

EAST INDIA (PROGRESS AND CONDITION).

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# STATEMENT

EXHIBITING THE

MORAL AND MATERIAL PROGRESS AND CONDITION

OF

INDIA



DURING THE YEAR 1881-2.

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EIGHTEENTH NUMBER.

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(PRESENTED PURSUANT TO ACT OF PARLIAMENT.)

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India Office.

J. A. GODLEY,  
Under Secretary of State.

**S T A T E M E N T**  
 EXHIBITING THE  
**MORAL AND MATERIAL PROGRESS AND CONDITION**  
**OF INDIA.**  
**DURING THE YEAR 1881-2.**

*[The respective Paragraphs in each Chapter of this Statement have been written in continuation of the corresponding portions of the Serial Statements, Nos. 10 to 17, for the Official Years since 1872-3.]*

I.

**ADMINISTRATION, MUNICIPALITIES, AND LEGISLATION.**

INDIAN affairs came before the Houses of Parliament in the shape of questions, statements, &c. 237 times (26 times in the House of Lords, and 211 times in the House of Commons) during the Session of 1881. A very large proportion of the questions related to Afghan and Central Asian affairs. Both Houses divided on the question of the retention of Candahar, and this was the only occasion on which the opinion of Parliament was taken on Indian matters. No Act specially relating to India was passed. The Marquis of Hartington, M.P., remained Secretary of State for India throughout the year 1881-2, and the vacancy in the Council caused by the death of Sir Erskine Perry was filled by the appointment of the Honourable Sir Ashley Eden, K.C.S.I., C.I.E. ADMINISTRATION  
Home.

The Marquis of Ripon, K.G., G.M.S.I., G.C.B., continued to discharge the functions of Viceroy and Governor General of India. General Sir Donald Martin Stewart, Bart., G.C.B., C.I.E., succeeded General Sir Frederick Paul Haines, G.C.B., G.C.S.I., C.I.E., as Commander in Chief, and took his seat at Council on the 8th April 1881, and Lieutenant General T. F. Wilson, C.B., C.I.E., succeeded Sir E. B. Johnson, K.C.B., C.I.E., as Military Member, taking his seat at Council on the 2nd May in the same year. India.

The Honourable Sir Ashley Eden, K.C.S.I., C.I.E., was Lieutenant Governor of Bengal throughout the year, and was succeeded on the 24th of April 1882 by Mr. Rivers Thompson. The growing importance of the Financial Department of the Secretariat necessitated the appointment of an Under Secretary in place of an assistant in that Department: the subordinate judicial services were re-organised, the Killah of Banki was annexed to the district of Cuttack, and the administration of the Port approaches of Calcutta was handed over to the Port Commissioners. Bengal.

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ADMINISTRATION.  
Assam.

Mr. Charles Alfred Elliott, C.S.I., continued Chief Commissioner of Assam, and was confirmed in his appointment on the 10th May 1881.

N. W. Provinces  
and Oudh.

Sir George E. W. Couper, Bart. C.B., K.C.S.I., C.I.E. continued to be Lieutenant Governor of the North-Western Provinces and Chief Commissioner of Oudh.

Punjab.

The Punjab and its dependencies remained under the administration of Sir Robert Eyles Egerton, K.C.S.I., C.I.E., the Lieutenant Governor, who was succeeded on the 2nd April 1882 by Sir Charles U. Aitchison, K.C.S.I., C.I.E.

Central Provinces.

Mr. John Henry Morris, C.S.I., was Chief Commissioner of the Central Provinces.

British Burma.

Sir Charles Umpherson Aitchison, C.S.I., continued Chief Commissioner of British Burma. The number of divisions in the Province was increased from three to four, the Pegu division being split up into two divisions known as the Pegu and Irrawaddy.

Ajmere.

Mr. Leslie Seymour Sanders was Chief Commissioner of the Ajmere and Merwara districts.

Berar.

Sir S. C. Bayley, held the office of Resident throughout the year, except for three months when he proceeded on privilege leave, during which time Mr. W. B. Jones, Commissioner of Berar, officiated. Mr. J. D. Sandford officiated as Chief Commissioner of Coorg.

Coorg.

Madras.

The Right Honourable William Patrick Adam died on the 24th May 1881, and was succeeded by the Right Honourable Mountstuart Ephinstone Grant Duff who took charge of the Government on the 5th November. During this interval the government of the Presidency devolved upon Mr. William Hudleston, the Senior Civil Member of Council. Lieutenant General Sir Frederick Roberts, Bart. G.C.B., C.I.E., was appointed Commander of the Forces in succession of Sir Neville Bowles Chamberlain, G.C.B., G.C.S.I., who had resigned. On Mr. Hudleston's elevation to the Governorship of the Presidency, Mr. Robert Davidson, C.S.I., Chief Secretary to Government, was appointed temporary Member in Council, but resigned on the 30th July 1881, when intimation was received from the Secretary of State of the appointment of Mr. H. E. Sullivan as Provisional Member.

Bombay.

The Right Honourable Sir James Ferguson, Bart., K.C.M.G., C.I.E., continued Governor of Bombay and its dependencies, and Lieutenant General the Honourable Arthur Edward Hardinge, C.B., as Commander of the Forces.

MUNICIPALITIES.

Municipalities are the creation of British rule, and their institution dates from 1850. The popular constitution of these bodies is of very recent growth, and was first inaugurated in the Presidency towns. It has since spread to different towns throughout the country. The Municipal Commissioners consist of three classes, elected, nominated, and *ex-officio*, the proportion of each class to the total body, where all classes exist, varying in different provinces. The Local Governments had plenary and discretionary powers within the limits of the existing law regarding the appointment of members and officers of municipal bodies as well as the mode of election to be adopted, and the execution or otherwise of the measures passed by committees. Under the new Local Self Government Acts these powers will be modified, the onus of the maintenance of police will be removed, and the election of members, wherever it may be practicable, placed on a more popular basis. Information respecting the funds administered by municipalities, and the charges on the revenue, will be found in the succeeding paragraphs, and further information may be obtained with regard to expenditure in other chapters dealing with the different branches of the administration.



MUNICIPALITIES IN INDIA, 1881-2.

	India.*	Bengal.	Assam.	North Western Provinces and Oudh.	Punjab.	Central Provinces.	British Burma.	Madras.	Bombay, including Sind.	TOTAL.
Population within municipal limits.	188,541	3,406,700	58,444	3,099,868	2,058,930	697,271	312,155	1,721,096	2,658,957	14,201,962
Number of municipalities -	14	186	9	100	108	61	7	48	165	797
<i>Receipts:</i>										
From Taxation - - -	£ 10,985	£ 441,663	£ 4,356	£ 196,000	£ 226,924	£ 72,015	£ 51,998	£ 176,217	£ 492,128	£ 1,672,976
From other sources - - -	4,894	124,206	4,434	59,100	41,803	43,708	91,781	47,948	176,087	593,969
Debt: Loans, Deposits, Advances.	3,350	38,570	-	1,527	16,905	-	52,241	20,964	500,331	639,897
TOTAL Income during the Year	19,238	604,439	8,790	256,725	285,632	115,723	196,020	251,129	1,168,546	2,906,242
TOTAL Income, including Balance of previous year	24,064	830,700	10,179	316,483	390,946	148,340	307,538	276,473	1,308,226	3,706,949
<i>Expenditure:</i>										
Education and Cost of Collection.	1,041	123,543	1,133	64,883	49,179	11,640	23,559	10,429	64,912	222,820
Police, Lighting, and Fire Establishments.	5,358	95,436	2,349	55,560	61,123	11,037	39,242	44,832	161,396	477,298
Public Works: Buildings and Repairs, &c.	309	12,745	127	8,417	19,278	3,983	6,518	21,706	16,950	89,133
Medical Institutions, and Vaccination.	1,861	262,053	2,417	70,293	59,335	37,443	147,601	60,623	249,187	890,818
Conservancy: Water Works, Road-watering, and Cleansing Drainage.	530	2,585	37	5,873	14,061	3,942	3,956	9,008	11,219	51,211
Public Instruction - - -	3,593	19,400	374	9,717	20,840	20,400	6,440	26,494	92,055	199,418
Miscellaneous - - -										
TOTAL Expenditure - - -	14,992	570,520	8,940	243,763	252,874	97,921	240,334	205,857	683,383	2,318,793
Incidence of Taxation per Head of Population.	s. d. 1 2	s. d. 2 7	s. d. 1 0	s. d. 1 8	s. d. 2 2	s. d. 2 1	s. d. 3 4	s. d. 2 -	s. d. 2 8	s. d. 2 4
Incidence of Income during the Year per Head of Population.	2 1	3 6	3 -	1 8	2 9	3 4	12 10	2 11	8 9	4 1

\* This Column includes the Municipalities of Ajmere and Merwara, the Berars, and of Coorg, but excluding Mysore, which has been transferred to the Rajah.

The municipal revenue is raised from octroi, assessed taxes, other taxes, and miscellaneous sources. Octroi is levied in the North-Western-Provinces and Oudh, the Punjab, Central Provinces, Coorg and Bombay. It is confined to the articles specified in the following list, not being subject to imperial taxation. (1.) Articles of food or drink for men or animals. (2.) Animals for slaughter. (3.) Articles used for fuel, for lighting or for washing. (4.) Articles used in the construction of buildings. (5.) Drugs, gums, spices and perfumes. (6.) Tobacco. (7.) Piece goods, and other textile fabrics and manufactured articles of clothing and dress. (8.) Metals and other articles of metal. The difficulty and object of the administration of these duties, is to prevent octroi from becoming a transit duty, and thereby operating to the restriction of trade. With this object in view, refunds are given on all articles exported from a town where octroi is levied, and no obligation is entailed on the trader to prove that the exported articles were originally imported. The existence

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**Municipalities.** of such articles within municipal limits, is taken as proof positive that such is the case. As a rough method of ascertaining whether the octroi on any article is operating as a transit duty, the Government have laid down a standard of consumption per head of the population of the municipality. If the quantity of consumption per head (and not obtaining refund) exceeds that prescribed by the standard, it is evident, if the standard be a correct one, that the consumption of the population outside municipal limits is taxed, and that octroi operates as a transit duty. Throughout the five provinces, where revenue is thus raised, octroi is directly administered, *i.e.* not farmed. Revenue is also raised from assessed taxes (*e.g.* trade licenses, &c.); likewise from taxes on houses and lands, on vehicles, and on animals, and tolls (the proceeds of which are devoted to roads and other public works). The miscellaneous receipts are derived from market and conservancy cesses and fees, municipal fines, rents and other proceeds of land, Government grants, disposal of refuse, &c.

**Other Receipts.**

**Expenditure.**

**Calcutta.**

The chief heads of expenditure are shewn in the accompanying statement. In Calcutta there are 72 Municipal Commissioners, of whom 48 are elected and 24 appointed by Government. The census of Calcutta was taken on the 17th February 1882, with some interesting results. The figures shew that far more than half the inhabitants of the town are temporary sojourners only, and have their homes elsewhere. The per centage of male to female children is normal, but before the age of 10 the male element begins to predominate, and between the ages of 10 and 20 this preponderance becomes very manifest. Between 20 and 40 there are more than two men to every woman, and even between 40 and 60 the excess is very considerable; only after 60 the normal ratio is resumed. The population within municipal limits has decreased from 409,036 in 1876 to 401,671. The recorded death rate is 30 per mille, but the true rate is most probably higher; the birth-rate, on the other hand, is singularly low, owing to the preponderance of males. The extension of machinery is said to diminish the relative demand for labour from outside. Of the total population of the city and suburbs, 684,658, over 62 per cent. were Hindoos, 32 per cent. Mahommedans, and 4 per cent. Christians. Among the chief subjects under consideration in the town council during the year were its own constitution, &c., the widening of the Chitpore road, and other matters connected with refuse, sewage, fuel, &c. Some attention was also directed to the extension of the water-supply, both filtered and unfiltered, the former of which decreased from a daily average of 7,407,256 gallons in 1880 to 7,208,453 in 1881.

**Bengal.**

The constitution of the various mofussil municipalities was as shown in the table below:—

	Number of Municipality.		Europeans.		Natives.		Total.		Officials.		Non-officials.	
	1880-1.	1881-2.	1880-1.	1881-2.	1880-1.	1881-2.	1880-1.	1881-2.	1880-1.	1881-2.	1880-1.	1881-2.
First class Municipalities	25	26	182	200	311	327	493	527	161	186	532	341
Second class Municipalities	99	99	365	365	1,020	1,046	1,325	1,351	387	381	938	979
Unions	66	58	9	4	441	387	450	391	32	34	418	357
Stations	2	2	14	17	12	12	26	20	3	3	23	20
<b>TOTAL</b>	<b>192</b>	<b>185</b>	<b>570</b>	<b>526</b>	<b>1,784</b>	<b>1,772</b>	<b>2,294</b>	<b>2,298</b>	<b>583</b>	<b>604</b>	<b>1,711</b>	<b>1,694</b>

The elective system was in force in only three municipalities of the first class, as in the previous year, *viz.*, Serampore, Burdwan and Kishnaghur. In Serampore a property test was introduced, the payment of rates amounting to Rs. 4 per annum being constituted the voting qualification, and of rates amounting to Rs. 10 the qualification for candidates. The number of nominated commissioners was raised from three to six, and the number of elected commissioners was reduced from 15 to 12. The candidates for election however decreased, and only 10 were elected. In Burdwan there were four vacancies and seven candidates. In this town it is said that the people are beginning

beginning to understand the elective system and to take an interest in municipal matters. In Kishnaghur, on the other hand, the interest displayed by the ratepayers in the election of members was very slight; the members were elected without contest, and by a very small number of voters. In the two first mentioned towns the administration throughout the year was conducted with care and assiduity, but in Kishnaghur the attendance of the commissioners was not satisfactory. Generally speaking, however, with the exception of Jessore, the committees of first class municipalities in the Burdwan and Presidency Divisions, and of Patna, Monghyr and Bhagalpur complied with the provisions of the Act regulating the number of meetings, and met usually once a month. The number of meetings in the second class municipalities in the Burdwan and Presidency Divisions was on an average 12 during the year. In the Rajshahye and Kuch Behar Divisions, 11; in the Dacca Division, 11·6; in the Chittagong and Bhagalpur Divisions, 9; in Orissa, 10·7; and in Chota Nagpore, 8. There is no information for Patna on this point. In the Presidency Division the commissioners of the suburban municipality abolished the ward committees, and appointed, since the close of the year, six sub-committees. In Rajshahye and Kuch Behar, the commissioners of the Rampore Bauleah municipality appointed officers called Mohulla representatives, whose duties are consultative merely; and a scheme was under consideration during the year for the creation of elective ward committees for the Dacca municipality. During the year the provisions of the Bengal Municipal Act, 1876, relating to the levy of a tax on carriages, horses and other animals were extended to Jessore; the levy of a fee on carts was sanctioned for Sasseram and Doomraon (Patna), and authority was given to establish a register for carts in the Jajpore municipality in Orissa.

MUNICIPALITIES.

Two new municipalities were added during the year, making nine in all, of which the population was only 58,000, as Assam is not a country of large towns. The municipal taxation consists principally of taxes on houses and lands, and of ferries, no octroi being levied. No projects of importance were undertaken, but progress has been gradual. The relief of municipalities from the cost of police maintenance will liberate a sum of 1,128 £, for purposes of sanitation and education. Three unions have been opened in Sylhet District, and the ratepayers of the town have taken steps to procure themselves the means of choosing their own representatives.

Assam.

Popular election prevails in the majority of the municipalities of the North-Western Provinces and Oudh, and in the larger municipalities the elections are conducted by wards or groups of mohullas. Generally speaking, the elections were productive of little popular interest, but there were a few exceptions which caused considerable excitement and were closely contested. Out of a total number of 1,460 members, 694 were elected, 328 nominated, and 438 *ex officio*; of these, 477 were Government servants and 983 non-officials; the European members were 347 in number. Of the 34 municipalities where members are appointed by nomination only, seven are in the North-Western Provinces and the rest in Oudh, where indeed this system prevails in all the municipalities but one (Fyzabad). But the interest taken in municipal affairs, and the zeal displayed in their administration, have determined the authorities to introduce popular election generally throughout the province. House tax was levied in 20 municipalities; license tax in 14, and tax according to circumstances and property in 12; and octroi, which contributes 87 per cent. of the receipts from taxation, in 87, or in all towns of importance (Cawnpore and Chaudausi excepted): generally speaking where octroi is levied, it is accompanied by no direct taxation. Out of the 81 municipalities in the North-Western Provinces 12 only levy nothing but direct taxes, while in Oudh 12 out of 28 confine themselves to direct taxation. The receipts from octroi were 174,545 £, out of a total income of 293,611 £, the corresponding figures for 1880-1 were 175,067 £ and 289,256 £. Considerable improvement has been effected in bringing this taxation within proper limits, and only in sugars and cloth is there any serious excess over the standard of consumption. The measures adopted to this end, however, did not take full effect till after the close of 1881-2. The last effort of official local government has been to relieve the municipalities of the police charges, and to intrust them with the administration

N. W. Provinces and Oudh.

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MUNICIPALITIES.

of other institutions within their boundaries, such as schools and dispensaries. The expenditure on conservancy was larger than in the previous year, and the Allahabad sewage farm, now established on a more efficient basis, is likely to prove lucrative. The birth-rate of the year was unusually high, and the results of registration bear witness to more careful reporting than usual.

Punjab.

In the Punjab, out of a total of municipal members amounting to 2,171, only 28 were elected, 1,497 were nominated, and 646 were *ex-officio* members. Of these, 692 were officials and 400 Europeans, leaving 1,479 non-officials and 1,771 natives. The number of municipalities was raised from 195 to 198 by the inclusion of three towns in the Muzaffargarh District. Nearly half of this number are towns, or villages, below 5,000 in population. The propriety of levying town dues at the smaller places has been questioned, and it is probable that if the octroi tax be abolished their resources for local improvements could not be maintained at the present figure; for this and other reasons it may be expedient to suppress some of the smaller municipalities. This matter was however in consideration in connection with that of octroi taxation. Octroi duties were levied in 196 out of 198 municipalities (the exceptions being, Murree and Dharmasala), and furnished 213,870 *l.* out of a total income of 285,633 *l.*, and a total income from taxation of 226,923 *l.* The collections from octroi in 1880-1 amounted to 223,891 *l.*; the principal decreases during the year under review are ascribed to the cessation of the Afghan war, the fever at Amritsar, and the lowering of the duty on grain at that city. There is every reason to believe that the octroi taxation as levied in 1881-2 fell largely on the general trade of the country as a transit duty. The expenditure under the head of public health was largely increased by epidemics, especially at Lahore and Amritsar, and also by the new scheme of vaccination. Much attention was paid to conservancy, and the municipality of Amritsar shewed how large an income (3,182 *l.*) can be made from the systematic disposal of town sweepings and refuse. Plans and estimates were drawn up of a waterworks scheme and drainage project for Delhi, and as the loan from the Imperial Treasury for the execution of these projects was refused, the municipality have applied for permission to resort to the money market. Other schemes for waterworks are in progress, and the Lahore project was completed during the year. Apart from the octroi question, the working of the committees was on the whole satisfactory.

Central Provinces.

The members of committees in the Central Provinces number 640, of whom 235 are *ex officio*, with a preponderation of elected members. The members of municipal committees in some parts of the Province have learned to take great interest in their work, especially in the Nerbudda Division, and the chief commissioner reports the development of a spirit of self-reliance and self-help which has encouraged him to proceed to the total removal of the official element from some committees. The liberation of municipalities from police charges, amounting to 11,499 *l.*, will set free a considerable sum for improvements. The receipts from octroi increased by a lakh of rupees, and amounted to 64,998 *l.* out of a total income of 143,340 *l.* There was an increase of about two lakhs in expenditure, of which about 1½ lakhs was due to outlay on the Jubbulpore waterworks.

British Burma.

The number of members of municipal committees in British Burma amounted to 97, of whom 65 were nominated, and the remaining members *ex officio*; 43 were officials and 52 were Europeans; 54 were non-officials and 45 were natives. Since the close of the year a new committee was started in Rangoon, of which three fourths were elected members. It is proposed to extend the elective system to other towns if the inhabitants desire it. At Moulmein and Akyab the members have already offered to resign in favour of members elected by the ratepayers. The bye-laws prepared by the Government Advocate and circulated last year to committees have, with some slight modification, been accepted by all the municipalities except Prome. The Rangoon, Moulmein, and Toungoo reports do not remark on the accuracy of the registration figures or the procedure followed in obtaining them, but in the other towns an improvement in registration is noted. In Prome, however, a defect in the municipal bye-laws prevented the prosecution of persons who failed to report deaths. This defect has now been remedied.

Ajmere.

The number of municipalities in Ajmere was the same as in the previous year, viz., three, Ajmere, Beawar, and Kekri. The revenue exhibits an increase of 5,878 *l.*, which occurred principally in octroi, by far the largest item of revenue (9,058 *l.*)

(9,048 l. out of a total of 11,230 l.) The traders are said now to recognize fully the value of bonded warehouses, and the value of goods bonded was 132,331 l. against 99,936 l. in 1880-81. There is reason, however, to believe that octroi is not fully collected in Ajmere, and the matter will be investigated.

MUNICIPALITIES

The constitution of the municipal committees in Berar was as follows :—

Berar.

	Number of Members.	Europeans.	Natives.	Officials.	Non-officials.
1880-1	81	32	49	35	46
1881-2	97	37	60	50	47
INCREASE	16	5	11	15	1

It is proposed to extend municipal taxation to incomes below 10 l., and when this change takes place the house tax in Khamgaon will be abolished, as also will the tax on cesspools in Amraoti. These two taxes are confined to the towns above-mentioned. A cess is levied at the cotton markets in Amraoti, Akola, Khamgaon, and Shegaon, from the exporters of cotton, the receipts from which shew a considerable increase for the year, owing to the increased outturn of cotton. The cart tax is peculiar to Amraoti and Ellichpur. The record of vital statistics is highly inaccurate, which is owing to the fact that the district officer in municipalities has no power to enforce registration as regards sanitary matters; "not only sanitation but common decency have yet to be enforced." The Berar municipalities are said generally to be in quite a rudimentary stage.

The aggregate number of members of municipal committees in Coorg is 49; 17 of them are *ex-officio* and the rest nominated. Seventeen members are official and seven Europeans. The total number of members is two less than last year, and the decrease is accounted for by the withdrawal of two European members from the Mercara committee. No sanitary works of importance were undertaken during the year for want of funds, but some desirable improvements were effected in Mercara and Virarajendrapet. Octroi is levied only in the latter town, and house tax only in the former.

Coorg.

The corporation of Madras consists of 32 members, a moiety of whom are elected. At the invitation of Government the municipal commissioners of Madras submitted a report on the revision of the Municipal Act for that city. The purport of the recommendations embodied in this report indicates the public spirit by which the commissioners were actuated. The need of an enhanced revenue being recognised, they recommended an increase of the taxation on arts, trades, and professions, together with other enhancements of minor importance; and further that the question of the water tax should be set at rest by taxing all premises within 150 yards of a fountain at 4 per cent. on the annual value, and all other premises at 2 per cent. The municipal finances were restored to equilibrium by the remission of Government claims to the amount of 17,195 l., but it was found impossible to realise the expectation of the Governor that the quit-rents of Madras should be converted into municipal revenue, as these rents had been so long merged in imperial revenue. Though, however, the finances are relieved from immediate embarrassments, and if the police charges be permanently removed, the revenue will suffice for immediate needs, no funds are available for increased street conservancy and night-soil conservancy, the wants of which are becoming daily more and more pressing.

Madras City.

The number of municipalities in the Madras Mofussil remains the same as in the previous year, viz., 47; but the elective system has been extended to four communities in addition to the four where it already obtained. The bulk of the revenue is raised from the tax on houses and lands, that on arts and trades, &c., and tolls and ferries. In the receipts from the first and last of these taxes a large increase is noted. No public works of any great magnitude were undertaken, but the expenditure under this head slightly increased. Every municipality has a dispensary or hospital in connection with it.

Madras.

MUNICIPALITIES.  
Bombay City.

In Bombay city there are 64 commissioners, half of whom are elected by the rate-payers, and a quarter by the Bench of Justices, the remaining quarter being nominated by Government; the financial control of the municipality is under a council of 12 members, eight of whom are elected by the corporation. The revenue has increased under several heads, but the special element of increase is the profit of nearly two lacs of rupees on the timely sale by the Government 4 and 4½ per cent. paper, paper in which the 27 lacs drainage loan had been invested. The chief items of increase in expenditure were under conservancy, registration, and vaccination, and the special expenditure on the census, which gave a population of 773,196, an increase on the numbers in 1872 of 128,791. The low-caste Hindus have increased in greater proportion than other classes. Death and birth registration are far from perfect. A considerable expenditure was incurred on the improvement of water-supply and drainage.

Bombay.

The following statement gives the number of official and non-official members in the different divisions of the mofussil:—

	Official.		Non-Official.	
	1880-1.	1881-2.	1880-1.	1881-2.
Northern - - - - -	187	198	378	371
Central - - - - -	308	315	530	532
Southern - - - - -	169	183	301	323
Sind - - - - -	191	205	412	369
TOTAL - - -	855	901	1,621	1,625

The increase of official members in the northern division is nominal, *ex officio* members having been alone entered as official members in previous reports. In the reconstitution of municipalities now being carried out, Government hope to see the proportion of non-official members increased. In Karwar the proportion of official members is larger than is allowed by the Act, but the illegality has been remedied. Many of the municipal commissioners in almost all the districts have rendered themselves liable to dismissal by failing to attend two-thirds of the meetings, and in a few cases the prescribed quarterly meetings were not held at all. The meetings of the managing committees also were in many cases irregular and ill-attended. Some signs of improvement have, however, been manifested, and it is hoped that progress will be more rapid when greater inducement to take interest in municipal affairs is held out to the non-official commissioners. There is much room for improvement in the accounts of the different municipalities, and in some cases the provisions of the law regarding the audit of accounts have been disregarded. Some progress has been made in the revision of taxation schedules. In Modara (North Division) octroi has been abolished, and a house-tax substituted for it. The duty on salt at Virangam and in kerosine oil at Roha Ashtami has been abandoned. In Taloda (Central Division), and some of the small Satara municipalities, octroi is no longer levied, while changes in the tariff have been made in Dharwar, Hubli, Nargund, and Chiplun, in the Southern Division. In Chiplun and Nipani a house tax has been imposed. The duty on oil-seeds at Karachi has been abolished, and since the close of the year the duty on wheat. The schedule at Sukkur has been revised, and is now fairly satisfactory, and the tax on animals at Jacobabad has been done away with. Most municipalities have adopted more liberal refund rules, but, generally speaking, the progress made in reforming abuses in octroi taxation has not been satisfactory. The initiation of the necessary measures rests with the municipal bodies, many of which show reluctance

ance to take action in the matter. The total number of towns where octroi is levied was 136, against 139 in the previous year; the proportion to total revenue of receipts from octroi declined from 54 to 52 per cent., and the incidence per head of town populations from Rs. 0. 15. 7., to Rs. 0. 14. 1. In almost all the municipalities where the incidence exceeded Rs. 1 per head, the standard of average consumption of articles was largely exceeded, so that by the regulations laid down by the Government of India, the octroi on these articles should be modified. Strong exception has, however, been taken to the application of the standards prescribed for the North-Western Provinces to Bombay, and Government are of opinion that it is desirable to frame other standards for Bombay. The system of bonded warehouses is not popular, but at Karachi and Larkhana they have proved financially successful, and could probably be introduced with equal success on important trade routes. Conservancy matters are acquiring greater attention, and the sale of manure has proved a source of considerable profit. No expenditure was incurred on behalf of police in municipalities, except in some of the Sind towns, and in Poona and Ahmednagar, where special constables were maintained; also in Surat, where a punitive police post was established at the cost of the municipality. The registration of births and deaths is still incomplete, as many of the municipalities have not introduced laws making it obligatory, while most of them take no pains to enforce the existing laws. Even in Bombay registration is inaccurate.

