, out of a total strength of 1,785, there were in all 30 deaths equivalent to 16·80 per 1,000; and that among the latter, out of a total strength of 1,874, there were 27 deaths or 14·40. Both these ratios are somewhat higher than they were in 1871—15·01 for British and 12.23 for Indian Officers.

Sickness and Mortality of the Native Army.

Bengal.—As to the Regular Army in 1871, out of a total strength of 44,477, there were 792 deaths. In 1872, with a strength of 44,516, the deaths numbered 894. In the one year the death-rate was 17·81; in the other 20·08. The ratio of loss from death in 1872 was above the average of the period 1861-69, in which it equalled 18·25, but somewhat less than that of 1869, in which it stood at 20·41. The total death-rate of 1872, 20·08 per 1,000, varies much in the different groups. In Bengal Proper and Assam it was 29·81; in the Behar, Benares, Oudh and Cawnpore group it was only 16; in Rohilcund and Meerut, 24·86; in Agra and Central India there was a minimum of 14.56; and in the Punjab, a ratio of 17.01. The Irregular Force of Central

India furnished a total strength of 5,609, and among them, 75 deaths took place, 56 with their regiments and 20 more among absentees. The total mortality was only 13·55 per 1,000, a low ratio which is to be accounted for mainly by the fact that Central India to a great extent escaped cholera. In the Punjab Frontier Field Force the results are not so favourable. Here cholera added considerably to the death-rate, which amounted in all to 23·47 per 1,000, the equivalent of 289 deaths in a force of 12,314. As many sepoys who obtained sick leave die at their homes the mortality and sickness are somewhat understated.

Madras.—The strength of the Madras native Army was 31,233 on the last day of 1872. The invaliding and death-ratios of the army were :—

	Ratio per 1,000 of Strength.				
	1868.	1869.	1870.	1871.	1872.
Deaths	16·12	16·5	13·8	11·08	13·02
Invaliding	18·61	25·8	25·8	22·3	31·52

Bombay.—The strength was 26,299 and the loss of the year was—

By Invaliding 32·3 against 30·3 per thousand in 1871.
„ Deaths 12·9 „ 13·0 „ „

Summary for 1872.

The following detailed table by Dr. Bryden shows the sickness and mortality of European soldiers in Bengal, Madras and Bombay, and of the Sepoys and Jail population of Northern India alone—

Detail of the Admissions and Deaths of the European Army of India.

Causes of Admissions and Deaths.	Admitted into Hospital			
	Army of Bengal.		Army of Madras.	
	Strength ... 36,591 Admissions ... 54,513 Deaths ... 1,001		Strength ... 11,369 Admissions ... 15,139 Deaths ... 219	
	Admitted.	Died.	Admitted.	Died.
Cholera	589	389	2	2
Smallpox	25	7	18	2
Chickenpox	8	...	1	...
Measles	9	...	7	...
Mumps	8	...	5	...
Influenza	45	...	13	...
Dengue	3,949	...	916	...
Diphtheria	2	1	1	...
Scarlet Fever	2	1	3	...
Pyæmia	...	...	2	1
Hydrophobia	2	2	...	...
Erysipelas	77	5	11	1
Gangrene and Phagedæna ...	...	...	...	...
Enteric Fever	102	59	65	27
Intermittent Fever	13,142	4	1,486	...
Remittent and Continued Fevers.	4,871	61	1,549	8
Typhus Fever	...	...	...	...
Rheumatism, Acute... ...	549	1	109	...
,, Chronic ...	783	...	226	...
,, Muscular ...	537	...	106	...
Gout	6	...	...	...
Leprosy	...	...	...	...
Elephantiasis	...	...	...	...
Scurvy	17	1	7	...
Anæmia	200	...	25	...
General Dropsy	11	...	3	...
Lupus	...	...	...	...
Cancer	5	2	1	2
Primary Syphilis	2,282	...	743	...
Secondary Syphilis	836	1	353	3
Phthisis Pulmonalis... ...	334	36	121	19
Scrofula and Tuberculosis ...	24	1	9	1
Psoas Abscess	1	2	...	...
Hip-joint Disease	1		...	...
Encephalitis	16	...	1	3
Meningitis	26	4	5	1
Apoplexy	31	8	3	2
Sunstroke	116	2	44	26
Paralysis	58	56	21	...
Tetanus	4	1	...	...
Epilepsy...	96	4	25	...
Hysteria...	1	...	...	...

and of the Native Army and Jail Population of the Bengal Province.

AND DIED IN AND OUT OF HOSPITAL.

ARMY OF BOMBAY.		ARMY OF INDIA.		NATIVE ARMY OF BENGAL.		JAIL POPULATION OF BENGAL.	
Strength ... 10,734		Strength ... 58,694		Strength 53,247		Strength 61,359	
Admissions ... 16,767		Admissions . 86,419		Admissions 81,404		Admissions 62,671	
Deaths ... 204		Deaths ... 1,424		Deaths ... 1,257		Deaths ... 2,674	
Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
43	36	634	427	369	247	559	248
13	2	56	11	64	5	62	8
7	...	16	...	42	...	41	...
34	...	50	...	104	...	17	...
4	...	17	...	234	...	401	...
7	...	65	...	180	...	13	...
2,466	...	7,331	...	4,542	...	1,121	...
...	...	3	1	1	1	...	...
1	...	6	1	...	...	...	...
...	...	2	1	...	...	3	4
...	...	2	2	...	...	...	...
8	1	96	7	32	2	54	10
...	...	...	110	...	...	37	21
42	24	209	6	10	6	12	4
5,645	2	20,273	75	39,542	55	26,525	86
845	6	7,265	...	754	75	968	148
...	...	...	1	1	...	...	...
120	...	778	...	589	1	484	1
152	...	1,161	...	1,217	...	281	...
177	...	820	...	337	...	264	...
1	...	7	...	5	...	1	...
...	...	...	...	22	...	70	8
...	...	...	2	...	...	11	...
4	1	28	...	175	7	167	5
28	...	253	...	186	...	156	...
11	...	25	...	9	1	114	33
...	...	...	6	1	...	...	...
3	2	9	...	2	...	6	3
584	...	3,609	6	645	...	343	...
151	2	1,320	73	274	2	286	3
97	18	552	2	121	42	218	127
5	...	38	2	22	5	21	1
...	...	1	...	...	...	...	...
2	...	3	8	...	...	...	...
3	1	20	9	4	2	7	8
1	...	32	...	...	...	6	2
12	1	46	5	11	11	41	20
42	27	202	109	10			
13	...	92	1	51	5	36	7
...	...	4	4	3	2	9	7
19	1	140	1	34	1	79	9
1	...	2	...	...	...	4	...

Detail of the Admissions and Deaths of the European Army of India

Causes of Admissions and Deaths.	Admitted into Hospital			
	Army of Bengal.		Army of Madras.	
	Strength ... 36,591 Admissions ... 54,513 Deaths ... 1,001		Strength ... 11,669 Admissions ... 15,193 Deaths ... 219	
	Admitted.	Died.	Admitted.	Died.
Paralysis Agitans	7	...	...	...
Chorea	1	...	...	...
Anæsthesia	...	...	...	...
Hyperæsthesia	...	...	...	...
Neuralgia	319	...	93	...
Mania	28	1	7	...
Dementia	30	...	10	...
Melancholia	21	...	2	...
Hypochondriasis	6	...	4	...
Amaurosis and Cataract ...	5	...	1	...
Impaired Vision	13	...	10	...
Nyctalopia	2	...	...	...
Ophthalmia	879	...	220	...
Otitis	198	...	108	...
Deafness	42	...	29	...
Caries of Mastoid Cells ...	5	1	2	...
Epistaxis	15	...	...	...
Polypus nasi	...	...	1	...
Ozœna	3	...	7	...
Pericarditis	14	1	3	...
Valve disease of Heart ...	132	12	47	10
Hypertrophy of Heart ...	59	4	16	4
Fatty Degeneration of Heart ...	2	2	3	2
Rupture of Heart and Aorta ...	1	1	...	...
Rupture of Vena cava ...	...	...	...	...
Aortic Aneurism	35	21	18	8
Traumatic Aneurism ...	...	...	...	...
Embolism	1	1	...	...
Palpitation	467	...	66	...
Syncope	5	...	1	...
Angina Pectoris	3	...	2	...
Phlebitis	1	...	...	...
Varix	21	...	8	...
Inflammation of Inguinal Glands .	535	...	314	...
Inflammation of other Glands	48	...	20	...
Goitre	2	...	...	...
Œdema Glottidis	1	...	...	...
Tumour of Larynx	...	...	...	...
Laryngitis	19	3	1	1
Bronchitis	1,689	5	428	...
Asthma...	24	...	14	...
Pneumonia	223	35	14	...
Gangrene of Lungs	...	2	...	...
Pleurisy...	134	2	25	...
Pulmonary extravasion ...	19	...	10	...
Odontalgia	8	...	11	...
Stomatitis	38	...	17	...
Tonsillitis	557	...	206	...

and of the Native Army and Jail Population of the Bengal Province.

AND DIED IN AND OUT OF HOSPITAL.

Army of Bombay.		Army of India.		Native Army of Bengal.		Jail Population of Bengal.	
Strength ... 10,734 Admissions ... 16,767 Deaths ... 204		Strength ... 58,694 Admissions, 86,419 Deaths ... 1,424		Strength, 53,247 Admissions81,404 Deaths ... 1,257		Strength, 61,859 Admissions62,671 Deaths ... 2,674	
Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
...	...	7	...	5	...	1	...
1	...	2	...	...	...	3	...
...	...	...	...	4	...	...	...
...	...	...	...	17	...	...	...
48	...	460	...	473	...	103	...
4	...	39	1	14	...	133	1
9	...	49	...	7	1	43	...
4	...	27	...	3	...	3	...
...	...	10	...	1	...	...	...
3	...	9	...	19	...	4	...
10	...	33	...	...	...	...	...
10	...	12	...	38	...	1	...
195	...	1,294	...	1,585	...	751	...
47	...	353	...	252	...	123	...
7	...	78	...	58	...	...	...
2	...	9	1	4	...	7	3
3	...	18	...	16	...	18	...
...	...	1	...	...	...	...	...
2	...	12	...	5	...	16	1
6	...	23	1	5	2	10	11
16	4	195	26	15	1	11	8
9	1	84	9	1	...	10	3
...	...	5	4	1	1	4	4
...	...	1	1	...	...	...	...
1	1	1	1	...	...	...	...
7	4	60	33	7	1	2	1
1	...	1	...	...	...	...	...
1		2	2	...	...	...	...
46	...	579	...	7	...	1	...
...	...	6	...	2	...	2	...
...	...	5	...	...	...	1	...
1	...	2	...	2	...	10	...
4	...	33	...	12	...	...	...
191	...	1,040	...	115	...	114	...
5	...	73	...	128	..	37	...
...	...	2	...	74	...	4	...
...	...	1	...	...	...	...	...
...	...	...	...	...	1	...	...
...	...	20	4	23	4	17	4
289	1	2,406	6	1,944	71	000	54
4	...	42	...	108	2	229	14
35	4	272	39	502	112	587	202
...	2	...	4	...	...	2	4
30	...	189	2	187	9	255	18
10	...	39	...	27	...	63	...
...	...	19	...	55	...	25	...
8	...	63	...	75	...	46	...
121	...	884	...	211	...	65	1

Detail of the Admissions and Deaths of the European Army of India,

Causes of Admissions and Deaths.	Admitted into Hospital			
	Army of Bengal.		Army of Madras.	
	Strength ... 36,591 Admissions ... 54,513 Deaths ... 1,001		Strength ... 11,369 Admissions ... 15,139 Deaths ... 219	
	Admitted.	Died.	Admitted.	Died
Stricture of Œsophagus ...	...	...	...	...
Gastritis	27	...	1	...
Enteritis	6	6	3	...
Peritonitis	21	3	3	2
Iliac Abscess ...	...	2	...	1
Pericæcal Abscess ...	...	...	...	...
Hernia	33	...	16	...
Ileus	...	...	1	...
Hæmatemesis	4	...	...	...
Melæna	2	...	...	...
Dyspepsia	1,422	...	854	...
Colic	251	...	56	...
Constipation	38	...	17	...
Dysentery	1,263	64	948	32
Diarrhœa	2,772	10	823	...
Hæmorrhoids	363	...	116	...
Fistula in Ano	44	...	17	...
Stricture of Rectum ...	...	...	...	...
Worms, Ascarides	5	...	2	...
" Tapeworm	207	...	73	...
Disease of Supra-renal Capsules...	1	...	...	...
Spleen Enlargement ...	239	1	22	...
Rupture of Spleen	...	...	...	...
Hepatitis	2,032	86	672	38
Cirrhosis	16	10	4	2
Cyst of Liver	2	...	...	...
Jaundice	127	...	53	...
Ascites	4	...	...	...
Nephritis	59	3	7	3
Cystitis	36	...	3	...
Hæmaturia	1	...	...	...
Calculus and Lithiasis ...	1	1	...	...
Diuresis and Diabetes ...	2	1	1	...
Enuresis	12	...	2	...
Stricture of Urethra ...	152	1	30	...
Urinary Abscess	...	1	1	...
Gonorrhœa	3,199	...	700	...
Phimosis	39	...	12	...
Warts	74	...	21	...
Epididymitis	144	...	19	...
Orchitis	476	...	108	...
Fungus Testis	...	...	...	...
Hydrocele	24	...	22	...
Hæmatocele	2	...	...	...
Varicocele	7	...	4	...
Periostitis	66	...	19	...
Exostosis	...	...	...	...

of the Native Army and Jail Population of the Bengal Province.

AND DIED IN AND OUT OF HOSPITAL.

ARMY OF BOMBAY.		ARMY OF INDIA.		NATIVE ARMY OF BENGAL.		JAIL POPULATION OF BENGAL.	
Strength ... 10,734		Strength ... 58,694		Strength, 53,247		Strength 61,359	
Admissions ... 16,767		Admissions, 86,419		Admissions 31,404		Admissions 62,671	
Deaths ... 204		Deaths ... 1,424		Deaths ... 1,257		Deaths 2,674	
Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
...	...	...	...	1	1	...	...
...	...	28	...	8	1	13	6
2	1	11	7	9	5	20	22
6	1	30	6	7	5	12	9
...	...	...	3	...	1	...	...
...	...	...	...	...	1	...	...
8	...	57	...	23	...	27	2
...	...	1	...	1	1	1	2
3	...	7	...	5	1	2	...
...	...	2	...	5	...	...	...
283	...	2,559	...	510	...	1,143	...
53	...	360	...	707	2	841	...
7	...	62	...	198	...	250	...
360	13	2,571	109	4,427	67	7,433	927
689	...	4,284	10	2,976	37	5,672	348
80	...	559	...	154	...	173	...
15	...	76	...	30	...	27	...
...	...	...	...	...	...	1	1
1	...	8	...	8	...	9	...
47	...	327	...	12	...	10	...
...	...	1	...	...	...	...	...
37	...	298	1	671	14	503	17
...	...	...	...	...	...	...	1
353	20	3,057	144	119	6	80	9
8	5	28	17	...	...	3	4
...	...	2	...	...	...	...	1
22	...	202	...	72	5	148	4
2	...	6	...	4	...	33	25
11	2	77	8	26	2	28	12
3	...	42	...	13	1	4	1
...	...	1	...	1	...	13	...
1	...	2	1	16	1	8	1
3	...	6	1	4	...	8	...
6	...	20	...	4	...	2	...
20	...	202	1	15	...	20	...
...	...	1	1	...	...	3	3
813	...	4,712	...	359	...	104	...
9	...	60	...	21	...	41	...
10	...	105	...	1	...	...	...
33	...	166	...	33	...	117	...
84	...	668	...	244	...		
...	...	...	...	1	...	...	...
5	...	51	...	23	...	39	...
...	...	2	...	1	...	4	...
...	...	11	...	3	...	1	...
14	...	88	...	19	...	19	...
...	...	...	...	1	...	...	...

Detail the Admissions and Deaths of the European Army of India

Causes of Admissions and Deaths.	Admitted into Hospital			
	Army of Bengal.		Army of Madras.	
	Strength ... 36,591 Admissions ... 54,513 Deaths ... 1,001		Strength ... 11,369 Admissions ... 15,139 Deaths ... 219	
	Admitted.	Died.	Admitted.	Died.
Necrosis	8	...	3	...
Synovitis and Bursal Inflammation	89	...	25	...
Contraction	11	...	9	...
Rupture of Muscle	1	...	...	...
Atrophy of Muscle ...	1	...	...	...
Phlegmon and Abscess ...	583	...	280	...
Ulcer	1,000	...	434	...
Whitlow	62	...	35	...
Boil	603	...	268	...
Carbuncle	8	1	11	...
Itch	52	...	26	...
Skin Diseases	504	...	165	...
Guineaworm	1	...	6	...
Tumour	19	...	11	...
Childbirth	...	...	...	...
Abortion	...	...	...	...
Puerperal Fever	...	...	...	...
Phlegmasia Dolens	...	...	...	...
Menorrhagia	...	...	...	...
Prolapsus Uteri	...	...	...	...
Leucorrhœa	...	...	...	...
General Debility	867	3	448	...
Delirium Tremens	147	5	51	4
Poisoning by Alcohol ...	7	9	...	...
„ by Arsenic	1	...	...	...
„ by Opium	...	...	...	...
„ by Vegetable poisons ...	1	...	1	...
Snake-bite	...	...	...	...
Burning	42	...	18	...
Wound and Contusion ...	1,859	11	790	2
Fracture	150	2	54	...
Dislocation	34	...	13	...
Sprain	859	...	241	...
Murder and Homicide ...	1	3	1	1
Suicide and Suicidal Wounds ...	...	23	...	2
Drowning	...	15	...	8
Asphyxia	...	1	...	...
Killed in Action	...	...	...	...
Executed	...	...	...	1
Struck by Lightning ...	1	...	...	...
Foreign body in Œsophagus ...	...	...	...	...
Foot-sore	99	...	22	...
Punished	4	...	...	...
Surgical operations ...	9	...	2	...
Cause not ascertained ...	41	...	16	...
Absent Deaths of Native Army ...	...	...	...	...

AND DIED IN AND OUT OF HOSPITAL.

ARMY OF BOMBAY.		ARMY OF INDIA.		NATIVE ARMY OF BENGAL.		JAIL POPULATION OF BENGAL.	
Strength ... 10,734 Admissions ... 16,767 Deaths ... 204		Strength ... 58,694 Admissions 68,419 Deaths ... 1,424		Strength 53,247 Admissions 81,404 Deaths ... 1,257		Strength 61,359 Admissions 62,671 Deaths 2,674	
Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
...	...	11	...	3	...	9	...
26	...	140	...	75	...	47	...
3	...	23	...	6	...	...	...
1	...	2	...	...	...	...	...
1	...	2	...	3	...	...	...
209	...	1,072	...	1,531	2	2,516	5
316	...	1,750	...	1,930	2	2,312	...
38	...	135	...	212	...	194	...
203	...	1,074	...	1,578	...	473	...
4	...	23	1	27	...	70	1
7	...	85	...	790	...	588	...
128	...	797	...	669	...	260	1
27	...	34	...	418	...	170	1
11	...	41	...	19	...	23	...
...	...	...	...	...	...	55	...
...	...	...	...	...	...	7	...
...	...	...	...	...	...	1	1
...	...	...	...	...	...	3	...
...	...	...	...	...	...	16	...
...	...	...	...	...	...	1	...
...	...	...	...	...	...	2	...
219	...	1,474	3	805	28	492	124
45	2	243	11	1	...	3	...
9	1	16	10	6	1	...	...
...	...	1	...	6	...	...	...
...	...	...	...	8	4	3	...
1	...	3	...	11	3	5	1
...	...	...	...	5	1	8	1
7	...	67	...	163	...	96	...
542	4	3,191	17	3,545	11	1,843	31
33	...	237	2	107	...	275	...
8	...	55	...	34	...	26	..
242	...	1,342	...	435	...	92	...
...	...	2	4	...	3	...	1
...	7	...	32	...	17	5	11
...	6	...	29	...	7	...	3
...	...	...	1	...	...	...	...
...	...	...	...	...	6	...	...
...	...	...	1	...	...	...	...
...	...	1	...	...	2	...	...
1	...	1	...	...	...	...	...
21	...	142	...	2,163	...	...	...
...	...	4	...	13	...	134	...
1	...	12	...	2	...	1	...
5	...	62	...	12	2	11	6
...	...	...	...	...	342	...	...