MUNICIPALITIES.

Twenty-five Acts received the assent of the Governor General during the year 1881-2; of these 15 were general in their application, and 10 local. The General Acts were as follows:

LEGISLATION.  
India.

(<sup>1</sup>) The Portuguese Convention Act, to harmonise the systems of moneys, weights and measures obtaining respectively in British and Portuguese India; (<sup>2</sup>) The Negotiable Instruments Act, to define and amend the law relating to promissory notes, Bills of Exchange and cheques; (<sup>3</sup>) The Indian Trusts Act, to define and amend the law relating to private trusts and trustees; (<sup>4</sup>) The Seditious Publications Act, to repeal the Native Press Act, 1878, and to amend the law relating to seditious publications; (<sup>5</sup>) The Transfer of Property Act, to amend the law relating to transfer of property by act of parties; (<sup>6</sup>) The Easements Act, to define and amend the law relating to easements and licenses; (<sup>7</sup>) The Indian Companies Act, for the incorporation, regulation, and winding up of trading companies and other associations; (<sup>8</sup>) The Powers of Attorney Act; (<sup>9</sup>) two acts to amend the Indian Penal Code, and (<sup>10</sup>) the Prisoners Act, 1871; (<sup>11</sup>) The Criminal Procedure Code, to consolidate and amend the law relating to criminal procedure; (<sup>12</sup>) The Indian Tariff Act, to amend the law relating to customs duties and for other purposes; (<sup>13</sup>) The Indian Salt Act, to regulate the duty on salt and for other purposes; (<sup>14</sup>) The Civil Procedure Code, to consolidate and amend the laws relating to the procedure of the courts of civil judicature; (<sup>15</sup>) and the Presidency Small Cause Court Act, to consolidate and amend the law relating to the courts of small causes established in the Presidency towns. The important General Acts of the year were Acts XXVI. of 1881, II., IV., V., VI., X., XIV., and XV., of 1882.

The Acts passed, having local application only, were; for Bengal and Assam: (<sup>16</sup>) to exclude the Mahal of Banki from the Bengal scheduled Districts, and (<sup>17</sup>) to amend the law relating to emigration to the labour districts of Bengal and Assam; for the North-Western Provinces and Oudh: (<sup>18</sup>) to amend the law relating to Kanungos and Patwaris; for the Punjab: (<sup>19</sup>) to empower the Local Government to establish a system of village watchmen and municipal watchmen for the Central Provinces; (<sup>20</sup>) to amend and consolidate the law relating to land revenue and the powers of revenue officers; for British Burma: (<sup>21</sup>) to amend the law relating to forests, forest produce and the duty leviable on timber; for Bombay and Sind: (<sup>22</sup>) to amend the law providing for the relief of Jaghirdars and Zamindars in Sind; (<sup>23</sup>) to amend the law providing for the relief of Thakurs in the Broach and Kaira Districts; (<sup>24</sup>) to amend the Deccan Agriculturists

Provincial.

(<sup>1</sup>) Act XVII. of 1881.  
(<sup>2</sup>) Act IV. of 1882.  
(<sup>3</sup>) Act VIII. of 1882.  
(<sup>4</sup>) Act XII. of 1882.  
(<sup>5</sup>) Act I. of 1882.  
(<sup>6</sup>) Act XIX of 1881.

(<sup>7</sup>) Act XXVI. of 1881.  
(<sup>8</sup>) Act V. of 1882.  
(<sup>9</sup>) Act IX. of 1882.  
(<sup>10</sup>) Act XIV. of 1882.  
(<sup>11</sup>) Act III. of 1882.  
(<sup>12</sup>) Act XX. of 1881.

(<sup>13</sup>) Act II of 1882.  
(<sup>14</sup>) Act VI. of 1882.  
(<sup>15</sup>) Act X. of 1882.  
(<sup>16</sup>) Act XV. of 1882.  
(<sup>17</sup>) Act XXIV. of 1881.  
(<sup>18</sup>) Act XXI. of 1881.

(<sup>19</sup>) Act III. of 1882.  
(<sup>20</sup>) Act VII. of 1882.  
(<sup>21</sup>) Act XI. of 1882.  
(<sup>22</sup>) Act XXV. of 1881.  
(<sup>23</sup>) Act XVIII. of 1881.  
(<sup>24</sup>) Act XXIII. of 1881.



12 STATEMENT EXHIBITING THE MORAL AND MATERIAL.

MUNICIPALITIES. Agriculturists Relief Act of 1879; and for Northern India, British Burma and Coorg: (1) to amend the law relating to the excise revenue.

Bengal. Three Acts were passed by the Bengal Legislature during the year, two of which were (2) to amend the Calcutta Municipal Consolidation Act of 1876; and (3) the other to amend the law relating to embankments and watercourses: the last Act was assented to after the close of the year.

Madras. Three Acts were passed by the Madras Legislature: viz., to amend Act V., of 1878 (the City of Madras Municipal Act) (4); to make better provision for the protection of the salt revenue (5); and to repeal Madras Regulation XIV., of 1816, regarding the office of Vakeel or Native pleader in Civil Courts (6).

Bombay. Seven Acts were passed by the Local Legislature in Bombay, viz.: to amend the Bombay Port Trust Act, 1879 (7); to confirm the jurisdiction of Presidency magistrates in municipal cases (8); to provide for the appointment and maintenance of village officers in Sind (9); to amend the law relating to tolls on roads and bridges (10); to repeal Act VII. of 1878 (Bombay Cotton Frauds) (11); to amend Act II. of 1874 (Bombay Civil Jail Fund, &c.) (12); and to amend the Bombay and Karachi Vaccination Acts (13).

(1) Act XXIV. of 1881.

(4) Act III. of 1881.

(5) Act II. of 1881.

(6) Act II. of 1882.

(2) Acts VI. of 1881 and I. of 1882.

(3) Act I. of 1882.

(7) Act IV. of 1881.

(8) Act III. of 1882.

(9) Act II. of 1882.

(10) Act V. of 1881.

(3) Act II. of 1882.

(7) Act III. of 1881.

(11) Act I. of 1882.



II.

JUSTICE, POLICE, AND REGISTRATION.

		Criminal Trials.				Appeals or Revisions in Criminal Cases.			Persons Sentenced to				
		Persons brought to Trial.	Number Acquitted or Discharged.	Number Convicted.	Otherwise Disposed of and Pending.	Number of Appeals, &c.	Number of Sentences Confirmed.	Otherwise Disposed of and Pending.	Death.	Transportation.	Imprisonment.	Fine.	Whipping.
Bengal - - -	{ 1880	220,366	68,810	148,312	9,244	14,181	8,443	5,738	70	250	28,335	108,939	2,704
	{ 1881	223,311	67,498	147,210	8,608	14,368	8,581	5,787	61	233	26,602	109,555	2,356
Assam - - -	{ 1880	16,344	4,862	10,850	632	1,072	688	384	4	25	3,172	7,356	506
	{ 1881	15,786	4,956	10,240	590	1,115	675	440	5	15	3,036	6,693	434
North-Western Provinces and Oudh - - -	{ 1880	186,465	57,550	129,006	5,909	14,310	10,613	3,697	99	346	31,408	80,836	10,250
	{ 1881	226,477	96,873	122,050	7,554	17,674	12,587	5,087	123	399	34,976	73,956	8,276
Punjab - - -	{ 1880	176,453	87,614	84,751	4,088	9,955	6,104	3,851	148	131	17,230	62,368	3,597
	{ 1881	180,959	91,006	85,298	4,655	11,570	7,164	4,408	81	182	16,716	62,651	3,164
Central Provinces - - -	{ 1880	44,595	13,611	30,050	934	2,257	1,104	1,153	28	55	9,765	19,828	3,820
	{ 1881	40,630	14,031	25,591	1,008	1,947	1,076	871	43	82	6,714	15,988	2,506
British Burma - - -	{ 1880	41,685	13,501	27,362	822	2,941	1,865	1,076	49	59	6,246	20,248	1,256
	{ 1881	42,347	13,688	27,681	978	1,589	905	684	29	55	6,535	20,902	1,140
Berar - - -	{ 1880	23,415	9,880	12,708	827	447	213	234	1	13	2,004	9,800	788
	{ 1881	20,104	9,317	10,421	366	514	205	309	13	20	2,015	8,474	430
Ajmere - - -	{ 1880	5,439	2,869	2,422	148	79	44	35	2	1	356	2,220	82
	{ 1881	6,282	3,404	2,072	200	92	60	32	3	4	426	2,360	94
Coorg - - -	{ 1880	1,729	860	860	9	45	20	25	-	-	140	540	29
	{ 1881	2,019	1,152	821	46	64	33	31	-	2	136	547	41
Madras - - -	{ 1880	312,156	166,950	138,914	6,292	9,768	4,589	5,179	102	311	36,369	100,802	4,651
	{ 1881	299,194	124,795	159,737	14,662	10,289	5,232	5,057	73	167	32,676	126,927	2,900
Bombay - - -	{ 1880	120,766	55,674	58,052	6,140	5,344	3,317	2,027	93	324	18,938	42,653	1,501
	{ 1881	111,731	55,681	50,950	5,100	5,365	3,286	2,079	47	174	14,348	36,378	1,062
TOTAL - - -	{ 1880	1,155,413	482,181	638,187	35,045	60,309	37,931	23,068	596	1,515	154,059	450,588	29,193
	{ 1881	1,168,840	482,401	642,671	43,768	64,587	39,835	24,752	478	1,333	144,180	466,431	22,403

Exclusive of Bangalore in 1881 and Mysore 1880.

The various Criminal Courts in operation in India are, (1) the High Courts; (2) Courts of Session; (3) Courts of Presidency Magistrates; and of Magistrates of the First Class; (4) Courts of Magistrates of the Second Class; (5) Courts of Magistrates of the Third Class. The Presidencies of Madras and of Bombay, and the Lieutenant Governorships of Bengal, and of the North-Western Provinces, have each a High Court, which is supreme in both civil and criminal business, with an ultimate appeal in civil cases to the Judicial Committee of the Privy Council. A sessions judge may pass any sentence authorised by law, but sentence of death must receive the confirmation of the High Court. An assistant sessions judge may pass any authorised sentence except that of death or transportation or imprisonment for a term exceeding seven years. Sentences to more than three years' imprisonment must receive the confirmation of the sessions judge. Magistrates of the first-class, and of the local courts in the Presidency towns, cannot exceed in their sentences two years' imprisonment, or Rs. 1,000 fine. Second-class magistrates cannot exceed six months' imprisonment, and Rs. 200 fine; third-class magistrates cannot exceed one month's imprisonment, and Rs. 50 fine.

CRIME.

First-class magistrates and, if so empowered by the Local Government, second-class magistrates, can sentence to whipping. Magistrates of any class may have additional powers conferred on them. The prescribed alterations in the criminal statements render comparison in many respects impossible with the figures of previous years, and especially in the number of offences reported. It has in the foregoing statement, accordingly, been deemed best to give only the number of persons brought to trial during the year, as these figures admit of comparison.

Bengal.

The figures for the scheduled districts of Ungool and Banki, the Sonthal Pergunnahs, and the Chittagong Hill Tracts, are included in the above statement, and the statistics already published for the previous year have been altered so as to compare with those given for the present year. A general reduction took place in the number of persons brought before the criminal courts during the year; in the courts of Presidency magistrates, however, the increased activity of the municipal police and the officers of the Society for the Prevention of Cruelty to Animals, caused a rise in the number of persons tried from 31,520 in 1880 to 36,194 in 1881. The total number of persons tried by the magistrates courts outside Calcutta decreased by about one twenty-sixth part. Two-thirds of those persons who were sentenced to imprisonment underwent imprisonment for terms less than six months, and 91 per cent. of the persons flogged were convicted of theft and receiving stolen property; 326 of the persons thus punished were under 16 years of age, and 650 under 20. The total number of offenders flogged was 2,356, against an average for the previous five years of 3,637. The number of prisoners admitted into gaol on re-conviction was actually less than in the previous year, but really larger in proportion to the total admissions.

Assam.

A new sub-division was opened during the year in the North Cachar Hills, in consequence of repeated raids by the Angami Nagas. A decrease of 1,167 is noted in the number of offences reported. The greater portion of this decrease took place at Karimganj, and was chiefly in petty crime. When this sub-division was first opened in 1878, the natives brought every trivial case before the courts, and the decrease now observed is ascribed to the fact that the sifting arrangements adopted by the judicial authorities have shewn the natives the folly of so doing. A consignment of faulty weights from Calcutta to a trader in Kamrup produced a number of offences against the law relating to this subject. It is suggested that Government should exercise some control over the manufacture of weights and measures. There was a decrease of 408 cases in the number of offences under special laws, chiefly in Sylhet and Nowgong. In Cachar, however, an increase took place of 129 cases, chiefly in respect of breaches of the Contract (Workmen's) Act, the Ferry Act, and the Police Act. The offences against the first of these Acts are accounted for by the unremunerative state of the tea industry, which drove the planters to employ local labour. Want of co-operation amongst the planters, professional crimping, and the consequent desertion of the labourer, induced the commission of the offences noted. The increased violations recorded of the Police Act are due to the greater interest now taken in municipal matters, and the augmented staff of municipal police.

N. W. Provinces  
and Oudh.

The only statistics in the North-Western Provinces' Report, under the head of Original Criminal Justice, which are comparable with similar figures for 1880, are the number of convictions, as before the year under review the statements were incomplete. The striking feature in the comparison of the criminal statements for Oudh and for the North-Western Provinces is the high incidence of crime in the former province. The difference has been observed ever since the amalgamation of the two provinces, and cannot effectively be explained. It may be ascribed perhaps in part to the greater poverty of the population of Oudh, which drives them to the commission of crime, and prevents them from indulging in the protection afforded by a higher class of dwellings, but the difference is due no doubt in greater measure to the incompleteness of the criminal records in the North-Western Provinces, for there does not appear to be the same disproportion between the provinces in the number of grave crimes against the person, where concealment is improbable, while in the ratio of convictions to population the difference is little. Some success has been achieved in securing a greater uniformity of punishment

punishment amongst the different courts, and greater success is anticipated in the current year. CRIME.

The Criminal Returns for the Punjab shew a decrease of 1·8 per cent. in offences under the Criminal Penal Code, a slight increase of offences under Special and Local Laws, and in regard to serious crime a decrease of 1·2 per cent. These results, which indicate a continuation of the improvement noticed last year, are highly satisfactory. The Mooltan riots, together with a disregard on the part of the population for the orders subsequently promulgated, led to a considerable number of prosecutions. The number of murders for the province sensibly decreased in the Peshawar Division, though in the Rawalpindi and Derajat Divisions the figure still remained high. On the whole, while offences against the person increased, offences against property decreased. Under the heading of Special and Local Laws, the operation of Act XVIII of 1859 in respect to prosecution of contract, called for a special inquiry, as the proportion of convictions to prosecutions was so disproportionately small as to warrant the belief that the Act was made an instrument of annoyance. The evasions of the stamp law still continue numerous, and it is considered that greater severity should be exercised in dealing with the misdemeanour. The distinction in the revised forms between summons cases and warrant cases heard allows of an estimate being formed of the work done in the tahsildars courts. The conclusion arrived at is that the judicial duties of the tahsildar are not excessive. It is in the highest degree desirable that these local courts should dispose of petty cases, and thus save time and expense to parties and witnesses who would otherwise be obliged to resort to a distant court; these classes can apparently be dealt with by the tahsildars without undue interference with their revenue duties. The honorary magistrates and members of the city boards disposed of nearly 11,000 cases during the year, but the Ferozepore board of magistrates collapsed for some unexplained reason. The number of persons flogged has, it will be seen, decreased. The Lieutenant Governor believes that this form of punishment is an eminently suitable one, but considers that it is incumbent on the judicial administration to eliminate the great inequalities which exist in its application. Serious defects also appear to exist in the partial enforcement of the law respecting bad livelihood. Punjab.

The number of true offences reported in the Central Provinces has declined from 41,010 to 36,886, the decrease being generally distributed amongst all classes of offences with the exception of those affecting the human body, which have, on the other hand, risen from 7,386 to 8,594. The real increment in this class is under hurt and petty assault, and the explanation offered that the prosperity of the native now allows him to go to law on account of petty insults and annoyances which, in harder times, he would have endured in silence. Such being the case, the removal of "hurt" in the new code of criminal procedure from the list of offences cognisable by the police, appears to be a salutary reform. Certain honorary magistrates have, during the year, been deprived of their judicial powers, and those who are in exercise of these powers have been warned not to undertake the adjudication of cases in which they may be suspected of personal bias. The percentage of conviction throughout the provinces has declined during the last two years, and this progressive decline is an unsatisfactory feature of the Report. A better standard of punishments has been gradually set up, but there still occur notorious instances of inadequate sentences. Whipping is always freely resorted to, but there seems no reason to doubt that the social position and character of the offender is duly considered before the punishment is awarded him. Central Provinces.

There was an increase in the number of violent crimes in Rangoon and the surrounding districts, but on the frontier, formerly the happy hunting ground of dacoits and robbers, there was comparative peace. The decline, however in the number of capital sentences does not, unfortunately, point to an equivalent decline in the committal of murder. The number of sentences to long terms of imprisonment has somewhat risen, owing to the greater care taken in identifying habitual offenders, while the average amount of fines imposed has declined from 1 L. 14 s. to 1 L. 6 s. During the year benches of honorary magistrates were constituted at the seven municipal towns of the province, and, though it is early to prophesy concerning them, promise well. The movement may be developed by the creation of more municipalities under the system of extended local self-government. British Burma.

Census.  
Berar.

A substantial decrease is exhibited of serious crime in Berar, viz., 3,975 cases against 5,432 in 1880. Housebreaking declined by 18 per cent., cattle theft by about 40 per cent., and ordinary theft by about 29 per cent. There was also a very large decrease in dacoities, though the great increase of robberies committed in the Wun District caused a slight rise in the total of robberies for the province. The percentage of the recovery of property fell 1·4 per cent. The criminal courts on the whole did their work well, but the question of further relieving the tahsildars of their judicial work calls for consideration.

Ajmere

Of the 4,075 offences reported, 3,039 were ascertained to have actually occurred, against 2,817 in 1880. This large difference is due to the number of frivolous complaints made to the police, all of which they are bound to notice. The number of serious or non-bailable offences for disposal before the courts was 397, against 334 in 1880. The principal increase was under the heads of house trespass and cattle theft. Twenty dacoities were reported (8 in Ajmere and 12 in Merwara), but only 4 cases with 14 persons were brought to trial. The percentage of conviction for non-bailable offences improved, but under all other heads deteriorated.

Coorg.

The rendition of Mysore necessitated the appointment of the Commissioner of Coorg as the sessions judge of this province. The first Assistant Commissioner was appointed district magistrate also, and relieved of civil work. The increase in crime observable in the statement given above is chiefly in cases of assault, criminal force, and offences against local laws, but this increase was accompanied with a general decrease of heinous crime.

Madras.

Serious crime in Madras still continues to decrease as it has done since the famine. Murders fell from 290 in 1880 to 274, dacoities from 315 to 151, robberies from 373 to 290, housebreaking from 6,508 to 6,142, and offences against cattle 3,325 to 2,637. Offences against the revenue laws (abkari and salt) rose from 8,755 to 9,631.

Bombay.

There was a manifest improvement in the administration of criminal justice during the year. Not only has the total number of cases declined, but there has been a decrease in the number of murders, dacoities, robberies, and other violent crimes, which especially point to the existence of a spirit of lawlessness among the people. This improvement can only be attributed to the general prosperity of the country. Offences affecting life decreased by 88, theft by 965, extortion by 9, robbery and dacoity by 71, criminal misappropriation by 116, criminal breach of trust by 122, and receiving stolen property by 334. The proportion of acquittals to convictions is high in cases of personal violence, cheating, defamation, and intimidation, owing probably to the fact that these cases arise from quarrels which are compromised before the case comes on for trial, while in the case of offences against the Municipal and Police Acts the percentage of acquittal is low.

Bangalore.

The administration of criminal justice in Bangalore was satisfactory. There was a decrease in the number of cognizable cases, and an increase in nuisance cases.

INFANTICIDE.  
N. W. Provinces  
and Oudh.

In the North-Western Provinces the chief features of infanticide statistics for the 30 districts where the special regulations are in force, were the very high birth-rate, 52·18 per mille, the very good average of girl birth, 47·74, against 52·26 for boys, the high death-rate among infants, 20·94, and the equal proportion of deaths amongst the two sexes. The trustworthy character of the statistics is evidenced by their similarity to those of the last six years, and it is curious to observe how little they differ from the English rates, with the exception of the higher mortality among children. A climacteric seems to be established for boys in the fourth and for girls in the fifth and eleventh years. The number of inquests held in the North-Western Provinces was 708 in excess of last year, 1,490 of these were on account of the deaths of females under one year, and the remaining 1,086 of boys dying under six months, and girls over one year of age, when the circumstances appeared suspicious to the police. Out of a large number of bodies sent for post-mortem examination there was ground for suspicion in only 13 cases, of which six were sent for trial. Finally, however, only one person was convicted against five in 1880; 103 chowkidars, six midwives and 291 heads of families were punished, the respective figures for 1880 being 413, 20, and 219. The infanticide establishment for specially guilty

guilty villages consisted of four sub-inspectors, 101 head constables, and 27 chowkidars, shewing a reduction of nine head constables, and an addition of one chowkidar on the establishment of 1880. INFANTICIDE.

In Oudh the infanticide department has hitherto been kept in the dark as to the prevalence of the crime by the want of proper figures; these have been to a certain extent supplied by the census, and there is strong reason to believe that the crime is widely practised in Oudh, and especially amongst the Rajpoots of Sitapur and Rae Bareilly. At the commencement of the year 207 villages were under surveillance, and in these as well as in 249 new villages a census was taken; 17 specially guilty villages were under surveillance, and the census showed a girl per-centage for the old villages of 39.68, for the new of 45.67, and for the specially guilty of 39.40. POLICE.

		Strength of District, Town, or Municipal and Water Police, paid for, wholly or in part, from Imperial Revenues.		Strength of Cantonment, Town, or Municipal Water Police, paid for wholly from other than Imperial Revenues.		Total Police of all Kinds.	Total Cost.	Payable from Imperial or Provincial Revenues.	Payable from other Sources
		Officers of all Grades.	Men.	Officers.	Men.				
Bengal	1880	3,961	16,083	319	5,042	25,405	£. 429,664	£. 369,898	£. 59,770
	1881	3,988	16,866	321	4,881	25,456	414,678	364,084	50,594
Assam	1880	526	3,500	10	100	4,136	80,800	78,962	1,838
	1881	523	3,347	10	101	3,981	72,215	71,127	1,088
North-Western Provinces and Oudh	1880	4,291	17,829	846	10,002	32,967	430,340	356,323	80,027
	1881	4,297	17,907	841	10,085	33,130	434,662	354,331	80,331
Punjab	1880	608	14,622	28	4,685	19,943	318,111	267,778	50,332
	1881	609	14,770	30	5,002	20,471	322,332	269,507	52,825
Central Provinces	1880	1,151	6,321	170	965	8,607	120,700	113,712	15,988
	1881	1,158	6,342	173	968	8,671	130,454	114,298	16,156
British Burma	1880	577	6,297	44	423	7,341	108,255	150,749	17,506
	1881	579	6,112	44	418	7,153	168,693	150,792	17,901
Ajmere	1880	96	486	-	-	582	9,044	7,770	1,274
	1881	96	486	-	-	582	8,642	7,353	1,289
Berar	1880	461	2,293	-	-	2,694	51,863	49,611	2,252
	1881	502	2,134	-	-	2,636	46,954	44,398	2,556
Coorg	1880	5	49	-	-	54	723	723	-
	1881	13	93	-	-	106	1,365	1,365	-
Madras	1880	645	26,094	-	-	26,739	397,346	397,346	-
	1881	621	24,127	-	-	24,748	305,715	305,715	-
Bombay	1880	3,095	15,086	185	1,207	19,633	324,967	297,785	27,182
	1881	3,085	15,814	181	1,235	20,315	329,075	302,555	26,520
TOTAL	1880	14,816	109,199	1,602	22,484	148,101	2,346,822	2,090,647	256,175
	1881	14,971	107,998	1,600	22,780	147,249	2,324,786	2,075,525	249,261

Exclusive of Mysore in 1880 and of Bangalore in 1881.  
297 police were maintained in Bangalore at a cost of 5,726 £.

The expenditure on police in Bengal shews a slight increase over that of the previous year; this is attributable to re-organisation of the force. Fifth grade inspectors have been introduced with the object of providing for the charge of important outposts investigating officers of a higher class than head constables. The number thus introduced was 44, and a corresponding reduction has been made in the staff of head constables. Additional expenditure has also been incurred in the amalgamation of the extra and regular forces in Backergunge, the entertainment of men for railway duty, the raising of the pay of the lowest grade of head constables in Darjeeling, and the employment of extra men for the magisterial division of Kurseong. In connection with the scheme for the extension of local self-government it was determined to relieve all municipalities in Calcutta, the suburbs, and Howrah, of the payment of the municipal police, and a re-organisation of the force has now been sanctioned. The municipal and the regular

POLICE.

regular forces will be amalgamated, and the pay now received by the lowest grade of constables in the municipal police will be raised to assimilate to the pay of the similar grade in the regular police. The reports from the different districts on the working of the chowkidari Act of 1871, testify in most cases to improvement; but it is not very apparent that any such improvement has taken place. By this Act all chowkidars are under the control of punchayets, who are responsible for their payment, and are authorised to levy a cess for this purpose. It is true the chowkidars who do not come under this Act are much worse off and more inefficient than those who do; but the reports, so far from exhibiting any improvement in 1880, seem, in some respects, to shew retrogression. The great obstacle to reform is the inefficiency of the punchayets, and it is not easy to see that this can be remedied. In Chota Nagpore the Act is unworkable on its present lines. Special reports will be submitted on this subject.

ASSAM.

The figures given in the above statement of the total cost of the police in Assam do not appear to be trustworthy. Greater accuracy will be ensured for the future. The police force consists of two separate bodies, civil and frontier police. The constitution of these bodies remained unaltered, and the recruitments kept the actual more nearly equivalent to the sanctioned strength than was the case in the previous year. The frontier police were, however, still short of their full strength, and this paucity of numbers was severely felt when the force was called on to furnish a contingent for the occupation of the advanced outposts of Nizamghat and Bomjur on the Abor frontier in November 1881. It will be remembered in future that a margin must be allowed of extra recruitments in order to maintain the full strength of the corps, and this applies especially to the recruitment of Nepalese, who should constitute about half of the whole body, as they are enlisted chiefly at one time of the year. Besides the expedition mentioned above the police were summoned twice on active service, viz., on the occasions of a threatened Garo rising in March 1881, and of the murder of a British subject by Nagas. On neither occasion were they under fire, but they exhibited uniform energy and zeal.

N. W. PROVINCES  
and Oudh.

In the North-Western Provinces and Oudh, there were 27 policemen to every 100 square miles, while in Bengal there are 14, and in the Punjab 19. The ratio of these figures is explained partly by the greater density of population in the North-Western Provinces and Oudh, and partly by the frequency of crime. Judging from the number of crimes reported by the police, the duties devolving on the force are twice as onerous as in Bengal, and three times heavier than in the Punjab. Much doubt appears to exist as to the efficiency of the tests applied to the working of the police, but as shewn in the prescribed forms of returns, the work done by the force is reported as generally not quite so good as in the previous year. Great pains have been taken to detect defects in the district administration, to correct errors, and to secure accurate returns. These efforts will, it is hoped, bear fruit in the current year; 1,017 officers and 2,146 men were punished during 1881 against 839 officers and 1,778 men in 1880. The increase is entirely in the North-Western Provinces, and a large proportion of the punishments were inflicted on the Government railway police, and in the districts of Meerut and Agra. Six cases of torture were reported during the year, and were all vigorously dealt with; 20 officers and men were sentenced to varying terms of imprisonment, and dismissed the force for these offences.

Punjab.

The difficulty of obtaining recruits for the police force in the Punjab, which was chiefly observable during the Afghan war, and the cognate subject of an increase in the pay of the subordinate grades will receive special consideration. Advancement should be made to depend in a certain degree on educational attainments; at present only 88 per cent of the officers and 15 per cent of the men can read and write. The extra duties entailed on the police by the Mooltan riots, and the outbreak of cholera in the Lahore District, were most efficiently performed. Resignations from the force are annually increasing, and shew that its popularity is diminishing. During the last 50 years wages of all labour have risen 30 per cent., while the pay of the police is the same as in 1861.

Central Provinces.

The administration of the police in the Central Provinces appears to have been satisfactory; the chief constables in charge of station-houses are not uniformly efficient. These posts are represented as underpaid, and the district superintendents

superintendents are enjoined to give more attention to the instruction and guidance of these subordinate officers. POLICE.

The condition of the police force in British Burma does not appear to be all that could be wished. In every class of offence, except robbery, the results attained are worse, and in most instances considerably worse, than in 1880. It cannot be expected that, when one-third of the total strength leave the service every year, the force can ever be made really efficient. Already a constable costs nearly twice as much in Burma as in any other part of India; but arrangements were made to raise the wages, both of the first class and lowest grade of constables, to furnish them with quarters or barracks near their stations, and to restrict as much as possible transfers from station to station. At present these measures have had no beneficial effect. British Burma.

The working of the police in Berar seems to have been fairly good, but the Coorg report presents results far from satisfactory. The force is represented as inefficient, and radical reform, with better remuneration, is urgently needed. Berar and Coorg.

The numbers of the Ajmere police force remain unaltered, but the large amount of resignations (36) attest the unpopularity of the force. An enhancement of pay is represented as imperative. The condition of the village chowkidars is highly unsatisfactory, and their attitude towards the dacoits apathetic in the extreme. In the opinion of the officiating Commissioner, the landlords are their own most efficient police, and the espionage practised by chowkidars on small pay is highly distasteful to the natives. The police officials do not however like working directly with the landowners, though the results of that system have been hitherto satisfactory. Ajmeer.

The general proportion of police in Madras is one to every six square miles; and the average annual cost two annas per head of the population; 2,900 men were enlisted during the year, and nearly half of the force is over 10 years' service. Resignations and desertions were most numerous in Vizagapatam; 67.5 per cent. of the force can read and write, and the number of illiterate head constables decreased from 117 to 105. The number of punishments inflicted on the members diminishes year by year, and the inspection by district officers was more complete than it has been for some years. Madras.

The police force in Bombay is chiefly composed of Mahomedans, although Marathas are employed to a great extent in Maratha districts, as are also Bhils and Kolis. Most of the native inspectors and chief constables have risen from the ranks. In Bombay proper the per-centage of convictions to arrests was 60, against 54 in the previous year; but in Sind it was only 51. The Commissioner of the Northern Division calls attention to the under-paid and disorganised condition of the village police, as a question of paramount importance, since, without their aid, the regular police would rarely succeed in detecting criminals. Bombay.



## STATEMENT EXHIBITING THE MORAL AND MATERIAL

PRISONS.

		Total Number of Prisoners received during the Year.	Total Daily Average of Prisoners.	Average Daily Sick.	Total Deaths.	Punishment of Convicts.			Net Cost of Prisons to Government.	Net Profits of Jail Manufactures.
						Total Punish-ments.	Reduced Diet (excluding Separate Confinement).	Corporal Punish-ment.		
Bengal	{ 1880 1881	82,350 77,704	18,001 16,747	941 874	1,184 1,100	62,008 49,740	16,314 9,411	4,735 914	74,554 47,254	41,044 52,507
Assam	{ 1880 1881	7,604 7,162	1,431 1,461	53 00	78 63	504 392	29 8	248 141	9,507 10,885	948 404
North-Western Provinces and Oudh	{ 1880 1881	95,457 94,607	29,175 28,068	173 600	174 666	8,708 7,195	1,180 1,097	4,777 3,422	80,244 78,840	17,080 17,978
Punjab	{ 1880 1881	50,309 48,867	14,673 14,357	608 673	1,132 911	2,002 2,132	716 212	809 1,106	68,248 68,931	20,583 18,304
Central Provinces	{ 1880 1881	14,545 11,868	4,779 4,066	167 117	287 121	5,411 5,095	1,787 1,251	1,371 953	9,665 11,475	4,029 4,459
British Burma	{ 1880 1881	12,020 11,945	4,782 4,726	147 165	115 210	4,021 3,413	1,431 468	1,703 608	20,313 23,914	14,602 16,813
Berar	{ 1880 1881	4,223 2,723	1,376 1,371	46 31	40 21	275 412	21 72	137 177	1,858 6,338	1,193 1,205
Ajmere	{ 1880 1881	611 683	463 397	13 7	6 1	- -	- -	- -	1,894 1,727	376 372
Coorg	{ 1880 1881	642 738	69 91	4 3	9 5	47 41	- -	25 30	640 651	394 380
Madras	{ 1880 1881	19,605 16,443	12,203 10,589	407 308	527 434	5,800 5,588	2,262 2,685	1,511 708	79,880 62,796	7,181 9,482
Bombay	{ 1880 1881	29,370 22,994	11,371 9,846	437 309	488 410	4,383 2,434	90 67	1,561 806	55,391 40,780	5,914 5,092
TOTAL	{ 1880 1881	316,943 295,729	98,347 91,619	3,018 3,443	3,996 3,944	93,339 70,388	23,179 15,201	17,037 8,920	417,509 348,565	113,906 127,976

Exclusive of Mysore in 1880, of Bangalore in 1881, and of the Andaman Penal Settlements in both years, where the number of convicts on the 31st March 1882 stood at 11,652, or 200 in excess of the previous year.

The total number of prisoners received in places of confinement during 1881 amounted to 295,729, against 316,943 in the previous year. This decrease was common to all the provinces, except Ajmere, and especially marked in Bombay, the Central Provinces, and Madras. At the close of the year 82,104 convicted prisoners were in jail, and of those, 48,671, or 59.49 per cent. were classed as Hindus; 24,204, or 29.58 per cent. as Mahomedans, and the rest as belonging to other religions. In every province, except British Burma, the ratio of Hindu to Mahomedan convicts is smaller than the ratio of their populations. In some provinces this fact is strikingly exemplified; for example, in Bombay, the Mahomedans constitute only 18.4 per cent. of the general population, but to the jail population they contribute 39.54 per cent. In some of the minor provinces the difference is even greater. The average daily strength of the convicts during the year represented a proportion of 4.3 to every 10,000 of the population. The ratios for the different provinces are as follows:—Bengal, 2.2; Assam, 2.8; North-Western Provinces and Oudh, 6.0; Punjab, 7.0; Central Provinces, 3.9; British Burma, 12.2; Berar, 4.6; Coorg, 4.4; Madras, 3.3; Bombay, 5.7. The proportion of prisoners previously convicted to the total number of convicts varies from 23.5 in Madras to 12.6 in the Punjab, and 5.8 in Coorg. This dissimilarity appears to indicate that the antecedents of persons brought to trial are not always accurately ascertained. Out of 71,495 effective convicts, 32,804 were employed in jail manufactures, 12,768 in building and repairing jails, 3,378 on extra-mural labour, and the rest on miscellaneous duties connected with prisons. The total expenditure, exclusive of building operations, was 479,967 *l.* against 538,671 *l.* in 1880; the cash receipts from manufactures 360,791 *l.*, and the net cost per convict 4 *l.* 1 *s.* 3 *d.*, against 4 *l.* 6 *s.* 7 *d.* in 1880. The daily sick-rate per 100 remained between 4 and 5 per cent., as it has done since 1878; while the death-rate has gradually declined from 8.1 in 1878, to 4.4, being highest (6.5) in Bengal and the Punjab, and lowest (2.4) in the North-Western Provinces and Oudh, and Berar (1.7). Great progress has been made of late years in improving the sanitary conditions of the jails.

Overcrowding



Overcrowding has been checked, and the dietary of the prisoners has received careful consideration. The Indian Government do not, however, consider that the excessive sickness and mortality of previous years were due to insufficient food. At the same time they point out the significant fact, exemplified by the Bengal and Punjab returns, that the death-rate among prisoners who have been in confinement for one or two years is vastly larger than among prisoners of less than six months' standing. The whole subject will be enquired into without delay. The principal exception to the generally favourable health statistics of jails in India is British Burma, where the admissions to hospital were 883, and the death-rate 45·8 per mille, against 871 and 24·9 in 1880. The reason assigned for this increase is the prevalence of epidemics, but the statements show that four of the jails suffered from overcrowding. Similarly the Mercara jail in Coorg, and many of the prisons in Bombay as well in the North-Western Provinces and Oudh, were much overcrowded, while the high rate of mortality in the Meerut Central Prison does not seem to be satisfactorily accounted for by the alleged unhealthiness of its position. In the Andaman Penal Settlements a slight improvement is shewn in the health returns; and strenuous efforts were made to lessen the daily sick-rate and death-rates, which stood at 97·7 and 48·5 per mille of average strength.

The subject of the infliction of the punishments of flogging and reduced diet for jail offences has lately occupied the special attention of the Government of India, who issued orders placing limitation on the practices. The figures given in the foregoing statement show that a considerable reduction has taken place in the number of floggings for 1881 in all provinces with the exception of the Punjab, Ajmere, and Berar; and a comparison of these results with the results of other years seems to prove conclusively that discipline can be maintained with a very limited use of this deterrent. The statistics for the whole of India, exclusive of the Andaman Penal Settlements where the number of floggings fell from 600 to 456, for the last three years, are as follows:—

	Total Number of Punishments Inflicted on Males for breaches of Jail Offences (Berar and Ajmere excluded).	Total Number of Cases of Corporal Punishment.	Percentage of Prisoners Whipped to Total Number of Male Prisoners.	Percentage of Corporal to Total Punishments.
1879	80,867	21,804	7·1	26·0
1880	89,716	17,057	6·4	19·0
1881	73,450	8,920	3·6	12·1

It will be seen that a considerable decrease has taken place in the number of punishments by reduced diet; this reduction, 7,978, was participated in by Bombay, the North-Western Provinces and Oudh, Central Provinces, British Burma, Assam, and very markedly by Bengal.

Great attention has been paid in the juvenile reformatories to the reclamation and education of young criminals. At Alipore in the Bengal the number of inmates, at the beginning of the year, was 103 and, during the year, 26 more were admitted. The cost of maintenance was 1,245 l. against 1,310 l. in 1880, and the average cost per head was about 12 l. 5 s. against about 13 l. 6 s. The progress made by the boys in the various trades taught them was very satisfactory, and the reports of the 16 boys released are highly encouraging. The want of a similar institution in Burma has long been felt, and it has now been set on foot at Pongdeh, where immediate accommodation for 20 boys has been provided, which can be increased so as to include 50. There are two juvenile prisons in Bombay, one at Poona and one at Shikarpur. The boys are instructed in handicrafts, but it appears that they do not on their release make use of the trades taught them, as they consider it derogatory to their caste to do so. It is suggested that as they mostly belong to the agricultural class they should be taught agriculture.

The four high courts, viz., in Calcutta, Madras, Bombay, and Allahabad, are supreme in civil and criminal business, with an ultimate appeal in civil actions

22 STATEMENT EXHIBITING THE MORAL AND MATERIAL

Civil Justice.

to the Judicial Committee of the Privy Council in England. Of the minor provinces, the Punjab has a chief court with three judges; the Central Provinces and Oudh have each a Judicial Commissioner who sits alone; and in Assam and British Burma the highest judicial authority is the Chief Commissioner. Besides the enactments of the Indian Legislative Council, consisting of the ordinary members of the executive council, and the additional members appointed for legislative purposes, and the Statutes of the British Parliament which apply to India, Indian law is composed of Hindu and Mahomedan laws affecting inheritance and domestic matters, and likewise of the customary law affecting particular castes and races. The Collector-Magistrate of Regulation Provinces and the Deputy Commissioners of Non-Regulation Provinces, with their subordinates, are all endowed with civil powers in different degrees.\*

CIVIL SUITS OF ORIGINAL JURISDICTION. Cases disposed of (exclusive of Revenue Cases).

		Without Contest.				On Reference to Arbitration.		With Contest.		Pending at close of Year.	TOTAL Number of Cases before the Court.	
		Without Trial.	Compromised.	Decreed on Confession.	Decreed ex parte.	Dismissed ex parte.	For Plaintiff.	For Defendant.	Judgment for Plaintiff in whole or in part.			Judgment for Defendant.
Bengal	1880	57,688	64,423	47,361	138,795	11,723	1,486	405	74,869	26,624	58,113	481,487
	1881	56,329	64,739	43,926	142,742	10,918	1,277	447	77,303	27,549	56,454	481,705
Assam	1880	3,837	2,449	2,258	5,847	955	71	27	4,268	2,380	2,797	21,878
	1881	3,801	2,280	2,305	7,476	686	91	40	4,028	2,199	2,632	25,687
North-Western Provinces and Oudh	1880	15,521	22,403	22,515	25,584	1,443	1,313		30,754	13,239	11,009	143,871
	1881	21,374	26,442	20,472	24,078	1,425	2,123		32,164	15,015	12,513	150,206
Punjab	1880	81,561	30,432	45,456	22,339	1,306	3,827		59,222	23,541	19,399	287,983
	1881	52,037	34,272	48,821	23,167	1,190	3,068	656	59,374	24,720	18,861	286,178
Central Provinces	1880	18,109	14,673	22,902	13,679	754	293		17,614	6,245	4,474	95,833
	1881	16,062	11,082	21,790	13,779	697	187	43	17,454	5,904	5,698	94,606
British Burma	1880	6,221	2,265	3,320	5,939	226	113		8,287	4,565	829	31,826
	1881	6,700	2,395	3,516	6,062	161	137	47	7,907	4,113	1,055	32,102
Berar	1880	1,347	3,101	7,954	2,572	121	56		4,846	1,200	1,516	22,713
	1881	1,308	2,712	8,574	2,925	74	26	6	5,164	1,147	1,937	23,873
Ajmere	1880	2,219	614	1,619	715	48	142		2,287	365	437	8,446
	1881	2,200	563	1,816	536	86	155		19,58	256	584	8,154
Coorg	1880	298	66	612	732	3	1		264	96	83	2,105
	1881	350	65	759	978	6			447	128	139	2,872
Madras	1880	19,434	52,770	21,082	58,843		311		43,980	13,741	34,093	244,203
	1881	32,364	50,543	27,550	59,372	4,615	324	98	43,192	14,262	34,761	266,281
Bombay	1880	16,210	23,031	16,340	54,492	2,825	899		21,701	4,383	29,211	168,098
	1881	15,256	26,071	14,392	52,972	2,791	1,016	111	26,754	5,828	20,481	175,562
TOTAL	1880	222,541	219,318	191,419	329,537	19,384	8,949		268,101	96,388	160,911	1,510,548
	1881	209,781	235,164	198,051	333,687	22,638	10,061		275,745	101,121	165,028	1,547,226
Add Cases disposed of in the Schedule Districts, Bengal											1880	9,358
											1881	16,165
" " in Village Courts, Bombay											1880	2,620
											1881	2,934
GRAND TOTAL											1880	1,522,526
											1881	1,568,325

The law administered in the Presidency Towns is as follows:—  
 The common and statute law which prevailed in England in the year 1726, except so far as either has been subsequently altered by statutes extending to India or by Acts of the Legislative Council of India.  
 The statute law of England enacted since 1726 expressly extending to India, which has not been subsequently repealed, and the statutes which have been extended to India, by the Legislative Council of India.  
 The civil law as it obtains in the Ecclesiastical and Admiralty Courts.  
 The regulations made by the Governor General in Council previously to 3 & 4 Will. 4, c. 85, and registered in the Supreme Court, and the Acts of the Legislative Council of India made under 3 & 4 Will. 4, c. 85; except as regards Hindus and Mohammedans in the following cases:—  
 Actions regarding inheritance and succession to lands &c. in which both parties are Hindus or both Mohammedans, in which event the cases are to be decided by the laws and usages of Hindus and Mohammedan respectively; and actions in which one party is a Hindu and the other Mohammedan, in which event the case is to be decided by the laws and usages of the defendant.  
 In the Mofussil Courts judicial authorities are to be guided in their decisions:—  
 (1.) By the regulations of Government if there be any regulation applicable to the case.  
 (2.) By the Hindu or Mohammedan law, as the case may be, in all suits regarding succession, inheritance marriage, caste, and all religious usages and institutions; and  
 (3.) In cases where no specific rule may exist the judges are to act according to justice, equity, and good conscience."

CIVIL SUITS of APPELLATE JURISDICTION. Cases disposed of (exclusive of Revenue Cases).

	Appeals Rejected &c.	HEARD EX PARTE.				CONTESTED.				Pending.	TOTAL.
		Confirmed.	Modified.	Reversed.	Remanded.	Confirmed.	Modified.	Reversed.	Remanded.		
Bengal - - - - -	{1880 1,478 1881 2,071	315 328	42 48	364 168	54 36	11,711 12,344	1,782 1,923	3,587 3,784	876 889	16,868 18,907	37,067 99,890
Assam - - - - -	{1880 3 1881 41	- 42	- 7	- 12	- 14	29 780	2 110	2 194	10 61	215 558	261 1,819
North-Western Provinces and Oudh -	{1880 935 1881 735	308 117	29 36	117 50	- 20	7,457 8,973	1,653 1,713	5,022 2,810	1,098 975	3,426 4,721	20,045 20,152
Punjab - - - - -	{1880 798 1881 4,825	4,502 876	48 25	91 67	- 100	6,911 7,908	1,161 1,248	2,725 3,309	1,921 2,172	3,524 4,172	21,141 24,301
Central Provinces -	{1880 554 1881 657	303 150	59 33	139 60	- 33	2,021 1,778	396 332	714 688	459 314	475 494	5,311 4,539
British Burma -	{1880 22 1881 18	161 324	7 15	32 35	- 3	1,043 797	210 146	517 405	42 42	157 186	2,191 1,971
Berar - - - - -	{1880 28 1881 144	127 41	6 5	16 8	- 8	239 212	28 34	116 116	64 47	100 145	724 760
Ajmere - - - - -	{1880 10 1881 6	- 2	7 -	2 -	- -	80 108	35 19	19 30	0 3	22 44	181 212
Coorg - - - - -	{1880 10 1881 5	2 1	- -	- 1	- -	63 47	18 24	32 15	8 17	6 15	139 125
Madras - - - - -	{1880 456 1881 657	146 316	14 67	90 71	- 25	3,719 4,411	733 1,102	1,562 1,403	- 518	3,524 3,475	10,244 12,045
Bombay - - - - -	{1880 205 1881 666	510 107	36 38	37 35	- 30	2,009 2,022	412 439	492 477	175 190	3,587 3,676	7,463 7,690
TOTAL - - - - -	{1880 4,499 1881 9,825	6,634 1,802	248 276	879 506	51 278	34,682 39,380	6,430 7,092	14,788 18,321	4,659 5,228	31,624 35,793	104,767 113,501
Add Cases disposed of in the Schedule Districts, Bengal - - -										{1880 506 1881 707	
GRAND TOTAL - - -										{1880 105,273 1881 114,208	

Both these statements are exclusive of Mysore in 1880 and of Bangalore 1881.

During the year a scheme was introduced with the object of providing young covenanted officers electing the judicial branch of the service with some training in civil judicial work before being called on to fill the office of district judge. Several covenanted civilians, whose duties had hitherto been confined to executive and criminal judicial work, were invested with powers as civil judges. The introduction of the scheme did not take place till late in the year so that no decided opinion can be given on its merits. Another important scheme was the empowering of a munsiff in a court, where two or more munsiffs are associated, to deal with all small cause court cases up to the value of 5 £. and all rent suits throughout the munsifi, and leave all other causes to his colleague or colleagues. The operation of the scheme was most satisfactory in mitigating the block in the courts. The principal statistics are given in the foregoing statement, and are not such as to call for explanation.

The rapid recovery of the tea industry caused an increase in the institution of suits in the tea-growing country. An increase was likewise observable in Cachar, and is attributed both to the excessive mortality of cattle in February and March of 1881, which compelled the people to incur debts, and to the exceptionally good harvests turned out for the last two years, which caused a glut in the rice market so that the sale of paddy could not take place with advantage. The first of these causes would probably necessitate debts, not during the actual year but during the year subsequent to that in which the losses of cattle occurred.

CIVIL JUSTICE.  
Bengal.

Assam.

CENTRAL JUSTICE.

N. W. Provinces  
Oudh.

occurred. A great scarcity of pleaders is reported in the Assam Valley Districts in spite of the attraction of increased litigation.

In the North-Western Provinces a decrease, and in Oudh an increase is shown on the litigation of the previous year; in the former province one civil suit was filed for every 346 of the population, and the average value of each suit was 23 l. 14 s.; in the latter province the proportion was one suit to every 205 of the population, and the average value was 9 l. 10 s. The number of petty suits filed in the Oudh courts as contrasted with the other province may be due to the greater frequency in the North-Western Provinces of reducing contracts to writing. Only 2·8 per cent. of the contested cases were decided by arbitration in Oudh, while in the North-West Provinces the proportion of cases so decided was 5·3 per cent. This difference may be accounted for by the comparatively small value of the suits in Oudh.

The number of civil suits instituted in the Punjab decreased when compared with the figures of the previous year, but was still, with this single exception, higher than in any previous year. A considerable falling off in litigation took place in Gujarat, but the reverse was the case in Kohat, where litigation doubled during the past two years. No cause is ascribed for this remarkable development. The ratio of contested suits was 32 per cent. for the province at large, and remains highest in certain Frontier Districts, where also reference to arbitration is most frequent, a fact which may be due to local custom and the tendency to appeal to the shariat or Mahomedan law, a demand which the suitor can rarely decline. The proportion of suits dismissed in default rose slightly during the year, and was remarkably high in Mooltan, Karnal, Hoshiarpur, Gujranwala and Amritsar; in the last-named city it is accounted for by the prevalence of a terrible epidemic. Cases under the Punjab Tenancy Act showed a remarkable decrease, which may be taken as evidence that the Act is in successful operation. The continued increase in suits relating to domestic matters is to be regretted, as such social and family disputes should not form the subject of a civil action. Suits preferred by bankers and shopkeepers against agriculturists have risen in number, and though their proportion is still less than in the three years preceding 1880 they still amount to 44 per cent. of the total litigation. "The true remedy," in the opinion of the Lieutenant Governor of the Punjab, "for this state of things appears to lie in the establishment of agricultural banks, and the simplification of the procedure for the grant of advances by Government to agriculturists, whether by allowing greater discretion to tahsildars to grant advances, or by merging interest and principal in recovering instalments, or by deferring the first payments of interest." An effective measure of this sort would confer a double benefit on the country, by promoting the prosperity of the agriculturist, and lessening the expenses of the judicial establishment, which threatens annually to accumulate. The costs of litigation have steadily increased, and the facilities granted for employment of counsel are not an unmixed advantage, when necessitating increased expenditure in order to obtain judgment in courts of the first instance, followed by costly consequences in the courts of appeal. More than half the civil work of the province is disposed of by the munsiffs. It is curious that in spite of greater facilities afforded for the avoidance of the processes of the law, the proportion of realization in the execution of decrees was highest in the Frontier Districts. In more than one-third of the total cases for disposal execution was fruitless, a fact which points either to the non-comprehension or to the inefficiency of the provisions of Act IV. of 1872 in regard to insolvency. Work in the appeal courts increased considerably and the chief court was temporarily strengthened by the addition of a fourth judge. The total value of the suits disposed of was 1,672,582 l. against 1,488,446 l. in 1880-81.

Central Provinces.

The general tendency in these provinces is to advance; there was, however, a slight decline during the year, which was confined to six districts out of 18, and was especially marked in the small cause courts. The explanation offered is that as low prices of produce benefit primarily the poorer classes, and especially that section of them which is non-agricultural and employed in petty trading or daily labour, it follows that in districts where there are both military cantonments and a large urban population, the business of the small cause courts is considerably affected by the price of produce; on the other hand, that which is saved from the cost of necessaries goes in reduction of debt, and as these

these savings are made from the sale of produce, cheapness of the food staples is not of so immediate an advantage to the cultivator. Some further cause was probably operating to produce a special decline in the institution of suits before the Cantonment Small Cause Courts. There were 85,457 suits for money or moveable property, and 51 per cent. of these were on written contracts. The growing popularity of written records of dealings especially noticeable in the Nagpore Division is satisfactory. The wider use of the civil powers accorded to the Naib Tahsildars in section 6 of Act XIV. of 1865 is annually found more and more necessary. Such measures as have been taken in this direction tend to sunder judicial from executive offices, though a complete separation would be premature. Pressure of business entails the establishment of a court provided over by a Naib Tahsildar with civil powers, who deals with cases, generally simple in character, and mostly decided without conflict between the parties. But provision must be made for the few exceptional cases involving complicated issues, for, though the Naib Tahsildar can only hear cases of very small pecuniary value, and his decisions are open to appeal, these suits generally affect the classes who can least afford to defray the expenses of an appeal. The problem is then to secure able men for inferior offices, and this can best be done by regulating the pay of Naib Tahsildars so as to form a stepping-stone to Tahsildarships. Measures of this character are in contemplation, and in the meantime Naib Tahsildars are required to pass an examination in Civil Law and Procedure. On the whole the district officers report favourably of this class of officers. References to arbitration, the issue of commissions for local investigation, or to examine accounts and decisions on special oaths, were all fewer than in the previous year, which is not to be regretted, as these forms of settlement were not so much the means of securing justice as of eluding the processes by which justice may be secured.