Troops of Feudatory States.

According to the various Reports of Native States by Political Agents and Provincial Governments, the armed force maintained by Native Chiefs was apparently very large. It amounted, in the aggregate, to 314,598 men and 5,252 guns. Of the former 9,390 were Artillerymen, 64,172 were Cavalry, and 241,036 were Infantry. Of the guns 3,488 were serviceable and 1,764 unserviceable. The details are these:—

Statistics of the Armies of Subordinate Native States in 1871.

State.	Artillery.							Infantry.					Cavalry.			
	Field guns.	Serviceable.	Other guns.	Serviceable.	Total guns.	Total serviceable.	Artillerymen.	Regulars.	Fort Garrisons.	Special Bodies.	Tehseel Sepoys, &c.	Total.	Regulars.	Feudal Horse.	Other Irregulars.	Total.
Bengal.																
Tributary Mehals *a* ...	..	..	83	...	83	..	1	...	...	...	..	..	...	...	...	..
S. W. Frontier States *b*	...	...	5	...	5	...	..	...	...	...	90	90	..	...	..	..
Cooch Behar *c* ...	2	2	2	2	4	4	8	100	..	..	...	100	...	...	4	4
Hill Tipperah ...	...	...	9	...	9	...	..	198	...	...	214	412	...	...	...	...
Munnipoor ...	8	4	..	...	8	4	520	4,662	..	...	...	4,662	400	...	...	400
Total ..	10	6	99	2	109	8	528	4,960	...	...	304	5,264	400	...	4	404
N. W. Province.																
Gurhwal ...	...	...	..	...	...	...	...	...	...	..	...	...	...	...	...	...
Rampore *d* ..	6	6	22	10	28	16	284	929	...	...	970	1,899	...	...	502	502
Total ..	6	6	22	10	28	16	284	929	...	...	970	1,899	...	...	502	502
Central Province.																
Petty States ..	2	..	...	..	2	...	...	...	...	...	2,115	2,115	...	...	140	140
Total ..	2	...	...	...	2	...	..	...	...	...	2,115	2,115	..	...	140	140
Punjab.																
Puttiala *e* ...	31	31	78	21	109	52	228	3,020	510	485	386	4,401	2,032	...	411	2,443
Jhind *f* ...	4	4	6	3	10	7	79	1,284	54	...	352	1,340	202	...	...	202
Nabha *g* ...	12	12	10	10	22	22	50	643	...	127	374	1,144	271	..	277	548
Petty C. S. S. and Hill States *h* ...	29	27	9	9	38	36	19	904	...	...	2,306	3,210	264	100	125	489
Kupoorthulla *i* ..	18	18	..	...	18	18	...	1,500	...	...	...	1,500	...	300	..	300
Mundee ...	3	2	6	...	9	2	...	1,775	...	...	...	1,775	...	...	...	...
Sookeit ...	2	...	3	...	5	...	...	500	...	...	...	500	...	...	...	...
Fureedkot ...	6	6	..	...	6	6	20	100	...	100	...	200	...	50	...	50
Bhawalpoor *j* ...	31	31	49	49	80	80	153	1,477	100	...	907	2,484	308	...	52	360

Chumba	...	1	1	...	...	1	1	...	...	..	...	30	290	610	140	...	..	140
Delhi States *k*	...	5	3	1	...	6	3	20	290	...	2,910	1,211	18,436	1,593	...	...	1,393	
Cashmere *l*	..	12	12	84	84	96	96	798	13,405	...								
Total	...	154	147	246	176	400	323	1,377	24,848	664	4,552	5,736	35,900	4,610	450	865	5,925	
Rajpootana.																		
Oodeypoor *m*	..	108	108	430	155	538	263	1,338	1,200	12,800	300	800	15,100	300	4,340	1,600	6,240	
Jeypoor *n*	...	40	24	272	237	312	261	768	2,000	...	6,000	2,500	10,500	530	3 600	...	3,530	
Jodhpoor	...	20	10	2 0	100	220	110	330	1,000	500	1 500	1,000	4,000	600	5,000	...	5,600	
Jessulmere	...	2	2	10	10	12	12	20	200	100	100	...	4 0	...	500	...	500	
Boondee	...	12	12	50	50	68	62	50	500	...	400	1,100	2,000	..	200	..	200	
Kotah *o*	..	20	20	99	81	119	101	200	2,600	...	400	1,600	4,600	200	...	500	700	
Tonk *p* ...	...	8	8	45	30	53	38	175	1,398	480	...	500	2.288	480	...	...	480	
Jhallawar	...	15	15	75	73	90	88	150	2,000	...	...	1,500	3,500	400	..	...	400	
Ulwur *q*	...	10	10	341	291	351	301	303	1,411	3,289	808	125	5,633	..	626	1 654	2,280	
Bhurtpoor *r*	...	21	6	17	5	38	11	250	2,000	...	3,000	3.500	8,500	450	..	1,010	1,460	
Kerowlee	..	6	6	24	...	30	6	35	...	500	1 250	1,350	3.2 0	60	100	240	400	
Dholepoor	...	4	4	28	8	32	12	109	800	500	1,800	550	3,650	55	3 5	200	610	
Serohi *s*	...	...	...	...	...	...	...	...	...	...	150	200	350	...	500	75	575	
Bickaneer *t*	...	22	22	31	31	53	53	164	140	200	450	150	940	160	360	160	670	
Kishenghur	...	5	5	30	15	35	20	...	2,000	...	...	...	2,000	150	...	...	150	
Shapoora	...	...	...	23	23	23	23	20	250	30	...	...	280	...	250	100	350	
Banswarra	..	3	3	...	...	3	3	2	...	400	...	50	500	..	60	...	60	
Partabghur	...	4	4	8	8	12	12	40	...	850	...	100	950	...	275	...	275	
Doongurpoor	...	4	4	...	...	4	4	30	...	532	...	100	632	...	57	...	57	
Total	...	304	263	1,699	1,117	2,003	1,380	4,004	17,469	20,321	16,158	15,125	69 023	3 835	15,418	5,539	24,237	

a The only force consists of Paiks Armed with bows and arrows. No defensible forts, &c.
b About 1,000 matchlockmen and 4,000 bowmen could be called out.
c No forts. The Cavalry are only orderlies and the Infantry only palace guards.
d Two guns purchased from British Government; rest cast at Rampoor. Part of Cavalry fairly drilled. Infantry not good.
e Twenty guns horsed. Cavalry rough and badly mounted. Three strong forts.
f Cavalry and Infantry both highly efficient. Cavalry have breech-loading carbines.
g Two are camel guns. Troops badly disciplined and paid.
h Only the troops of Sirmoor and Kuhloor good. Sirmoor has iron foundry and troops drilled by a European. Various small forts.
i No forts. Troops well equipped and efficient.
j Guns require new carriages. 107 Cavalry and 357 Infantry highly efficient. Forts ruinous except Ahmedpoor.
k Guns of Native manufacture. Loharoo has also 11 small camel guns.
l Artillery includes 10 mortars; two field batteries are horsed. Besides Sappers and Miners, Infantry consists of 24 regiments and Cavalry of two regiments. There are 34 forts, some of considerable strength. Guns and small arms manufactured. Troops poorly armed.
m Only 12 field pieces and 190 other guns belong to the Durbar; the rest to feudatories. Army efficient; only two regiments have muskets. Gun-foundry in disuse. Many guns honeycombed. Forts numerous and strong.
n A gun factory, but inactive. Army inefficient. 31 forts.
o Army poorly drilled and armed. Some strong forts.
p Better than most troops in Rajpootana.
q Fairly drilled, but not efficient. 3 forts.
r Cavalry well drilled and efficient.
s No forts.
t Can turn out good brass guns.

Statistics of the Armies of Subordinate Native States in 1871.—Continued.

STATE.	ARTILLERY.							INFANTRY.					CAVALRY.			
	Field guns.	Serviceable.	Other guns.	Serviceable.	Total guns.	Total serviceable.	Artillerymen.	Regulars.	Fort Garrisons.	Special Bodies.	Tebeedi Sepoys, &c.	Total.	Regulars.	Feudal Horse.	Other Irregulars.	Total.
Central India.																
Gwalior *a*	102	102	108	61	210	163	513	5,145	...	...	10,907	16,050	1,992	2,299	1,777	6,068
Indore *b*	...	...	102	102	102	102	350	5,500	...	...	...	5,500	3,000	...	...	3,000
Bhopal *c*	12	1	25	20	39	32	291	2,200	240	...	2,526	4,766	694	200	300	1,194
Bhopal Agency ...	15	15	27	25	42	40	60	985	...	...	867	1,852	238	125	168	531
W. Malwa do. ...	22	12	...	...	22	12	88	450	...	150	1,150	1,750	85	...	255	340
Bundelcund *d* ...	141	141	278	174	421	315	784	575	...	...	21,588	22,163	...	...	2,677	2,677
Dhar	2	2	...	...	4	2	21	290	...	...	500	790	50	50	170	270
Bhopawur Agency ...	4	...	...	...	4	...	...	...	...	...	381	381	...	81	10	91
Rewah	7	5	30	15	35	20	225	800	100	300	80	2,000	...	259	646	905
Baghelcund	...	...	7	...	7	...	18	...	...	...	280	280	...	...	135	135
Mannpoor Agency ...	...	...	..	...	...	...	...	...	...	66	86	152	...	10	...	10
Total ...	310	288	577	397	893	686	2,350	15,923	340	516	38,385	55,664	6,159	3,024	6,138	15,321
Madras.																
Travancore *e* ...	6	4	...	...	6	4	30	1,211	...	...	...	1,211	60	...	..	60
Cochin	...	...	3	...	3	...	...	300	...	...	...	300	...	...	..	...
Hyderabad *f* ...	71	47	654	504	725	551	265	12,775	...	24,115	...	36,890	1,400	6,802	...	8,202
Total ..	77	51	657	504	734	555	295	14,286	...	24,115	..	38,401	1,460	6,802	..	8,262

Bombay.

Baroda *g*	28	2·	2	...	30	28	393	2,786	2,899	4,071	1,244	11,000	98	...	3,000	3,098
Kutch	12	12	26	20	38	32	15	...	...	600	...	600	...	300		300
Kattywar... ..	106	68	402	156	508	224	68	1,055	2,575	5 306	6 370	15 306	432	1,292	2,309	4,033
Sawunt Waree *h* ...	2	2	37	3	39	5	...	456	...	...	...	456	...	...	12	12
Kolhapoor *i* ...	...	...	258	156	258	156	30	530	...	...	972	1,502	...	...	154	154
S. M. Jaghires ...	...	...	25	25	25	25	...	...	...	...	...	...	...	...	...	...
Sattara Jaghires ...	...	...	4	...	4	..	..	...	...	...	...	...	...	..	...	...
Cambay	8	8	...	..	8	8	...	600	...	...	...	600	..	400	...	400
Kheirpoor ..	10	10	...	...	10	10	30	...	...	...	..	...	...	...	...	...
Jinjeera	...	...	40	12	40	12	...	...	150	...	50	200	..	..	..	...
Surat Agency ...	..	..	18		18	...	...	...	...	..	...	...	...	...	180	180
Pahlunpore Agency	23	18	69	...	91	18	6	...	...	100	1,010	1,110	..	...	622	622
Mahee Kanta ...	2	2	.	...	2	2	10	..	...	406	...	406	...	169	47	216
Rewah Kanta ...	12	...	...	...	12	...	...	198	...	401	991	1,590	..	..	316	316
Total ...	202	148	881	372	1,068	520	552	5,625	5,624	10,884	10,637	32 770	530	2,161	6,640	9,331

a Of the guns 48 are attached to regular army; rest in forts and towns. Two magazines and a powder factory. Army highly efficient.

b Of the guns 59 are at Indore and 43 in the districts. Ordnance stores of all kinds considerable. An arsenal with steam machinery in which guns and Snider rifles are made. Troops indifferent.

c Army efficient in all branches.

d With exception of a guard of Sikhs in Punjab, troops badly armed and drilled. Forts numerous. Guns can be manufactured and small arms in any quantity.

e Infantry consists of Nair Brigade under European Officers. Efficient.

f Hyderabad Reformed Troops under European Officers are formidable. They number 5,000 of all arms and have 22 guns attached to them. The special bodies numbering 24 115 consist of Arabs, Sikhs, Rohillas, &c.

g The two guns are silver guns for state display. The 3,000 Cavalry are the Contingent kept up under Treaty. The Regular Infantry consists of three regiments commanded by Europeans and the Okamundel and Dharee Corps similarly commanded. Highly efficient. Canon manufactured.

h Infantry under European Officers and called Sawunt Waree Corps.

i Infantry under European Officers.

General Result.

Province.	Artillery.							Infantry.					Cavalry.			
	Field guns.	Serviceable.	Other guns.	Serviceable.	Total guns.	Total serviceable.	Artillerymen.	Regulars.	Fort Garrisons.	Special Bodies.	Tehseel Sepoys, &c.	Total.	Regulars.	Feudal Horse.	Other Irregulars.	Total.
Bengal	10	6	99	2	109	8	528	4,960	...	...	304	5,264	400	...	4	404
N. W. Province ...	6	6	22	10	28	16	284	929	...	...	970	1,899	...	...	502	502
Central Province ...	2	...	...	...	2	...	...	...	...	...	2,115	2,115	...	...	140	140
Punjab	154	147	246	176	400	323	1,377	24,848	664	4,652	5,736	35,900	4,610	450	865	5,925
Rajpootana	304	263	1,639	1,117	2,003	1,380	4,004	17,409	20,331	16,158	15,125	69,023	3,335	15,413	5,539	24,287
Central India	316	289	577	397	893	686	2,350	15,923	340	516	38,885	55,664	6,159	3,024	6,138	15,321
Bengal Presidency ...	792	711	2,643	1,702	3,435	2,413	8,543	64,069	21,335	21,326	63,135	1,69,865	14,504	18,887	13,188	46,579
Madras	77	51	657	504	734	555	295	14,286	...	24,115	...	38,401	1,460	6,802	..	8,262
Bombay	202	148	881	372	1,083	520	552	5,625	5,624	10,884	10,637	32,770	530	2,161	6,640	9,331
Grand Total ...	1,071	910	4,181	2,577	5,252	3,488	9,390	83,980	26,959	56,325	73,772	2,41,036	16,494	27,850	19,828	64,172

Armies of Native States.

THE MARINE.

No report of the Marine Department appears. An officer of the Royal Navy is attached to the Military Department to advise the Government of India on naval questions.

The following shows the expenditure during the eight years ending 1871-72:—

	1864-65.	1865-66.	1866-67. (Eleven Months)	1867-68.	1868-69.	1869-70.	1870-71.	1871-72.
	£	£	£	£	£	£	£	£
Government of India ...	...	...	...	...	...	45,341	...	...
British Burma ...	24,099	30,653	17,630	35,857	39,344	58,059	24,161	21,322
Bengal	262,571	255,553	262,214	347,791	303,274	531,174	180,419	166,703
Punjab	19,641	22,449	18,628	28,126	22,491	27,612	23,236	21,079
Madras	10,666	24,916	2 ,712	23,239	19,500	7,055	6,835	6,309
Bombay	263,405	225,304	247,119	494,951	404,501	264,021	240,951	161,292
Total ...	580,382	558,875	567,303	924,964	789,110	932,460	475,602	376,705
Eastern Settlements ...	11,428	17,372	17,072	...	...	...	...	...
Total ...	591,810	576,247	584,375	...	...	...	...	...

In 1872-73 the expenditure was £556,236, and in 1873-74 £482,900.

PART IV.

PRODUCTION AND DISTRIBUTION.

PART IV.

CHAPTER I.

AGRICULTURE.

Bengal.

Weather, Crops and Prices.—The season of 1872 was favourable, the rain though scanty being happily distributed. Prices were moderate. The following statement shows the monthly variations in the retail prices of food in one selected district in each division of Bengal, from April 1872 to March 1873:—

Name of District.	Number of Seers of 80 Tolahs Weight purchaseable for a Rupee.											
	Common Rice.											
	April 1872.	May 1872.	June 1872.	July 1872.	August 1872.	September 1872.	October 1872.	November 1872.	December 1872.	January 1873.	February 1873.	March 1873.
Burdwan ...	23	23	23	23	21	22	21	23	23	22	22	24
24-Pergunnahs ...	18	17	20	20	17	16	17	18	17	17	18	17
Moorshedabad ...	20	23	21	18	18	19	19	19	22	22	22	22
Backergunge ...	27	25	25	26	27	27	27	27	28	29	31	28
Chittagong ...	23	22	23	23	22	23	23	27	27	26	23	23
Patna	21	21	20	19	19	21	19	20	25	24	23	22
Bhaugulpore ...	23	28	21	19	20	18	16	17	17	22	20	20
Pooree ...	25	31	28	23	23	24	34	32	31	29	36	35
Hazareebaugh ...	23	20	20	18	16	16	18	18	18	17	18	17
Kamroop ..	24	..	20	20	...	20	26	20	20	25	25	26
	Wheat.											
Burdwan ...	18	14	16	15	15	14	13	12	12	11	10	16
24-Pergunnahs ...	19	17	18	13	16	14	12	13	12	12	11	12
Moorshedabad ...	23	18	20	16	15	16	15	15	18	15	13	13
Backergunge ...	.	..	..	..	...	...	...	...	...	...	...	..
Chittagong ...	12	15	15	14	15	14	15	15	15	12	8	10
Patna	22	21	21	17	17	16	15	17	17	16	13	17
Bhaugulpore ...	19	19	18	17	16	16	15	15	15	13	12	16
Pooree ..	14	14	16	14	13	13	14	17	17	15	15	17
Hazareebaugh ...	20	18	19	16	14	13	14	15	16	12	15	16
Kamroop ...	19	.	20	20	...	12	16	10	10	13	13	13
	Barley.											
Burdwan ...	20	20	21	21	21	21	21	21	22	22	22	22
24-Pergunnahs ...	22	19	16	20	22	14	25	20	20	20	20	20
Moorshedabad ...	...	...	...	...	...	..	...	...	...	...	...	.
Backergunge ...	...	...	...	..	...	...	...	..	..	...	...	...
Chittagong ...	...	..	...	...	.	...	...	...	..	...	...	...
Patna ...	32	33	31	29	27	28	26	34	36	24	31	28
Bhaugulpore ...	36	36	32	30	25	25	24	24	25	22	..	31
Pooree ...	...	...	...	...	...	...	...	...	...	...	...	...
Hazareebaugh ...	28	24	24	20	23	17	20	19	20	23	24	24
Kamroop ...	...	...	...	...	...	...	...	...	...	...	...	...

Name of District.	Number of Seers of 80 Tolahs Weight purchaseable for a Rupee.											
	April 1872.	May 1872.	June 1872.	July 1872.	August 1872.	September 1872.	October 1872.	November 1872.	December 1872.	January 1873.	February 1873.	March 1873.
Millets and Indian-corn.												
Burdwan ...	...	..	...	...	...	...	...	...	...	...	...	...
24-Pergunnahs ...	...	...	...	...	..	...	..	...	...	...	...	...
Moorshedabad ...	...	..	...	...	...	..	...	...	...	..		...
Backergunge ...	...	...	...	...	...	...	..	...	...	..	..	...
Chittagong ...	...	...	...	...	...	...	...	...	...	...	...	...
Patna ...	35	34	31	30	45	35	32	32	38	35	36	40
Bhaugulpore ...	35	33	...	...	...	35	32	36	37	35	34	31
Pooree ...	...	...		...	...		...	...	...	..	...	...
Hazareebaugh ...	28	29	28	25	23	26	35	33	28	27	...	...
Kamroop ...	...	..	..	...	...	..	....	...	...	....	...	...
Gram.												
Burdwan ..	23	23	22	22	22	22	22	22	22	22	22	26
24-Pergunnahs ...	19	17	17	20	20	20	17	17	17	17	18	19
Moorshedabad ...	35	34	34	28	28	26	26	26	29	27	29	29
Backergunge ...	...	..		...	..	..	..		...	...	...	...
Chittagong ...	12	14	14	13	13	15	17	17	17	17	17	17
Patna ..	32	31	30	27	28	28	33	33	31	33	34	34
Bhaugulpore ..	30	28	27	24	25	25	27	27	27	27	29	25
Poore ...	25	24	24	18	14	14	21	21	21	23	26	21
Hazareebaugh ...	20	19	20	16	15	17	21	21	23	21	21	21
Kamroop ...	12	...	12	13	10	11	12	12	10	13	13	16
Salt.												
Burdwan ...	8	8	8	8	9	9	9	9	9	9	9	9
24-Pergunnahs ...	8	8	8	8	8	8	9	9	8	8	8	8
Moorshedabad ...	8	8	8	8	8	8	8	8	8	8	8	8
Backergunge ...	7	7	8	8	8	8	8	8	8	8	8	8
Chittagong ...	7	7	7	7	7	7	9	9	9	9	9	9
Patna ...	7	7	8	8	8	8	8	8	8	8	8	8
Bhaugulpore ...	7	7	7	7	8	8	8	8	8	8	8	8
Poore ...	7	8	8	6	8	8	8	9	9	9	9	9
Hazareebaugh ...	6	6	6	6	7	7	7	7	7	7	7	7
Kamroop ...	7	...	8	8	8	7	7	7	7	8	8	8

Apprehended Scarcity.—The year began with prices in a normal condition. In spite of the want of rain and the apprehensions which were openly expressed from more than one district at an early period, prices showed no tendency to rise until late

in October or early in November, when the certainty of drought and scarcity were no longer open to question. The price of rice suddenly rose in the 24-Pergunnahs from 20 to 13 seers for a rupee, and a similar rise occurred simultaneously in all the divisions of Bengal except Chittagong and Orissa, where rain had been more opportune and the prospects of the harvest were not impaired. The price of rice throughout the month of November showed no tendency to fall, and from such districts as Backergunge, where large exports were in operation, it rose in three weeks from 25 seers to 14 for the rupee. The rates of barley, millets, and Indian-corn and gram, all rose. In April 1873 millets were selling at Patna for 40 seers; in November they had risen to 17 seers; barley had risen from 28 seers to 17; gram from 34 seers to 17. In the Rajshahye and Bhaugulpore divisions the prices rose hardly less remarkably. At the same time prices were not so high as might have been expected. In no district did they reach famine rates, though they were very much higher than at the same period in ordinary years. During November 1865, the last year of great scarcity in Bengal, prices of common food stuffs stood on the whole somewhat higher than they were standing in November 1873.

Food Grains.—Rice is the principal staple throughout Bengal Proper. Its varieties are endless but the rice or paddy (dhan) is divided into two distinct main crops locally known as the "Aoos" and the "Amun." The *aoos* rice is mostly raised upon the high level lands. It is sown with the first showers of the spring and gathered in July and September. The name of this rice (from Sanskrit for 'early') is derived from the rapidity with which it ripens. It requires more attention in cultivation than the *amun*, and is more liable to failure from the accidents of the seasons. It is not transplanted, but reaped from where it is sown. The *amun* (or 'winter') rice is of two principal varieties—one sown broadcast, and the other transplanted. The transplanted *amun ropa*, or *rooya dhan*, as it is called, is the commonest variety of rice in Bengal. In the first instance it is sown on high land. Afterwards, when the rain renders it sufficiently moist, and the seedlings are about a foot high, they are gradually transplanted to marshy soil, as this becomes ready for them in about 10 inches of water. This land need not be of the lowest description, but it must be such as in the rains is covered with water. The rice grows in water, knee or thigh deep. It is sown in April, transplanted in August, and reaped in November, December, and January. In some parts of Eastern Bengal this rice is transplanted twice,—first, into high dry land, where it is

well manured and weeded, and then, when about two feet high, to wet marshy soil.

The *Amun*, sown broadcast and not transplanted, varies in different localities, and has various names, but is generally known as *boron*, *boona*, or *booya*. Even this is occasionally transplanted, but not usually. It is sown in the beds of bheels and rivers, and as the waters rise the rice grows with them, and the stem at times attains the length of twelve or even twenty feet. Of all kinds of rice this is the most rapid in its growth, frequently shooting up twelve inches in twenty-four hours as the inundation rises. Some species of this *dhan* are capable of bearing submersion for seven or eight days, if the water which has risen suddenly be clear. If it be submerged in foul water the plant dies in a day or two. This description of *amun* is sown and reaped at the same time as the transplanted species.

The Aous and Amun rice are known as *beali* and *sarud* in Orissa and as *ahoo* and *sali* in Assam. In Behar the early and late crops are known as *bhadoi* and *aghani*.

Besides these there is another principal kind of rice, the *boro* or spring crop of *dhan*, raised on churs and in low bheel lands and the edges of jheels, where the water is intercepted and the plant uprooted from nurseries stuck deep into the mud during the cold weather. The crop is reaped in April, May, and June, and its success depends much on irrigation.

The following shows the total export of rice (not in the husk) from Bengal and the other Provinces of India to foreign and Indian ports for twelve years.

Years.	Bengal. Tons.	Bombay and Sindh. Tons.	Madras. Tons.	British Burma. Tons.	Total Tons.
1861-62 ...	410,271	14,453	75,153	273,984	773,861
1862-63 ...	482,057	15,451	62,463	279,246	839,217
1863-64 ...	576,067	33,212	76,561	367,839	1,052,679
1864-65 ...	695,341	39,234	73,949	386,516	1,195,040
1865-66 ...	836,212	29,055	72,144	394,154	831,565
1866-67 (eleven months)	222,660	12,242	75,502	210,430	520,834
1867-68 ...	352,466	20,192	56,673	404,601	863,932
1868-69 ...	336,614	28,545	88,119	445,252	948,530
1869-70 ...	373,044	27,921	73,902	336,088	810,966
1870-71 ...	430,358	44,347	102,434	423,548	1,000,687
1871-72 ...	341,864	44,043	119,354	482,826	1,077,387
1872-73 ...	511,261	38,119	105,067	688,898	1,344,345

Up to 1866-67 there was an export duty on rice exported to foreign ports of two annas a maund (82-2/7th lbs.) and since that year the duty has been raised to three annas. In 1863-64, 1864-65, 1865-66, there was an exceptional demand on India in consequence of the failure of the crops in Siam and China, and of the prohibition of exports from Siam in 1865. In 1865-66 and 1866-67 there

was a general diminution in exports, partly because of the Orissa famine of 1865, and partly because the Siamese markets were again thrown open and rice ceased to find its way from India to China. But lately the increase in exports has been progressive from all parts of India, especially from Burma, and in 1872-73 the largest quantities ever known were exported, amounting to more than one million three hundred thousand tons. The declared value in pounds sterling of the rice and paddy exported from British India amounted last year to £5,761,028; of this amount the Burma produce was valued at 2,854,254, the Bengal at 1,959,342, the Madras at 749,518, and the Bombay at 197,914 pounds sterling. The average declared value per ton of rice exported was £8-7-0 for Bombay, £7-13-0 for Madras, £5-12-0 for Bengal, and £4-4 0 for Burma. In all cases these values were lower than the averages of earlier years which amount to about £9-10-0 for Bombay, £8-0-0 for Madras, £7-0-0 for Bengal, and £4-15-0 for Burma. The total amount of duty collected on the exports of rice and paddy in the year 1872-73 was £617,497.

The total exports from Calcutta in 1872-73 amounted to 401,799 tons. In 1864-65, the year preceding the Orissa famine, they amounted to 600,000 tons, and upon an average they amount to rather more than 350,000 tons.

Statement showing the Sea Exports and Imports of Rice in the World.

Exports from	Tons.	Imports into	Tons.
Bengal about ...	500,000	United Kingdom, Europe, Australia, and America, about ...	800,000
Madras ...	100,000	China, &c. ...	320,000
Burma ...	700,000	Straits, &c. ...	100,000
Saigon ...	250,000	Ceylon, &c. ...	150,000
Siam ...	150,000	Mauritius ...	125,000
Java ...	40,000	Bourbon ...	7,500
Italy ...	70,000	West Indies ...	40,000
Spain ...	8,000	Arabian and Persian Gulfs ...	60,000
Miscellaneous ...	22,000	British India (chiefly Bombay)	200,000
		Miscellaneous ...	37,500
Total of Sea Exports	1,840,000	Total of Sea Imports ...	1,840,000

Murwa and *kodo* are both cheaper than rice, and are much eaten by the lower classes. *Kodo* is a millet, the size of a canary seed; each plant has a longish ear, longer and thicker than an ear of corn, and containing about an egg cup full of grain; it is eaten boiled like rice, or sometimes in *chupatties*. *Murwa* is a cognate grain to *kodo*, but it grows in bushy tufts, and not in gracefully pending ears, as *kodo* does. It is a staple crop in Gya and in the Chota Nagpore division. Barley *(jaw)* is generally eaten in the form of *sattoo*, with some salt and chillies

or other condiment. In Tirhoot, Gya, and elsewhere it is said to be the cheapest of all the food crops. What is called *sattoo* is made from many grains,—from wheat, peas, maize, gram, pulses, as well as barley; the seeds are parched and then ground between coarsely ribbed grindstones. It is eaten in the same state as it comes from the grindstone, having been cooked in the drying; a little water is merely mixed with it. Barley is also ground with *kerao*, *khesaree*, or other *dal*, and baked into *chupatties* or bread. It is sometimes boiled like rice. *Makai*, maize, or Indian-corn, can, when it is in season, be purchased as cheap as barley, but not so all the year round. It is prepared and eaten like barley. From Patna and Shahabad it is reported that maize is even more consumed than barley by the labouring classes. Generally speaking, however, the *makai* crop is not nearly such an important item in the districts north of the Ganges as it is in the south. The pulses, condiments, and vegetables of Behar, are much the same as those consumed in Bengal. In Bengal Proper the millets *cheena* and *kaon* are cultivated and consumed especially in the eastern districts. They are raised in the low lands after the rains, and reaped in March and April. *Bhoora* is a coarse grain seed which is eaten by the poorer classes. Although boiled rice forms the principal article of diet (and among Bengalees is often the only food eaten,) *dal*, fish, vegetables, oil, salt, spices, and other condiments, are added to give it a relish. The principal pulses or *dal*, which enter most largely of these into the consumption of food, are known as *muttur*, *khesari*, *mashuri*, *maskolai*, *moog*, *boot* or *chola*, and *arhur*. All these except the last are sown after the subsidence of the rains and reaped in the cold weather, and are extensively cultivated. *Muttur* or peas, in particular, is in great demand, as its *dal* is much relished by the people. The well known *arhur* is sown with the *aous dhan*, usually in the same field, and is reaped in Pous. It will grow almost on any soil; the wood is sold as fuel. Pulses or leguminous grains are largely exported eastwards from the western districts of Behar and elsewhere. Either in a cooked or raw state, vegetables, *turkari* of some sort, form an invariable part of the food of the people of these provinces. The most common and important is the egg-plant or *brinjal*. It yields two crops in the year. This vegetable is daily used by every man, high or low, in the Lower Provinces, and is cultivated in almost every garden. Ryots, such as the caste of Pooras, who earn a livelihood by the sale of vegetables, set apart whole plots of land for its cultivation. *Koomra*, or the *Belattee koomra*, as it is called, comes next in order. The ryots are so fond of raising these gourds that their creepers may be found in every house,

either climbing on the thatched roofs of the houses or trailing on bamboo stages made for the purpose. There is an infinite variety of gourds, tuberous roots, and other vegetables consumed by the natives under the general denomination of *turkari*. Cauliflower *(phool kobi)*, cabbage *(kobi)*, are common; garlic *(roshun,)* radish *(moola)*, *sag*, of sorts, and onions *(piyaj)*, are universal. For many there is no English equivalent. The ryot's vegetable garden is always near and about his homestead.

The cultivation of potatoes *(Belattee aloo)* in Bengal is yet very inconsiderable. They are grown to some extent in the district of Hooghly, but are not of a very good quality. From the north-west parts of Dacca they are procurable. In most parts of Bengal, however, although yams and some sorts of sweet tubers are not uncommon, the cultivation of the potato is unknown. In Assam and Darjeeling the introduction of this staple has been more successful. It is found in the Khasi Hills that the potato is the most remunerative of the staples there cultivated, and there is a tendency to increase the cultivation. From recent inquiries it appears that the outturn of potatoes in these hills is about 185,000 maunds, of which about 155,000 maunds are exported, and the remainder retained for seed and local consumption. Cherrapoonjee potatoes always command a ready sale at the larger stations in Bengal.

Great also is the variety of condiments with which the ryot seasons his food. Amongst a community addicted to fish, turmeric *(huldee)* is extensively used in curries and in all sorts of vegetable and animal food: ginger *(adruk)* is also eaten in animal food, and is sold as medicine. Coriander *(dhania)*, black cummin *(ranahooni)*, and aniseed *(joan, mouri)*, are grown in small quantities for local consumption. Chillies *(lanka morich* or *jhal)* are cultivated in the western districts of the province, and in large quantities in Dacca. They are the principal cold weather crop also in the Chooadangah subdivision of the Nuddea district, where the whole country from the railway will be seen covered with the red ripening fields, and are largely exported to Calcutta. The *peepool* or black pepper is a condiment under careful cultivation. The creeper is planted in the beginning of the rains, and as it grows in shade the seeds of the stout *dhonicha* hemp plant are sown near the lines, which, as they grow, afford shelter to the creeper. The annual exports of turmeric from Calcutta are about 50,000 cwts., and of ginger 10 to 20,000 cwts. The export of turmeric last year was very much below the average. The cultivation of *pan* or the betel leaf, is extensive everywhere. It is a creeper and cultivated in gardens under cover, which are styled *borroz*. The caste of Barooes have the exclusive monopoly in the cultiva-

tion of the plant. The crop is sown on high land, which must be free from inundation. Each garden lasts for a few years only, and the first green leaves, especially those plucked in the early spring, are said to be preferred by those who indulge in the luxury. The *supari*, or betel-nut, is also common in Eastern Bengal, especially in Tipperah, Backergunge and Dacca, and is very profitable to the proprietors of land. It bears fruit in the eighth year, and is most productive from that time to the sixteenth year, when the produce falls off. The nuts are gathered in November.

Commercial Staples.—The most important commercial staple in Bengal is jute (*Corchorus olitorius* and *C. capsularis*), known in Bengal as *pat* or *kosta*, the two words being used indiscriminately to denote the same thing,—sometimes together (*kosta pat*), sometimes separately. The plants attain a size that allows fibres of 12 feet in length to be separated from them. The fibre is long, soft, and silky, and attention has been called to it as a substitute for flax; but the great trade and principal employ of jute is for the manufacture of gunny for bags, bedding, cordage, &c. The wonderfully rapid increase in the quantities exported sufficiently indicates the extension of the cultivation from year to year.

Not only high, but also low lands, are adapted to the growth of the jute; the only thing for consideration being that there may be no water when the plant is very young, but after it has once risen to about 1½ feet high no quantity of water can injure it. The crop is sown in April and cut in August. The jute cultivation has been a great relief to the ryot. It is his resource during a calamitous year for paddy, and enables him to lay up something annually for bad times. The cultivators, after clearing and drying the jute, sell the fibre to the *faria* or *paikar*, who frequents the local *hats* and villages for the purpose of making purchases. Then he takes to the *mahajun* or wholesale dealer, who has either advanced to him money for the purchase or gives him a profit on the quantity he has brought in. Then the small bundles are broken up and the fibre is again dried and rolled into huge circular bales, in which form it finds its way to Calcutta before transhipment. By steamers alone 1,508,900 maunds of jute were exported from Serajgunge, the principal mart in Eastern Bengal. It is probable also that at least twice this amount was exported in country boats.

The districts in Bengal which grow jute most largely are Rungpore, Mymensingh, Bogra, Dacca, Pubna, Dinagepore, Hooghly, 24-Pergunnahs, and a portion of Goalparah. The jute

of very best quality is grown in Rungpore, Goalparah, and some parts of Mymensingh. The staple is also grown, more or less, over most parts of Bengal Proper, but not at all in the frontier hills or the dry districts of Behar. In Orissa the cultivation is very slight, and hardly sufficient to meet the demands of local consumption. The export of jute, including cuttings and rejections, has increased from 25,13,690 cwts. in 1863-64 to 70,61,937 cwts. in 1871-72. The export of gunny cloth amounted in 1872, to 106,624 pieces, though this was far below the average of previous years. In addition to this there remains the very large quantity of jute kept for local consumption. In the sub-division of Atteah, in the district of Mymensingh, it is said that jute is manufactured into paper, so that would seem to be no new discovery after all. *Mesta*, a sub-order of the jute plant, has long been used for the manufacture of native paper. Sir George Campbell appointed a Commission to report upon the jute cultivation and trade.

Sunn (crotalaria juncea).—This is not the true hemp, though it is known in the trade and is exported under the name of *sunn* hemp. It is cultivated and raised principally by the fishermen caste, and its chief local use is in the manufacture of nets and cordage for boats, &c. A considerable quantity of this fibre is made into lines and shipped to Australia.

Dhunchee or *dhunecha (sesbania aculeata)* grows in low, wet soils, to the height of from 10 to 12 feet, yielding fibres from 6 to 8 feet in length, but they are coarser and more harsh than those of hemp. It is considered, however, to be more durable in water than either *pat* or *sunn*, and is much used by fishermen for drag-ropes to their nets. It is a hardier plant than jute.

Ganjah (cannabis sativa), the true hemp, is cultivated largely for the sake of the intoxicating drug manufactured therefrom, and for the sake of the leaves, which are smoked and cause intoxication. As an exciseable product *ganjah* is of the very greatest importance. Its cultivation is at present confined to a single tract of land lying on the north of Rajshahye, to the south of Dinagepore, and to the south-west of Bogra. The value of *ganjah* exports from Rajshahye is now estimated at two lakhs of rupees. Thirty years ago the value of the export was only Rs. 40,000. The weight of *ganjah* exported from the district in 1871-72 amounted to 12,308 maunds. *Mushina*, মসিনা *(linum usitatissimun)*, the *teesee* and *ulsee* of the North-West and Behar, is the common flax, but is grown only for the seed for making oil.