CIVIL JUSTICE.

The total number of civil suits instituted in British Burma during the year was 31,363, of which 76 per cent. arose in the sub-divisional or township courts, mostly presided over by Burmese officers. The growing popularity of these courts, as evidenced by the small number of appeals from decisions given therein, is highly satisfactory. Under constant supervision their procedure is improving, and now that a considerable amelioration has taken place in the pay and prospects of extra-assistant commissioners and myokes, and most of the recently appointed judges understand English, further efficiency may be expected. The law libraries of the subordinate courts are, however, imperfect, and it is hoped the reproach that the courts are not provided with copies of the laws they are required to administer will shortly be removed. Original suits were disposed of with promptitude; indeed, the average of duration is unduly low owing to the illegal procedure of some of the courts in giving *ex parte* decrees without requiring evidence. Much attention has been paid to the reduction of the costs of litigation which it was found were unnecessarily enhanced by the award of excessive fees to advocates, as well as in other ways. An effective reform in this matter has been instituted.

British Burma.

The total number of suits for disposal before the courts shows a considerable diminution on the previous year, which is ascribed to two causes; firstly, that instalments being generally fixed more substantial security is now taken before loans are given; secondly, that the census operations took up the time of the mohurrirs, and interfered with the work in the honorary courts. The low per-centage of contested cases is said to be due in Merwara to the custom of instituting a suit as a means of registration, and of then settling matters at home. It is believed that the same custom obtains in Ajmere.

Ajmere.

The Berar returns show an increase of litigation, assigned, as in the case of the Khamgaon Small Cause Court where the increase is very marked, to the greater prosperity of the cultivator, a reason generally accepted as likely to promote litigation; it is therefore curious to find the Deputy Commissioner at Ellichpur pleading as a reason for an increase of litigation in his district that the low prices of agricultural produce which entail "on the ryot harder times and a greater difficulty in meeting his liabilities, and, as a consequence, being more frequently taken into court for failing to satisfy his creditor." A similar reason is applied to the Akola District. As in the Central Provinces the practice of reducing contracts and other dealings to writing is on the increase. The Ellichpur and Amraoti returns shew the most delay in the disposal of business, but the fall in the average duration both of uncontested and contested suits

Berar.

Civil Justice.

throughout Berar is satisfactory, and the cost of litigation has again decreased. The averages of the number of cases tried by the different classes of officers are not clear, but it appears that more work is being thrown on the Assistant Commissioners, while the work accomplished by the Attachés and Tahsildars is appreciably diminished. The number of appeals to the Deputy Commissioner shews a slight increase, and it seems probably that the power of rejection, which was not resorted to at all in 1880, is still insufficiently exercised.

Coorg.

As in the case of the Central Provinces and Berar, the Coorg returns shew a marked increase in the number of suits founded on contract in writing, which is accounted for by the short coffee crop, and the consequent failure on the part of native planters to fulfil their engagements with traders who had advanced money on the crop. A heavy suit against a coffee planter raised the aggregate value of suits from 37,059 *l.* to 79,808 *l.* The work in the Judicial Commissioners' Court was very light. On the introduction into the Province of the Coorg Courts Regulation II. of 1881 during the latter part of the year, the number of civil tribunals was reduced from 19 to 17 by the abolition of the Civil Court of the First Superintendent.

Madras.

The wealthy district of South Malabar contributed as much as 10.76 per cent. of the entire litigation of the Madras Presidency; and next came North Malabar, with a proportion of 9.8 per cent., South Tanjore 7.20, Godavari 7.03, and Madura 6.99, while Kurnool contributed the smallest proportion, viz., 1.44 per cent. The two districts which stand first in this list were those in which village Munsifs Courts exercised jurisdiction to a comparatively small extent. In Kurnool the judicial charges exceeded the receipts, and in Cuddapah the returns shew an equilibrium; in all the remaining districts, and notably in Malabar there was a distinct surplus. The proportion of suits to population was lowest in Coimbatore (1 to 331), Ganjam, Bellary, and Kurnool, in all of which districts there is a small proportion of irrigated land. There were in all 38,631 village munsifs, of whom 2,293 actually exercised civil powers. Their returns were as usual, incomplete, and often untrustworthy. The number of cases instituted was slightly in advance of the previous year.

Bombay.

The total receipts of the civil courts in the Bombay Presidency are shewn as 187,059 *l.*, and the cost as 223,239 *l.* The new Presidency Small Cause Act came into force on the 1st July 1882, by which the jurisdiction of the Small Cause Courts has been raised from 100 *l.* to 200 *l.* It does not of course affect the figures for the year. In the four collectorates of the Deccan, Poona, Sholapur, Ahmednagar, and Satara, which are within the sphere of operation of the Deccan Agriculturists Relief Act (of which an account was given in the previous number of this Report), the number of suits has considerably increased. The decrease compared with the average of the ten years previous to 1880, is supposed to be due to the settlement of disputes by conciliators without recourse to the courts, a very satisfactory conclusion. A decrease of litigation in the Southern Mahratta country is ascribed to the prosperity of the ryot, but the reasons assigned for a similar decrease in Kanara are, (1) the continued impoverishment of the people, especially the agricultural class, consequent on the famine, (2) the imposition of comparatively higher rates of assessment on land by the introduction of the Survey Settlement, and (3) the depressed state of trade in general. With regard to Sind, the decrease in litigation as compared with previous years, is ascribed to the cessation of the stimulus given to trade and speculation by the Afghan war. Comparing one district with another, however, the amount of litigation remains much the same as in the previous year. There has been a remarkable decrease in the number of suits instituted before the Bombay Court of Small Causes, and experience shows that low prices have a direct effect on the business of Small Cause Courts in a large urban population. This is borne out by the fact that the decrease was mainly in suits for small amounts not exceeding 20 *l.*, the majority of which are brought against the poorer members of the community, for the recovery of small loans or petty debts incurred in respect of the supply of the necessaries of life. Second appeals against decisions involving no debateable point of law are persistently presented to the High Court, and the consequent waste of money can only be explained by a reckless spirit of gambling on the part of the litigant or by the ignorance of the mossil pleaders, who advise or sanction these appeals. The working of the Deccan Agriculturists Relief Acts has been on the whole successful; 10,060 suits were disposed of, leaving a balance of

3,658 for disposal; 2,929 suits were admitted, 3,085 contested, and 1,842 withdrawn or compounded. The conciliation system which was in full force in 26 talukas and in partial operation in 65 talukas, having been suspended in six talukas, intercepted the bulk of the simple cases. There were in all 313 conciliators who disposed of 69,531 applications, but failed to effect a settlement in 36,869. The chief complaint of these officers is that the litigants will not attend their summons, as they have no power to compel attendance. The total value of the claims presented amounts to 44½ lacs of rupees, and the value of claims in cases where agreements have been effected amounts to 5½ lacs. The work is very unevenly divided amongst the conciliators, and the small circle system has not been successful owing to the impossibility of getting sufficiently good men for small areas. Where the officers are good, the conciliation system may claim to have done much useful work, but it is still on its trial. The insolvency provisions of the Act still remain a dead letter.

CIVIL JUSTICE.

The Registration Act, No. III. of 1877, applies to the whole of India. Under its provisions registration is compulsory, (1) for instruments of gift of immovable property, (2) other non-testamentary instruments affecting the disposal of property to the value of 100 rupees and upwards, (3) non-testamentary instruments which acknowledge the receipt of any right so conveyed, (4) leases of immovable property for any term exceeding one year. Optional registration is extended to (a) instruments of the nature enumerated (1), (2), (3), when the interest involved is below 100 rupees, (b) leases of immovable property for a period of less than one year, (c) instruments affecting the disposal of movable property, (d) wills, (e) all other documents not compulsorily registrable.

REGISTRATION.

		Compulsory Number of Registrations of all kinds.	Value of ordinary Fees.	OPTIONAL.				Total Receipts from ordinary Fees.	Total Receipts from extraordinary Fees.	Total Expenditure.	Net Profits.
				Immovable Property.	Movable Property.	Wills.	Value of ordinary Fees.				
Bengal	1881	317,877	£ 37,164	193,899	102,737	1,720	£ 21,723	£ 58,851	£ 32,781	£ 52,121	£ 39,547
	1882	303,829	35,863	132,475	99,044	1,782	21,457	57,320	33,878	49,851	41,312
Assam	1881	8,137	1,039	3,245	2,582	117	598	1,629	1,160	1,712	1,077
	1882	6,316	931	2,870	2,376	99	515	1,446	1,067	1,662	851
North Western Provinces and Oudh	1881	104,967	18,328	48,932	44,728	865	5,226	23,554	11,394	29,080	5,808
	1882	92,571	17,758	45,599	1,885	963	5,112	22,870	11,226	18,688	15,408
Punjab	1881	44,350	11,083	14,799	11,354	242	1,976	13,059	4,676	10,312	7,523
	1882	43,795	10,915	12,352	10,904	287	1,831	12,776	4,639	10,625	6,790
Central Provinces	1881	10,919	2,425	4,866	4,244	123	980	3,355	2,076	2,754	2,677
	1882	11,481	2,519	4,774	3,665	128	835	3,354	2,882	2,843	3,391
British Burma	1881	4,558	981	390	1,234	15	414	1,395	222	686	331
	1882	5,396	1,094	314	1,101	33	296	1,400	234	963	671
Borur	1881	13,541	1,924	4,716	1,807	26	453	2,377	2,106	2,850	1,633
	1882	13,809	1,997	4,776	1,772	33	454	2,461	2,183	2,801	1,773
Ajmere	1881	807	204	103	237	2	51	255	87	188	153
	1882	876	224	112	-	-	-	224	-	-	-
Coorg	1881	428	254	20	59	-	31	285	47	150	173
	1882	472	341	36	67	-	36	377	43	166	254
Madras	1881	218,912	31,563	170,094	25,208	706	17,284	48,847	8,727	44,366	13,208
	1882	218,680	31,368	175,103	32,718	901	17,898	49,266	9,003	48,160	10,109
Bombay	1881	60,224	13,081	14,348	3,664	601	1,560	14,641	9,831	22,909	2,172
	1882	59,644	13,286	14,567	3,521	714	1,680	14,966	9,721	21,201	3,186
TOTAL	1881	784,720	118,040	395,322	197,804	4,507	50,244	163,284	73,047	160,428	74,903
	1882	757,365	116,326	392,978	157,113	4,940	50,114	166,440	74,871	157,022	84,289

The feature of the year's return is the decrease in the registrations affecting immovable property, for which the reason assigned is the large agricultural outturn of the year. This is said to operate in two directions, (1) by deterring the landlord from granting perpetual leases, (2) by rendering the tenant unable to pay the *Salami* or fee exacted on the grant of a lease. The landlord, whose

Bengal.



REGISTRATION.

is reserved in money, though it is calculated on the value of a certain share of an average crop, is unwilling to let in perpetuity land, the rent of which is calculated on the value of a certain quantity of crop when the market value of that quantity is low, owing to an abundant harvest: while the tenant does not realize when the price of produce is low. Two other reasons are also given, viz., the diminution of land available for perpetual leases by the previous grant of such leases, and the rent law under the consideration of Government which may alter the conditions under which such leases are granted. The saving in expenditure is due to the closing of unprofitable registration offices.

Assam.

The decrease of registrations in Assam is ascribed to the cheapness of rice, but the Assamese are not affected by low prices of produce in the same way as the population of other provinces, since the land revenue is so light, and the prosperity so widespread. A subsidiary reason may be found in the operation of the settlement department in Cachar and parts of Sylhet, by means of which at the time of the preparation of the record of rights all mutations are recorded gratis.

N. W. Provinces  
and Oudh.

No explanation is given of the large increase of net profits, 15,308 l. against 5,808 l. in 1880-1, which seems to arise entirely from a decrease of expenditure. Under the heads of registered sales of immovable property and mortgages there was an increase in Oudh, and a decrease in the North Western Provinces, but there was a large decrease in Oudh under term leases due to the completion of the registration of the long term leases granted on the Kapurthala estate. The reasons given for the increase of registrations where such increase took place are, (1) bad harvests, and recourse to money-lenders, (2) the action of the rules framed by Government under section 320 Civil Procedure Code, regarding the sale of ancestral property in execution of decrees, (3) the increasing popularity of registration. The causes of a decrease in registration are enumerated as, (1) good harvests, (2) fear of the license tax, which leads money-lenders to split up their bonds into smaller ones, the registration of which is not compulsory, and (3) in Ghazipur, the prohibition of the sale of occupancy rights, but the causes which influence registration are not, it is said, understood. It would appear that compulsory registration is no longer evaded as money-lenders shrink from putting themselves in the power of their debtors by evading the provisions of the law.

Central Provinces.

In the Central Provinces during the last 10 years there has been a falling off in the optional registration of miscellaneous instruments of more than 60 per cent. The decrease during the year was confined to simple bonds.

British Burma.

The experiment tried in 1880-1, of appointing selected extra Assistant Commissioners or My-okes, to be Sub-Registrars appears to have been fairly successful in Arakan and Irrawaddy, but to have produced no increased registration in Pegu or Tenasserim.

Berar.

The Inspector General suggests that the scale of fees for the registration of movable property of small values should be reduced, so as to counteract the fall which has taken place in Berar under this head.

Ajmere.

Registration has on the whole worked well, and the provisions of the law have been carried out satisfactorily.

Coorg.

A considerable rise has taken place in the value of all documents registered, which is ascribed in the case of movable property to increased activity in the coffee trade, and advances made by merchants on the crop; and in the case of immovable property to the sale and mortgage of coffee lands necessitated by previous bad seasons.

Madras.

The system of incremental pay to the few graded appointments in the registration office in Madras has been abolished, and the establishment has been revised at an increased charge. There was an increase of registration in all districts but five, which is attributed to the appointment of specially trained Sub-Registrars, the opening out of new offices and the diffusion of information respecting the advantages of registration. A few curious documents were registered in Godavari, Tinnevely, and Malabar, by which certain Pariahs bound over themselves or their children to serve as agricultural labourers for indefinite periods in consideration of an advance of money.

Bombay.

Besides the ordinary provisions of the Indian Registration Act, the four districts of Ahmednagar, Poona, Satara, and Sholapur are subject to the registration clauses of the Deccan Agriculturists Relief Act. In their districts the registrations under the Indian Act have decreased from 10,392 to 8,037, and



the chief cause assigned for this decrease was the definition of the term "Agriculturist," given in the amended Relief Act XXIII. of 1881, whereby any person holding land of his own is an agriculturist, and which, therefore, increased the compulsory registrations under the amended Act. In the remaining 21 districts there was an actual increase in eight, and a decrease in the remaining 13. Before immovable property is given as security, money is raised in pledging ornaments, advances being obtained on "Khatao," the accounts of which are regularly made up at intervals, stamped with a receipt stamp, and signed by the borrowing party, and such instruments are received as evidence in court. With a return of prosperity there is an increase of facilities for contracting loans in this manner to the exclusion of the execution of instruments relating to immovable property. In parts of the Presidency it is the custom to transfer land by "Rajnamas" before the revenue officers. These instruments have hitherto been unregistered, and exempt from the stamp duty.

REGISTRATION.

## III.

## FINANCE.\*

## FINANCE.

Reforms in system  
of Account.

IN consequence of the failure of the war estimates, reforms were introduced by which Government will be enabled to ascertain the earliest information as to Treasury transactions. These reforms were furthered during the year by directing every officer in charge of a treasury to supply monthly returns of his receipts and disbursements, in time for the results to be in the Comptroller General's hands by the middle of the following month, and by treating as expenditure all issues from the civil treasuries for carrying on military services. The Comptroller General, also, was constituted the chief authority in all matters of account, military and otherwise, and is to submit an annual report comparing the accounts with the estimates. The Military Accountant General occupies the position of Deputy Secretary for Finance in the Military Department.

State of the  
Finances.

The year 1881-2 was in every respect one of remarkable prosperity. Almost every branch of revenue yielded a sum largely in excess of the estimates, and the portion, which remained to be brought to account, of the English contribution for the Afghan war, exceeded the net war expenditure of the year by 380,600 *l.* On the other hand there were some very heavy extraordinary payments (namely, the refunds to the Provincial Governments of 670,000 *l.*, contributed towards the cost of the Afghan war, and special disbursements on the renewal of the provincial contracts), and there was also an increased charge under the head of Exchange. Thus the revenue was greater than in 1880-1 by 1,544,000 *l.* (the rupee throughout the Indian portion of the accounts being taken at the conventional rate of 2 *s.*), and the expenditure less by 5,083,000 *l.*, and the total result was better by 6,627,000 *l.* The total revenue for the year amounted to 73,696,000 *l.*, while the expenditure was 71,113,000 *l.*, leaving a surplus of 2,583,000 *l.*

The following statements show the result of the accounts for the year under review :—

## REVENUE.

	1880-1.	1881-2.	Increase.	Decrease.
	£.	£.	£.	£.
<b>PRINCIPAL HEADS OF REVENUE:</b>				
Land Revenue - - - - -	21,112,995	21,948,022	835,027	—
Opium - - - - -	10,480,051	9,862,444	—	617,607
Salt - - - - -	7,115,988	7,375,620	259,632	—
Stamps - - - - -	3,250,581	3,381,372	130,791	—
Excise - - - - -	3,135,226	3,427,274	292,048	—
Provincial Rates - - - - -	2,776,370	2,895,490	119,120	—
Customs - - - - -	2,530,612	2,361,988	—	178,224
Assessed Taxes - - - - -	558,720	536,829	—	21,891
Forest - - - - -	700,320	874,435	165,115	—
Registration - - - - -	281,230	284,714	3,484	—
Tributes from Native States - - -	742,209	706,873	—	35,336
<b>TOTAL - - - £.</b>	<b>52,702,302</b>	<b>53,654,461</b>	<b>952,159</b>	<b>—</b>
Post Office, Telegraph, and Mint - - -	1,647,305	1,489,699	—	157,606
Civil Departments - - - - -	1,468,150	1,513,083	44,933	—
Miscellaneous - - - - -	1,985,859	1,707,226	—	278,733
Productive Public Works - - - - -	9,381,786	10,782,063	1,400,277	—
Public Works not classed as Productive -	745,221	727,799	—	17,422
Army - - - - -	4,221,734	3,821,475	—	400,259
<b>TOTAL Revenues - - - £.</b>	<b>72,152,457</b>	<b>73,695,806</b>	<b>1,543,349</b>	<b>—</b>

Of the total revenue 2,670,058 *l.* was received in England, against 3,243,294 *l.* in 1880-1, these amounts including 2,305,000 *l.* and 2,695,000 *l.* respectively, on account of the English contribution for the war.

\* The figures given in the Provincial Reports do not always agree with those in the Finance accounts, as they are frequently compiled for periods that do not correspond with the financial year.

EXPENDITURE.

	1880-81.				1881-82.				Increase.	Decrease.
	India.	England.		TOTAL.	India.	England.		TOTAL.		
		Stores for India.	Other Charges.			Stores for India.	Other Charges.			
INTEREST :	£.	£.	£.	£.	£.	£.	£.	£.	£.	
Interest on Ordinary Debt (excluding that charged to Productive Public Works) - - - - -	1,327,977	-	2,341,218	3,669,195	1,511,696	-	2,512,420	4,024,116	354,921	-
Interest on Deposits - - - - -	413,412	-	561	413,973	533,278	-	706	533,984	120,011	-
TOTAL - - - - - £.	1,741,389	-	2,341,779	4,083,168	2,044,974	-	2,513,126	4,558,100	476,932	-
DIRECT DEMANDS ON THE REVENUES :										
Refunds and Drawbacks - - - - -	469,200	-	-	469,200	272,310	-	-	272,310	-	196,890
Assignments and Compensations - - - - -	1,215,013	-	-	1,215,013	1,194,440	-	-	1,194,440	-	20,573
Charges in respect of Collection, viz. :										
Land Revenue - - - - -	2,982,998	536	145	2,983,679	3,003,251	-	541	3,003,792	20,113	-
Opium (including cost of Production) - - - - -	2,028,689	88	-	2,028,757	2,056,273	1,062	-	2,057,335	28,578	-
Salt (including cost of Production) - - - - -	363,536	1	-	363,537	486,209	-	-	486,209	122,672	-
Stamps - - - - -	75,863	31,602	-	107,465	77,761	32,862	-	110,623	3,158	-
Excise - - - - -	93,404	-	-	93,404	96,883	3	-	96,886	1,482	-
Provincial Rates - - - - -	46,435	-	-	46,435	53,220	-	-	53,226	6,791	-
Customs - - - - -	108,927	-	-	108,927	195,093	17	-	195,110	-	3,617
Assessed Taxes - - - - -	21,237	-	-	21,237	13,074	-	-	13,074	-	8,163
Forest - - - - -	461,908	27	4,041	465,976	522,357	64	5,224	527,645	61,669	-
Registration - - - - -	173,351	-	-	173,351	170,401	-	-	170,401	6,950	-
TOTAL - - - - - £.	8,192,547	32,254	4,186	8,168,987	8,180,328	34,068	5,765	8,220,111	51,124	-
Post Office, Telegraph, and Mint - - - - -	1,567,329	88,357	110,271	1,765,957	1,561,719	91,127	118,816	1,771,662	5,705	-
Civil Departments - - - - -	10,649,504	55,425	425,607	10,830,736	10,554,371	149,231	334,992	11,028,594	507,768	-
Miscellaneous Civil Charges - - - - -	2,164,373	69,531	1,986,171	3,860,075	2,265,530	112,220	1,666,782	4,044,532	184,457	-
Famine Relief and Insurance - - - - -	32,038	-	1,331	34,469	1,409,835	-	165	1,500,000	1,465,531	-
Productive Public Works (Revenue Account) - - - - -	4,617,657	-	4,641,780	9,259,437	4,741,718	-	4,007,287	9,649,005	389,568	-
Public Works not classed as Productive - - - - -	6,601,486	703,488	84,744	7,389,718	5,029,699	370,185	93,847	6,200,531	-	989,187
Army - - - - -	12,613,468	797,719	3,366,810	16,778,000	18,216,733	575,194	3,422,388	17,216,215	498,299	-
Army, Military operations in Afghanistan - - - - -	11,297,926	66,920	2,543	11,367,389	1,631,924	503	12,500	1,644,927	-	9,733,562
Exchange on Transactions with London - - - - -	2,716,800	-	-	2,716,800	3,566,190	-	-	8,368,700	838,811	-
TOTAL Expenditure - - - - - £.	61,478,326	1,754,794	12,665,731	75,898,851	53,185,541	1,332,468	13,076,278	60,593,287	-	6,305,271
Provincial Adjustments - - - - -	297,901	-	-	297,901	1,519,792	-	-	1,519,792	1,221,538	-
TOTAL Expenditure - - - - - £.	61,776,227	1,754,794	12,665,731	76,196,812	54,705,333	1,332,468	13,076,278	71,113,079	-	6,683,733
Add Increase of Revenue - - - - -										1,543,349
TOTAL Result as compared with 1880-81 better by - - - - - £.										6,627,063

The cash balances at the Treasuries and Agencies of the Indian Government amounted at the close of the year to 17,143,822 £. (against 15,300,001 £. in the previous year), of which 2,620,909 £. were in England.

This chapter consists of information as to the various items given in the preceding statements taken in order. Land Revenue is treated separately at p. 49, Forest at p. 78, Registration at p. 27, Post Office at p. 97, Telegraph at p. 98. Civil Departments under various heads, Public Works at p. 84, and Army at p. 174, where the information is exclusively sanitary. A statement of the Provincial Finances is also given in this chapter at p. 46.

The "opium revenue" of British India is collected mainly in the Bengal and Bombay Presidencies. In British India the manufacture of opium for exportation to the Straits Settlements and China is restricted to two agencies in Behar and Benares in the Bengal Presidency. These are under the administration of the Government of Bengal, though the Benares agency includes sub-divisions which are partly situated in Oudh. The manufactured opium

32 STATEMENT EXHIBITING THE MORAL AND MATERIAL

Opium.

opium is classed as provision opium for export to China, and excise opium for consumption in the country. Provision opium is brought down to Calcutta and sold by auction at monthly sales. Excise opium is supplied at cost price to the excise departments of Bengal, Assam, the North-Western Provinces and Oudh, the Central Provinces, and British Burma, for issue to licensed dealers, the revenue received from the consumption of the opium being credited as excise. The Bombay portion of the revenue is derived from fees levied on the transit, through the British territories to Bombay, for exportation to China, or for home consumption, of the opium that is grown and manufactured in the free states of Malwa, a region roughly co-extensive with the Central Indian Agency. The total gross opium revenue of British India amounted to 9,862,444 l. (7,677,512 l. being collected in Bengal, and 2,184,932 l. in Bombay). The cost of production in Bengal, which is invariably high owing to the fact that the opium is purchased from the cultivators, was 2,055,430 l., and the charges for collection in Bombay 1,905 l., so that the net revenue stood at 7,805,109 l. against 8,451,294 l. in 1880-1.

Bengal.

The following statement shews the total areas engaged for and cultivated in Bengal Agencies:—

	Area Engaged for.	Land Sown for Cultivation.	Net Cultivation.	Produce at 70° Consistence.
<b>Behar:</b>				
	<i>Bighas.*</i>	<i>Bighas.</i>	<i>Bighas.</i>	† <i>Maunds s. c.</i>
1880-1 - - - -	4,65,094	4,58,894	4,34,799	49,292 0 6½
1881-2 - - - -	4,77,619	4,75,459	4,60,382	40,440 4 1
Difference - - -	+ 12,525	+ 16,565	+ 25,583	+ 147 37 10½
<b>Benares:</b>				
1880-1 - - - -	4,81,882	4,32,113	4,23,265	45,505 30 18½
1881-2 - - - -	4,50,474	3,98,478	3,89,650	51,449 7 2
Difference - - -	- 31,408	- 33,635	- 33,606	+ 5,943 7 4½
<b>TOTAL 1881-2 - -</b>	<b>9,28,093</b>	<b>8,73,937</b>	<b>8,50,041</b>	<b>100,889 11 3</b>
<b>NET Difference - -</b>	<b>- 18,883</b>	<b>- 17,070</b>	<b>- 8,023</b>	<b>+ 6,091 4 15½</b>

\* A bigha = nearly one-third of an acre. † A maund of opium = 40 seers = 80 lbs., and a chittack = ½ lb.