Oil-seeds indeed are very largely grown over the whole of Bengal and poured from all parts of the country into Calcutta.

The largest cultivation is along the banks of the Ganges, and especially in the districts of the Patna and Bhaugulpore divisions and in Assam. The principal oil-seeds are *sarsoo* (mustard), *teel* (sesamum), and *teesee* or *mushina* (linseed). The white and dark-red species of mustard and linseed are in many parts of Bengal the staple produce of the cold weather crops. They are sown in October and November and reaped at the close of the winter season; *sirgoojah* or *sóoar goozee*, and *tára goozee*, are oil-seed crops cultivated and reaped at similar seasons. Of all descriptions mustard oil is the most largely consumed and most relished. Throughout the hills of the northern and eastern frontiers of these provinces, including the newly acquired Garó territory, *cotton* is a most important staple. There is an enormous importation of English cotton piece-goods into every district in Bengal. The valuable export of raw cotton, of which about four millions sterling in value annually leaves Calcutta, is received from Western India.

The cultivation of the date tree, and the manufacture of date sugar, are very extensively carried on in the deltaic districts of Jessore, in part of Nuddea, in the subdivision of Bisirhat and Satkhira, in the 24-Pergunnahs, and to some extent in Furreedpore. It is a popular and profitable cultivation for the ryots, who grow the trees in clusters about their houses, on the boundaries of their fields, and occasionally in large open gardens occupying broad areas of land. The juice is extracted from the trees during the cold season. It has been estimated that after deducting expenses the ryot clears a profit if six annas per tree, besides the advantage he enjoys for raising a cold weather or rice crop in the ground occupied by the date garden. A tree yields five seers a season, and may go on yielding for 20 or more years. As many as 100 trees are frequently planted in a beegah of land. *Goor* and date sugar are enormously consumed in the districts of their manufacture, and yet are freely exported also. The genuine *sugarcane* plant in these localities has been fairly driven out by the date, and is now languishing. It is, however, largely cultivated elsewhere in Bengal and Behar.

With the exception of Rungpore and the Dooars and a part of Tirhoot and Purneah, there is hardly a district of Bengal in which tobacco is sown for trade and export. Tobacco is, however, universally grown to a certain extent for local consumption. The ryot takes up a small plot of land at his homestead near his cow-house, for the convenience of manuring the land, as he always, if possible, manures his tobacco crop. In Baraset and elsewhere, where indigo cultivation has been extinguished, tobacco has been found to thrive well on the indigo lands.

Tea is cultivated to a greater or less extent in the five divisions of Assam, Dacca, Cooch Behar, Chittagong, and Chota Nagpore. The records of the different district officers show that the area of waste land held by persons connected with the industry is 804,582 acres, and that out of this area 70,341 acres are actually cultivated with tea; but this is probably an underestimate. The outturn of this acreage is shown by the same authorities at only 14,670,171 pounds.

In 1874 the produce exported from Calcutta is expected to reach 23½ million lbs. The following figures show the rapidly increasing value of the Indian tea trade from Calcutta:—

	Rs.
1863-64	22,92,820
1864-65	27,34,750
1865-66	22,65,060
1866-67	36,27,032
1867-68	68,30,672
1868-69	86,04,414
1869-70	1,01,69,786
1870-71	1,08,35,027
1871-72	1,35,88,583
1872-73	1,52,35,270
1873-74	1,69,26,991

The average yield per acre calculated upon the entire cultivation is said to be about 208 lbs. This amount, though falling far short of the sanguine expectation of the first days of tea planting, is amply remunerative.

Although in Bengal proper the area of *indigo* lands is much reduced, in Behar it has increased, and the total annual outturn and export of the country is now hardly less upon an average than it was thirty years ago. The average may be said to be about 100,000 maunds, valued at two millions sterling:—

Years.	Quantity.	Value.	Years.	Quantity.	Value.
	Mds.	Rs.		Mds.	Rs.
1843-44 ...	1,60,228	3,19,16,914	1858-59 ...	84,212	1,74,38,771
1844-45 ...	1,29,483	2,58,05,362	1859-60 ...	96,142	1,54,02,546
1845-46 ...	1,04,178	1,94,83,586	1860-61 ...	1,00,364	1,60,75,111
1846-47 ...	1,00,747	1,60,88,846	1861-62 ...	68,710	1,09,98,005
1847-48 ...	92,234	1,45,24,414	1862-63 ...	98,126¾	1,55,36,740
1848-49 ...	1,24,010	1,97,77,777	1863-64 ...	83,270	1,33,60,475
1849-50 ...	1,05,184	1,67,53,728	1864-65 ...	92,558¼	1,48,84,724
1850-51 ...	1,08,162	1,71,78,836	1865-66 ...	94,719¼	1,50,01,271
1851-52 ...	1,17,004	1,82,16,536	1866-67 ...	1,01,884	1,63,31,785
1852-53 ...	89,691	1,42,88,481	1867-68 ...	86,484	1,38 14,248
1853-54 ...	1,07,368	1,70,12,060	1868-69 ...	95,820	2,21,27,244
1854-55 ...	88,341	1,42,57,802	1869-70 ...	80,090	2,28,89,925
1855-56 ...	1,23 552	1,87,84,900	1870-71 ...	86,473	2,28,52,025
1856-57 ...	98,151	1,97,66,431	1871-72 ...	91,179	2,46,66,761
1857-58 ...	83,301	1,34,58,121	1872-73 ...	1,62,860	2,70,40,804

Opium Monopoly.—The cultivation is carried on with success only in the large cultivated Gangetic tract, which extends from the borders of Oudh to Agra on the west, and to the district of Bhaugulpore on the east, and to the division of Chota Nagpore on the south. The manufacture is carried on at two separate agencies,—that of Benares, of which the head station is at Ghazeepore, and that of Behar, of which the head station is at Patna. The area under cultivation in the Behar agency amounted in 1872, to 330,925 acres; in Benares to 229,430 acres; or in both agencies together, to 560,355 acres. The extent of land under poppy cultivation in the Behar Agency was 1,34,589 beegahs in Chumparun, 111,340 beegahs in Gya, and 88,182 in Saran. In Patna it was 39,000 beegahs, in Shahabad 36,000, in Monghyr 38,000. The opium beegah is equal to 3,025 square yards, or about five-eighths of an acre. The number of chests of opium sold in (1873) was 42,675, the amount realized was Rs. 6,06,77,013, and the net revenue Rs. 4,25,93,759.

The manufacture of *Silk* is a staple industry over a considerable part of the Rajshahye and Burdwan divisions. The mulberry tree is extensively and exclusively cultivated as food for the silk worm. Almost any land which will not suit rice will suit mulberry. The manufacture is for the most part carried on by European capital, and superintended by Europeans. In the southern part of Rungpore silk culture is carried on, but the cocoons are chiefly exported to Bogra and Rajshahye. In the district of Rajshahye it is said that the average outturn of the produce of the European filatures would be about 1,920 factory maunds, which at Rs. 25 a seer will give a value of Rs. 19,20,000. The average outturn from native filatures in the same district is estimated at 3,000 maunds, worth, at the rate of Rs. 15 a seer, Rs. 18,00,000. In Maldah the outturn is estimated at 620 maunds from European factories, of which the value may be Rs. 6,20,000, and 1,500 maunds from factories under native management, valued at Rs. 9,00,000. In Midnapore the value of the silk made in the district is valued at no less than thirty-two lakhs of rupees, and its manufacture is said to contribute, directly or indirectly, to the support of 150,000 people. There are also important silk filatures in the north-east of Beerbhoom. The manufacture of silk is said to be in a less prosperous condition than formerly. It is stated that mulberry lands are in some places already making way for the cultivation of jute. The number of bales of Bengal silk exported during 1872 from Calcutta amounted to nearly nine thousand, which is considerably below the average of previous years.

The *Cinchona* cultivation in Bengal has attained a point which promises success. The plantations were begun some ten years ago at Rungbee, near Darjeeling, in a long narrow Himalayan valley. After more or less disappointment, the plantation began to thrive in 1867-68, and there are now about 2,000 acres of Government cinchona plantations, in which the trees are from four to thirty feet high, according to their age. The varieties of cinchona which flourish best are the *C. succirubra* and *C. Calisaya*, but there is yet little of the latter. There is also an experimental cultivation at Nunklow, which consists mainly of *C. officinalis*, a species which had not been found to prosper at Rungbee.

The experimental cultivation of Ipecacuanha has also been attempted on some land on the lower spurs near Darjeeling, and also on the level land below. The experiment is still in its infancy, but it promises well.

There is a brisk trade in lac and safflower dye. The quantity of India-rubber exported from Calcutta in 1872-73 was 16,149 cwts., valued at Rs. 11,86,852. The Custom returns show that the export of saltpetre from the port of Calcutta is about 400,000 cwts. An Economic Museum was established in Calcutta.

Madras.

Weather, Crops and Prices.—The year began with a cyclone, which did considerable damage in four districts and made itself felt in two more. The north-east monsoon also commenced early and was very heavy, causing inundations in the Godavery and Kistna Districts, so that, although the season was decidedly good on the whole, the harvests suffered in most places from unseasonable or too abundant rain.

The decline in prices was arrested by the deficient harvests of 1871-72, but they did not rise to the level of 1870-71.

Items.	1867-68.	1868-69.	1869-70.	1870-71.	1871-72.	1872-73.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Price of Rice, 2nd sort, per garce	395	380	383	326	292	320
„ Paddy, do. do. ...	179	170	168	140	125	139
„ Cholum, do. do. ...	224	206	194	173	151	168
„ Cumboo, do. do. ...	207	188	181	158	141	154
„ Raggi, do. do. ...	219	196	182	155	131	141
„ Veragoo, do. do. ...	158	134	126	128	93	127
„ Wheat, do. do. ...	623	499	552	663	515	486
„ Salt, do. do. ...	299	296	316	337	339	338
„ Cotton per candy ...	124	114	146	135	114	127

Agriculture.—The Experimental Farm and the Model Farm at Sydapet are the only Government Farms. The year was unfavourable for both. On the Experimental Farm attention was chiefly directed to implements and machines, with which some useful experiments were made. The result of top-dressing with castor-oil cake and ground-nut cake was all that could be desired in the case of fodder crops, such as cholum, combu, gram, &c., and with paddy top-dressing with oil-cake produced better results than with the manure applied in the usual way. A sample of the wool produced at the farm was valued in England at 11*d.* per pound, but in Madras it was difficult to find a sale for it a 1½ annas. In the *Cinchona* Plantations on the Nilgiris propagating operations were entirely confined to the new species and varieties of Pitao bark, and *C. angustifolia*, the total number of plants propagated being 12,602. The number of plants in permanent plantations on the 1st April 1873 was 2,640,081, or 1,170,029 exclusive of the young plants in the nurseries and propagating houses. Fifty-eight of the plants put down in permanent plantations in 1862 were cut down during the year under review as an experiment in coppicing. Among these was a plant 36 feet in height. The largest of twelve measured plants of *C. succirubra* planted out at the same time was 30½ feet in height with a circumference of stem of 28 inches. The quantity of green bark supplied during the year for the manufacture of amorphous quinine was 83,894 pounds. It is now found that about two years' growth is necessary before renewed bark can be taken. In the Malakondah Plantation, which was abandoned as an experiment in 1871, the stronger plants were found to have maintained a fair growth, but it seems probable that some slight expenditure in clearing will be necessary to prevent the smaller plants being smothered by weeds and jungle bushes.

The following table shows the extent and assessment of the crops under cultivation exclusive of Malabar and Canara from which no information as to the *extent* cultivated is procurable. The total assessment, inclusive of these two districts, was Rs. 3,50,07,345, being Rs. 5,02,006, in excess of that for the previous year. The area cultivated with cotton increased by 117,982 acres, chiefly in the districts of Tinnevelly, Coimbatore, Kistna, and Cuddapah. The total area under cultivation was 1,678,301 acres. The cultivation of indigo also increased from 330,202 to 376,788 acres, notwithstanding a decrease of 11,240 acres in the district of South Arcot :—

Dry	Extent	Acs.	14,129,124
	Assessment	Rs.	1,53,06,615
Wet	Extent	Acs.	3,124,486
	Assessment	Rs.	1,66,43,720

North-Western Province.

Weather, Crops and Prices.—The disappointing outturn of the spring harvest of 1871 lowered the food stocks and caused a considerable amount of general distress, which was felt throughout the whole of 1872-73, and which the crops of that year were not such as to relieve. The rains of 1872 were much heavier than the average, and ended earlier than usual. The autumn crop was, on the whole, a poor one in consequence, especially in the eastern districts, where the rain was heaviest; cotton alone was a little above the average. The usual Christmas rain was almost entirely wanting, and as the ground was drier than usual, through the early cessation of the rain in September, the spring crop suffered much from drought, and, except where protected by canals or wells, the outturn was very small. On the whole, the year was one of agricultural adversity.

The rate throughout the year was generally a little higher than that of April 1872, and the average prices were for these three staples 20 per cent. higher than in the preceding year.

	Average price of 1871-72.		Average price of 1872-73.	
	S.	C.	S.	C.
Wheat	22	15	17	26
Barley	32	15	25	17
Jowar	26	1	20	28

Agriculture.—An inquiry made by the Government of India gave occasion for the preparation of a report on the tea cultivation in the hill districts in the North-Western Province, showing its past history and the present average outturn of the crop. The tracts in which tea is grown are the valley of the Doon (which nowhere rises above 2,640 feet) and the hill ranges of Kumaon and Gurhwal, where the plantations vary from 3,000 to 6,000 feet in height above the sea. The following figures are believed to give a pretty accurate estimate:—

		OUTTURN.		
	Acres under Tea.	*Black.*	*Green.*	*Total.*
Debra, ...	1,801	3,692	407,856	411,548
Kumaon, ...	1,395	125,225	60,475	285,700

The manufacture of green tea in Debra, to the almost total exclusion of black, is due to the fact that it is bought up by Ca-

bulee merchants who supply Central Asia, where only the green leaf is in demand. The trade is increasing, and the Dehra crop not being sufficient, the merchants have this year for the first time penetrated Kumaon, and it is probable that in a very short time the planters there will only manufacture the green leaf as in Dehra. The opening up of this Central Asian demand has been a great source of advantage to the cultivation of tea, as the planters now get at their very doors the same average price as they before obtained in Calcutta after incurring the risk of the journey, and charges for freight, brokerage, and commission.

The same success has not attended the cultivation of *cinchona* and the attempts to nationalise it in the Himalayas, or in the North-Western Province, have now been abandoned. The plant is exceedingly liable to injury from frost, and has often, after being grown under protection till it reached a considerable height, been cut down in a single night. The experiment has been made in all kinds of altitudes, but as no place in the North-Western Province is entirely free from frost, it has nowhere succeeded, and has at last been given up.

On the other hand, the attempt to cultivate silkworms has been taken up in the Doon, with some prospect of success. The Doon has many advantages. In its cool climate the mulberry grows freely. The women of the Goorkha Regiment stationed at Dehra are handy at reeling, and ready to undertake the work; the cocoons produced have been valued at a sum sufficiently amply to cover the cost of production; and there is a further possibility of creating a trade in the eggs, which are much sought after in Italy, and can be kept in the higher altitudes of the hills safe from hatching or spoiling.

Cotton.—The following table shows the actuals of 1872-73 and the official estimate for 1873-74. The actual result of 1873-74 was only 45,922,000lbs. from 979,771 acres:—

AREA AND OUTTURN IN MAUNDS OF 40 SEERS OR 80 lbs.

DIVISION.	1872-73. Actuals.		Outturn per acre.			1873-74. Estimate.		Outturn per acre.			Percentage. Increase.	Percentage. Decrease.
	Acres.	Mds.	Mds.	Srs.	Cht.	Acres.	Mds.	Mds.	Srs.	Cht.		
Meerut ...	2,78,846	3,48,571	1	10	0	2,17,504	2,00,755	0	36	15	...	26·12
Kumaon ...	3,598	2,178	0	24	3	5,812	5,699	0	39	4	38·37	...
Rohilcund ...	1,74,800	1,04,023	0	23	13	1,71,985	1,17,785	0	27	6	13·01	...
Agra ...	4,36,431	5,93,374	1	14	6	2,32,238	1,97,817	0	34	1	...	37·35
Jhansie ...	76,670	41,044	0	21	6	62,689	27,939	0	17	13	...	16·66
Allahabad ...	2,74,247	1,22,139	0	17	13	2,46,506	92,285	0	15	0	...	15·73
Benares ...	21,524	7,385	0	15	3	16,279	5,256	0	12	15	...	14·81
Total ...	12,66,116	12,18,664	0	38	3	9,53,013	6,47,536	0	27	3		

The actual outturn of 1873-74 with that of the eight preceding years is as follows :—

	Lbs.
1865-66	62,663,280
1866-67	85,684,920
1867-68	57,875,120
1868-69	44,137,840
1869-70	37,104,160
1870-71	76,387,600
1871-72	65,794,000
1872-73	97,570,480
1873-74	45,922,000

Bombay.

Weather, Crops and Prices.—The season of 1872-73 was on the whole favourable: the rainfall was plentiful, and the harvest, especially in the coast districts, abundant. Before the close of the year the price of grain had, in most parts of the Province, fallen considerably.

There has been a decided tendency of late towards a fall in prices, and except, perhaps, in the southern part of the Presidency, the condition of the agriculturist cannot be said to be prosperous. As a rule, he is in a chronic state of indebtedness, and is very much at the mercy of the money-lender. There is no reason whatever to believe that this state of affairs is owing to the undue pressure of the Government assessment. On the contrary, it may be assumed that, owing to ignorance and improvidence, the condition of the cultivating classes would not, in the long run, be materially benefited if they held their lands rent-free. The effects of the action of the Civil Courts have attracted the attention of many of the most experienced and thoughtful officials; and there seems a growing opinion, that the time has come when some steps should be taken towards checking the facilities now afforded for the satisfaction of debt by the forced sale of land; for ensuring the execution of decrees being carried out with a greater degree of care and fairness; and generally, for affording the agricultural classes some kind of assistance in their unequal warfare with their creditors.

In connection with this subject, a statement furnished by the Mint Master has considerable significance. It appears that during the past year ornaments, valued at more than fourteen and a quarter lakhs of rupees have been presented at the

Mint for conversion into bullion. This is a new feature in the business of the Mint, which appeared for the first time in the returns for 1871-72. The inquiries then instituted seemed to show, that the six and a half lakhs of rupees worth of ornaments presented during that year had come chiefly from Khandesh, and that their remittance was one of the results of the failure of crops in that district in the year 1870. The opinion is current among the bullion dealers connected with the Mint, that the greater portion of the ornaments has been remitted from the Deccan Collectorates. The realization, by the agricultural classes, of the hoards of previous years, hitherto locked up in an unprofitable form, may in some few instances be the result of increased intelligence. On the whole, however, there seems reason to fear that the parting with so large an amount of their ornaments indicates the pressure of straitened circumstances among the cultivating classes of the Deccan.