In the Behar Agency the proportion of opium area under irrigation was more than 3 to 1. About 577 maunds included above were Nepal opium, of which an increasing amount is imported every year under the influence of the relaxation of restrictions which is now beginning to take effect. There was, it will be seen, a large increase in the area under opium in Behar, but the average yield per bigha declined from 4 seers 8½ chittacks, to 4 seers 4½ chittacks. The weather was, however, generally favorable to the growth of the poppy, and the quality of the drug was good. Fever was prevalent amongst the cultivators. The poppy is being slowly banished from the most fertile lands by the potato and the sugar cane, as the value of those crops is being gradually enhanced by improved communication and European machinery. The system of advances is reputed to be the chief inducement to the cultivator to grow so precarious and troublesome a crop as opium, and that system is now being adopted by firms interested in other crops. In the Benares Agency there was a decrease of area under opium, despite the larger price given for crude opium by the Government; owing, however, to the good season, the outturn exceeded that of the previous year. The efforts of the sub-agent to extend poppy cultivation in Agra, Muttra, and Aligarh were not attended with success. A large portion of the 1880-1 crop in store was discovered to be unsound. The prescribed number of 56,400 chests, containing 96,056 maunds, were sold for export at

at the Calcutta auctions, and 4,390 chests containing 6,585 maunds, were issued Opium. to the Excise and Medical Departments in India, leaving a balance in the store for export of 57,384 chests, and in the Indian store, of 2,126 chests. The average price per chest sold was 132 *l.* 7 *s.* 4 *d.* against 136 *l.* 4 *s.* 8 *d.*, in 1880-81. The following statement is for Bombay opium:

Bombay.

	Imported into Bombay.	Exported to China.	Bought for Home Consump- tion.	Otherwise Disposed of.	Average Price per Chest.					
					Shanghai.		Hong Kong.		Bombay.	
					New Opium.	Old Opium.	New Opium.	Old Opium.	New Opium.	Old Opium.
1880-1	Chests. 38,561½	Chests. 36,734	Chests. 837½	Chests. 126	£. 166	£. 175	£. 159	£. 107	£. 160	£. 171
1881-2	Chests. 31,083½	Chests. 31,133	Chests. 1,113	Chests. 129½	£. 152	£. 162	£. 145	£. 162	£. 154	£. 164

The foregoing statement exhibits a large falling off in the dealings in opium; indeed, both the opium exported to China and the quantity brought to Bombay were considerably less than in any of the preceding 12 years. Indore and Ujain still remain the most important centres of the Malwa trade. There was a general falling off in the quantity passed at all the scales, except at Dhar, Mandsaur a new centre, Ahmedabad and Meywar, at all of which places special reasons operated to stimulate the trade. The continuous decline of prices, which was very marked in the year under review, has caused Government to reduce from 70 *l.* to 65 *l.* per chest the rate of duty for 1882-3 on opium brought into Bombay for export by sea. The Chinese market was glutted by large purchases of Malwa opium made in the previous year in anticipation of a rumoured increase in the Chinese duty, which did not, however, take place. The total quantity of duty-paid opium bought for home consumption was 183,438 lbs., which exceeds the amounts reserved in any of the 10 preceding years, and is larger than that of 1880-1 by 51,349 lbs. The amount licitly consumed in British districts rose from 84,237 lbs. to 87,528 lbs., and has progressively increased for several years. The largest proportional increases were in Khandesh and Sholapur, due, no doubt, to the prohibition of opium manufacture in the Nizam's Dominions. There is, however, a considerable falling off of consumption in the city of Bombay and in Guzerat; for the latter decrease the reason assigned is the low selling price of opium, and probable illicit manufacture in Baroda. The provincial revenue derived from opium in Bombay stood at 77,348 *l.* against 67,118 *l.* in 1880-1.

The origin of the salt duties is a separate one for each political division of India SALT. (*i.e.*, India as it was before the rise of British rule). Speaking generally, under the Native Governments, the salt tax, often levied in the shape of a transit duty, was only one of the numerous imposts on trade which then existed, and, under British administration, it has increased as a substitute for other imposts of the kind which were abolished. The rate of duty in Upper and Eastern India was however much heavier than in the south and west, and this difference involved the maintenance of the line, intended to prevent the introduction into the North-Western Provinces or Bengal of the lightly taxed salt of Bombay, Madras, or Native States, which extended in 1869 from the Indus to the Mahanadi, a distance of 2,300 miles, employed 12,000 officials, and cost 162,000 *l.* a year. Half a century ago the Indian Government exhibited a desire to equalize the salt duties by reducing the rates obtaining in Upper India to the level of the cheaper dues levied in Lower India, but this was only to be done by acquiring the rights of native states over salt. In April 1879 the preventive line ceased to exist, and in March 1882 the duty on salt throughout India, except British Burma and the trans-Indus districts, where the duty is nearly nominal, was reduced to *Rs.* 2 per maund of 82½ lbs. In 1881-2, the year under review, the rates of salt tax levied throughout India were thus enumerated by Major Baring:—  
 “ A duty of *Rs.* 2-8 is levied all over British India, except on salt imported by sea  
 “ into or manufactured in Bengal, and on salt consumed in the trans-Indus districts  
 “ of the Punjab and in Burma. In Bengal the tax is *Rs.* 2-14 a maund. In the  
 “ trans-Indus districts of the Punjab salt is consumed which is produced at the  
 “ Kohat mines, and on which a duty varying from 2½ to 4 annas a maund is levied.  
 “ A preventive

"A preventive line extends for some 320 miles along the Indus. In Burma the duty is only 3 annas a maund." The average annual licit consumption per head of salt in the different provinces, roughly estimated for 1880-1, was, Madras 12 lbs., Bombay 10 lbs., Bengal 9.1 lbs., Punjab 7.5 lbs., North-Western Provinces and Oudh 6 lbs., Sind 5 lbs. The comparatively small consumption in Northern India is frequently accounted for by the fact that the food of the natives consists chiefly of wheat and pulse, though this is perhaps not supported by proof. Some remarks of the chemical analyser as to the actual average consumption per head will be found under Bombay.

The systems of levying duty on salt in the different provinces of India are, employing general terms, as follows: In Bengal nearly all salt is imported, and the tax is an import duty. In Upper India salt is usually taxed at the places of manufacture, most of which are in Rajputana, and all of which have now been brought under the control of the Inland Customs Department. Here natural brine is manufactured into salt by solar evaporation. In Madras and Bombay, on the other hand, salt is obtained by the solar evaporation of sea-water. In the former Presidency the manufacture is almost entirely a Government monopoly, and in the latter the revenue is collected by excise, i.e., salt is made by private manufacturers, and the duty is paid by purchasers on removal of the salt from the works.

## SALT REVENUE (Finance Accounts.)

	Sales of Government Salt.	Excise on Salt Manufactured Locally.	Duty on Salt Imported from England.	Duty on other Imported Salt, Seaborne.	Duty Levied by the Inland Customs Department.	Miscellaneous Receipts.	TOTAL.	Charges.	Net Receipts.
	£.	£.	£.	£.	£.	£.	£.	£.	£.
India, General - - -	165,763	14,239	- - -	- - -	1,654,392	63,717	1,898,111	239,965	1,658,146
British Burma - - -	- - -	4,918	14,780	- - -	- - -	- - -	19,698	985	19,313
Bengal - - - - -	- - -	97,317	2,069,892	301,701	- - -	14,703	2,483,613	3,719	2,479,894
Madras - - - - -	1,452,605	12,327	137	5,610	3	2,235	1,472,917	132,817	1,340,100
Bombay - - - - -	33,604	1,458,776	272	208	1,515	6,906	1,501,281	109,323	1,391,958
Total Salt Revenue - } £.	1,651,972	1,587,577	2,085,081	307,519	1,655,910	87,501	7,375,620	486,209	6,889,411

Northern India.

The Salt Department in the North-Western and Central Provinces, Oudh, Punjab, Central India and Rajputana, is under the direct administration of the Central Government. Under Act XII. of 1882, the title of the Department was changed from Inland Customs to Northern India Salt Revenue. The number of maunds taxed was 7,372,540 against 6,609,870 in 1880-1, the gross realizations 1,894,613 l. against 1,640,484 l., the charges 179,319 l. against 123,936 l., [the increase in the charges for 1881-2 being for the carriage and freight of salt from the sources to depôts, and the cost being recovered by an addition to the selling price], and the net receipts 1,715,294 l. against 1,516,548 l. During the last 21 days of the year the reduced rate, Rs. 2, was in force and caused a reduction of 30,241 l. The Punjab mines had an outturn less than the previous year by about 70,000 maunds, but the quantity taxed increased by about 6,000 maunds. The charges stood at 32,257 l. against 26,500 l., the largest item of increase being due to the stocking of a new depôt at Lala Musa. The net revenue of the Kohat mines was 6,176 l., and of the Mandi mines 8,790 l. The Sultanpur and Nuh salt works exhibited increased returns for taxation of about 24½ thousand pounds, while the charges diminished by a little over two thousand. It is expected that the equalisation of duties will bring superior salt into competition with the product of the Sultanpur works, while the condition of the Nuh works is hopeless. The gross realizations from the Sambhur Lake stood at 1,085,634 l. against 878,326 l. in 1880-81, but the charges increased from 27,256 l. to 65,675 l. The increased sales are ascribed to the better quality of the salt and the failure of Kharaghora salt in Bombay. The quantity manufactured was 3,290,057 maunds against 2,994,330 in 1880-1. The Didwana, Pachbadra, Phalodi, and Luni sources are all leased from the Marwar Durbar. The greater portion of the products from these sources is sold to Native States at reduced prices, in accordance with agreements entered into with

with them. The gross receipts from the Didwana salt source were 68,872 *l.*, against 82,448 *l.* in 1880-1. The quantity of salt stored during the year was 255,404 maunds, against 384,716. The distribution of duty-paid salt was 251,236 maunds, and 68,483 maunds were supplied duty free to the Marwar Durbar. There is reason to fear that extensive frauds prevailed in connection with duty-free salt. The supply of salt from this source can be, if necessary, largely increased. A large increase in the gross realisations from the Pachbadra salt source is observable during the year, viz., 45,772 *l.*, the total receipts being 157,538 *l.* The quantity of salt sold was 687,258 maunds, against 478,715 in 1880-1, and 1,000 maunds were delivered free, against 11,000. The exhaustion of stocks at Khara-ghora is responsible for the exceptionally favourable character of the Pachbadra returns. The gross receipts from the Phalodi and Luni salt sources were respectively 1,136 *l.* against 462 *l.*, and 72 *l.* against 645 *l.*, the charges being 1,614 *l.* against 1,835 *l.*, and 1,914 *l.* against 2,777 *l.* The total receipts from the Rajputana salt sources were therefore 370,871 *l.*, and the total charges 234,575 *l.*, leaving a balance of 136,296 *l.*, an increase on the previous year of 20,885 *l.*

The wholesale price of salt including duty in the Punjab, North-Western Provinces, Oudh, and Berar varied from *Rs.* 3. 10*a.* in Fyzabad to *Rs.* 2. 8. in Mooltan, or from 11 seers to 15 seers per rupee, and in Rajputana from 12 seers in the Hilly Tracts, Meywar, to 16 seers in Ajmere City. The average price at the railway stations in Central India varied between 14 seers 2 chittacks at Mhow to 14 seers 12½ chittacks at Mandasaur. Illicit manufacture, thefts, and smuggling have been well kept under during the year.

The total receipts in the Bengal Salt Department were 2,483,613 *l.* against 2,398,243 *l.* in the previous year, 2,371,593 *l.*, against 2,274,995 *l.* in 1880-1, being received from import duty, and 97,317 *l.*, against 109,744 *l.* from excise, while the charges amounted to 31,195 *l.*, against 23,428 *l.* The amount of compensation paid to the French Government is the same for both years, viz., 2,000 *l.*, and the principal item of expenditure, refund of customs duty on salt, stood at 25,450 *l.*, against 31,492 *l.* in 1880-1. 9,479,550 maunds were imported or manufactured, and duty was paid on 9,161,096 maunds, the corresponding figures for the previous year being 9,484,219 and 8,741,759. Of the salt which paid duty, 6,594,066 maunds (duty 1,818,691 *l.*) were clearances from ship-board, 218,253 maunds (duty 519,012 *l.*) clearances from bond, and 384,502 maunds (duty 97,317 *l.*) excise salt. The receipts on these accounts during the previous year were 1,757,851 *l.*, 501,052 *l.*, and 109,741 *l.*, respectively. The increase in the first item, at Calcutta, was caused by the fall in price owing to the glutted market, which induced merchants to sell at once rather than incur the expense of bonding and hazard a further decline of price, and also by the demand for freight to England. The increase under excise was not maintained during the year, despite the efforts of the merchants in Cuttack to raise enough duty to cover 20 times the establishment costs, and so to take advantage of the rule which in that case transfers those costs to Government.

The refinement of saltpetre, chiefly confined in Bengal to the Patna division, is managed on a system of advances made by large business houses to village laborers through middlemen, and the salt educed is taxed by the internal branch of the Inland Customs, the receipts of which for the last two years were—

	Salt Duty.	License Fees.	Miscellaneous.	TOTAL.
	£.	£.	£.	£.
1880-1	14,634	11,622	138	26,395
1881-2	12,384	6,617	427	19,428

The decrease in duty is caused by the difficulty refiners experience in the Upper Districts of the North-Western Provinces in finding purchasers for the salt (mostly of an inferior quality), educed in the refinement of saltpetre. The number of licenses granted was 55,266, against 42,045 in 1880-1, but the receipts declined, owing to the reduction of fees in Behar. The charges for the Internal Branch were 35,668 *l.*, against 32,968 *l.* The figures are exclusive in the former year of the Agra, and in the latter year of the Agra and Delhi Depôts; 604,981 maunds of saltpetre were delivered in Calcutta, against 496,726 in 1880-1, and 323,243 cwt., against 322,127, were exported from Calcutta. The price per maund declined from *Rs.* 6. 8*a.* to *Rs.* 6. 3*a.*

SALT.  
British Burma.  
Madras.

The receipts from the salt excise in British Burma were 4,074 *l.*, or 202 *l.* less than in 1880-1.

In accordance with proposals sanctioned by the Indian Government in October 1881, the reorganization of the Salt Department was commenced in Ganjam, Tinnevely, and Chingleput on the east coast, and Malabar and South Canara on the west coast. The general result in the lower grades of the redistribution of salaries has been to raise the salaries of the executive from *Rs.* 39 to *Rs.* 70 per mensem. The factory and preventive staff have been increased by 152 men, and the permanent establishment by 198, while the temporary establishment has been reduced by 46. By the Salt Laws Amendment Act I (Madras) of 1882 the definition of "Salt" includes Salt earth, and that of "manufacture" includes collection; the ruling, therefore, of the High Court that under the Act previously in force "Salt" did not include "salt-earth," which ruling lowered considerably the receipts of the department during the year under review, does not obtain with regard to the present Act. Increased powers are also conferred on officers entitled to arrest offenders against the laws. The quantity of salt received in store during the year was 6,087,362 maunds, of which 45,370 was excise, and the rest monopoly. The figures for 1880-1 were 7,782,210 and 38,939 respectively. The decrease in the total is due to the unfavorable nature of the season and the large stocks at certain factories. The increase of excise salt is progressive, and the system was extended during the current year in Tinnevely. The receipts amounted to 1,472,916 *l.*, against 1,564,336 *l.* in 1880-1. This net decrease of 5.84 per cent. is due chiefly to the following causes, the lowering of duty, increase in sales on credit, cessation of Government sales on the west coast, and decrease in Customs duty, owing to the operation of the Portuguese Treaty and the Salt Transport Act. There was a general increase of fish-curing in all places where the industry was carried on, the aggregate weight in tons of fish cured being 1,719, against 1,336 in 1880-1. The consumption of salt is given as 12.49 lbs. per head, but the calculation does not seem altogether trustworthy. The cost of salt per maund (including duty) varied from *Rs.* 2. 11. 3.2 in Chingleput to *Rs.* 2. 9. 7.6 in Godavari.

Bombay.

The chief events of the year's salt administration in Bombay are the opening of a new Government salt work at Uru, auxiliary to Kharaghora, and the reduction in the rate of salt excise. With regard to the first event, the Baragara salt supply of Kharaghora failed to meet the demand, and was restricted as far as possible to meet local demands during the last four months of the previous, and the whole of the present, year, so that an auxiliary work was highly desirable. The amount of salt manufactured during the year was 7,063,346 maunds, against 7,924,555 in 1880-1, but the stock on hand at the commencement of the year stood at 23 lakhs of maunds, against 14 at the beginning of 1880-1. The amount removed was 6,241,786 maunds, of which 5,816,980 paid full duty, a slight increase on the previous year, caused by the larger quantity taken from the Portuguese salt works, as a smaller amount was taken from the British establishments. The increase in local consumption is very large, and the average consumption per head (Sind excluded) was 11.21 lbs., against 10.41 lbs. in 1880-1. The Chemical Analyser, Dr. Lyon, calculates that the actual average consumption of salt by human beings is 7½ lbs. only, so that the inference remains that a considerable portion of salt sold in Bombay is devoted to the food of cattle. There is, however, a singular discrepancy between the average consumption of Gujarat and that of the rest of Bombay, which is apparent in every year since 1872-3 (1876-7 and 1877-8 excepted). In 1881-2 that discrepancy amounted to over 2½ lbs. per head. The reasons which most probably account for this difference are the stronger, or, at any rate, different quality of the Baragara salt used in Gujarat, and the illegal use of spontaneous salt. Baragara salt is formed by solar evaporation from brine found at a depth of from 18 to 30 feet below the ground. The general financial results for the two years were —

	Gross Receipts.	Total Charges.	Net Receipt.
	£.	£.	£.
1880-1	1,578,983	115,903	1,463,080
1881-2	1,573,540	123,059	1,450,481
Difference	- 5,423	- + 7,156	- 12,570



The stamp duties are regulated by Court Fees Act VII of 1870, and Act I (Stamp Act) of 1879. The former Act deals with judicial stamps, which are of two classes, (1) Stamps on all documents (with certain exceptions) filed, &c., in Mofussil or public courts, which, if *ad valorem* of the subject matter, range from six annas where the subject matter does not exceed Rs. 5 in value to the maximum fee, Rs. 3,000; and (2), where the fees are fixed, from one anna to Rs. 20; these fees are fixed where the subject matter of dispute has no market value, and where the fees are process fees. The latter Act deals with instruments of commercial value which are chargeable with duty in some cases *ad valorem*, in others fixed. Generally speaking, all instruments having a commercial value are so liable, a special exemption being made in favour of instruments executed by or in favour of Government. The paragraphs on registration at the end of the chapter on Civil and Criminal Justice may be referred to in connection with this subject.

STAMP REVENUE (Finance Accounts).

	India, General.	Central Provinces.	British Burmah.	Assam.	Bengal.	North- Western Provinces and Oudh.	Punjab.	Madras.	Bombay.	TOTAL.
	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.
Sale of Court Fee Stamps	16,025	82,745	55,090	45,342	870,171	425,348	235,465	330,576	231,740	2,301,511
Sale of Commercial and other Stamps	16,685	37,150	26,536	19,011	325,864	154,182	90,716	105,476	140,271	1,019,891
Fines and Penalties	72	617	458	224	3,203	1,329	909	4,320	1,952	13,188
Miscellaneous	446	746	69	104	3,149	900	1,146	4,643	35,579	46,782
TOTAL - - - £.	32,228	121,258	82,153	64,681	1,202,392	581,759	337,326	544,024	415,551	3,381,372
Refunds and Charges in India	-27,754*	3,912	2,509	2,045	53,212	18,894	15,838	20,957	21,555	115,468
Charges in England for Stores	-	-	-	£. 16,960	-	-	-	7,027	8,209	32,862
TOTAL Charges	-	-	-	£. 80,922	-	-	-	28,584	32,824	148,330
										NET REVENUE - - £. 3,233,042

\* This figure makes allowance for Receipts from Stamps supplied to other Provinces.

A few changes of minor importance were introduced during the year, such as the exemption of bills of lading and certain classes of legal documents from stamp duty. A new court fees Act is now before the Legislative Council. The Bengal net revenue from stamp fees stands at 1,163,760 l., 844,745 l. of which were derived from Court Fees. There was during the year an increase of 63,193 l. in the gross receipts, and a decrease of 13,423 l. in the charges, a total improvement of seven per cent. The figures for 1881-2, are, however, only approximate. The increase arose chiefly in the sale of judicial stamps. The favorable agricultural season has, as might have been expected, resulted in a lessened demand for impressed sheets or stamp paper for loan transactions, and also in the increased sale of judicial stamps.

The revenue from judicial stamps in Assam was 44,378 l., against 41,371 l. in 1880-1, and from non-judicial stamps 18,226 l., against 18,946 l. in 1879-80. Though this portion of the revenue was larger than in any other year except 1879-80, more than half the revenue is derived from Sylhet alone. The decrease is attributed to the low price of rice.

The gross receipts in the North-Western Provinces and Oudh were 581,735 l. (156,391 l. being from general stamps), against 535,576 l. (145,213 l. from general stamps). The results of the year were therefore eminently satisfactory, as the increase under every head of vend was general except *hundi* or bill of exchange stamps in the North-Western Provinces, and share-transfer adhesive stamps in Oudh. Large quantities of stamps were, however, purchased for exportation to other provinces, particularly to Bombay, for the sake of the higher rate of discount obtainable in the North-Western Provinces.

The receipts from the sale of stamps in the Punjab amounted to 335,609 l., against 323,929 l. in 1880-1; the increase was chiefly from judicial stamps and from impressed

## STAMPS.

impressed sheets, which shew a slight increase compared with that which took place in the previous year. Hundi stamps have fallen, but this is attributed to the general use of post office orders, &c. for remittances. The income from one anna receipt stamps shews also a slight decrease, and it is proposed to substitute ordinary postage stamps for them. The Lieutenant Governor agrees with the Financial Commissioner, that improvement in the condition of the natives promotes litigation, as the money-lender then begins to entertain expectations of repayment, and more judicial stamps are required, but His Excellency does not believe that the converse proposition, viz., a falling off in the receipts from non-judicial stamps, *i.e.*, forms for loans, also constitutes equally a sign of prosperity, but rather of diminished commercial activity.

## Central Provinces.

The general results of the administration of the stamp revenue in the Central Provinces for the year 1881-82 were, general stamps 39,091 *l.*, court fees 82,663 *l.*, charges 3,714 *l.*, and net revenue 118,040 *l.*, against 110,101 *l.* in 1880-1. The revenue for the previous year shewed a decrease of 4.8, and for this year an increase of 7.2 per cent. There was a large increase under court fees and a small decrease under general stamps. Here, too, the different rates obtaining in Bombay have influenced the sale of the latter. With regard to prosecutions for breach of the stamp laws, the inadequacy of the fines inflicted, and the negligence of the civil courts, are made the subject of comment.

## British Burma.

The stamp revenue in British Burma was 82,153 *l.*, against 78,456 *l.*, the improvement being under court fees, while there was a general decrease under general stamps. During the four years previous to 1881-2 the revenue had been stationary.

## Ajmere.

The gross income from stamps in Ajmere was 20,551 *l.*, and the charges were 699 *l.* These receipts were the largest since 1871-2, and the net revenue has doubled during the decade. The improvement in the sale of non-judicial stamps is mainly due to increased loans, and the value of immovable property transferred during the year stood at 71,062 *l.*, against 24,880 *l.* in 1880-1. A decrease in hundi stamps is traced partly to the employment of receipt stamps and mainly to the increased popularity of the money order system. The increased receipts from judicial stamps are due to the enhanced value of civil suits.

## Berar.

£. 60,473 represent the total receipts from stamps in Berar, and 2,052 *l.* the total charges; the gross receipts for 1880-1 were 52,440 *l.* The increase was general, but larger in the case of judicial than non-judicial stamps.

## Coorg.

£. 7,690 was realized from the sale of stamps in Coorg, an increase of 1,174 *l.* in 1880-1, which is due to the failures of native coffee planters and the desire of traders to realize their outstanding debts.

## Madras.

The Madras revenue remained almost stationary; the total figure for the year was 544,100 *l.*

## Bombay.

The gross receipts, 416,610 *l.*, shewed a decrease on the previous year's revenue in Bombay of a little over one per cent. Foreign bill stamps receipts (2,150 *l.*) decreased 61.4 per cent. This was partly accounted for by the decreased imports and the habit believed to prevail among bankers of effecting remittances by telegraph, but chiefly to the unlawful introduction of stamps from Agra, where the rate of discount is higher. Some of the chief offenders were punished, and the practice has apparently ceased. A decrease under the head of India revenue and share transfer stamps is accounted for partly by the unauthorized sales adverted to, and partly by the exemption from duty of the receipts given by railway companies for fares for conveyance of good and animals. The receipts from bills of exchange (Hundis, &c.) were 20.5 per cent. in advance of the previous year, and larger than in any year during the decade. The sale of other general stamps decreased by 2.3 per cent., though in six districts there was an increase. The reason given for the decrease is the greater prosperity of the cultivator, who had consequently less recourse to the money lender. The Deccan Ryots Relief Act may also affect these returns, by operating to the benefit of the ryot. Court fee stamps shew an increase of 7 per cent. Both in districts where there was a decrease, and in others where there was an increase, the same reason is adduced, viz., the prosperity of the cultivator. The creditor sued where he saw reasonable prospect of success, and the debtor, when he became prosperous, was able to come to terms with his creditor without recourse to the courts.

## EXCISE.

The excise or abkari is levied on intoxicating liquors and drugs, and falls principally on the lower classes, who are the chief consumers. The object of its administration is to check consumption as well as to raise revenue. The check which can be placed on consumption is twofold: (1.) The limitation of the number of shops

shops at which intoxicants are procured; (2.) The increase of the rate of excise which enhances the price of articles excised. But if, on the one hand, the number of shops be unduly increased, the consumption of intoxicants is unduly stimulated, while, on the other hand, if the number of shops be unduly reduced, or, if the excise-rate be unduly enhanced, consumers will certainly have recourse to illicit manufacture and consumption, in order to satisfy the demand.

Country spirits are distilled from a great variety of substances, the principal of which are molasses, rice, the juice of several kinds of palm, and the flower of the *Mahura* or *Mhowra* tree (*Bassia latifolia*). This branch of the excise revenue is levied principally in three systems: (1.) The Sadar distillery system under which the number and locality of the shops is taxed by a license fee or otherwise. These shops are required to supply themselves from Sadar distilleries (*i.e.*, distilleries erected in enclosures and under supervision), where spirits are taxed at a fixed rate per gallon, and the tax is paid on removal: (2.) The farming system, still widely prevalent, under which the number of shops is determined for a given large area, sometimes a taluka, or pergannah, containing from 50 to 200 villages, or sometimes even an entire district, and the monopoly of manufacture and of vend in these shops is sold by auction to the highest bidder; (3.) The outstill system, under which the right of opening a single still for the manufacture of spirit, together with a shop for its retail vend in each locality (determined according to the requirements of consumers), is sold by auction. The commonest kinds of fermented liquors are tari (fermented palm-juice), which is chiefly made on the sea-coasts, and is taxed sometimes on the farming system and sometimes by a rate on each tree tapped; also beer brewed from rice and other grains by the wilder tribes, which is practically untaxed. The European brewers pay a tax of 6 *d.* per gallon. Besides liquors, the drugs taxed are chiefly opium, and preparations of it, also ganja, bhang, majum, and charas, all preparations of hemp, and the drug revenue is chiefly raised by a shop-tax. A new Excise Act, No. XXV of 1881, was introduced during the year, allowing of the infliction of much more severe penalties for the offence of smuggling.