In the northern part of Goojerat, in the Ahmedabad, Broach, and Kaira Collectorates, no such abundant harvest had been obtained for years previously. The Collector of Ahmedabad noticed the very marked fall in prices that resulted, and which is evidenced by the following comparative statement:—

Description of Grain.	Quantity per Rupee per Standard Seer.	
	On the 31st March 1873.	On the 31st March 1872.
Wheat	12·5	10·8
Dal (Tur)	10·2	8·4
Barley	23·1	18·3
Rice, best sort	6·1	4·1
Rice, common	10·2	9·2
Bajri	18·6	14·

Agriculture.—The following statement shows the extent to which each product was cultivated during 1872-73:—

Names of Products.	Northern Division.	
	Acres.	Bighas.
Rice	782,150 36 12¾	18,062 7 5¼
Cotton	837,582 38 0	112,546 9 0¾
Jawari	941,342 2 7	41,874 2 12¼
Bajri	1,685,112 16 12	20,467 11 4
Wheat	524,173 32 14	42,392 14 0
Barley	20,592 16 0	.....
Sugarcane	21,377 28 0	.....
Vegetables and Fruits	30,511 14 4	53 16 16
Pulses	386,303 17 14	1,913 0 6¼
Tobacco	23,042 31 4	859 1 8
Indigo	7,290 17 0	705 18 16
Poppy	431 27 0	.....
Nagli	122,009 0 6	.....
Wari	63,243 18 8	.....
Miscellaneous products	1,036,468 7 3¼	42,564 11 10¼
Land lying fallow or Bid or grass land	1,465,747 11 3½	33,311 10 15¼
Total ...	7,946,373 25 10¾	314,751 3 14
Deduct land twice cropped ...	100,639 36 8	280 15 4¾
Net Remainder	7,845,753 39 2¾	314,470 8 9¼

	Southern Division.
	Acres. G. As.
Jawari	5,089,328 29 11
Bajri	2,603,553 29 6½
Rice	595,314 6 10
Wheat	520,713 27 15
Cotton	664,941 14 9
Sugarcane	35,250 14 5
Tobacco	23,693 13 1
Barley	2,494 32 0
Til and other Oil Seeds	257,874 12 8
Pulses including Gram and Kooltbi ...	705,242 12 14
Nagli	191,340 13 0
Wari	96,587 19 5
Harik	206,347 9 6
Cocoanut, Betelnuts, &c.	11,697 13 9
Miscellaneous	1,526,720 7 6¼
Fallow or grass land out of cultivation	1,333,387 18 3¼
Total ...	13,906,601 11 3
Deduct land twice cropped	198,985 10 8
Remainder	13,820,306 13 9

Statement showing the extent to which each of the Products of the Collectorates in Sindh was cultivated in 1872-73.

No.	Collectorates.	Jawari.	Bajri.	Wheat.	Gram.	Rice.	Barley.	Mung and Orid.	Mattar.	Oil Seeds.
		Acres G.	Acres G.	Acres G.	Acres G.	Acres G.	Acres G.	Acres G.	Acres G.	Acres G.
1	Frontier ...	51,297 2	14,693 0	28,620 0	1,641 0	2,440 0	3,173 0	573 0	1,790 0	45,045 38
2	Shikarpoor ...	209,445 27	20,565 21	173,218 16	24,283 20	280,457 25	2,698 5	19,903 15	...	87,340 8
3	Hyderabad ...	130,210 0	177,731 0	30,185 0	...	88,140 0	3,575 0	13,321 0	...	36,877 0
4	Kurrachee ..	65,187 0	33,372 0	28,024 0	3,569 0	156,493 0	8,671 0	5,483 0	5,701 0	11,571 0
5	Thur and Parkur...	65,575 38	115,245 12	17,902 21	...	104,120 27	.....	...	...	70,212 0
	Total ...	521,715 27	361,606 33	277,949 37	29,493 20	631,651 12	18,117 5	39,280 15	7,491 0	251,046 4

No.	Collectorates.	Nagli.	Sugarcane.	Cotton.	Tobacco.	Indigo.	Flax.	Vegetables.	Other Products.	Total.
		Acres G.	Acres G.	Acres G.	Acres G.	Acres G.	Acres G.	Acres G.	Acres G.	Acres G.
1	Frontier ...	...	...	341 0	20 0	700 0	...	23 0	1,125 26	151,982 24
2	Shikarpore ...	458 24	808 18	11,945 27	3,304 29	1,771 16	Hemp. 12 8	2,364 21	15,077 26	803,655 26
3	Hyderabad ...	...	1,012 0	30,633 0	3,931 0	2,510 0	Flax. 150 0	...	12,848 0	531,123 0
4	Kurrachee ...	1,105 0	957 0	1,060 0	380 0	...	...	4,146 0	21,658 0	347,377 0
	Thur and Parkur...	...	...	7,524 23	25 20	...	...	...	...	380,606 21
	Total ...	1,563 24	2,777 18	52,004 10	7,641 9	4,981 16	162 8	6,533 21	50,709 12	...

Taking the Province as a whole, jawari is the staple most greatly cultivated, and then follow bajri, rice, cotton, wheat, pulses, &c.

There were two model Farms at Hala, near Hyderabad, in Sindh, under the supervision of Mr. Strachan, and the other under Mr. Fretwell in Khandesh. It is hoped that funds may be forthcoming to establish two more farms, one in the Southern Maratha Country near Dharwar, and another in Goojerat near Surat; and that in this way employment may be found for all the five skilled practical agriculturists who have come out from England.

For some years endeavours have been made to propagate the *Cinchona* tree at Lingmala, near Mahableshwar. The attempt cannot be said to have been successful. A large sum of money, amounting in all to Rs. 58,533, has been expended on the plantation since its formation in 1864. In the month of April 1873 there were 10,203 trees of different sizes.

Cotton.—A general increase of land under cotton cultivation took place in all the divisions of the Province; as appears from the following statement:—

Statement showing Area of Land in the several Divisions of the Bombay Province under Cotton Cultivation during 1872-73 *as compared with that under Cultivation in the preceding year.*

Divisions.	Land under Cotton Cultivation during 1871-72.	Land under Cotton Cultivation during 1872-73.	Increase in 1872-73.	Decrease in 1872-73.
	Acres. gs.	Acres gs.	Acres gs.	Acres gs.
Northern Division ...	962,150 11	1,052,078 7	89,927 36	...
Southern Division ...	1,020,343 1	1,052,113 18	31,770 17	...
Sindh	50,705 23	50,942 37	237 14	...
Native States ...	1,346,738 24¾	1,560,810 32	214,072 7¾	...
Total ...	3,379,937 19¾	3,715,945 14	336,007 34¾	...

The total increase thus amounted to the large number of 336,007 acres. The present increase of area will fall short of that under cotton in the year 1870-71 by 20,327 acres, and the estimated outturn by 23,273 candies. From the estimates of the past three years, it appears that in the season 1870-71 about 13-1/7 acres produced 1 candy (784 lbs.) of clean cotton; in 1871-72 it required 15¼ acres to yield 1 candy; and in 1872-73 the same quantity was produced by about 14¼ acres.

Punjab.

Weather, Crops and Prices.—The year 1872-73 opened with a good spring harvest. A more than usually copious rainfall, averaging 31 inches, resulted in an excellent autumn crop and extensive preparations for the spring harvest of 1873. The area of land sown increased from 17,928,140 to 19,177,986 acres; and the price of food grain continued to fall,—the average price of wheat being 20 seers, 5 chittacks, per rupee in 1872-73, and 19 seers, 12 chittacks, in 1871-72. There was a decided increase of activity in manufactures,—the total estimated value for the whole Province being Rs. 46¼ lakhs in excess of the estimate for 1871-72. In particular the recorded outturn of silk manufacture was nearly double that of the previous year, and the statistics of the shawl trade give evidence of recovery from the depression caused by the Franco-German War. Tea cultivation in the Kangra Valley began to yield good profit. The 28 plantations produced 428,655 lbs. of tea, for which there was a good local demand.

The following table shows the average prices for the past two years in seers (of 80 tolas) per Government rupee :—

	1st June 1871.		1st January 1872.		1st June 1872.		1st January 1873.	
	S.	C.	S.	C.	S.	C.	S.	C.
Wheat, 1st sort	20	14	18	9	20	0	20	10
Flour, 1st sort	17	15	16	15	16	15	17	1
Barley (*jow*)	30	14	25	7	29	2	27	8
Gram	21	5	19	4	19	8	22	7
Indian-corn (*makkai*) ...	25	7	22	10	21	8	27	0
Great millet (*Joar*) ...	26	12	28	7	20	15	30	12
Spiked millet (*bajra*) ...	22	5	21	9	18	7	23	9
Rice, 1st sort	7	14	7	12	7	11	5	9
Urd dal (*phaseolus radiatus*) ...	14	12	14	7	13	5	16	7
Potatoes	10	6	11	5	10	4	13	10
Cotton, cleaned	2	11	2	10	2	4	2	10
Sugar, 1st sort	2	12	2	2	2	8	2	9
Butter, clarified (*ghi*) ...	1	9	1	9	1	7	1	10
Firewood, 1st sort	121	6	117	15	94	0	116	0
Tobacco	7	0	7	1	6	15	7	2
Salt, Lahori	9	3	9	2	12	3	12	5

Food grains were rather cheaper in 1872-73 than in the former year.

Agriculture.—The area of land sown during the two years was as follows:—

	1871. Acres.	1872. Acres.
Spring crop	9,001,492	9,902,744
Autumn crop	8,926,648	9,869,242
TOTAL ...	17,928,140	19,771,986

The principal spring crops in the two years were :—

		1871. Acres.	1872. Acres.
Food Grains ...	Wheat	5,366,977	5,716,867
	Barley	1,658,002	1,795,843
Pulses ...	Gram	903,158	1,247,936
	Peas	106,875	111,900
	Lentils (*masur*) ...	143,842	167,726
Oil-seed ...	Mustard (*sarson*) ...	257,848	288,159
	Taramira	119,586	129,583
Vegetables		142,163	140,122
Tobacco		91,188	87,127
Spices, miscellaneous		139,726	110,873

There is a slight decrease in the last three, but all the others show a large increase; the cultivation of gram, which showed a decrease in 1871, fully recovered itself.

The area under cultivation for the principal autumn crops during the past two years was as follows :—

		1871. Acres.	1872. Acres.
Food Grains ...	Rice	660,817	728,973
	Great millet (*joar*) ...	1,925,221	2,149,029
	Spiked millet (*bajra*) ...	2,480,056	2,648,944
	Italian millet (*kangni*) ...	98,905	110,617
	Indian corn (*makki*) ...	882,170	907,203
Pulses ...	Moth (*phaseolus aconitifolius*)	752,323	955,187
	Mash (*phaseolus radiatus*) ...	287,223	301,775
	Mung (*phaseolus mungo*) ...	225,579	302,405
Oil-seed, Til (*sesamum*)		133,108	168,724
Cotton		695,108	789,762
Indigo		67,648	71,713
Vegetables		77,054	108,489
Sugar-cane		333,645	372,816

In each of these crops there was an increase in 1872 in the breadth of land under cultivation compared with the previous year.

Oudh.

Weather, Crops and Prices.—The harvests of 1872-73 were not much below the average, but the failure of the usual winter rains was unfavourable to the crops. For two years previously the seasons had been bad, and this, together with other causes

led to high prices and a good deal of distress throughout the Province. Food being dear and scarce there was a great increase in the number of petty thefts, and although corporal punishment was resorted to more freely than during the preceding year, the number of persons sent to prison was greater than in any year since the annexation of the Province. To add to the distress of the rural population many head of cattle were carried off by murrain.

Prices of Labour.

District.	Wages per diem.						Cart Per day.			Camel per day.			Donkeys per score per day.			Boat per day.		
	Skilled.			Unskilled.														
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Lucknow, ...	0	4	0	0	2	0	0	12	0	...			3	12	0	3	0	0
Unao, ...	0	4	0	0	2	0	0	8	0	...			2	0	0	2	0	0
Bara Banki, ...	0	3	6	0	1	5	0	8	0	...			3	12	0	1	8	0
Sitapoor, ...	0	4	0	0	2	0	0	8	0	0	6	0	1	4	0	0	8	0
Hardui, ...	0	4	6	0	1	6	0	9	0	0	8	0	2	8	0	1	14	0
Khereo, ...	0	5	5	0	3	3	0	12	0	0	8	0	2	8	0	1	0	0
Faizabad, ...	0	4	0	0	2	0	0	12	0	0	6	6	2	4	6	1	4	0
Bharaich, ...	0	7	0	0	2	6	0	8	0	0	8	0	0	12	0	0	10	0
Gonda, ...	0	5	2	0	1	9	0	12	0	...			...			0	9	4
Rai Bareilly, ...	0	3	6	0	2	0	0	10	0	0	8	0	2	8	0	1	8	0
Sultanpoor, ...	0	4	0	0	1	6	0	8	0	0	4	3	2	3	0	0	10	0
Pratabgurh, ...	0	4	8	0	1	6	0	14	0	0	6	0	2	8	0	4	5	0
General average, ...	0	4	5	0	1	11	0	10	1	0	6	10	2	5	9	1	9	0

Agriculture.—The following statements show that 8,020,290 acres were under cultivation, being 524,600 acres more than during the preceding year. The areas under rice, other food grain, (wheat excepted) sugar, cotton, indigo, fibres, tobacco and vegetables were larger than in the previous year, while less land was given to wheat, oil seeds and opium. Produce of every kind rose in money value. In wheat this rise was particularly marked, the average price having increased from Rs. 1-10-9, for a maund of the first quality to Rs. 2-2-9, and for the second quality from Rs. 1-9-0½ to Rs. 2-0-0.

Crops Cultivated in Acres, Actual or Approximate.

District.	Rice.	Wheat.	Other food grains.	Oil seeds.	Sugar.	Cotton.	Opium.	Indigo.	Fibres.	Tobacco.	Vegetables.
Lucknow, ...	31,463	82,826	1,09,987	1	15,803	400	1,160	14,727	1,200	1,100	6,917
Unao, ...	72,000	84,660	4,05,465	6,151	12,700	4,598	1,375	450	2,560	4,374	6,658
Bara Banki, ...	1,71,675	2,31,752	3,06,021	503	20,935	405	3,010	2,475	890	7,586	4,463
Seetapoor, ...	51,394	1,50,249	8,22,706	29,820	38,514	2,646	3,285	3	1,740	18,732	12,395
Hardui, ...	74,630	3,14,082	8,38,650	17,560	23,306	13,040	4,604	1,420	6,430	15,260	24,762
Kheree, ...	1,03,526	1,23,211	4,21,841	13,253	15,834	5,424	522	...	359	1,037	10,343
Faizabad, ...	1,17,288	1,21,373	2,97,855	3,888	49,385	2,983	8,050	505	978	6,676	5,181
Bharaich, ...	1,50,500	1,00,000	4,50,000	40,000	8,590	10,000	2,182	30	2,200	1,200	675
Gonda, ...	4,20,317	1,69,561	3,30,445	66,915	11,210	3,999	11,159	342	179	2,155	2,085
Rai Bareilly, ...	80,147	1,49,477	3,42,332	1,997	1,896	2,082	7,205	25	75	1,656	9,884
Sultanpoor, ...	1,57,563	91,488	3,11,255	1,350	19,435	53	3,898	2,913	1,512	4,121	4,695
Pratabgurh, ...	80,042	1,09,225	2,31,638	448	9,663	1,494	809	4,129	2,080	5,677	4,261
Total, ...	15,10,545	17,27,899	48,68,195	1,81,886	2,27,271	47,124	47,259	27,319	20,183	69,574	92,389

Central Province.

Weather, Crops and Prices.—The year 1872-73 was agriculturally a prosperous one. The year had begun with high prices and they continued high till the first harvests had been gathered in and brought to market. The greatest rise in prices was in the Sagur and Dumoh districts, where the prices of grain ruled almost double what they had been in 1871; nor did they go down again in spite of the excellent harvest that was reaped,—a circumstance that can only be ascribed to an increased export. In other districts prices resumed, or at any rate approached, their ordinary level as soon as the new grain appeared in the market.

Agriculture.—The area under cultivation during the year was estimated to be 13,608,016 acres. In 18 districts, excluding Sumbulpoor, in which Settlement operations were carried on, the average under each crop was:—

	Acres.
Rice	3,415,418
Wheat	3,548,653
Other food grains	4,805,344
Oil-seeds	810,799
Sugar-cane	83,777
Cotton	719,767
Opium	5,859
Fibres	15,031
Tobacco	51,798
Vegetables	42,433
Other crops	109,466

As compared with the previous year, there was an increase in the land brought under the plough, amounting to nearly 250,000 acres. The increase was in land sown with rice, wheat, other food grains, oil-seeds and cotton; the area under sugar-cane, fibres, vegetables and others, showing a decrease.

Rice and wheat appropriate to themselves an area very nearly equal. They constitute as nearly as possible 50 per cent of the total cultivation; other food grains, consisting chiefly of jawari, kodo, kutki and pulses, take up about 35 per cent; oil-seeds a little over 6 per cent, and cotton somewhat over 5 per cent.

Burma.

The Administration Report for 1872-73 has not appeared. The statistics of cultivation in 1872-73 will be found at page 261, and of the export of rice at page 262.

Coorg.

Agriculture.—The following comparative statement shews the extent of land under cultivation of rice and other crops.

Crops.	1871-72. Acres.	1872-73. Acres.	Increase.	Decrease.
Rice	67,277	67,715	438	...
Ragi	1,395	1,382	...	13
Garden produce	72	72	...	...

Owing to the extension of cultivation of rice and other cereals, 596 acres of waste land were newly taken up, while 165 acres of cultivated land were resigned, thus shewing an increase in cultivation of 430 acres. The areca and cocoanut cultivation, coming under the head of garden, remained the same.

Coffee.—Coffee, though the produce of an exotic, is now a staple commodity of Coorg, and to it the Province owes much of its prosperity. The Coffea Arabica belongs to the N. Order Cinchonaceæ. It is a large erect bush with copious evergreen foliage, and if left to itself grows to the height of 20 feet with a stem four inches in diameter; but is by the European planter topped at the height of between four and five feet. The flowers grow in clusters at the root of the leaves close to the branches; are pure white, and fragrant, resembling the flower of the jasmine. The ripe berries are oval, deep purple and succulent; and are spoken of as "Cherry Coffee." They usually contain two seeds flat on the one side and round on the other; but in some one of the seeds is abortive, and the other assumes a rounded form for want of the mutual pressure that would otherwise have been given. Coffee of this kind is called "Pea Berry," and fancy assigns to it the highest value in the market.

In a few parts of Coorg coffee can perhaps be grown in the open; but, as a rule, the planter now-a-days retains some of the primeval forest shade or allows a secondary growth to spring up. The charcoal tree *(Spoinia Wightii)* which comes up spontaneously on all clearings in Coorg is very useful for purposes of shade. The jack fruit tree and the *Poinciane Regia* have also been found to be particularly suited to coffee and are planted out in large numbers.

The plant is propagated by cuttings or buddings; but is usually grown from seed, and on all estates there are large nurseries. The seed is put down in March or April and in fourteen months the plants are put out on the estate into small pits that have been prepared for them at a distance of five or six feet from each other. Much depends on the estates being carefully weeded, well roaded and drained, and on the plants being judiciously pruned. They give their maiden crop generally in the 3rd year. The flowers appear in March, and gentle showers or heavy mists at

this time are much needed to set the blossom. By December the fruit has ripened, when it is gathered in baskets and taken to the pulper-house where the separation of the succulent part of the berry from the bean is effected.