EXCISE REVENUE (Finance Accounts).

	India, General.	Central Provinces.	British Burma.	Assam.	Bengal.	North- Western Provinces and Oudh.	Punjab.	Madras.	Bombay.	TOTAL.
License and Distillery Fees and Duties for the sale of Liquors and drugs, viz.:	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.
License Fees and Farmers' Rents - - - - -	14,782	53,807	54,744	16,138	596,621	113,012	30,100	382,471	205,112	1,532,877
Distillery Fees - - - - -	-	45,500	6,559	417	1,877	546	173	37	25,396	80,505
Still-head Duty - - - - -	11,426	23,810	10,127	688	96,349	181,890	33,017	218,711	232,310	810,958
Duties levied on Drugs - - -	474	30,378	47,866	18,102	97,355	65,900	15,660	20,000	14,091	315,916
TOTAL - - - - -	26,682	161,615	125,296	35,345	792,202	361,438	84,950	621,219	636,909	2,745,650
Duty on Opium consumed in India -	185	42,296	98,855	153,806	144,716	52,557	30,287	26,834	112,306	661,902
Acreage on Land cultivated with the Poppy (exclusive of that under the Bengal Opium Department) -	-	-	-	-	-	-	3,674	-	-	3,674
Fines, Confiscations, and Miscellaneous - - - - -	1,705	545	835	55	475	717	333	329	11,045	16,042
TOTAL, Excise Revenue - - £.	28,572	204,456	224,986	180,266	937,393	414,712	119,247	648,382	660,260	3,427,274
Charges - - - - - £.	1,053	5,752	1,047	864	27,300	17,149	5,590	18,645	19,483	96,883
Miscellaneous - - - - -	-	-	-	-	-	-	-	-	-	3
TOTAL Excise Charges - - - £.	-	-	-	-	-	-	-	-	-	96,886
TOTAL Net Revenue - - - £.	-	-	-	-	-	-	-	-	-	3,330,388

Excise.

The increase during the year under review was due to general prosperity, and to increased competition at the auction sales of excise monopolies. It occurred especially in the receipts from licence fees in Bengal, and from still-head duty in Bombay.

Bengal.

The net excise revenue of Bengal shews an increase over the previous year of 81,500 *l.* This increase was extended to all the divisions, except Bhagalpore, where the decrease of 4,969 *l.* was due to a large falling off under the heads of country spirits and tari, fermented palm juice (toddy). Of the large increase of 34,788 *l.* in Patna, 23,873 *l.* was owing to country spirits. The incidence of duty on the total population of Bengal is under 1 *l.* 12 *s.* per 100, which may be contrasted with the incidence of excise duty on the population of the United Kingdom, 7 *l.* 15 *s.* 5 *d.* per 100 (1880-1). The returns shew a general increase under all heads, except those of charas and majum, the conspicuous increases being 40,289 *l.* under country spirits, 25,911 *l.* under ganja, and 10,363 *l.* under opium. The sale of country spirits has been conspicuously affected by the extension of the outstill to the exclusion of the Sadar distillery system, and it is now the established policy of Government to extend this system to every part of those provinces where special local circumstances do not render it inexpedient so to do. In municipalities, where the system has been put in force, convictions have been much less than in municipalities under the Sadar system. The crux has been hitherto the difficulty of gauging the demand for liquor, and of therefore avoiding the danger, on the one hand, of illicit manufacture, and, on the other hand, of unduly stimulating the popular appetite for drink. The reduction of licenses in 1880-1 has had an excellent effect. In 1880-1 the Sadar distilleries were 627, and the out-tills 5,657, the revenue derived from them being respectively 118,172 *l.* and 303,958 *l.*, and in 1881-2 the numbers were 530 and 5,250, with a respective revenue of 126,014 *l.* and 336,404 *l.* There was an increase in the area under hemp grown for the purpose of making ganja, but the deficiency of the autumn rains injuriously affected the crop. The increase under the head of opium is due to an enhancement of the Government price of excise opium by rates varying from one rupee per seer in Chota Nagpore to Rs. 3 in Orissa.

Assam.

The excise revenue in Assam has only once received, previous to 1881-2, a check to its steady expansion, but in the year under review it exhibited a falling off of 4,000 *l.* This was due entirely to opium, which is the favorite drug of the Assamese in the Brahmaputra valley, and produces 15½ out of the total of 19 lacs of excise revenue. The cause of the decrease is said to be competition and quarrels among the vendors, rather than any change in the habits of the people. Every effort is made to restrict the extension of consumption amongst the hill tribes, who are not yet addicted to the habit, but any restriction among the Assamese themselves is impossible, so attached are they to opium. There is no evidence to shew, however, that the amount consumed is such as to be injurious to health. The number of consumers is estimated at about 120,000, or 7 per cent. of the population of the Brahmaputra valley, and the average dose 9½ grains per diem, or 1 lb. per annum. It is usually dissolved in water and drunk. Country spirits and rum are mainly consumed by tea coolies and other foreigners. Complaints having been made by tea dealers that undue facility was afforded their coolies for indulgence in drink, opportunity was given to planters to take out licenses for drink shops, and thereby to ensure to them control over the sale of country spirits, but no advantage was taken of the offer. There does not indeed seem to be any ground for serious complaint, judging by the small number of shops and the stationary character of that number. Revenue is raised from the monopoly outstill system, but in the hills little or no restriction can be exercised. Ganja is the chief indulgence of the Sylhet people, and, equally with spirits, exhibited a slight increase in revenue. The average incidence of excise per head is 9 annas 1 pie, but in the opium-consuming districts rises much higher.

N. W. Provinces and Oudh.

There are three systems of distillation under excise at work in the North-Western Provinces and Oudh, the Sadar, the outstill, and the modified Sadar system, of which the latter is only continued as a temporary measure. The outstill system is being extended rapidly; its financial success is undoubted, as in districts where it has been introduced a rise has taken place of 400 per cent.; but it is too early yet to conclude whether it unduly increases the habit of drinking. There is, however, no reason to apprehend such a result. Liquor made in outstills is weaker and undiluted, and is consequently preferred by the people, while the system puts a decided check on illicit traffic in spirits. There

are great obstacles in the way of administering the outstill system where it exists side by side with the Sadar system, and every effort will be made to extend it to a compact tract of country, so that the two systems will interfere with each other as little as possible. The total receipts from excise were 323,821 l. in the North-Western Provinces, and 114,603 l. in Oudh, shewing increases respectively of 35,489 l. and 15,916 l., or a total increase of 13.28 per cent. on the previous year. These figures are unprecedented in the annals of the provinces. The increases in the two provinces are as follows:—

	North-Western Provinces.	Oudh.	TOTAL.
	£.	£.	£.
Still-head duty on country liquor - - -	3,371	8,060	11,431
Licence fees for vend of country spirits - - -	7,375	3,645	11,020
Payments for right of manufacture under outstill -	22,071	1,369	23,440
Licence fees for vend of drugs and opium - - -	3,501	1,436	4,937
<b>TOTAL - - - £.</b>	<b>36,318</b>	<b>14,510</b>	<b>50,828</b>

Considerable difficulty is experienced in detecting cases of opium smuggling and distillation of illicit liquors, as it appears that there is collusion between the offenders and the village and district police.

Including the share of the still-head duty on Shahjahanpur rum falling to the Punjab, and the receipts from Ghazipur and Malwa opium, the total excise revenue amounted to about 133,333 l., and without this item to 118,491 l., the principal amounts being 58,980 l. levied from country spirits, and 35,430 l. from opium. Nearly half of the revenue is derived from the six districts, Lahore, Amritsar, Umballa, Peshawar, Rawalpindi, and Ferozepore; and the addition to these districts of Delhi, Jullundur, Simla, and Mooltan, will give the source of more than two-thirds of the excise receipts, which are 6.9 per cent. in excess of the previous year. Since 1874-5 the total revenue has been enhanced by only 24.16 per cent., and the increase during the present year, which may be accounted for by the prevalence of more favourable seasons throughout the province, and the return of the troops to their cantonments, renders the figure of the total revenue higher than any other previously recorded. The increase in the consumption of rum since 1874-5 is very marked, the duties realising 8,576 l., against 668 l. in that year; 80 per cent. of the consumption is manufactured at Shahjahanpur. The competition of cheap European with country spirits is increasing, and the prices of these commodities are so rapidly approximating, that a very slight fall in the price of the former will place the latter at a disadvantage.

The total gross excise revenue for the Central Provinces is given as 225,042 l., against 206,302 l., and the charges as 25,838 l. The principal increases are 12.8 per cent. under liquor excise, and 7.0 under opium receipts. The number of the different distilleries, and the amount of revenue derived from them is given below.

	1880-1.	1881-2.	1880-1.	1881-2.
	No.	No.	£.	£.
Sadar Distilleries - - - -	44	39	24,562	25,780
Contract Stills - - - -	102	108	11,175	13,211
Out Stills - - - -	1,416	1,539	27,109	31,805
Licence Fees, Country Spirits - - -	-	-	43,433	49,174
Ditto - European Liquors - - -	-	-	473	488
<b>TOTAL - - -</b>	<b>1,562</b>	<b>1,686</b>	<b>106,752</b>	<b>120,458</b>

- Excise. The increase under this head is common to all the districts except Raipur, Sambalpur, Bhandara, and Chanda; in the latter place the decrease is attributed to the failure of the Mhowra crop in 1881. The mischievous use of opium is confined to those who smoke *madad*, a mixture of betel leaf and opium, and the results are most deplorable.
- Burma. The gross excise revenue for Burma was 290,333 *l.*, against 286,745 *l.* in 1880-1, and the net revenue shewed an increase of 12,749 *l.* The net increases were, opium 2,504 *l.* and licence fees 12,749 *l.*; and the only decrease, 3,454 *l.*, was under the head of spirits manufactured after the English method. The principal items from which licence fees are derived were imported liquors 36,309 *l.*, and *tari* (palm-toddy) 29,721 *l.* The only division where the excise revenue decreased was in Tenasserim. Endeavours have been made to restrict the use of opium amongst the Burmese. The number of licensed opium shops was reduced from 68 to 28, and the wholesale price of opium was raised from 2 *l.* to 2 *l.* 8 *s.* per seer in Arakan, and to 3 *l.* 6 *s.* in the rest of the province. The result of these changes has been that, though the receipts from opium have risen, the quantity of opium sold has declined from 54,265 seers to 41,857 seers. It is very difficult to put a stop to clandestine traffic in small quantities of the drug, especially in face of the supineness of the police. Statistics are given to shew that 88 per cent. of the customers who visit the shops in Rangoon are foreigners, and 36 per cent. in Pegu. The receipts from koug, seinyay, and hlawsa, native beers made from rice or jaggery, have risen from 3,806 *l.* in 1880-1 to 9,396 *l.* in 1882-3.
- Ajmere. The net receipts from excise in Ajmere amounted to 6,336 *l.*, or 1,664 *l.* more than in 1880-1. The revenue has quadrupled since 1871-2. The present system of farming the abkari cannot be improved until a special establishment is available for the prevention of smuggling from the surrounding native states. The principal source of income is country spirits, the receipts from which amounted to 5,671 *l.*, or 89.52 per cent of the whole revenue.
- Berar. The abkari of Berar showed a decline of 5.5 per cent. in the previous year (110,419 *l.*, against 116,910 *l.*). The principal items of decrease were country spirits 4.2 per cent., and opium and drugs 7.4 per cent., though the buoyancy of the opium trade is astonishing. The cultivation of the poppy by the Nizam is said to check smuggling, as poppy cultivation by others is prohibited in Hyderabad.
- Coorg. The demand on account of excise on Coorg spirits was 15,704 *l.*
- Madras. The old triennial leases expired on the 30th June 1881, and the farms were let out for a term of two years and nine months, so as to terminate with the official year. The principal alteration inserted in the terms of the leases was the extension of the surcharge system to other municipal towns. By this system a higher rate is imposed on liquor sold in shops within a radius of certain selected towns. The annual demand under the new leases was fixed at 445,984 *l.*, against 440,757 *l.*; under the previous leases, 621,548 *l.* (an increase of 43,927 *l.* on 1880-1) were collected during the year. This figure includes the receipts from opium, which amounted to 26,028 *l.*, against 50,266 *l.*
- Bombay. The abkari revenue in Bombay has risen from 325,000 *l.* at the end of 1876-7 to 447,500 *l.* at the end of July 1881, and concurrently with this increase drunkenness has diminished. The total receipts from liquor, including import duty, was 567,709 *l.*, of which 478,396 *l.* was for country liquor. The duty on wine, beer, &c., was 72,100 *l.*, and on drugs 44,600 *l.* The incidence of the whole excise revenue was six annas four pies per head. The Urañ distillery contributed 12½ lakhs to the revenue. Mhowra or Mahura spirit, is consumed in Gujarat, the Central Division, and in Belgaum. In Sind date brandy is drunk. The country spirit sold in Dharwar and Kaladgi is made from molasses. Toddy trees have been taxed, and the Bhandaras or toddy-drawers are said to be the only class of people who are not making money. Special rights acquired under the East India Company by certain landholders in Salsette have been re-acquired, and the revenue has benefited to the extent of half a lakh annually by their extinction. The policy of acquiring the abkari rights of native states is being pushed forward, and the Southern Mahratta Chiefs have surrendered their rights for an annual sum of 5,733 *l.* In this Presidency the Sadar distillery is largely superseding the farming system.

The Income derived from Provincial Rates was :—

	£.	PROVINCIAL RATES.
India, General - - - - -	5,587	
Central Provinces - - - - -	56,239	
British Burma - - - - -	77,145	
Assam - - - - -	32,186	
Bengal - - - - -	720,818	
North-Western Provinces and Oudh - - - - -	890,760	
Punjab - - - - -	255,723	
Madras - - - - -	613,015	
Bombay - - - - -	230,287	
<b>TOTAL, PROVINCIAL RATES - - - £.</b>	<b>2,881,760</b>	

The total receipts for 1880-81 were 2,776,370 l.

The increase in 1881-2 occurred chiefly in the village service cess in Madras, which had been temporarily suspended in some districts, in the general rate on lands in British Burma, and in the patwari cess in the North-West Provinces. In March 1882 the tax levied in those provinces for the payment of patwaris and kanungos (village accountants and revenue officers) was remitted.

The net produce from customs (exclusive of excise and salt), was altogether 1,510,469 l.; Bengal, 612,069 l.; Bombay, 604,377 l.; Madras, 141,822 l.; British Burma, 152,201 l. Owing to the further progress made in the substitution of the coarser duty-free goods for the finer kinds, the duty on the imports of cotton manufactures fell off by 158,000 l. in 1881-2. At the close of that year the duty was removed on all imports except liquors, arms and ammunition, opium, and salt.

The net receipts from assessed taxes for the different provinces were :—

	£.	ASSESSED TAXES.
Central Provinces - - - - -	25,526	
Bengal - - - - -	154,258	
North-Western Provinces and Oudh - - - - -	113,672	
Punjab - - - - -	43,215	
Madras - - - - -	47,185	
Bombay - - - - -	124,101	
<b>TOTAL, ASSESSED TAXES - - - £.</b>	<b>507,957</b>	

Of these assessed taxes the only important one is the License Tax.

The License Tax, imposed in 1877-8, was considered an alternative of the income tax as a means of direct taxation, and was held not to be open to the same objections. It has no analogy with the license duties levied in England, but "is a tax assessed on persons engaged in professions, commerce, or trade, with direct reference to their income." The taxpayers are, for purposes of assessment, divided according to their presumed income into classes, all the persons included in one class paying the same tax. The tax never exceeds 2 per cent. on annual profits. "Thus," to quote Sir John Strachey's definitions, "the so-called license tax is, in fact, a limited income tax assessed on a system of classification according to approximate income." Major Baring has pointed out some of the inconsistencies in connection with the assessment of the tax. "In Madras the tax approaches, in some respects, nearest to an income tax. Again, everywhere, excepting in the Bombay Presidency, the maximum fee leviable is Rs. 500. In Bombay it is Rs. 200. In Northern India there are two classes, sub-divided into eight grades. In Bengal there are six classes. In Madras there are eight classes. In Bombay there are 11 classes. In British



ASSESSED TAXES.

Burma and Assam the tax is not levied at all." Not only do these inconsistencies operate in causing inequalities of incidence, but disproportionate hardship is entailed on the less wealthy, while other classes who should with justice be exempt, are called on to pay the tax. In the spring of 1882, however, it was after full consideration decided to postpone any reform in the system, chiefly because of the desirability of finally settling the question when any fresh legislation shall take place. 23 Acts have been passed during the last 22 years on the subject of direct taxation, and this want of fixity of policy has been inimical to progress.

Bengal.

The tax in Bengal was still levied under Act II. (B.C.) of 1880, and no alterations were made either in the nature of its assessment or its incidence. The operations of the year were greatly facilitated by the complete re-valuation made in 1880-1, and the assessors were able to devote much of their time to revision of the assessment lists. 68,873 assesseees were on the lists of the 30th June 1882, and out of the number on the lists at the commencement of the year one person in three objected to his place. This is scarcely satisfactory, though an improvement on the previous year, when 62 per cent. objected. The high percentage (39) of successful objections proves the administration to have been at fault. The gross demand for the year was 187,804 l. against 284,804 l. in 1880-1, and the realizations were 143,915 l. against 148,486 l. The causes of the decrease were mainly the low price of food-grains, which proved prejudicial to the petty traders, and the revision of assessments. The Lieutenant-Governor remarks that the tax can never be popular, as the great mass of the people have no interest in the change of the law which relieves the less wealthy classes, and it is a necessary evil of direct taxation in India that inducements are held out to intriguers to practice on the credulity of the people. The facility and want of expense which attended the collection, together with the numerous appeals made by the people against their places on the lists, attest the justice of the assessment, and the ready access to redress open to the assesseees.

N. W. Provinces and Oudh.

The tax was levied under Act II. of 1878, as amended by Act VI. of 1880. No changes in principle were made, and in the majority of districts the lists of 1880-1 were closely adhered to. The net collections were:—

	1881-2.	1880-1.
	£.	£.
North-Western Provinces - - -	103,180	105,003
Oudh - - - - -	13,135	13,655
<b>TOTAL - - - £.</b>	<b>116,315</b>	<b>118,658</b>

The net collections for 1881-2 are said to represent approximately the normal value of the revenue to be derived from the tax under existing circumstances. The amount derived from Oudh is disproportionately small when compared with the realizations from the other province. The number of assesseees finally taxed was, in the North-Western Provinces, 42,065, against 42,537 in 1880-1, and in Oudh, 7,064, against 7,313. Objections fell at the rate of 27 per cent. for the North-Western Provinces, and 37 for Oudh, the percentage of rejections being respectively 70 and 54 per cent. Generally speaking, the assessment seems to have been equitable, and the tax was collected without difficulty or intimidation. Out of the total number of persons taxed, no less than 22,189 are taxed as professional money lenders, 5,415 as retail dealers in grain, and 4,003 as sugar manufacturers.

Punjab.

The demand on account of the license tax in the Punjab for 1881-2 was 43,984 l., and the collections 43,252 l., against 45,498 l. and 44,984 in 1880-1. Thus, while the demand shows a decrease of over 1,500 l., the collections have fallen off in a still greater degree. The average incidence of the tax per 1,000 was only Rs. 23. 3, which bears witness to the leniency of the assessments. In fact the general tendency is to under-assess, except in certain notable instances, e.g.,

*e.g.*, Jhang and Gurgaon. The former district is assessed as numerously as Simla, viz., 10·47 per 1,000, while in the latter the tax was felt to be so great a burden that the traders are said to have given up the practice of annually balancing their books, so as to avoid affording information as to their real income. The richest districts of the province are evidently inadequately assessed. The number of taxpayers was 25,634, or 136 more than in 1880-1, and the traders assessed formed only  $\frac{1}{7\frac{1}{2}}$ th of the total population. The collections were late, and the supervision of the work by Deputy Commissioners imperfect, in some cases practically *nil*. ASSESSED TAXES.

The *pundhri* is a tax on traders and artizans, which has descended from the time of the Maratha rule, and is familiar to the people of the Central Provinces. It is on this account retained, and takes the place which in other provinces is taken by license Acts. No information is given for the year under review. Central Province

The collections in Madras amounted to 47,700 *l.*, or 3,100 *l.* less than in 1880-81. The decrease is however nominal, as the collections for the year under review really shew an increase of 2,800 *l.* The charges amounted to 580 *l.* against 990 *l.*, the reduction being caused by the transfer of the work at Madras from the Municipal Commissioners to the collector. The exemption of incomes below 50 *l.* afforded considerable relief to the taxpayers, and the Act worked satisfactorily. Madras.

In Bombay the exemption of incomes under 50 *l.* which has relieved  $\frac{1}{3}$  of the people taxed, has also done away with a vast proportion of the complaints against the License Tax, and the complaints that are made refer to the exemption of professionals and officials. The final demand for the last four years (exclusive of incomes under 50 *l.* previously taxed) has been 124,100 *l.*, 129,400 *l.*, 130,700 *l.*, and in 1881-82, 126,646 *l.* The check in the revenue experienced during the year under review is attributed to greater leniency in the assessment and to the decrease in the profits of the money lenders, caused in a minor degree by the Deccan Agriculturists Relief Act, and in a major degree by the general agricultural prosperity. One in every 300 of the population pays tax, and the incidence on such as pay tax is *Rs.* 24½ per head, being highest in Bombay city (*Rs.* 39), and lowest, unduly low indeed, in the northern division, *Rs.* 19. 14. 1. The net collections were 124,089 *l.* Bombay.

The policy of the Provincialization of Finances was initiated by Lord Mayo in 1870, developed by Lord Lytton in 1877, and again extended at the end of 1881-2, when the five years contract with the Provincial Governments terminated. In the year 1877 the provinces were allotted the revenues from stamps, excise, law and justice, &c.; the license tax also was added as soon as it was imposed. All the departmental services were likewise handed over to the charge of the Provincial Government, except the few under direct central administration, so that, whereas in 1870 the principle was observed that provincial responsibility in *expenditure* would lead to economy, in 1877 the additional principle was observed that provincial responsibility would add productiveness to certain sources of *revenue*. During the first period the gross annual allotment made over to the Provincial Governments was a little more than 5½ million pounds, while in 1880-1 the total available income of the provinces amounted to more than 17 millions, which was divided into 3 portions, 10 millions assigned from revenues wholly made over, 4½ from imperial revenues supplementarily granted, and 3 from local income. The Madras Government alone hesitated to accept any additional responsibility at the commencement of the second period, but that Government has now withdrawn its objections. The principle on which the imperial grant has hitherto been made was that a fixed sum of money was given to the provincial Governments to make good any excess of expenditure over income; that principle is now changed and a certain proportion of the imperial revenue of each province is allotted. But the history of these changes belongs to the year 1882-3. PROVINCIAL FINANCES

## STATEMENT EXHIBITING THE MORAL AND MATERIAL

## PROVINCIAL REVENUE and EXPENDITURE.

HEADS OF REVENUE (i.e. Amounts assigned to Local Governments.)	Central Provinces.	British Burma.	Assam.	Bengal.	North-Western Provinces and Oudh.	Punjab.	Madras.	Bombay, including Sind.	TOTAL INDIA.
<b>REVENUE, ORDINARY:</b>	£.	£.	£.	£.	£.	£.	£.	£.	£.
Land Revenue - - - - -	189,978	358,436	105,001	836,946	962,548	695,351	882,485	2,464,715	6,405,460
Opium - - - - -	-	-	-	-	-	-	-	-	-
Salt - - - - -	-	3,283	-	14,704	-	-	-	6,908	24,893
Stamps - - - - -	121,258	82,153	64,681	1,202,392	581,759	337,326	-	415,551	2,805,120
Excise on Spirits and Drugs - -	204,456	224,986	189,266	937,393	414,712	119,247	-	660,260	2,750,320
Provincial Rates - - - - -	16,686	-	31,392	354,964	50,371	2,186	-	-	455,599
Customs - - - - -	-	237,573	-	8,573	-	-	-	8,808	254,954
Assessed Taxes - - - - -	15,996	-	-	35,000	40,000	29,000	-	33,847	153,843
Forest - - - - -	-	37,196	-	-	-	-	-	-	37,196
Registration - - - - -	6,238	1,606	3,207	101,815	60,941	23,778	58,821	27,965	283,801
Tributes and Contributions - - -	-	-	-	-	-	-	-	-	-
	£.	945,233	393,637	3,491,787	2,110,331	1,206,888	941,306	3,617,452	13,261,246
Post Office, Telegraph, and Mint - -	-	-	-	-	-	3,392	54	-	3,446
Civil Departments - - - - -	69,721	91,381	25,897	422,811	156,982	114,807	110,061	140,467	1,132,127
Miscellaneous - - - - -	4,874	4,929	5,124	84,423	40,745	84,809	8,684	37,691	271,279
Public Works (other than Productive) -	10,006	15,929	1,014	147,559	113,060	67,886	39,556	62,758	458,677
<b>REVENUE, ORDINARY - - £.</b>	689,213	1,057,472	426,572	4,146,680	2,421,127	1,477,782	1,099,661	3,858,368	15,126,775
<b>REVENUE FROM PRODUCTIVE PUBLIC WORKS:</b>									
<b>Railways:</b>									
State (Gross Earnings) - - -	41,870	152,933	-	327,005	52,897	-	-	-	574,705
Irrigation and Navigation - - -	-	-	-	125,510	418,376	-	-	-	543,886
<b>REVENUE FROM PRODUCTIVE PUBLIC WORKS - - } £.</b>	41,870	152,933	-	452,515	471,273	-	-	-	1,118,591
<b>TOTAL, PROVINCIAL REVENUE - £.</b>	681,083	1,210,405	426,572	4,599,095	2,892,400	1,477,782	1,099,661	3,858,368	16,245,366

PROVINCIAL REVENUE and EXPENDITURE.

HEADS OF EXPENDITURE*	Central Provinces	British Burma.	Assam.	Bengal.	North-Western Provinces and Oudh.	Punjab.	Madras.	Bombay, including Sind.	TOTAL INDIA.
<b>EXPENDITURE, ORDINARY:</b>	£.	£.	£.	£.	£.	£.	£.	£.	£.
Refunds and Drawbacks - - -	3,061	3,460	682	23,343	15,752	5,978	282	20,410	78,974
Assignments and Compensations - -	-	-	-	-	-	-	55	702,119	702,174
<b>Charges in respect of Collection, viz. :-</b>									
Land Revenue - - - - -	61,676	78,772	62,508	275,762	345,997	163,209	2,720	665,370	1,646,104
Opium - - - - -	-	-	-	1,275	-	-	-	-	1,275
Salt - - - - -	-	64	-	1,779	-	-	1,133	59,380	62,556
Stamps - - - - -	2,697	2,190	2,283	42,370	10,121	13,087	91	18,546	91,335
Excise on Spirits and Drugs - - -	5,752	1,047	864	27,300	17,149	5,590	36	19,493	77,221
Provincial Rates - - - - -	-	-	518	-	686	3,977	-	-	5,181
Customs - - - - -	-	25,034	-	68,579	-	-	602	77,311	172,420
Assessed Taxes - - - - -	45	-	-	9,614	614	196	-	2,025	12,494
Forest - - - - -	-	19,168	-	-	-	-	3	-	19,171
Registration - - - - -	2,800	1,065	2,116	62,902	31,477	13,361	41,993	29,354	179,008
Direct Demands on the Revenues - - - - -	76,081	191,700	58,971	512,924	421,796	205,498	46,855	1,594,198	3,047,019
Post Office, Telegraph, and Mint - -	4,359	4,378	46	-	-	9,368	10,734	8,877	37,762
Interest on Permanent and Floating Debt, exclusive of that for Productive Public Works - - - - -	2,005	-	-	-	4,855	-	-	-	6,860
Civil Departments - - - - -	361,836	495,240	193,792	2,120,974	1,226,315	901,142	749,259	1,496,057	7,550,015
Famine Relief - - - - -	-	-	-	-	-	359	40,403	-	40,762
Public Works (other than Productive) -	92,129	371,814	102,352	1,050,845	207,616	244,389	171,664	294,223	2,625,237
Exchange on Transactions with London -	-	-763	-	-	-	-	-	-	-763
<b>EXPENDITURE, ORDINARY - £.</b>	<b>536,860</b>	<b>1,092,375</b>	<b>355,161</b>	<b>3,690,743</b>	<b>1,950,782</b>	<b>1,360,696</b>	<b>1,024,915</b>	<b>3,393,360</b>	<b>13,314,392</b>
<b>EXPENDITURE ON PRODUCTIVE PUBLIC WORKS (WORKING EXPENSES AND INTEREST):</b>									
Railways: State (Working and Maintenance) -	24,602	89,676	-	190,261	39,083	-	-	-	343,622
Irrigation and Navigation: Working and Maintenance - - -	-	-	-	104,120	170,859	-	-	-	274,979
Interest on Debt incurred for Productive Public Works - - - - -	24,900	55,944	-	336,149	255,577	403	-	-	672,973
<b>EXPENDITURE ON PRODUCTIVE PUBLIC WORKS (WORKING EXPENSES AND INTEREST) - £.</b>	<b>49,502</b>	<b>145,620</b>	<b>-</b>	<b>630,530</b>	<b>465,519</b>	<b>403</b>	<b>-</b>	<b>-</b>	<b>1,291,574</b>
<b>Add -</b>									
Portion of Allotments to Provincial Governments not spent in the Year	95,221	62,365	46,574	255,189	667,613	145,979	64,226	418,783	1,754,990
<b>TOTAL, PROVINCIAL EXPENDITURE - £.</b>	<b>681,083</b>	<b>1,210,360</b>	<b>400,735</b>	<b>4,576,452</b>	<b>3,083,914</b>	<b>1,507,078</b>	<b>1,099,181</b>	<b>3,812,143</b>	<b>16,360,956</b>

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PROVINCIAL FINANCES.

The Provincial contribution for the Afghan war (670,000 *l.*) was repaid, by the Central Government.

It will be unnecessary to add any explanation to the statement given above of the provincial finances, as they are fully dealt with under the different heads, and all remarks on this subject are reserved for a subsequent number of this Report.

EXPENDITURE.  
Interest.

By the arrangements connected with the discharge of India 5 per Cent. Stock in 1880-1, the charges of that year were accidentally relieved of a half-year's dividend amounting to 86,000 *l.* From the 1st of April 1881 the rate of interest charged on the portion of the debt debited to Productive Public Works was reduced from 4½ to 4 per cent., relieving the latter account by about 230,000 *l.*, and causing a corresponding increase in the interest on Ordinary Debt in 1881-2; and 35,000 *l.* was added to the charge in 1881-2 for interest on 3½ per Cent. Stock issued for the discharge of East Indian Railway Debentures at 4½ per cent. The total debt of the Government of India on 1st April 1882 was 156,795,109 *l.* The Indian portion was constituted of 87,930,921 *l.* bearing interest, and 722,241 *l.* not bearing interest. The English portion was composed of 68,026,512 *l.* bearing interest, and 115,435 *l.* not bearing interest. The amount of the whole debt at a corresponding period of the previous year was 153,134,685 *l.*

Interest on Deposits.

In 1881-2 a change of system was adopted in regard to Savings Bank deposits, by charging the interest on the 31st March instead of the 1st April, which brought into the accounts of 1881-2 a payment for two years, causing an excess of 86,000 *l.* Owing to an increase of the rate of interest in December 1879, and the grant of other privileges, there was a great enhancement of the amount deposited in the Savings Banks. In May 1881 the rate was again reduced from 4½ to 3¾ per cent.

Famine insurance.

Arrangements were made in 1878 for the purpose of providing, in addition to a moderate surplus of about 500,000 *l.*, a further sum of 1,500,000 *l.* to cover the expenditure arising from the relief of famine, which was estimated at 15,000,000 *l.* in each period of ten years. In 1881-2 it was determined that provision for the expenditure of this sum of 1,500,000 *l.* should be made in the budget, which would then be prepared to shew a surplus of 500,000 *l.* instead of 2,000,000. Subject to the demands for actual relief of the people, one half of the sum is applied to the reduction of debt, and the other half to the construction of works calculated to afford protection against famine.

Loss by exchange.

The amount of bills drawn by the Secretary of State for India was 18,412,429 *l.* at an average of 19.895 *d.* the rupee, and the loss by exchange was greater by 840,000 *l.* than in the previous year. The chief disbursements, on account of which these bills are drawn, are for interest on debt, charges for the civil administration (including furlough allowances, and superannuations and pensions), army (effective, non-effective, and stores), railway stores, guaranteed railway interest, and family remittances made by soldiers in India.

Army.

The English contribution of five million pounds to the war was divided between the two years 1880-1 and 1881-2, the amounts brought to account being 2,695,000 *l.* in the former, and 2,305,000 in the latter year.

## IV.

## LAND ADMINISTRATION.

LAND is the most important source of revenue at the command of the Indian administration, and the income which it yields to the State cannot be regarded as derived from taxation, properly speaking. Land revenue has been well defined as a "rent-charge in favour of the public." It is not possible to enter into the bewildering differences of tenure on which land in India is held, but in order to understand the figures which follow, the main distinctions should be borne in mind.

To realise the land revenue it is essential to make what is technically called a settlement; that is, to determine its amount, and who is to pay it. The policy of the British Government has always been to encourage proprietorship, and the person who is made directly responsible for the payment of the State demand on any land is considered to be its owner, though his proprietary right is, or may be, limited on the one hand by the right of the State to its revenue, on the other, by interests in the land subordinate to his.

The variations of land tenure found in existence by the British in different parts of the country gave rise to the distinct settlement systems, since the general rule was that the person or persons having the highest existing interest in the land should be made responsible for the revenue. In the Bengal Provinces, which came earliest into the possession of the East India Company, as well as in some later acquisitions, especially in the Eastern territories, two distinct classes were found in possession of distinct interests and responsibilities in the land; the peasant cultivators as tenants and rent-payers; the superior holders, sometimes the descendants or representatives of ancient nobles, sometimes of military chiefs, in other cases of middle-men or farmers of the revenue, as landlords, receiving the rent and paying the revenue. Under this state of things the settlement was made with the latter class, the "Zemindars," "Talookdars," or "Malguzars"; and is hence called the "Zemindari" settlement. This system prevails especially in Bengal, in the north-east districts of Madras, in Oudh, and in the Central Provinces.

In the greater part of Southern and Western India, there existed no class with any permanent or hereditary right which intervened between the right of the peasant to till the soil and that of the State to receive the revenue, while, speaking generally, the village communities were not bound together by joint or mutual responsibility for the revenue, and each cultivator was answerable only for the fields he himself held. The settlement was therefore made with individual ryots, and is for this reason called Ryotwari. It prevails in the greater part of the Madras and Bombay Presidencies; in the Berars, and, with some modifications, in Assam and in Burma.

A third or intermediate system is commonest in other provinces, especially in the Punjab and North-Western Provinces. The village community, apparently introduced by the Aryan settlers into India, is of two kinds, the simple or non-united and the joint, both of which forms are still in existence. The former, under which the land is held in severalty, prevails in Western, Southern, and Eastern India, and is perhaps the oldest; but by a process of disintegration on the one hand, and from the effects of the rules of Hindu inheritance as well as of our revenue system on the other, the two forms have some tendency each to approximate to the other. Under the joint form, the village lands belong to the village community as a body, linked together by an ancestral bond of union, and jointly responsible for the payment of the village revenue. Though the common property of the community, the lands are mostly cultivated by its members in severalty, but such as are not needed by members are let to cultivators not belonging to the proprietary body who are its tenants. Where then the joint system prevailed, the settlement was made with the community as a body, and this is the village system of settlement.

AND  
ADMINISTRATION.

Settlements differ also according to the period for which the assessments imposed under them are to remain in force without alteration. Under native rule, and for the earlier years of British administration in each province, the settlement was either annual, or for a short term, three or five years. At the end of the last century, Lord Cornwallis fixed in perpetuity the amount of revenue then assessed upon most of the provinces at that time belonging to the East India Company. Further experience questioned the wisdom of this policy; it was perceived that while the expenses of administration necessarily increase under a progressive government, the same progress adds greatly to the value of land, and therefore to that of the share of its produce which in India has always belonged to the State; and it appeared injudicious for the State to sacrifice this increment, which must in some way be replaced, probably by taxation more obnoxious if not more detrimental to the population. In the provinces therefore which have come under British rule since the beginning of the present century, the settlements mostly run for 30 years, a term long enough to secure the advantages of fixity of demand, but not so long as to debar the State from profiting by secular changes in the value of the produce of land. It should, however, be explained that on the expiration of the settlement term, the assessment of any land is not generally liable to be enhanced on account of improvements made by the owner or tenant, but only because of improvements made at the public expense, or on general considerations such as rise of prices.

Again, the amount of the assessment and the considerations on which it is determined need some explanation. Under native rule, the ryotwari revenue was the full rent of the land, a rent, however, not determined by competition, but, under a mild and just Government, limited by custom and the prevailing local rates in money or in kind; under an exacting Government, solely by the mercy of the ruler and the endurance of the people. And the zemindari or village revenue system was the same rent, less a small share, from 3 per cent. to 20 per cent., allowed to the superior holder or community for expenses of collection. The revenue fixed in perpetuity under Lord Cornwallis' permanent settlement was then estimated or guessed to be about 80 per cent. of the total collections from the cultivators, though probably it does not at present exceed 15 per cent. The policy which guided the Permanent Settlement was soon exchanged for more liberal views. The revenue fixed under the first 30 years settlement in the North Western Provinces was two-thirds of the "assets," or rental value of each estate, and on the expiration of that settlement, the proportion was reduced to one-half, which is that now generally adopted. On the same principle, the assessments under the Madras Ryotwari Settlement are fixed at half the "net produce" or balance of the total produce after deducting cost of cultivation and profits of stock, and assessments under other ryotwari settlements do not exceed that proportion. It is only needful further to explain, that under a zemindari or a village settlement, the assessment is fixed upon the estate or village as a whole, and does not therefore increase, during the currency of the settlement, with extension of cultivation, while under a ryotwari settlement it is fixed on each field, which may at any time be resigned at the option of the holder, and therefore fluctuates, during the settlement term, with extension or contraction of cultivation.

There is one other subject connected with the administration of the land which requires notice, that of the rights of tenants as distinguished from those of settlement proprietors. This question does not arise in the Ryotwari Provinces, since there the actual cultivator, speaking generally, is himself the proprietor. In the rest of India, when the first settlements, permanent or periodical, were made, although the rights of tenants of old standing were usually guarded by the terms of the settlement, it was not thought necessary to provide by legislation for the protection of tenants generally. This, it was considered, would best be secured by leaving them to make their own terms with the proprietors, subject to the customary limitations of rent which, it was anticipated, would be commonly observed. As time went on, however, and as the demand for land increased, it was found that this expectation was not fulfilled, and that proprietors were beginning to exercise their rights harshly, by demanding arbitrary rents, and by ejecting the tenants if they refused to pay. This was especially the case in Bengal, where also Lord Cornwallis had, in enacting the Permanent Settlement, specially reserved power to Government to provide

in



in future for the protection of the tenants. The first step taken to put this power in force was the enactment of Act X., of 1859, which declared that any tenant who had held land continuously for 12 years had occupancy right in respect of that land; that its rent could be enhanced only to equalise it with the rates of similar land prevailing in the neighbourhood, or on account of, and in proportion to an increase in the value or quantity of the produce not due to the agency of the cultivator; and that the tenant could not be ejected as long as he paid a rent so limited. This Act, which has been called the Ryot's Charter, was enacted primarily for Bengal and the North-Western Provinces, but was immediately extended to the Central Provinces, where the original settlements were then in progress. In 1873 it became apparent that Act X. was not in all respects suitable for the North Western Provinces, and Act XVIII., of that year, while maintaining the principle of Act X., stated above, made some extensions in favour of the tenant. Exproprietary tenants, that is, former proprietors, who had lost their proprietary right, were made occupancy tenants at privileged or favourable rent-rates; power was given to the settlement officers, on revision of a settlement, to determine the rent of tenants who then possessed occupancy right; the occupancy right was declared heritable, but not ordinarily transferable; and any tenant, if evicted, was to be compensated for his own permanent improvements.

In the Punjab, where the land is to a very large extent cultivated by its proprietors, the earliest settlements had usually recorded tenants of 12 years' standing as possessed of occupancy right. Careful inquiries made on the revision of the settlements showed that this rule was not altogether in accordance with the custom of the country. For this and other reasons it appeared desirable to settle the question of tenant-right in the Punjab by legislation. Act XXVIII. of 1868 enacted that exproprietary tenants, tenants of very old standing, and tenants recorded as occupying tenants by the original settlements (unless the landlord could prove by suit that such record was incorrect), should have occupancy right, but that this privilege should not for the future be acquired by length of possession; that occupancy right should include the right of holding at a rent more or less favourable, according to the class of the tenant; of hereditary succession; of sub-letting; and of transfer, subject to pre-emption by the landlord; and that all tenants should be entitled to compensation for their own improvements.

In Oudh, the law, Act XIX. of 1868, which decided the question of tenant-right, was enacted as part of the arrangements made for the settlement of that province after its reconquest in 1858, under which the talookdars, or great landlords, received a permanent hereditary and transferable right in their estates. The rights thus granted prevented Government from giving to the permanent cultivators so extensive a measure of tenant-right as was thought desirable in other provinces. The Act gave right of occupancy, at favourable rents, only to exproprietary tenants; all other tenants are tenants-at-will, liable to ejectment or to enhancement of rent on written notice from the landlord; but all tenants are entitled to compensation for their own improvements.

Of late, the working of Act X. of 1859 has been found not in all respects satisfactory. In particular, the provision by which occupancy right accrues by continuous possession for 12 years has had the effect of making it the interest of the landlord to eject his tenant before he has held for 12 years, and thus of preventing instead of promoting permanency of tenure. Act X., as has been stated, was extended to the Central Provinces, but it has recently been superseded there by an Act, of 1883, based upon very different principles. The new law confirms in their occupancy right, at favourable rents, those tenants who now enjoy it, including those who have acquired it under the 12 years rule. This occupancy right is to be, generally, non-transferable and heritable only in the direct line. But the prospective accrual of occupancy right is abolished altogether for the future, and in lieu of it, all non-occupancy tenants receive a protection of another kind. Their rent will depend on agreement with their landlords, but once fixed cannot be enhanced for seven years. They can be ejected only through the court, and for non-payment of rent, or for refusal to pay the enhanced rent demanded by the landlord, and if ejected on the latter ground, are to receive, besides compensation for their own improvements, ten times the amount of enhancement as compensation for ejectment.

The modifications of Act X. contemplated for Bengal have not yet become law, and are therefore not noticed here.

LAND  
ADMINISTRATION.  
SURVEY OF  
INDIA.  
*Trigonometrical  
Surveys.*

The year under review witnessed the completion of the chain of principal triangles known as the Eastern Frontier series, which brings to a close the principal triangulation of all India on the lines marked out by Colonel Everest in 1830. The Eastern Frontier series was commenced by Major Lambton in 1880. The stations of the principal triangulation now number 3,472, all of which have been constructed with a view to permanency, and are under the charge of local officers. Secondary triangulation has made good progress during the year. On the coast lines it is desirable to furnish fixed points for the marine surveys, and also in the interior at a distance from the principal chains; but this need is especially felt outside the limits of India proper on the North-Eastern Frontier to furnish a basis for the geography of Burma, and southwards through the Malayan Peninsula. The proposed triangulation through these countries has been already sanctioned, both by the Indian Government and the King of Siam, but its commencement has been delayed by want of funds and officers.

*Topographical  
Surveys.*

Topographical surveys were carried on by 13 parties, three of which were engaged in Rajputana and Central India, four in the Bombay Presidency, and the remaining six in Assam, Mysore, Kohat, Biluchistan, Meerut, and the Hooghly. The survey of the latter district is being carried on simultaneously with a survey of the river bed, and is of great importance, as the existing maps of this densely populated riverain tract are greatly out of date, and on much too small a scale for practical use. A great demand has arisen of late years for district maps on a large scale, and as the old topographical surveys were based only on the 4-inch scale on which the sheets of the Indian Atlas were founded, more elaborate survey operations have become necessary. The total outturn of topography for the year was 24,186 square miles, all but 47 of which were on scales varying from half an inch to 16 inches to the mile, besides four towns and one cantonment of an aggregate area of 46 square miles on scales ranging from six to 80 inches.

*Village Surveys.*

Mauzawar or village surveys on the four-inch scale were carried on in Bombay and the Punjab. In the latter province the survey of the Dera Ismail Khan district was completed and operations were extended into the Thal portion of the Muzaffargarh district and to Kala Chitta Pahar in Rawalpindi. The total area surveyed was 1,864 square miles. In Bombay an area of 940 square miles was surveyed in the Thana district of the Konkan for the Forest Department.

*Cadastral Survey.*

The cadastral survey made considerable advance during the year. Of the six parties at work, two operated in the North-Western Provinces, three in British Burma, and one in Assam. The survey of the Ghazipur district in the North-Western Provinces was completed, and operations continued in the Ballia, Mirzapur, and Terai districts. The entire area surveyed was 1,385 square miles. In Mirzapur a satisfactory experiment was tried of allowing the surveyors to frame the *Khasra*, or return, in which particulars of the occupancy and ownership of village lands are entered. The operations in British Burma were confined to the same districts as last year, viz., Hanthawaddy, Bassein, and Tharawaddy. The area surveyed was 3,513 square miles. The Burmese surveyors are reported to be inferior to the Hindustani in rapidity of execution, and to be half-hearted in their work, making survey work a stepping-stone to better civil appointments. In Assam a specially organised party was employed in surveying selected villages in Sylhet to test the accuracy of the *Mahalwar* maps prepared by the civil authorities. The results had not come to hand at the time of the issue of the Surveyor General's Report. Arrangements have been made for the employment of the cadastral parties organised in the North-Western Provinces and Burma. The cost of cadastral survey work was less than, and of topographical work about equal to, the rates at which the surveys were worked during the previous year. These results are considered highly satisfactory.

*Miscellaneous  
Survey.*

The re-survey of hill tracts west of the Teesta, in the Darjeeling district, ordered in consequence of the errors discovered in the recent boundary survey, has been the cause of the discovery that the identity of Mount Everest has been mistaken, and that the real Mount Everest as seen from Darjeeling is south

of the peak hitherto called by that name. Amongst other operations it has been decided to fix by triangulation all the most prominent peaks in Nipal, between the British Frontier and the Great Snowy ranges. The object of this measure is to afford a satisfactory basis for the construction of a better map of Nipal, which is much needed.

SURVEY OF  
INDIA.

On the completion of the Burma-Manipur boundary, advantage was taken of the opportunity afforded to survey as much as possible of the surrounding country, and much has thereby been added to our knowledge of those regions. Surveys were also made by Ahmed Ali Khan in Dardistan, and on the Kishangurh water parting. About 200 miles were sketched, and a considerable amount of supplemental topography obtained, although the severity of the weather interfered with the operations. M. S., a pir, or holy man, has earned one of the two medals placed at the disposal of the Surveyor General by the Venice International Geographical Congress for award to meritorious native explorers. His explorations were commenced in 1878, in and around Badakshan, and the materials collected by him are of considerable value. The remaining medal has been awarded to A. K. for explorations extending over four years in Great Tibet, where the traveller encountered great hardships. He has been able to decide that the great Sanpo river flows into the Brahmaputra and not into the Irrawaddy. Other explorations were undertaken by natives on the frontier of Sikkim.

Geographical  
Surveys.

Tidal and levelling operations were continued during the year, and the difference of three feet between the sea levels at Madras and Bombay already observed has been tested by correctionary measurements. The subject of the reduction of the Indian tidal observations has recently been made the subject of an elaborate report by Professors G. H. Darwin and J. C. Adams.

Tidal and Levelling  
Operations.

The work done by the Head Quarters Offices in 1881-82 was satisfactory, and good progress has been made towards the completion of a series of outline maps of India on scales of one inch to 64 miles, 80 miles and 96 miles. A new map of Bengal, Behar, and Orissa was printed on a scale of one inch = 16 miles, and various maps of Egypt were published, which commanded a large sale. The number of cadastral maps published during the year was 5,090.

Head-quarters and  
Offices of Department.

The number of field establishments employed on the Bombay survey during 1881-2 was 31, one in Gujarat, eight in Poona and Nasik, nine in Ratnagiri, and 13 in the Southern Mahratta county. In Gujarat 27,000 acres were classified; in Poona and Nasik 809,000 acres were surveyed and measured, and 602,000 acres were classified; in Ratnagiri, 328,000 acres were surveyed and measured, and 247,000 acres classified; and in the Southern Mahratta county, 684,000 acres were surveyed and measured, and 1,052,000 acres were classified. Thus, in all, 1,878,000 acres were surveyed and measured, and 1,928,000 acres classified. The work of the Gujarat survey is practically completed. That of the Poona and Nasik survey is almost entirely revision survey and settlement; that of the Ratnagiri survey chiefly original; and that of the Southern Mahratta county partly original; in the Canara district, original except in certain parts of the country above the ghauts. The settlement operations amounted to 860,000 acres, assessed at 47,300 £, or an increase on the average past collections of 22.3 per cent. The corresponding figures for 1880-81 were 1,022,000 acres, and 33,300 £ or an increase of 31.1 per cent.

BOMBAY SURVEY  
AND SETTLEMENT

The outturn of completed work in Madras was 1,304 square miles of revenue and 1,878 of topographical survey. Out of the total area of the Province 140,885 square miles, of which 15,325 are at present excluded from survey operations, 49,519 had been surveyed cadastrally, and 43,411 topographically, leaving a balance to be done of 27,906. The total outlay of the department up to the end of 1881-82, exclusive of the cost of settlement, was 1,333,375 £. The expenditure as compared with the previous year increased by 2,413 £. Six new districts were taken up by the Settlement Department in 1881-2; the Coimbatore district was completed, but the Ganjam Settlement, reported as finished in 1880-1, was re-opened. The number of completed districts therefore remained at nine. The expenditure during the year was 18,690 £, and the net increase of land revenue in the settled districts 117,911 £. The total cost of the department to the end of the official year amounted to 701,764 £.

MADRAS SURVEY  
AND SETTLEMENT.

## LAND REVENUE.

## ABSTRACT Account of Land Revenue taken from the Finance Accounts.\*

	Year ending 31st March 1882.			Year ending 31st March 1881.		
	Ordinary Land Revenue.	Miscellaneous.	Total Receipts.	Ordinary Land Revenue.	Miscellaneous.	Total Receipts.
	£.	£.	£.	£.	£.	£.
India, General - - -	87,515	7,483	94,998	83,437	5,781	89,218
Central Provinces - - -	612,166	1,593	613,759	607,295	1,997	609,292
British Burma - - -	628,846	423,916	1,052,262	479,311	419,789	899,100
Assam - - - - -	341,559	37,821	379,380	344,327	30,434	374,761
Bengal - - - - -	3,737,497	56,892	3,794,389	3,689,284	62,524	3,751,808
North Western Provinces and Outh.	5,801,404	36,938	5,838,342	5,607,299	51,488	5,658,787
Punjab - - - - -	2,009,381	85,913	2,095,294	1,993,363	96,780	2,090,143
Madras - - - - -	4,471,295	217,567	4,688,862	4,468,794	204,652	4,673,446
Bombay - - - - -	3,077,089	804,267	3,881,356	2,980,888	782,871	3,763,759
TOTAL - - - £.	20,760,852	1,672,390	22,439,242	20,253,998	1,656,316	21,910,314

The column headed miscellaneous includes two large items, one of 287,511 l. (1881-2) for capitation tax in British Burmah, the other of 694,544 l. for rent of resumed police service lands and service commutations in Bombay, the cost of the services rendered in consideration being shown as a charge. The total receipts for the last four provinces mentioned in the statement include revenue from Productive Public Works which respectively amounted to 87,238 l., 33,331 l., 334,441 l., 36,210 l. against 65,084 l., 161,161 l., 552,160 l., and 18,914 l. in the previous year.

Roughly speaking, Bengal Proper is generally under permanent settlement, and Orissa, with certain estates in Bengal, under temporary settlement.

Bengal.

The Bengal land revenue is administered by "The Board of Revenue for the Lower Provinces," under which are Commissioners (revenue and executive superintendents) of the divisions, under whom again are the collectors of districts, their assistants and deputies. These assistants preside over subdivisions. In many parts of India the native collecting system has survived and is utilized, but not so in Bengal generally; in Orissa and Chittagong, however, the patwari and kanungo, whose business was originally to keep the Government records of the village, still survive in connection with the levy of road cesses and other duties; in Bihar the patwari system is in process of reorganisation.

The following table gives the comparative figures for 1880-1 and 1881-2. (00 l. are omitted).

	Demand.			Collections.	Remissions.	Balance.	Percentage of Balance to Total Demand.
	Current.	Arrear.	TOTAL.				
	£.	£.	£.	£.	£.	£.	
Permanently Settled Estates - - - - -	32318 32309	672 643	32990 32952	32327 32470	18 17	645 465	1.95 1.41
Temporarily Settled Estates - - - - -	2623 2710	522 887	3145 3697	2467 2421	85 263	643 912	20.45 25.35
Government Estates - - - - -	1837 1965	814 830	2651 2796	1925 1954	125 76	602 766	22.68 27.38
Ryotwari Tracts - - - - -	763 753	132 177	895 930	696 772	23 20	176 138	19.67 14.87
TOTAL - - - - -	37541 37737	2141 2537	39682 40274	37414 37617	202 370	2066 2281	5.20 5.66

A large

\* The figures given in the above statement do not tally with those of the different Land Revenue reports which follow below, as they are not for corresponding periods. Where the figures given in the text do not correspond with those of the Provincial statements, the latter may be regarded as the most correct.