The pulper is a cylinder, with a rough, indented surface fixed on a shaft and placed in a frame. It is made to revolve by bullock, hand or water power. The cherry coffee is fed into it from above by a spout and when bruised falls below into cisterns full of water. The beans are thus easily separated from the pulp and spread out on terraces to dry, and if this work is not carefully performed they become discoloured. The cylinder pulper often cuts the beans, and such coffee is called "pulper bit" and loses about 20 per cent in value. To obviate this a machine called the "Disc pulper" has been invented and is by many preferred. The pulp forms good manure. After the coffee is well dried it is put into bags and sent to the western coast or to Bangalore to be prepared for the home market. On the western coast the climate is not so favourable for drying coffee, and if by any accident the coffee is not shipped before the ports are closed in May the chances of loss are great. On arrival at the "coffee works" it is examined, and if necessary thoroughly dried before the process of husking commences. It is then fed by coolies into a large circular iron trough and crushed (yet so gently that the bean is not injured) by large broad iron wheels which worked by steam power revolve in this groove. This machine is called the "Peeler." The coffee then falls into a receptacle whence it is taken by an elevator and thrown into the "winnower" which separates the chaff (used afterwards as fuel to work the engine) from the beans. The latter are then thrown into long cylinders with perforations of different sizes which, revolving slowly, sort them into three classes. The largest beans fetch the highest price. They are then garbled by hand; and all broken, discoloured or pulper-bit beans constitute triage.

The charges for curing coffee and putting it on board ship are £5 per ton. The shipping charges to London through the Suez Canal are about £5 and round the Cape (a route now seldom used) £3 per ton. The Coorg Coffee very much resembles that grown on the Shevaroy and Nilgiri Hills. It is a flat middle-sized bean of an average weight, and as the parchment and silver skin are very thin, it is easily husked. Of the coffee grown in the bamboo districts of Coorg about 86 bushels go to make up a ton, whereas it takes 90 to 25 bushels of that grown in the heavy forest tracts to make up a similar weight. Occasionally an acre of land yields a ton of coffee, but on an

average even on a good estate, seldom more than six cwts. an acre is obtained. A coffee estate in good order should give a return of 50 per cent on the outlay.

The extent and assessment of coffee land held by European and Native planters in Coorg are:—

	1871-72.		1872-73.	
	Acres.	Assessment.	Acres.	Assessment.
European ...	47,333	.....	44,359	.....
Native	28,942	.....	28,947	.....
Total ...	76,275	93,106	73,306	88,646

While 2,974 were resigned by the European planters, an addition of five acres was made to the extent held by the Natives of the country.

Mysore.

The Season was good. In some places the rainfall though untimely was abundant, so much so that the staple crop, ragi, suffered to a small extent when about to be harvested, and paddy to a slighter degree. Some of the dry grains, *viz.*, dal, ballar and Bengal gram, also suffered to a small extent by unseasonable and heavy rain and insufficiency of sun-shine. The season was particularly favourable to coffee. During the year 1872-73, the total extent of land under cultivation was 5,263,532 acres, being an increase of 350,241 acres as compared with the previous year. The proportionate area cultivated with the various crops in 1872-73 was as follows:—

	1871-72.	1872-73.		1871-72.	1872-73.
Ragi, gram and other dry grains ...	66·04	70·4	Tobacco ...	·4	·4
Rice ...	24·5	18·3	Mulberry ...	·28	·2
Coffee ...	2·3	2·1	Vegetables ...	1·9	·1
Arecanut, &c.	1	1·6	Oil seeds ...	2·1	3·4
Cotton ...	·78	1·4	Wheat ...	·25	·2
Sugar-cane ...	·45	1			

Cinchona is cultivated on the Bababudan Hills in the Nugur Division, and on the Biligiriranga Hills in the Ashtagram Division. The results in the former were not promising, but the bark raised in the latter is equal to that of the Nilgiri Hills.

Berar.

The Season.—Succeeding a year of serious drought and difficulty which pressed hard upon all classes, there was in 1872-73 a

plentiful rainfall and, on the whole, a very abundant harvest.

The returns showing extent of cultivation for the last two years give the following totals :—

	1871-72.	1872-73.
East Berar	2,220,005	2,307,918
West Berar	3,112,959	3,384,003
Acres	5,332,964	5,691,921

The extent to which the principal crops were cultivated is shown in the following table : —

	East Berar.	West Berar.	Acres.
Rice	9,122	15,655	24,777
Wheat	183,589	255,889	439,478
Jowaree	966,156	1,141,652	2,107,808
Other grains	119,410	381,604	501,014
Oil-seeds	96,750	172,986	269,736
Sugar-cane	773	2,380	3,153
Cotton	801,999	864,015	1,666,014
Opium	422	1,168	1,590
Fibre	2,333	19,335	21,668
Tobacco	18,118	8,618	736
Other products	103,614	219,533	323,347

Jowaree and cotton are the staple crops of the province, and occupy, respectively, 37 and 29 per cent. of the entire area under cultivation. Rice was largely cultivated in the Bassim and Buldanah Districts; wheat in the Buldanah and Oomraottee Districts; jowaree is general everywhere. Opium was cultivated only in the Buldanah and Bassim Districts.

The following statement shows the prices of produce prevailing in the two Divisions of Berar:—

	1872-73.		
	East Berar.	West Berar.	Average.
	Seers per rupee.		
Clean cotton	2·5	2·1	2·3
Wheat	19·1	12·7	15·9
Gram	18·4	12·8	15·6
Rice	12·8	8·7	10·7
Jowaree	24·2	24·6	24·4
Oil-seeds	7·1	8·7	7·9
Tobacco	3·4	2·6	3
	Rupees.		
Plough bullocks each Rupees ...	42 3 6	50 0 0	46 1 9
Buffaloes „ ...	33 10 8	44 0 0	38 13 4

Agriculture.—The Berar cultivator follows a primitive system of rotation of crops. He manures very little, but, as much as he can, he is obliged to use so much dung for fuel that he has little to spare for his fields. Good culturable land is never enclosed for

hay and pasture, though plenty of grass is cut and stacked from wide uncultivated tracts; and the working bullocks are well fed, partly on this hay, more generally on the jowaree stalks and a little on cotton seed. Large droves of cattle, sheep, and goats, graze on bare commons and barren wolds. From wells the cultivators irrigate patches of wheat, sugar-cane, opium, and what we should call market garden produce. Here and there they get water from small reservoirs and surface streams, especially under the hills and to the southward. But in the Berar valley, which contains the rich land, water is scarce even for the drinking of man and beast; there is a dearth of grass and wood; hired labour is insufficient and dear.

Capital in agricultural hands is scanty. The cultivators are slowly (though surely) emerging out of chronic debt. Agriculture is supported by the good will with which all the small money-lenders invest in it, because there are no other handy investments which pay so well as lending on bond to the farmers. Cultivation is obliged to support the peasant and his family, to pay the State revenue, to return the capital invested, with not less than 18 per cent. interest to the Marwaree, and to furnish the Court fees on litigation whenever the rustic sees a chance of evading his bond. But the petty cultivator keeps his hold of the land; no one can make so much out of it as he can; and he is much aided by the customs of *metairie* tenancy and joint stock co-operative cultivation, which enable him to get cattle, labour and even a little cash on favourable terms. On the whole, the Berar cultivator is lazy and easy-going, starts late to his field and returns early. Neither hope of great profits nor fear of ruin will drive him to do the full day's work, which is extracted at such low wages from the English farm-labourer.

There are two Government Farms, at Oomraottee and Akolah.

CHAPTER II.

FORESTS.

THE Forest Department was organized in 1864 under Mr. D. Brandis, P. H. D. Six years after it had entered on its regular operations, or at the close of March 1872, the reserved forests and forest lands of India, omitting Bombay and Madras, were returned as follows, in square miles :—

Province.	Reserved forests.	Private and unreserved forests.	Total forest land.	Plantations.
Bengal	1,546	57,679	59,225	66
North Western Province ...	2,213	2,172	4,385	115
Punjab	2,404	586	2,990	14,071
Oudh	824	1,201	2,025	100
Central Province ...	1,954	27,426	29,380	318
Burma	179½	6,869	7,048½	2,004
Mysore... Teak ...	309¾	151	460¾	123
Mysore... Sandal ...				368
Mysore... Fuel ...				180
Coorg ... Teak ...	374	...	374	300
Coorg ... Sandal ...				600
Berar	685	1,413	2,098	355
Total ...	10,489¼	97,497	1,07,986	19,100

In Burma the cost of the work of demarcation varied from Rs. 15-4 to Rs. 53-7 per mile, according to the density of the forests through which the lines had to be cut.

In the Report for 1872-73 Mr. B. H. Baden-Powell, the officiating Inspector General, states that this is only a rough estimate. For Bengal, the figures were incorrectly given ; the "reserves" actually demarcated were only 105·3 square miles—all in Sikkim During the year under report 214¼ square miles in Assam were added to the list, and 362½ square miles in Assam and the Western Dooars were selected, but are not yet formally declared "reserved."

The following table shows the revenue and expenditure of the Department during the six years since 1866-67 :—

Revenue.

Provinces.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.	1871-72.	1872-73.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bengal ...	50,555	75,687	2,24,546	1,13,753	1,19,678	1,39,088	1,49,851
N. W. Province	5,77,954	5,11,191	6,53,389	7,26,255	8,65,076	10,33,134	16,42,856
Punjab ..	2,31,470	2,79,297	3,45,164	3,94,132	9,47,235	7,1[illegible],216	6,52,994
Oudh ...	2,01,246	66,454	1,31,82[illegible]	1,06,822	60,181	1,37,767	2,96,253
Central Province	3,67,095	3,49,493	5,50,55[illegible]	4,16,020	6,58,120	4,47,764	4,81,673
Burma ..	4,24,053	6,47,590	8,16,[illegible]71	9,84,773	8,18,124	7,72,399	8,27,569
Mysore ...	2,66,020	4,10,012	3,51,476	2,95,218	2,37,669	2,99,511	3,76,185
Coorg ...	31,934	77,746	74,448	1,08,152	74,067	92,453	84,424
Berar ...	43,574	53,446	84,556	1,45,481	1,77,329	1,55,548	2,59,861
Total ...	21,93,901	24,70,913	36,32,108	32,90,606	35,57,479	38,87,877	47,71,671
Total amount of *Expenditure* incurred on Conservancy and Working and Establishments	12,55,565	15,05,336	18,23,919	24,51,953	30,12,457	28,03,893	29,46,865
Surplus ..	9,38,336	9,65,577	12,08,189	8,38,653	5,45,022	10,83,933	18,24,808

CHAPTER III.

MINES AND MANUFACTURES.

Bengal.

Mines.— Of the mineral resources of Bengal, coal only has been largely developed. Iron, however, is at least as abundant as coal in many places. The largest and best coal mines of Bengal are in the Raneegunge subdivision of the Burdwan district, and in the division of Chota Nagpore. There are now altogether 44 coal mines at work, of which 19 turn out more than 10,000 tons of coal a-piece per annum. In the large and better mines coal is raised by steam from pits and galleries. In the smaller mines or workings coal is raised by hand-labour from open quarries. In the Raneegunge coal-field alone 61 steam engines, with an aggregate of 867 horse-power, are at work. Only one seam (or set of seams) of a less thickness than 8½ feet is worked, and the average thickness of the seams at the Raneegunge mines is about 15 or 16 feet. The pits are mostly shallow; very few are more than 150 feet deep. The Bengal Coal Company, with its mines at Raneegunge and westwards, is able to raise more than six million maunds of coal annually. The gross valuation of coal mines in Burdwan district has been registered under the Road Cess Act at Rs. 2,88,361. The coal-fields of the lower Damoodah and Burrakur are occupied for the most part by private companies; the coal-fields in Palamow belong to Government. The Rajhara coal mine in Palamow supplies coal for the Dehree irrigation works, and to some extent for the East Indian Railway Company. These mines comprise an area of twenty-five to thirty square miles, the seams being of an average thickness of from eight to ten feet, and the coal is said to be of fair quality. The East Indian Railway Company now generally burn in their engines coal from their own mines at Kurhurbari, which produce a coal of first-rate quality. There are great stores of coal for future ages in the Chota Nagpore division. The Eastern Bengal Railway and the River Steam Companies are at present the chief customers of the coal owners.

Arrangements have been under consideration for smelting iron in coal furnaces after the English method at Hazareebaugh and elsewhere. At present iron is smelted from ores of different kinds after the rude native methods in many parts of the coal districts, but there are no manufactories on the European method, and it is very desirable, in the face of the great rise in the price of British

iron, and the large and increasing demand for Railway iron of all kinds, to develope the production of the Indian iron works.

The districts of Assam are amply endowed with mineral resources. The Khasi and Jynteah Hills especially excel perhaps any part of India in respect of minerals. If there were only some addition to the population so enterprising and energetic, we might expect to have not only cattle and cinchona, cotton and fruit trees, but it is probable that the combination of the best coal, iron, and lime in one place, together with an iron-working population, might make these hills the best manufacturing district in India. The newly annexed tract of the Garo Hills may possibly much extend the field for such industries. The chief mineral products of the hills are iron, lime-stone, and coal. The iron ore excavated in 1872-73 is estimated at 5,000 maunds, the limestone quarried to be 1,550,000 maunds, the coal quarried to be 1,000 maunds. Smelted iron used formerly to be prepared for export more largely than at present. Of the sixteen known out-crops in the hills, Lakadong is the only field where coal is at present both plentiful and accessible. In the Lukhimpore district there are coal mines in the neighbourhood of Jeypore, and at the foot and along the slopes of the lower Naga Hills. They are really quarries, not mines; the coal lying in seams near the surface, and requiring no mining operations. In Seebsaugor there is a coal mine worked by the Assam Tea Company in the Naga Hills, for the privileges of working which an annual present is made to the Nagas. There is also coal of good quality in the Golaghaut subdivision. Surface lime was discovered at the foot of the Bhootan hills some two years ago. It is of a superior description, and it is believed that the quarry, though it does not extend over a wide area, might be profitably worked on a small scale.

In the Patna division there is a talc mine near Rujowlie in the Gya district, which is seldom worked now, though there seems to have been a certain amount of enterprise expended on these talc mines many years ago. Of other minerals there are stone quarries at Burrakur on the Gya hills, at Behar, and near Sasseram at Dhodund, and elsewhere on the Rhotas range; and there is a most valuable supply of limestone to be had, as soon as ever water-carriage is available, from quarries near Rhotas. Various minerals are found in small quantities on the hills in the south of Monghyr and Bhaugulpore; lead, silver, and copper, exist, and the lead has been pronounced a valuable mineral with a large portion of silver in it. There are several coal mines in the Damin in the Sonthal Pergunnahs, but only one is now worked.

Little is known of the mineral resources of Darjeeling.

Petroleum and coal are spoken of as existing; copper and limestone are known to exist. In the Western Dooars anthracite is known, and coal is believed to exist. In the Chittagong division traces of coal have been discovered in the Cox's Bazaar subdivision and in the Chittagong Hill Tracts. Iron ore has been discovered in the Lalmye Hills in Tipperah.

The total outturn of Bengal coal mines at intervals during the last fifteen years, has been as follows:—

	Maunds.	Tons.
1858	6,162,319	293,443
1861	7,785,085	370,718
1864	9,032,405	430,114
1867	11,847,178	476,841
1868	13,465,829	564,833
1869	13,236,563	485,390
1870	13,140,783	431,828
1871	10,896,317	399,531
1872	8,793,927	322,443

On the other hand the imports of coal for the five past years to the port of Calcutta have been:—

	Tons.
1868-69	54,461
1869-70	41,272
1870-71	64,000
1871-72	88,221
1872-73	48,714

Since the opening of the Suez Canal in 1869, there has been a falling off of 200,000 tons in the out-put of Indian coal.

Manufactures.—Besides the usual local handicrafts, especially weaving and spinning, the growth of the jute trade has given an impetus to the manufacture of gunny bags over all the eastern and central districts. Carpenters, blacksmiths, goldsmiths, potters, and oilmen, are settled in almost every village. The manufacture of beads of sorts, which are so universally worn as necklaces by the lower orders of Hindoos, is a very generally spread occupation. In this the women take a large part. The weaving of wicker and basket work is the special occupation of the Chumar or Moochee caste, and for these articles there is great demand in a community so given to agriculture. The native shoes are also always made by Moochees. The *sola* weed grows with the *Aoos* and *Amun* rice, and is manufactured into the *sola* hats or *topees* worn by Europeans, and into artificial flowers and ornaments for the native ceremonies. The different manufactures which are specially carried on in Bengal, and for which each part is most celebrated, are as follows:—

The manufactures of the Burdwan division are principally silk and indigo. Midnapore has also a specialité in small mats, which

are much used for sleeping on. Several places in the division are famous for their weaving and the manufacture of metal pots and pans. There is a lac manufactory at Elambazar in Beerbhoom. There are several rope manufactories at Howrah, as well as a large number of screw presses for cotton, jute, and fibres; also flour mills and iron foundries. In the town of Hooghly there are three native steam mills for pounding bricks into soorkee. There is a jute mill at Serampore, and yarn manufactory at Rishra. There is a large factory at Fort Gloster, fifteen miles down the Hooghly. Another jute mill is being built at Pulta Ghat. There is a brisk manufacture of paper for native use carried on at the Bally Paper Mills in the Hooghly district.

Indigo and date sugar are the staple manufactures of the Presidency division. Among other manufactures the fine cloths prepared by the weavers of Santipore in the Nuddea district deserve notice. A superior description of cotton cloth is also manufactured in the Satkeerah sub-division of the 24-Pergunnahs. In the Jessore and the 24-Pergunnahs there is a manufacture of shell-lime collected on the banks of the rivers and khals in the Soonderbuns. Nuddea is famous for its brass utensils, which are exported to various parts of Bengal. There are large jute mills and factories at Baranagore, and at Gowripore in the 24-Pergunnahs, as well as lesser factories.

Silk and indigo are the principal manufactures of Rajshahye. Moorshedabad specially produces silk cloth, articles of ivory, gold and silver filagree work, brass utensils and gunny bags; Dinagepore, coarse cloth and gunny bags; Pubna, gunny bags; Rajshahye and Bograh, silk cloth; and Malda, silk cloth and brass utensils.

There is no manufacture on a wholesale scale in the Dacca division except tea and indigo. There is a considerable quantity of coarse cloth for use by the lower orders made in all the districts; it is considered more durable than Manchester cloths. Date sugar is made in Furreedpore in sufficient quantities to be exported from the district. In the island of Dukinshabazpore and the south of Backergunge cocoanut-oil is made and exported to Chittagong and Calcutta. There is also a considerable trade in iron and brass implements and vessels of local manufacture. There is also some lac-dye manufactured here, and soap, known in the market as Dacca soap. The manufacture of finer cloths and muslin and kasheeda (cotton cloth embroidered) of the most delicate workmanship have made the city of Dacca celebrated in the past. The cheese known as Dacca cheese is the production of a village in the Kishoregunge sub-division of Mymensingh. A considerable quantity of gold and silver ornaments is exported

to Calcutta. Country paper is manufactured at Atteah in Mymensingh.

In the town of Chittagong and its environs the principal industries are carpentry, ship and boat-building, blacksmith's, brazier's, and gold and silversmith's work. Sea-going vessels of two, and even three, masts are built and launched here for the coasting trade and for voyages to Ceylon, the Laccadives, Cochin, and other Indian ports. The shipwrights are nearly all Mahomedans. The braziers make the usual domestic utensils of brass and copper, and the gold and silversmiths can execute plain or ornamental work to pattern, but do not seem to have any original designs like the Cuttack or Dacca men.

In Cox's Bazaar the Mughs make both silk and cotton cloth. The *daos* manufactured by the Mughs have a long blade fitted straight into the handle and widening towards the end, which is square; they are much heavier and more powerful instruments than the ordinary Bengali *dao*. Japanned boxes and other Burmese work are also to be had at Cox's Bazaar. In carpentry and joiners' work, especially as applied to house-building, the Mughs are much more expert than their Bengalee neighbours. Their wooden *kiangs*, or rest-houses, are well and solidly built, and some of the houses of well-to-do residents at Cox's Bazaar are not only substantial, but very picturesque and neatly ornamented. They are built entirely of timber raised on piles after the Burmese fashion. The roof is shingled, and with its surrounding verandahs and decorated gable-ends the whole presents an appearance not unlike that of a Swiss cottage. In the district of Noakhally country cloth is manufactured on a very small scale. Something is done in the manufacture of molasses from date-juice. Coarse cloth is the only article produced in Tipperah, and that in no large quantity. In the Patna division the manufacture of indigo and opium are of paramount importance. Sugar is made into molasses and sugar-candy in enormous quantities. Of minor manufactures, an inferior tusser silk is produced in Patna. Towels and bath linen are a famous product of the Barh subdivision, and skull caps of Behar. Tobacco manufactured, prepared for the hookah with spices, is a specialite of Patna. In Gya there is a small manufacture of tusser silk and carpets, and a specialite of ornamented carving in blackstone. Paper, blankets, and brass utensils are manufactured in Shahabad. The local paper manufactory is in the sub division of Sasseram on the banks of the Soane. In Sarun there is a local manufacture of coarse cloth, and the outturn of the ornamental brass work and pottery of the Sewan sub-division has acquired some celebrity.

The principal manufacture of Bhaugulpore is indigo. Firearms

and hardware of inferior quality are manufactured at Monghyr. The cabinet-makers of Monghyr are worth mentioning; a considerable amount of skill is evinced by them in making inlaid writing desks and other fancy cabinet wares, rosaries, necklaces, and bracelets. Monghyr is also famous for its baskets and other things made of bamboo. Tusser silk is a special manufacture of the district of Bhaugulpore.

In Orissa there is little to notice, except brass vessels and brass ornaments. Salt manufacture has kept increasing in Balasore and Pooree, but has declined in Cuttack. There are difficulties also of transport from Cuttack coast, which add to the charges and decrease the profits of Cuttack-made salt. Salt manufacture is the staple of Orissa, and is susceptible of unlimited development.

There are two lac factories at Jhalda in Chota Nagpore, and one large concern at Ranchee. Tusser silk is woven, and there are an immense number of weavers in this division. The bulk of the people are still content with country clothes, but among the upper classes the taste for English-made goods has spread as it has elsewhere. In parts of Singbhoom and Manbhoom there are masses of soap-stone, which the people in the vicinity have for ages worked into vessels of different kinds.

In Assam there are the usual potters but this work is of a poor description. There are a few workers in brass and iron, but the articles manufactured are merely for local use. The manufacture of silk still continues, but it is not in a flourishing state. In the Khasi Hills there is a good deal of iron work, but less, it is said, than formerly.

Jute and Cotton Mills.—The most remarkable manufacturing feature is, however, the great development in the neighbourhood of Calcutta of large power mills for the spinning and weaving of jute and gunny-bags in establishments of a European character under European management. The natives show great aptitude for working in mills, and the neighbourhood of Calcutta has now become a remarkable focus of this industry. There are in the district of the 24-Pergunnahs very large jute mills in the village of Barnagore, north of Calcutta, and at Gouripore in the subdivision of Baraset. The Barnagore mills employ seventeen European assistants and some 4,700 natives, and manufacture 16,000 tons of jute, more or less, into gunny bags in the course of the year. The number of bags turned out is from nine to ten millions, of which about 75 per cent. are exported by sea. The Gouripore mills employ six Europeans and more than a thousand natives, and manufacture annually about three millions gunny bags. In the weaving department the employés are paid as

highly, as from eleven annas to a rupee a day. Many women and boys are also employed in the simpler processes. There is also a very large jute factory at Fort Gloster, fifteen miles down the Hooghly and on the Howrah side of the river. There are fresh jute mills now being erected near this locality at Budge-Budge.

There are two jute mills in the subdivision of Serampore—one at Rishra, about two miles south of the subdivisional head-quarters, belonging to the "Calcutta Jute Mills Company, Limited," and the other at Serampore itself, belonging to the "India Jute Company, Limited." A third mill is also in course of erection at Chapdani, nearly opposite Pulta Ghaut. The mill at Rishra is now being enlarged; it now contains 200 looms, and when the alterations are completed, will contain 300. The Serampore mill has 100 looms. The Rishra mill employs 7 Europeans and more than 1,500 natives. The Serampore mill employs more than 1,000 workmen.

The large jute mill at Serajgunge, the great emporium of jute trade in Eastern Bengal, consumes a lakh of maunds of jute annually. The success of these mills, as evinced by the advertised dividends and price of shares, is very remarkable; the shares are all at a premium, and new mills are constantly started by new companies in different localities. The last project which has been set on foot, is the jute mills at Seebpore.

The first process through which jute passes is described as "batching," which consists in laying out the jute in handfuls lengthwise on the floor, placed in layers, and over every second layer or so sprinkling a little oil and water. After a considerable quantity is heaped up in this way, it is allowed to lie for a few hours, until slightly heated, and it is then taken to the softening machine, where the hard ends are bruised by heavy rollers. From the softener it passes to the card, where it is broken up into two (*i.e.*, the long fibre is shortened, not by cutting, but by a sort of tearing action). It then passes over a series of machines whose object is to straighten the fibre, make it smooth and level, so that the yarn when spun may be smooth and of equal thickness throughout. In the spinning and winding departments, men, women, and boys, are employed, but principally boys, on an average daily pay of about 3 annas and 9 pie. In the cloth finishing and sewing departments men and women are employed, whose average daily pay is 5 annas 5 pie. The finishing department consists of calendering, measuring, sack-cutting, and packing. In the weaving department only men are employed, and their average salary in the Gouripore mills is 11 annas. The outturn of the manufacture is practically confined to gunny bags and to a small quantity of gunny cloth. The bags are to some extent sold for local use, but the great bulk are exported. The total number

of pieces of gunnies and gunny cloth exported from Calcutta during the year 1872-73 was no less than 32,767,930, valued at Rs. 83,07,629. The bulk of this was exported to Bombay (12 million pieces), Madras, Chittagong, Burmah, the Straits, Batavia and Australia.

There are many jute screw-houses and warehouses in Calcutta and the suburbs. In the suburbs particularly their numbers are rapidly increasing. The principal suburban jute screws, with the exception of the Brunton's Patent Press at Baliaghata, are situated at Cossipore, near the banks of the Hooghly. This locality offers peculiar facilities for the trade from its proximity to the Hooghly and the Canal. The Eastern Bengal Railway Company have constructed a line of railway connecting the Sealdah terminus with the river-bank.

The tendency to establish cotton mills about Calcutta has also been marked during the past year, though it has not been carried to such an extent as in the case of jute mills. There are now two well established cotton mills at Boureah and Ghoosrey, and a third is under course of erection at Budge-Budge. The mills at Boureah and Ghoosrey turn out yarn and cotton thread for local use, and each employ 250 or 300 persons.

N. W. Province.

Madras.

There are no returns.

Bombay.

Mines.—This Province, though deficient in mineral wealth, is abundantly supplied with stores of stone fitted for building and road-making purposes. At Teagar, in the Dharwar District, iron ore is mined and smelted, but the scarcity of fuel prevents operations from being conducted on an extensive scale. There are large slate quarries throughout the Dharwar Talooka, which are worked principally by Wadars, and every good building-stone is found both in the Dharwar and Kalghatghi Talookas. The hill at Mandargi, in the Dambal Peta, is quarried extensively for stone, the right of working it being annually sold by public auction In the district of Belgaum there are quarries from which building stones, stone bricks, or oblong quadrangular blocks of soft rock, are obtained in abundance. Some of those quarries, lying in the vicinity of the town of Belgaum, are rented to the Public Works Department, who use the material in the construction of public buildings; others are rented to private contractors, who are authorised to levy fees at the rate of one anna per cartload of stones. There is a peculiar kind of stone obtained in Yadwad, in the Gohab Talooka, which, when burnt, produces a

fine kind of lime. Limestone is procurable at Bhimgar, and also in certain river beds throughout the district. There are a few trap and laterite quarries in the Rutnagiri District. The former stone is used for tank and well building, and for the plinths of houses; the latter is used for house-building. Near Kurrachee are five quarries containing a useful building stone, a species of limestone, which has been largely used in buildings, both private and public, in that town. Similar stone is to be found in the whole of the range of hills on the western border. The adjacent mountains of Beloochistan are reported to produce a variety of minerals, gypsum, copper, lead, antimony, and sulphur being met with in considerable quantities.

Manufactures.—The following account is given by Mr. Terry in the Administration Report.

Cotton, which is cultivated throughout the Presidency including Sindh, is manufactured into cloth in every village of any importance. The cotton is cleaned and spun into threads by nearly every class of people, and some workers are established in each town, partly weavers, partly agriculturists, who supply the wants of the community. The cloth on leaving the loom is dyed. Dyeing is carried on wherever sweet water is procurable. In the north of Gujarat the favourite colour is red, and in Kathiawar the prevailing colours are red combined with deep brown and yellow. Blue and green, in combination with red and yellow, are more prevalent in the south of Gujarat and in the Maratha countries. The great distinction, however, between the Gujarathi and Marathi-speaking races is in the decoration of cotton goods; the purely Maratha people seldom wearing printed cotton goods, while the inhabitants of Gujarat proper and of Kathiawar prefer them to all others. The only printed stuffs worn by Marathas are ornamented with metal-leaf decorations or pastes. Their usual saris and cholis are dyed while in the thread, and are either made of cotton only, or combined with silk on the looms. The decorations consist principally of a simple border round the sari, and of parallel bands of various depths and colours at one end called "padar" or "palao." The more expensive articles are frequently finished off with gold and silk lace. Printed cotton goods are manufactured in all the large towns of Gujarat. There are few places of any importance without streets of "Chaparias" or "Bhansaras" (printers). It is to be noticed that the further the locality is removed from the direct influence of the railways the better the work is. This is owing to the competition of European cotton goods, which are sold much cheaper, and are more brilliant in colour, although less strong and durable, than the Native manufactures. Most of the lower classes still wear home-spun and woven goods; but the cotton mills erected in Bombay, Broach, and in other parts of the Presidency, have introduced threads and cloths which are readily bought up, and upon which the Native Chaparias display their taste and skill.

Sindh workmen are by far the best. Those of Dharwar, in the Southern Maratha Country, rank second. In neither of these places, however, are saris printed; but large sheets, "Razais," are prepared, which serve as bed coverings, wall hangings, and ceiling cloths. In the cold weather these "Razais" are not unfrequently used as extra clothing.

The best cotton saris are printed in Ahmedabad and Surat. Broach comes next, and Baroda last. A large trade exists in these wares with Kathiawar, principally from Ahmedabad, and in a less degree from Surat.

There are a number of printers settled in Bombay, whose work is, on the whole,

fair, when the great competition with European goods is considered. Much of the cloth manufactured at the Bombay mills is dyed in the vicinity of the city, and exported to the Deccan and Konkan for the use of the Mahomedan community.

Chindari is another method of decorating cotton and silk goods. The design is first sketched, or printed in outline, on cloth which has been once dyed; parts of the cloth are then picked up and a thin thread twisted round them, a small projection being generally left in the centre. The cloth is then dipped in a dyeing vat of a colour different from that applied in the first instance. When dry, the threads are removed, and the parts previously protected by them are exposed in the original colour, the variety thus produced adding much to the value of the cloth. Sindh, Kachh, Kathiawar, Gujarat, Baroda, and Bombay, give employment to a large number of chindari workers; Kaji Mula Street, near Nal Bazar, is the centre of the trade in the Presidency town, but the work is carried on in several other places.

The saris, cholis, dohtors and turbans manufactured for the Maratha castes are of various kinds. Some are all cotton or cotton and silk, some cotton silk, with metal thread, some silk with gold or silver thread. Ahmadabad, Yeola, Ahmadnagar, Maligaon, Nasik, Poona, and Dharwar are all celebrated for their cotton goods. Ahmadabad and Yeola work is superior to any as regards the richer materials. Poona is celebrated for good substantial plain saris as well as for those of richer material; but most of the artizans of these places are being driven out of the market by cheaper European manufactures.

Bombay weavers turn out a large number of cheap cotton goods. In fact, in Bombay, since the introduction of the railways, craftsmen are found employed in manufacturing goods suitable to the nationalities and customs of most of the people who have taken up their abode in the city either permanently or for short periods. Carpets, rugs, horse-cloths, towels, napkins, &c., made of cotton are manufactured in the jails in Sindh and throughout the Presidency. Ahamadnagar is celebrated for the strength and durability of its carpets; Khandesh and Dharwar for druggets, rugs, and bullock-cloths.

The most important and progressive industry of the Presidency is, however, the manufacture of yarn and cloth in the steam spinning and weaving mills which have lately been constructed in different parts of the Presidency. During the past year there were 13 working in the town and island of Bombay and 5 in other parts of the Presidency. Most of them have both spindles and looms, and their productions, in the shape of yarns and piece goods, find a ready market. Four of the number employ on an average upwards of a thousand hands, and one as many as 1,600. In the Appendix a statement will be found [IV.—C. (1)] showing the number and horse-power of the engines used by each mill, as also the number of spindles and looms and the average number of hands employed.

The raw material used in the silk manufactures of this Presidency is imported from China, either in the cocoon, or in skeins, raw or dyed. In Ahmadabad, Surat, Yeola, Nasik, and Bombay, considerable quantities of silk goods are manufactured. The operations in Bombay are confined to weaving and dyeing. But in the other places mentioned, by printing and decorating, the silk is converted into the richest saris, kinkhabs, trouser stuffs, turbans, &c., &c., &c.

Chapara and chindari work, as well as woven designs and embroidery, are used in decorating silk. As a rule, printed silk is most worn in Gujarat, and plain dyed silks among the Marathas.

The kinkhab, the richest kind of woven fabric produced in this Presidency, is either all gold thread and silk, or silver, gold, and silk. This fabric assumes different names according to the design or the quantity of gold or silver thread it contains. The kinkhabs of Ahmadabad and Surat are celebrated and sought after by the wealthy from all parts of India. Yeola, Poona, and Nasik have also a great re-

putation for silk or cotton saris finished with rich gold or silver and silk borders, beautifully filled in with designs executed on the looms. Bombay does not produce the more valuable class of these goods; but both Hindoos and Mahomedans manufacture silk cloth, which is sold for gagras (petticoats) and cholis (breast cloths) to the up-country and Gujarat people. Some of their looms are situated near the Jail and round the Babula Tank. The different sorts of brocaded stuffs known as Kinkhabs, Hemrus, Masrus, Lapas, and Tas, are worked as saris, cholis, waistcoats, pagaris, shoulder-cloths, kamarbands, hizars, &c., &c. The high-caste Hindoo women of Kathiawar and Gujarat, as also the Memon, Khoja, Bora, and other Mahomedan women, wear the chindari or chapa work either plain or with rich borders. A large number of people have from early times been employed on all these manufactures throughout the Presidency, but their profits and the number of work people are rapidly diminishing, owing to the introduction of European goods.

Gold and silver thread enter largely into the manufacture of silk and cotton goods. In the preparation of this thread the metal is attached by the application of heat, the operation being performed with such nicety that one Rupee's worth of silver can be drawn out to nearly 800 yards. Before being used in the loom this metallic thread is generally twisted with silk. In the manufacture of the fabric known as Tas, however, the gold and silver wire is beaten flat, forming the warp to a woof of thin silk or cotton thread. The working up of this thread into ornamental edgings for saris is an active branch of the manufacture. The richest and most highly prized border is the "Shikar" pattern made in Poona.

In Bombay also gold and silver thread is manufactured and used for lace. Embroidery on silk cloth and cotton, in gold, silver, and silk thread, is carried on to some extent in Haidarabad, in Sindh, principally for the European markets. Caps, slippers, cushions, covers, chogas, saias, waistcoats, &c., are made for Mahomedans. Nawanagar and Gondal, in Kathiawar, produce the richest and best-worked silk embroidery for which Kachh gets the credit. Baroda, Surat, and Bombay also manufacture embroidery for the Mahomedan and Parsi communities. Embroidered silks are little worn by Hindoos, except by the women of Gujarathi castes.

Fibres are used for the manufacture of paper in Ahmadabad, Baroda, Surat, Nasik, Bombay, and Kolhapoor. The samples turned out are, however, of small market value. Mats, beds, &c., are manufactured from coir (cocoanut fibre) in the Bombay Jail and in the bazaars.

The woollen manufature of this Presidency are but few. In Sindh saddle-cloths, blankets, and felts are made. Throughout the rest of the Presidency there is, except among the poorest classes, but little demand for woollen stuffs.

Although not very well prepared, leather is worked into a variety of articles in Sindh, Kachh, Kathiawar, Gujarat, Baroda, Khandesh, Bombay, Poona, and Sawantwari. One of the most curious of leather articles is the jar (dabaro), used for holding oil and ghee. The dabaro is made by stretching fresh skins over a dry hollow mould of clay. The skin is left in this position until it has become dry, when the clay mould is broken, the leather retaining the form of the earthen jar. The rim is made by twisting pieces of skin round clay, the latter being left inside. Leather scales are made on circular earthen jars (matkas); the best are from Ahmadabad. Surat leather-bottle workers buy up old articles and re-model them.

In Sindh the chief leather manufactures are saddle-covers for camels and horses, shoes, leggings, and accoutrements. Ahmadabad still keeps up the manufacture of shields; but they are now only purchased by Europeans as ornaments, though some fifteen years ago they were commonly used as weapons of defence by the Arab mercenaries. Very good boots and shoes, saddles, bags, &c., are made in the European fashion by Native workmen, under European superintendence, in Bombay and Poona.

Little, except the commonest, pottery is to be met with throughout the Province; yet it is manufactured almost everywhere, as there is a constant demand for it amongst the poorer classes, who cannot afford to purchase copper vessels. Glazes are seldom, if ever, used, except in one or two localities. Matkas are polished by the friction of pebbles attached to a string and applied by the right hand while the vessel is made to revolve by the left. A similar process is performed with a stick. Sindh produces the best pottery of Western India. The art was introduced, or at all events developed, by the Mahomedans, whose Chiefs, the Amirs, gave it every encouragement. Magnificent tombs and mosques, now in ruins, testify to the great degree of excellence the potters had attained. The art of glazing, which those potters possessed, has been transmitted down to the present day, but the work and materials have lost much of their original excellence. An effort is being made at the Bombay School of Art to keep up and revive this art, which may yet with proper care regain its former usefulness and celebrity.

Patan, in the Baroda territory, produces a thin red, white, and black ware of little use, but delicate in texture and curious in form. The few potters left seem to have known how to glaze once, but seldom attempt to utilize their knowledge, except on toys and bowls for tobacco pipes. In Ahmadabad is found abundance of fine clay, which is worked into common red, black, pink, and dirty-white ware, such as matkas (earthen pots), kujas (water jugs), chilams (bowels for tobacco pipes). Decorations for these articles are prepared from burned mica, which when baked has the appearance of bronzed powder. Here, too, as elsewhere, throughout Gujarat and Baroda, the curious jars known as kotis, used for storing grain, sometimes measuring seven feet high, are built and baked in great numbers. Tiles of large dimensions were made formerly by the Mahomedan masters of this city and its neighbourhood, and entered largely into the construction of the many mosques and tombs for which Ahmadabad is celebrated.

Pottery is met with all through Gujarat and Baroda. A very poor ware is manufactured in Bombay. A better clay from the hill known as Santa Cruz or Belvedere Hill has been introduced at the School of Art, and has been used by the Sindh potter attached to the establishment with promising results; but time is yet required to test the ultimate success of the undertaking.

Poona clay works up into good common utensils. Those from Malwan and Goa meet with a ready market even in Bombay, to which place they are brought up by almost every labourer and mariner who sails from these ports.

Nasik and Poona are both celebrated for their brass manufactures. Bombay works largely in copper vessels for almost every part of Western India. Ahmadabad also turns out much work in this metal, which is all imported from Europe in sheets, and hammered into the required shapes by the Native workmen.

Cutlery is to be met with at Ahmadnagar, its spear-heads being particularly well known. Hunting knives, swords, spear-heads, and chain armour, are made in Kachh, Kathiawar, and Baroda; and native razors, garden and agricultural tools of the roughest description, ploughs, pickaxes, &c., throughout the Presidency.

In the north, long low carts, on solid broad wheels, fit to go over the deep sandy ruts of Gujarat, are made in every place of importance; the upper part is framed with basket work made from the cotton plant. These carts frequently have a train of six bullocks attached to them, harnessed by strong leather-plated ropes made of buffalo skins. In other parts of the Presidency both the cattle and the carts are smaller. In all towns of importance throughout the Presidency light carts, known as Rekalos, are manufactured for the conveyance of passengers. These are usually drawn by a pair of bullocks, though horses are in some places employed. The horse Rekalo has completely disappeared from Bombay, or, at all events, is but seldom to be met with in its streets; fifteen years ago it was in common use.

Gold and silver are worked into ornaments throughout the Presidency. The custom of leading women and children with the greater part of their wealth; practised by all classes and castes of Natives, ensures everywhere to goldsmiths a lucrative trade. The usual method adopted, is to place in the goldsmith's hands the metal to be converted into ornaments, he generally charging from 8 annas to Rs. 2 or 3 per tola for his labour. The poorer classes wear many ornaments made of baser metal. Sindh goldsmith's work is very beautiful, but is not generally met with out of that province. The embossed Kachh gold and silver works is much sought after; it is richly decorated, and done by hand. The following is an account of the process of embossing. After the metal has been cut into the required form, soft lac is run in as a backing, and the intended design traced by the point of an instrument on the surface of the ornament. The lines thus marked out are then forced, by blows of a hammer, below the level of the general surface; and, finally, the parts standing out in relief are chased and polished. Kachh workers have established themselves in various parts of Gujarat; the reputation for silver work which Ahmadabad has for some time enjoyed, being due entirely to the presence in that city of a colony of Kachh silversmiths. Strong and massive articles of gold and silver are manufactured in Kathiawar.

The Gujarat ornaments have a character of their own square and padlock-looking nose-rings, round and other massive ear pendants, armlets (karanful), solid bracelets (gugra), either of gold or ivory, extending high up the arm; massive anklets (kadiaa), covered with bells, frequently so heavy that the wearers walk with difficulty, are worn by the women. Necklaces also are worn by them, as well as by the Maratha women. These ornaments are made throughout Gujarat and in Bombay.

The Marathas of the Deccan and Konkan wear the graceful head ornaments called ketak, nag, chandani, ful (flowers), mohar (with peacock), and an armlet of peculiar shape, sometimes of gold, but more frequently of silver. Their ankles are ornamented with a chain-shaped silver ornament, but seldom so heavy as the anklets worn by Gujarathi women. On the whole, the ornaments worn by the Gujarathi and Marathi speaking races may be said to correspond with their types of form and feature—the slender figures of the Marathi women inclining them to the choice of articles of a light and intricate design, while the ample forms of the Gujarat women harmonize with the plain and massive style of ornament which they have adopted.

Mahomedans and Parsees have ornaments peculiar to themselves. The latter are rapidly giving up the old shapes and metals, preferring diamonds and pearls to all other decorations. The women of this race do not wear anklets.

Precious stones, such as cornelians, agates, &c., are worked in Kambay, and are brought from Ratanpoor, near Broach, and other places. In Bombay a brisk trade is carried on in these stones with the European community; they are seldom used by the Natives except for the decoration of children.

In Sindh, furniture suited to Native wants is made, as well as toys, ornamented beautifully with lac. In Ahmadabad, Baroda, and Surat, lacquered furniture is manufactured. The first and last of these places are also famous for their blackwood carved furniture and other wood work. Most of the houses in Ahmadabad are covered with elaborate wood carving, and this is the case, but to a lesser degree, in Broach, Baroda, and Surat. Photographs of many of these carvings have been taken for the South Kensington International Exhibition of 1874.

In Bombay there is an important manufacture of blackwood and lacquered furniture. The articles of the latter class include beds, baby cots, swings, chairs, toys, &c.

Iron work, besides cutlery, is still hammered with great skill in Ahmadabad, where formerly there were some very fine workers in metal. The beautiful gates of the tomb of Shah Alam are examples of perforated brass work.

Ivory is worked throughout Gujarat and Bombay into ornaments for the women; so is tortoise-shell, which is imported from Zanzibar. The poorer classes in Daman, Balsar, Surat, and throughout southern Gujarat, wear the latter ornaments round their wrists; the lower ones are small, and others, gradually becoming larger in size, reach half-way up the arm. The shell is worked into armlets in Bombay as well as in Gujarat.

The Bombay box work, which owes its origin to Shiraz in Persia, is also made in Surat. This industry gives employment to several hundred workmen. Carving in sandalwood, ebony, and blackwood is carried on at the same time, and articles decorated with various combinations of these substances are made both at Surat and Bombay. Good carving in ebony and blackwood is to be found at Ahmadabad; the best sandalwood carving comes from Kumpta in Kanara.

Fire-works are manufactured at most of the Native States in the Western Presidency and in Bombay. Gunpowder is made at Baroda; a number of models of breech-loading guns and small arms made in that State were exhibited in the Bombay Exhibition.

High art does not, at present, exist in this Presidency, nor does the spread of education as yet seem to have developed any artistic feeling.

The Natives, especially Portuguese, Parsis, and Hindoos, have, however, the capacity for becoming useful and clever artizans and original workers in the lower branches of Art and Art Manufactures. They possess great facility for adaptation, and are excellent copyists. Independent of their labour in many engineering and architectural offices, their reproduction and copies of the temple of Ambarnath and of the painting of the Ajanta Caves are creditable.

As regards lithography, the unaided efforts of Native artists have resulted in the production of a few outlines of religious subjects, or the portraying of the inventions of modern science, such as the setam boat, railway train, balloon, &c. &c. These attempts are, however, all very crude; the only good work of this kind is turned out from the Government Lithographic Press.

The Native pupils brought up at the School of Art engrave on wood, and have successfully illustrated elementary educational and medical works.

Printing is very well done in the presses managed by Europeans, and Native printing is rapidly improving throughout the Province, but especially in Bombay, where the demand and supply for newspapers and new books is rapidly increasing.

Sculpture has ever been followed by the Kuchh and Kathiawar stone-cutters with success. The art has been transmitted from father to son for many generations. The Mahomedans were not slow in availing themselves of these skilful artizans, and it is curious as well as instructive to trace how the Hindoo artists, especially in Ahmadabad, influenced the early Mahomedan works; how, afterwards, the taste of their masters, reacting on the minds of the artists, produced the style of architecture met with in the Jain temples of Palitana and in other parts of Gujarat. The skill of these Kuchh and Kathiawar workers has been found most useful in executing the more elaborate portions of the stone work of the public buildings now being constructed in Bombay. With a little training these men render natural objects skilfully and intelligently, and reproduce with accuracy Gothic details. Excellent Kuchh sculptors, as well as Portuguese modellers have been educated in the School of Art and in the Public Works Department.

List of Spinning and Weaving Mills using steam power in the Bombay Province during 1872-73.

Town.	Name of Mill, Owner, or Company.	Number of Engines used.	Horse-power of each Engine.	Number of Spindles.	Number of Looms.	Average number of Hands employed.
Bombay.	Maneckji Petit's Spinning and Weaving Company ...	4	100-30 10 and 12	60,000	848	1,600
	The Alexandra do. do. do. Limited	1	40	15,632	200	476
	Victoria Spinning Mills	2 Pairs.	30 each.	9,200	None.	200
	The Bombay Royal Spinning and Weaving Company, Limited.	2 Pairs of high and low pressure.	160 collectively.	35,048	748	1,147
	Alliance Spinning Company	2	60 each.	20,000	None.	412
	Great Eastern Spinning and Weaving Company, Limited	3	80-5	30,664	608	930
	Oriental do. do. do. do. ...	2 Pairs.	80 and 30	42,000	890	1,480
	The Murarji Gokaldas do. do. do. ...	1	60	20,000	208	600
	Albert Mills Company	2	60 and 25	18,800	None.	375
	The Bombay Spinning and Weaving Company ...	1	75	29,000	None.	500
	The Bombay United Spinning and Weaving Company	2	40 each.	21,000	351	600
	Dawarkadas do. do. do. ...	2	40 each.	20,000	None.	400
	Sundardas do. do. do. ...	2	35 each.	20,632	None.	500
Kurla.	Dharamse do. do. do. ...	1	200	52,616	761	1,500
Broach.	Broach Cotton Mill Company	2	130	17,000	None.	346
Ahmadabad.	The Bechardas Spinning and Weaving Mill ...	2	60	13,000	90	332
	Ahmadabad Spinning and Weaving Company ...	3	56 nominal.	13,100	150	500
Surat.	Jafir Ali do. do. do. Limited ...	3	2-30 and 1-15	10,464	96	325

Punjab.

Mines.—The principal metallic products of the Punjab are iron, copper, antimony, lead and gold. The *iron* ores of the Punjab are produced along its north-eastern mountain frontier, as well as in the low hills of the Suleiman Range and those to the south-east of the Bannoo district, and to some extent in the Salt Range and in the hilly portions of the Goorgaon district. Along the Himalayan frontier the principal places of production are, the Simla Hill States of Jubal, Dhami, Bassahir and Rampoor; the States of Mandi and Suket, Trans-Sutlej; Kot Khai, Futtehpoor and Chota Bangal, in the Kangra district; the hills of Chamba; Reyasi, Sauf, Kutyar and Punch, in the territories of the Maharaja of Kashmeer; and Bakot, in Hazara. The ore is also obtained at Bajaur, in the hills north of Peshawur, and at Kanigoram, in the Wazir hills.

From a report on the Chota Bangal Mines of the Kangra District it appears that the ore, which is a black sand of magnetic oxide of iron of singular purity, is very abundant in that locality. The crude substance is first washed in wooden troughs, the sand is carried off, and the pure iron sand or ore (about one-tenth of the whole) remains at the bottom. This is smelted by the natives in a primitive blast-furnace. From a maund of ore about 12 seers, or 30 per cent., of wrought iron of excellent quality is produced, with a consumption of about 56 seers of charcoal. Owing, however, to the difficulty of access (the approach to the tract being exceedingly steep), the distance from a market, the irregular supply of labour, and the limited supply of fuel, it has been found that the iron produced can hardly compete with iron imported from Europe. Hence the outturn of these mines has of late much diminished, and they are at the present time not much worked.

Copper ore is found in small quantities in the hilly portions of the Goorgaon and Hissar districts, and in the Salt Range; it also exists in Kulu and Spiti, but has not heretofore been worked. *Antimony* occurs in various parts of the Province as a black ore of antimony; in composition it is a ter-sulphide, and it is called by the natives *surma*. It is reduced to a fine powder, and sold by druggists as a cosmetic for the eyes, in which case it is supposed to act as a tonic to the nerves of the eye, and to strengthen the sight. The ore is much imported from Kandahar, but is produced in great abundance in the Himalayan Range. *Surma* also occurs in the Salt Range, in Bhagat, in Kullu, in Spiti, and at Bajaur, in the hills north of Peshawur. *Lead* occurs in various places in the form of sulphuret or galena, sometimes associated

with quartz; it is called *surma* by the natives, and is confounded by them with antimony. Besides some lead mines in Kulu, there is a mine near Subathoo, in the Baraoli pergunnah of the Simla district, worked by the Patiala and Subathoo Mining Company, which yields about 40 tons of ore per mensem, containing from 16 to 72 per cent. of lead. *Gold* occurs only in sand washed down in greater or less abundance by the rivers of the Punjab. Gold-washing is taxed, and becomes a source of revenue to the State; but the amount realized is insignificant. Not more than three or four annas' worth of gold can be obtained by a hard day's labour at washing.

Salts.—Under this head are classed alimentary salt, including common rock and evaporated salt; saltpetre, alum, barilla (*sajji*), and sal-ammoniac *(naushadar)*. *Rock salt* is found in the Salt Range running through the Jhelum and Shahpoor districts, and on to Kalabagh, Trans-Indus; in the chain of hills running from the River Indus towards Bahadoor Khel, in the Kohat district; and at Drang and Guma, in Mandi territory. The principal beds occur in the southern slopes of the Salt Range; they are from 150 to 200 feet in thickness; but masses of salt are also found interspersed among the marls, and detached from the main beds. The salt, when it occurs in the main beds, is remarkably pure; it contains traces of sulphate of lime, but is free from chloride of magnesium, on which account it is very little deliquescent. The mines are of two kinds,—one, where the salt rock is approached by galleries and excavations; the other, where, as at Kalabagh, the salt is at the surface, and is quarried rather than mined. The mineral is excavated at four places in the Range, *viz.*, at the Kheora (now called the Mayo) and Sardi Mines, in the Jhelum district; at the Warcha Mine, in the Shahpoor district; and at the Kalabagh Quarry, in the Bannoo district. The expense of excavation is borne by the Government, and the salt is sold to traders at the mines for Rs. 3-1-0 per maund. The total outturn during 1872-73 was 13,66,494 maunds, valued at Rs. 41,85,769; in the previous year the outturn was 12,72,307 maunds, valued at Rs. 38,82,819. Salt exists in large quantities at eight other localities in the Salt Range; but these mines are closed, to prevent smuggling. The mineral is exported to all parts of the Punjab, and goes even beyond the frontier on all sides.

Saltpetre is found naturally in the soil in most districts of the Punjab, and is obtained by evaporation from water in which has been thrown earth containing the crude salt. Bituminous shale, yielding more or less *alum*, is abundant all through the Salt Range.

Barilla is an impure carbonate of soda, prepared by burning

plants of the *salsola* and other species, and collecting the ashes, which melt into a dark-coloured mass; it is called by the natives *sajji*, and is principally produced in the Montgomery, Sirsa, and Jhung districts.

Sal Ammoniac is manufactured largely at Kaithal and Gula, in the Kurnal district. It is occasionally extracted from brick-kilns in other districts, but in small quantities. It is used as a freezing mixture with nitre and water, and in arts, in tinning and soldering metals, and in the operation of forging the compound iron used for gun-barrels by native smiths.

Coal.—Several samples of a mineral resembling coal, found in various parts of the Province, have proved on examination to be in most instances lignite, and procurable in insignificant quantities. But in the Salt Range a good fuel in larger quantities has been discovered in several localities, the best being in the neighbourhood of Kalabagh. Coal or lignite occurs also in the Salt Range at Bhaganwala, Drengan, Kheora, Pid, and a few other places in the Jhelum district; but the quantity is believed to be too limited, and a large portion of it is too inaccessible to be of practical value.

Sandstone, granite, and other descriptions of stone suitable for building purposes are procured in abundance in all the hilly portions of the Province. White, black, and grey *marbles* are obtained from Sahi Balabgarh, in the hills to the south-west of Delhi; and an inferior kind from Narnaul, in Patiala territory. The Salt Range contains many varieties; and yellow marble is to be found in Yusufzai. *Kunkur,* or irregularly-shaped pieces of calcareous concrete, abounds in most districts, and is extensively used for metalling roads; it forms, when burnt, a good lime for mortar. *Limestone* of other descriptions is to be obtained in most of the hilly districts, and sometimes in the form of boulders in the beds of torrents in the submontane tracts. The Salt Range is rich in *gypsum.*

Extensive quarries, producing *slate* adapted for roofing and flooring, exist in the Kangra and Chamba Hills, and are worked scientifically. Those at Kangra, near Dhurmsala, and those in the vicinity of Dalhousie, are worked by European companies; so also are the quarries in the Mewatti Hills, near Rewari, in the Goorgaon district. Slates fit for roofing and flooring purposes, but in smaller quantities, are procurable in the hills about Simla, and in other localities. Several deposits of *Plumbago* exist in the hills near Shona, in the Goorgaon district. This mineral marks paper easily, but little of it appears fit for the manufacture of black-lead pencils. *Sulphur* is found extensively throughout the Salt Range, and is manufactured at Kohat; the valley of Puga, in

Ladakh, whence borax is obtained, also yields sulphur. *Kaolin*, or the clay from which porcelain is manufactured, is procurable in abundance and of good quality at Dalhousie, but the cost of carriage is great; also in the hills of the Goorgaon and Delhi districts. *Petroleum* is found at Jabba near Kalabagh, at Dhadar and Nursingpoor, in the Salt Range, at Jabba near Nurpoor, in the Algad Ravine, at Kafirkot on the Indus, at several places in the neighbourhood of Fatehjung in the Rawulpindee district, and in smaller quantities at other places.

Manufactures.—In the returns, which are only approximate, we find 525 large works of which 242 are paper works, 76 silk works, 60 wood works, 56 wool works, 47 shawl works, and 18 iron works. Small works, according to the return, have increased from 433,759 in number in 1871-72 to 452,286 in 1872-73, of which 249,618 are entered as cotton works, 42,269 as leather works, 36,773 as wood works, and 28,331 as iron works. The total number of workmen increased from 1,181,436 in 1871-72 to 1,245,738, which may be regarded as some indication of activity and progress in the main branches of industry. The total value of the manufactures for 1872-73 is estimated in round numbers, at Rs. 5,31,54,000, being 46¼ lakhs in excess of the estimate for 1871-72, and 15 lakhs in excess of that for 1870-71. The following is the detail for three years :—

	1870-71.	1871-72.	1872-73.
			Rs.
	Rs.	Rs.	
Silk	10,51,000	14,45,000	16,56,000
Cotton	2,01,23,000	1,78,18,000	1,98,39,000
Wool	12,30,000	8,14,000	10,60,000
Other Fibres	6,50,000	9,03,000	9,49,000
Paper	1,19,000	1,94,000	1,62,000
Wood	69,33,000	58,29,000	66,68,000
Iron	39,44,000	38,44,000	37,83,000
Brass and Copper	9,99,000	9,16,000	7,79,000
Building	21,40,000	25,95,000	25,67,000
Leather	49 14,000	45,65,000	50,62,000
Gold and Silver Lace	29,56,000	33,19,000	32,99,000
Dyeing	4,93,000	5,89,000	4,32,000
Oil	14,21,000	12.69,000	13,43,000
Tea	85,000	1,50,000	...
Shawls	8,24,000	12,96,000	15,19,000
Other Manufactures	37,77,000	29,81,000	40,36,000
Total ...	5,16,59,000	4,85,27,000	5,31,54,000

The value of silk manufacture shows a considerable increase, as does that of shawls, proving that the latter branch of industry has recovered from the temporary depression caused by the Franco-