A large increase is observable in the total current demand for the year under review, which was higher by 19,600 *l.* than in 1880-1 and by 73,300 *l.* than in 1878-9. This increase is mainly due to resettlements at higher rates of temporarily settled and Government estates. The rise under the head of remissions is chiefly owing to diluvion by rivers, and to low prices of produce; they were made principally in Gya, Jalpaiguri, Pooree, and Midnapur. The condition of the class of permanently settled estates appears satisfactory. The per-centage of balances to demand has fallen during the last three years from 3.11 to 1.41, and would have been lower still but for the defective realizations from Wards estates. There is not, however, the same ground for satisfaction with regard to the other three classes of estates, *i.e.*, temporarily settled estates, Government estates, (such as escheated in default of heirs, or have been acquired by Government on sale in default of payment of revenue, &c.,) and ryotwari tracts, though the figures for the last class shew an improvement. On the two first-mentioned classes more than one-fourth of the revenue demand was in arrears at the end of the year. The district most in default appears to be Midnapur in the Burdwan division, where the collections on temporarily settled estates amounted to only 26 per cent. of the demand. This appears to have been caused by the resistance of the ryots to the revised settlement, and in many instances by their desertion.

There is no doubt that the fall in the price of produce (and especially of rice, in many districts the staple crop) has adversely affected not only the collection of revenue but the letting value of land. As compared with 1880-1 notices by landlords to enhance rent fell from 10,530 to 7,487; and notices by tenants to relinquish land rose from 8,034 to 18,972. The total number of rent suits instituted was 149,119 in 1881, against 142,886 in the previous year, the percentage of rent suits to total litigation being 45.4 against 43.7. The number of leases of waste lands in Bengal given out by Government up to the end of 1881-2 was 2,121, with an area 188,298 acres, and a present income of 4,107 *l.* Their eventual revenue is estimated at 14,378 *l.* Applications for waste lands by capitalists in the trans-Teesta tract, Darjeeling, have been refused in order that the necessarily limited area available for cinchona may not be encroached on.

ASSAM.—(00 *l.* omitted.)

Assam.

	Demand.			Collections.	Remissions.	Balance.	Percentage of Balance to Total Demand.	
	Current.	Arrear.	TOTAL.					
	£.	£.	£.	£.	£.	£.	£.	
Permanently settled	1880-1	378	18	396	328	-	68	17.17
	1881-2	378	68	446	304	-	142	31.89
Temporarily settled	1880-1	3144	125	3269	3055	5	209	6.39
	1881-2	3158	219	3377	3050	49	278	8.23
Miscellaneous	1880-1	293	62	345	283	5	57	16.52
	1881-2	264	57	321	272	5	44	16.17
TOTAL	1880-1	3815	195	4010	3666	10	334	8.32
	1881-2	3800	344	4144	3626	54	464	12.79

The settlement of Assam Proper is strictly ryotwari, but it differs from the ordinary ryotwari settlement in that the ryot pays revenue through a collector called the *mauzadar*, who receives a per-centage on the collections. There are also large ryotwari holdings called *chamuas* or *Khiraj Khats*, which carry with them the privilege of paying revenue to Government direct, and Nisf-Khiraj and lakhiraj tenures, *i.e.*, holdings assessed at half rates, or entirely revenue-free. The settled area in Assam amounts to 1,855,906 acres, out of a total area of 11,921,878 acres; 1,060,088 acres are not available for settlement, being either revenue free, or reserves; and there remain, therefore, available 9,005,884 acres, which offers a splendid field for immigration from over-populated districts. The revenue, which was rendered somewhat difficult to collect by low prices and cattle disease, was realised from 50,058 permanently settled estates (all but 20 of which are in Sylhet), and from 488,573 temporarily settled estates, the latter number being 11,174 less than in the previous year. This decrease, was partly owing to amalgamation of holdings, but chiefly to resignations, and

LAND REVENUE.

and occurred in the Brahmaputra Valley (8,717 being in the Kamroop District alone). The very slight increase in revenue demand from the Assam Valley is regarded as disappointing, and is ascribed to shortcomings on the part of the *mauzadars*. With these officers, and their subordinates the *mandals*, it rests to make the annual measurements on which its revenue demand is based, and any check on their proceedings that can be exercised by the district officers appears to be insufficient, as in several instances the latitude, of necessity allowed them, is suspected of having tempted them to fraud. It is proposed to subject both the *mauzadars*, and the *mandals* on whose shoulders is really thrown the chief burden of the work, to stricter educational requirements. Of the first class of officers there were 336 at the end of the year under review, and of the second class 949. A change is also contemplated in connection with the grant of annual *pattas* or leases, which amounted to 427,046 (a decrease of 2,052), dealing with 1,375,589 acres, the general intention of which change is to extend permanent cultivation, and thereby accustom the ryot to more regular habits, as well as to liberate the offices from drawing up every year several hundredweight of *pattas*. There were only 92 applications for wasteland under the rules of 1876, against 169 in 1880-81, a falling off ascribed to the depression of the tea trade, and a preference in some parts to make use of the ordinary settlement rules. The miscellaneous revenue is raised from elephants, fisheries, house tax, &c.

N. W. Provinces and Oudh.

NORTH-WESTERN PROVINCES (00 L. omitted.)

OUDH (00 L. omitted.)

	Demand.			Remissions.	Collections.	Balance.	Per-cent- age of Balance to Total Demand.	Demand.			Remissions.	Col- lections.	Balance.	Per-cent- age of Balance to Total Demand.	
	Current.	Arrear.	TOTAL.					Current.	Arrear.	TOTAL.					
	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	
Settled Land Revenue	1880-1	42918	539	43457	224	41910	1324	3.05	13922	124	14046	13	13649	584	2.73
	1881-2	42900	1324	44193	345	43405	444	1.00	13916	384	14300	63	14090	147	1.03
Fluctuating Land Revenue	1880-1	-	-	123	-	87	38	30.4	-	-	112	-	110	1	.9
	1881-2	-	-	94	-	63	31	32.98	-	-	149	-	133	16	10.73
Local Cesses and Rates	1880-1	-	-	4734	-	4700	34	.82	1022	3	1025	2	1020	5	.20
	1881-2	-	-	4735	-	4723	12	.25	1022	3	1025	2	1023	2	.20
TOTAL	1880-1	42918	539	43457	224	43697	1396	2.09	14944	127	15133	15	14780	588	2.56
	1881-2	42900	1324	44022	344	43191	467	1.16	14336	387	15174	65	15246	163	1.05

The settlement of the North-Western Provinces has been described in the prefatory paragraphs. The financial results of the revenue administration of the year are very favourable, and shew how rapidly in good seasons the country recovers from the effects of scarcity and drought. Notwithstanding the abolition of the patwari cess in the middle of the year, which entailed a loss of over 115,000 L., the revenue receipts shewed an increase of 128,771 L., with a per-centage of real balance to the demand of only .12 against 1.92 in the previous year. The enrolled, or settled, revenue demand on the 1st October 1882 was 4,282,146 L., a decrease on the previous year of 4,757 L. The chief item of increase was 1,883 L. on account of alluvion, and of decrease, 3,648 L., due to the revision of the assessment at the recent regular settlement in the Banda district. The operations under the Rent Law, omitting in 1881-2 certain new classes of suits, were for the last two years:

	Suits.	Applications.	TOTAL.
1881-2	72,447	95,267	167,714
1880-1	68,456	54,220	122,685
INCREASE	3,991	31,038	35,029

The applications increased 57 per cent., and for the first time outnumbered the suits, which increased only 6 per cent., the only noteworthy rise (4,169) being

in suits for arrears of rent. The reasons for the increased number of these suits were said to be (1) the desire of landlords to recover arrears of rent in a prosperous season; (2) the increasing subdivisions of proprietary interests in land, whereby the holder of each minute share becomes a rent collector; (3) the attempts of landlords to clear their land from occupancy tenures and, (4) rack-renting of tenants at will. It is further stated that occupancy tenants often sublet their land at rack-rents. On the other hand, the Board of Revenue does not consider that the power of distraint for the recovery of rent is abused by landholders to any serious extent. The proposal to substitute arbitration courts for the disposal of rent suits, in place of the Tahsildars' courts, encounters a very practical objection in the existing difficulty of finding trustworthy arbitrators willing to act. The increase of applications took place chiefly in ejectments contested by tenants, and ejectments by landlords; and a decrease occurred principally under applications for determination or enhancement of rent. Enforcement of ejectment by law was almost universally on the increase. The desire of the landlords to realise in a prosperous year, and to prevent the accrual to tenants of occupancy rights may partially account for the increase of ejectment cases, but an additional reason is to be found in the alteration of the Rent Law (1881), by which the service of a notice on a tenant whom the landholder wishes to eject was rendered compulsory. The Revenue Board are, however, of opinion that the state of affairs "betrays the growth of the sturdy conflict between the proprietor and the tenant, which is the natural consequence of the law which rules tenant right." A consequence of the increased litigation is the absorption of the time of the revenue staff in its disposal, to the detriment of efficient administration. The reason for the decrease in the applications for determination or enhancement of rent is found partly in the operation of the new rent law rules, the working of which will be carefully watched. It was as yet too early to judge of the working of the Jhansi Encumbered Estates Act, passed in 1882. A marked progress took place in the work performed by the patwari and kanungo staff, and the sanction of Government has been given to the establishment of patwari schools. The kanungo staff consisted of 612 men, of whom 600 have been through examination, with the result that 505 passed finally, 54 provisionally, and 41 failed. Very little progress was made in protective works not undertaken by Government: owing, it is said, to the defective and complicated character of the law of advances, and want of confidence on the part of the cultivator that he will reap the entire benefit of his outlay, few loans from Government have been taken up to execute permanent improvements.

Oudh is chiefly under talookdari settlement and partly under zemindari, such as exists in the North-Western Provinces.

Of the current land revenue demand in Oudh, 1,391,648 L., 1,389,648 L. were realised, and the greater proportion of the balance remaining uncollected was nominal. The demand for miscellaneous revenue amounted to 11,381 L., of which 10,228 L. was collected, the balances, including arrears, being in the districts of Fyzabad and Sultanpur. Of the arrears revenue demand for the province, 38,432 L., 6,349 L. were remitted and 19,355 L. collected. The statistics of land for 1882 give the total area assessed as 14,873,441 acres, of which 8,274,467 were cultivated, 2,957,765 being under irrigation. The grazing and cultivable area was 4,031,916 acres, and the remainder uncultivable waste; of the area settled, 23,239 square miles, 1,908 was settled in perpetuity and 21,185 for 30 years or upwards, the expiry of the term being in various years before 1908. Of the land held direct from Government, 8,599,830 acres were on talukdari tenure, 2,286,120 on zamindari (exclusive of cultivating village communities), and 4,862,899 were held by village communities. The notices of ejectment by landholders (91,242) nearly doubled those of the previous year, 56,232, and their number was altogether unprecedented. These notices covered an area of more than 370,000 acres. This extraordinary enhancement is accounted for by the fact that a belief was current amongst landholders that after 1882 notices of ejectment would be prohibited. The tenancies threatened were on the whole of smaller area than in previous years, a circumstance that lends some colour to the assertion that in the smaller tenancies the landlords have succeeded in effecting enhancements and changes without the direct issue of notices. The proportion of notices against high caste tenants very sensibly diminished. The ratio of suits in objection and of success in these objections maintained almost exactly its former level. Another striking feature of the



LAND REVENUE. year was the increase in the notices of relinquishment. These attained the number of 17,632, covering 74,500 acres. The greater majority of them were tendered by low caste cultivators whose avowed object, in a large proportion of cases, was abatement of rent. "The conclusion to be gathered from these figures is that the tenants cannot at the close of a tolerable harvest counteract any movement of the landlords towards enhancement. It may be argued that the result shows rents to be still considerably below competition-level, but a continued course of landlord action, such as that of last year, would inevitably reduce before long the whole agricultural population to cottier tenancies." The work of the patwaris shews continued improvement, and there is a general opinion that they have agreeably disappointed the expectations formed of them. The patwari schools seem to be efficient, except in Lucknow, where the attendance was very small. The work of the kanungos of Partabgarh and Rae Bareilly was very deficient.

Hunjab.

PUNJAB (00 l. omitted).

		Demand.			Collections.	Remissions.	Balance.	Per-centage of Balance to Total Demand.
		Current.	Arrear.	TOTAL.				
		£.	£.	£.	£.	£.	£.	
Settled Land Revenue	1880-1	19076	679	19755	19016	86	653	2.3
	1881-2	19192	439	19631	19721	109	401	1.5
Fluctuating and Miscellaneous	1880-1	1707	67	1774	1667	-	107	6.3
	1881-2	1704	89	1793	1706	-	87	4.8
TOTAL	1880-1	20783	746	21529	20683	86	760	2.5
	1881-2	20896	528	21424	20827	109	438	1.8

Land in the Punjab is chiefly held on the non-united village tenure, but all kinds of village tenure exist. The per-centage of balance to demand was, it will be observed, exceedingly small; there is reason to fear, however, that too stringent realizations were made in Gurgaon, Rawalpindi, &c., in the face of real and prolonged agricultural distress. Considerable remissions have been sanctioned for 1882-3. The agricultural statistics are inadequate, and extensive provision is being made for rendering patwaris more efficient. The number of suits filed in 1881-2, for enhancement of rent, were 1,022, principally in Delhi and Hoshiarpur, where the numbers were 257 and 539; those for ejection of occupancy tenants were 49, and of non-occupancy tenants 10,659 against 7,995 in 1880-1. The latter class of suits were most numerous in Hissar and Sirsa, and in the former district increased in number from 1,347 in 1879-80 to 3,213 in 1881-2, though the Deputy Commissioner is of opinion that the working of the rent law is not really oppressive to tenants.

Central Provinces.

CENTRAL PROVINCES (00 l. omitted).

		Demand.			Collections.
		Current.	Arrear.	TOTAL.	
		£.	£.	£.	£.
Land Revenue	1880-1	6124	-	6124	6123
	1881-2	6133	-	6133	6132
Miscellaneous	1880-1	96	-	96	96
	1881-2	99	-	99	99
TOTAL	1880-1	6220	3	6223	6219
	1881-2	6231	3	6234	6231

The system of tenure which obtains in the Central Provinces has been described above. The above statement is so satisfactory that little need be added to it. All of the revenue demanded was practically collected, though some unpunctuality is noted on the part of certain Malguzars. The lowness of the price of grain was counteracted by the facility of export, while an increase of 3.3 per cent. in the cultivated area (16,154,489 acres) certifies to the growing prosperity of the agriculturists. A great want is, however, experienced of accurate agricultural data, and measures are to be taken to increase the efficiency of the patwaris, whose business it is to compile records which should give these data. Landholders are generally indebted, but the Court of Wards has been effective in minimising the alienation of estates. A conflict of interests has grown up between the landlord and tenant with respect to occupancy rights which can be acquired by the latter after 12 years' occupancy; and an Act (No. IX. of 1883) has been passed which deals with the subject. Suits by tenants against landlords rose from 780 to 828, and by landlords against tenants fell from 9,019 to 8,139.

BRITISH BURMA (00 l. omitted).

British Burma.

	Demand.			Remissions.	Collections.	Balance.	Per-centage of Balance to Demand.
	Current.	Arrear.	TOTAL.				
	£.	£.	£.	£.	£.	£.	£.
Land Revenue*	6562	2561	9123	296	8633	174	191

Land in British Burma is chiefly held by cultivators direct from the State, though in a few places large areas have been granted to individuals, and a system of landlord and tenant introduced.

There is little competition in Burma for land, which can be had for the asking, notwithstanding that the high price of paddy has of late years stimulated cultivation. The cultivated area has risen from 2,951,265 acres, assessed at 482,639 l. in 1877-8, to 3,498,688 acres, assessed at 656,162 l.; but the increase of area and cultivation in 1881-2 was not equal to the increase in the preceding years. In 1879 and 1880 there was a summary enhancement of rates; and in 1881-2 the area left fallow (113,173 acres) was 64 per cent. higher than in 1880-1; 88.5 per cent. of the cultivated area is under paddy assessed at an average of Rs. 1. 14. 5. an acre. In Bassein the assessments were reduced, and in Thayetmyo a serious falling off is shewn in the cultivated area from 85,000 acres to 31,000 acres, and in the collection of revenue from 8,463 l. to 3,012 l. The gross land revenue amounts to 912,265 l., of which 256,102 l. is on account of arrears. This figure was reduced by remissions to 89½ lacs of rupees, of which 74.3 per cent. was collected. The net demand shews a decrease on that of the previous year of 19,000 l. The capitation tax (29½ lacs of rupees) shews an increase of 2.34 per cent. on the previous year, and was levied on 732,988 persons (increase 2.33 per cent.); of this figure 29½ lacs, or 295,670 l. were collected. The demand is equal to Rs. 4 on each assessed person. In nine towns a *land rate* is levied in lieu of capitation tax and realised 9,364 l., an increase on the previous year of 1.32 per cent.

AJMERE.

\* This includes assessed land revenue only. The figures for arrears and collections are not given in the returns for 1880-1, but the current demand for that year, slightly exceeded that for 1881-2, being 656,900 l.

LAND REVENUE.  
Ajmere.

AJMERE.

	Demand.	Collection.
	£.	£.
Land Revenue - - - -	32,101	32,078
Water Revenue - - - -	4,966	4,959
Miscellaneous - - - -	1,427	1,427
<b>TOTAL - - -</b>	<b>38,494</b>	<b>38,464</b>

Land in Ajmere is held on two systems of tenure ; (1) Khalsa land, formerly the Royal domain, now State property and settled on the Mauzawar system ; (2), estates of chiefs, who pay revenue in the form of a permanent and unenhanceable tribute.

The demand for the previous year was 37,948 l. The rent roll demand was 32,100 l., showing an increase over the previous year of 4,649 l. owing to the income of Meywar-Merwara villages now credited to Government.

Berar.

BERAR (00 l. omitted).

	Demand.			Collections.	Remissions.	Balance.	Per-centage of Balance to Total Demand.
	Current.	Arrear.	TOTAL.				
	£.	£.	£.	£.	£.	£.	£.
Land Revenue -	1880-1	6321	12	6333	6289	44	69
	1881-2	6341	43	6384	6371	12	18
Miscellaneous -	1880-1	16	-	16	16	-	-
	1881-2	16	-	16	16	-	-
<b>TOTAL - - -</b>	1880-1	6337	12	6349	6305	44	69
	1881-2	6357	43	6400	6387	12	18

The tenure in Berar is ryotwari, and the settlement under the Bombay system. The officiating Commissioner who has had the opportunity of investigating the condition of the cultivators, both under the Zemindar and the Ryotwari systems in different parts of India, is much struck with the prosperity of the Berar ryot. "He has time for religious observances and festivities, when he regales himself and his friends and his bullocks. His children actually laugh and play games. . . . The superiority of the Berar ryot may be due to the sparser population, richer soil, more regular rainfall, and also to the ryotwari system. "How much is due to the last-mentioned cause would be an interesting enquiry." The whole of the demand was realised, with a nominal balance and with really coercive process in only 75 instances. Out of 8,017,033 acres assessed as being available for cultivation, 7,312,279 acres were taken up during the year, or 50,970 acres more than the previous year. With the exception of Melghat, where the rice cultivation increased from 5,171 to 6,348 acres, irrigation has decreased in all districts, despite the good supply of water in the wells.

Coorg.

COORG (00 l. omitted).

	Demand.			Balance.	Per-centage to Total Demand.
	Current.	Arrear.	TOTAL.		
	£.	£.	£.	£.	£.
1880-1 - - - -	321	15	336	157	46.72
1881-2 - - - -	346	14	360	194	53.88

The Coorg land system resembles the Ajmere system and consists of two tenures, (1) estates paying unenhanceable revenue rates and (2) ordinary ryoti tenure.

The current land revenue demand in Coorg was 34,635 l., being an increase on the previous year of 2,517 l. This increase arose partly from progressive increase of assessment on lands taken up for coffee and rice cultivation, and partly from demand of assessment on lands found on survey to be in excess of the estimated area. 145 estates were sold for arrears of revenue, against 210 in 1880-1.

MADRAS (00 l. omitted).

Madras.

	Demand.			Collections.	Remissions.	Balance.	Percentage of Balance to Total Demand.	
	Current.	Arrear.	TOTAL.					
	£.	£.	£.	£.	£.	£.	£.	
Permanent settled -	1880-1	5128	1478	6606	5707	3	896	13.56
	1881-2	5132	918	6045	5171	2	872	14.42
Ryotwar -	1880-1	35466	6609	44165	35837	743	7585	17.17
	1881-2	34753	7719	42460	34963	917	6586	15.5
Miscellaneous -	1880-1	4076	1793	5869	3943	203	1722	29.24
	1881-2	4096	1710	5815	3953	150	1712	29.44
Shotriem Jodi -	1880-1	612	252	864	661	3	200	23.14
	1881-2	610	201	811	613	5	193	23.79
Total -	1880-1	45282	12222	57504	46148	952	10403	18.09
	1881-2	44501	10546	55137	44700	1074	9363	16.97

The ryotwari system of Madras has been explained above.

The number of permanently settled estates in Madras was 750, with an estimated area of 19 million acres, and the realisable revenue of the zamindars amounted to about 1,490,000 l., their payment to Government being 34 per cent. of their income, *Shotriem jodi*, or quit rent, on villages held on partial exemption from assessment, was realised from 3,772 villages, with an area of about 1½ million acres; 26,963 villages were held on the ryotwar system, the total area of which under cultivation was 18,772,370 acres. This figure shews a decrease of 160,000 acres on the area occupied in 1880-1, or nearly 1½ million acres, or 6.18 per cent. when compared with 1877-8. There was a gross increase of 62,541 acres in ten districts, and a gross decrease of 222,850 acres in eight districts. The only significant increase was in Salem, where it was continuous on the previous year, but the occupied area was still below the average of the last four years by 206,000 acres. The principal decreases were in Anantapur, Bellary, Coimbatore, Nellore and Cuddapah. The diminution in holdings is due also no doubt in great measure to loss of population during the famine, as statistics shew that in districts where the decrease of occupied area was greatest there was the most considerable falling off in the number of occupied houses. In the nine so-called famine districts the death-rate from the famine is estimated at one-sixth of the total population. It is not surprising, therefore, that the occupied area should have diminished by 16 per cent. since 1875-6. For several years after the famine, land which was abandoned by its owners was allowed to remain on the roll in their names in the hope of their return, so that a demand was shewn which could not be realised, and an exaggerated idea was given of the arrears really outstanding. During the last year or two such lands have been gradually eliminated from the roll of occupied area, and there arises from this cause an apparent increase in relinquishments, so that the percentage of uncollected revenue will for the future be much smaller. At the same time liberal measures have been framed for restoring former occupants, and bringing into cultivation lands relinquished by holders, or bought in by Government. As a special case, remissions were made on dry (unirrigated) waste, and 41.5 per cent. of the revenue on irrigated waste was also remitted against 36.4 per cent. in 1880-1; 88 per cent. of the current revenue was collected during the year ending 30 June, and the outstanding balance was reduced to

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LAND REVENUE.

2·3 per cent. by the end of the following February. This result is an improvement on the previous year, but is still considerably short of the realisations before the famine. The arrear balance at the beginning of the year was 1,054,773 l. (against 1,222,224 l. in 1880-1), and of this 51·9 per cent. was collected and 10·16 per cent. remitted. By the end of February, however, the balance was reduced to 15·2 per cent., or 164,555 l., of which over 70,000 l. was reported to be irrecoverable. Instructions were issued to collect at once such portion of the arrears due for former years (about 93,300 l.) as is recoverable, and to remit the rest. The average incidence of assessment through the Presidency was Rs. 1. 1. 6. per acre of dry land, and Rs. 4. 13. 7. per acre of wet land.

Bombay and Sind.

BOMBAY. —(00 l. omitted).

	Demand.			Collections.	Remissions.	Balance.	Per-centage of Balance to Total Demand.	
	Current.	Arrear.	TOTAL.					
	£.	£.	£.	£.	£.	£.		
Bombay (except Sind)	1880-1	26880	1065	27945	26897	157	891	3·19
	1881-2	26335	550	26885	25843	506	536	2·07
Sind	1880-1	4189	257	4446	3737	132	577	15·43
	1881-2	4825	577	5402	4414	289	699	15·88
TOTAL	1880-1	31069	1322	32391	30634	289	1468	4·79
	1881-2	31100	1127	32227	30257	795	1235	4·08

The revenue system of Bombay is ryotwari, and has been described in the preceding paragraphs. The total demand for the year was nominally less than that for the previous year, but the figure for 1880-1 was abnormally increased by the settlement of arrears due from H. H. the Gaekwar of Baroda. Omitting this, the demand for 1881-2 exceeded that for 1880-1 by 10,235 l., and the average demand for 13 years ending 1880-1 by 6,489 l. Nearly half of the remissions occurred in Ahmedagar on account of failure of crops. The revenue was generally realized with ease, and with little resort to coercive processes. There was an increase of land occupied amounting to 173,775 acres, with an increased assessment of 2,223 l., but a decrease of occupied land occurred in Broach, Surat, Kolaba, Sattara, Belgaum and Dharwar. In the districts of Surat and Kolaba the decrease is insignificant, but in the other four districts the diminution has been generally continuous since 1873-4, the year before the famine, and the area now under cultivation is less than that under cultivation in 1873-4 by 7½ per cent. This was, however, due chiefly to the famine for reasons similar to those given under the head of Madras. At the same time the average size of occupancies has tended slightly to increase. The district of Dharwar is said, however, to be becoming rapidly more prosperous, and the decrease of cultivated area to be due to the relinquishment of lands of the poorest quality. The average assessment of all occupied Government land was about a rupee an acre: in the Northern Division over Rs. 2; in the Central Division over 11 annas 3 pies, and in the Southern Division, 13 annas 3 pies, while the incidence per head of agricultural population, was Rs. 6·4, Rs. 4·9, and Rs. 5·03, for the three divisions respectively, and Rs. 5·4 for the whole Presidency. The extent of cultivable land remaining unoccupied was 2,810,962 acres, about 105,000 acres less than in the previous year, but the amount of such land increased in Broach by 11·2, and Sattara by 28·5 per cent. Applications for *taccavi* loans to Government were said to be made by cultivators only as a last resource. The simplification of the rules lately made was not in time to affect the results of the year under review.

For Sind there was an apparent but nominal decrease in the cultivated area occupied, consequent on a change in the settlement system, but a real increase of 145,170 acres (from 2,905,194 acres, excluding fallows, to 3,050,364). The principal causes of the increase in the revenue demand (62,502 l.) were extended cultivation, which was responsible for 24,300 l., and revisions of assessment, which were credited with an increment of 31,200 l. In most of the districts, and especially in Shikarpur, a good deal of pressure was necessary to realise the revenue.

Tha

The number of wards and attached estates under charge of the revenue authorities in 1881-2 was 218, or two less than in 1880-1. The wards' estates were 13 less in number, and the attached estates 11 more. The year's administration closed with a cash balance of 158,315 *l.* against 150,222 *l.* in 1880-1. There were, besides the cash balance, investments amounting to 268,974 *l.* The income received during the year amounted to 632,920 *l.* The policy adopted by Government, is not to take charge of estates, when such interference would entail additional charges on the property to the detriment of creditors, without facilitating the payment of Government revenue, or when it is probable that Government revenue will be paid without Government intervention, or, again, when the importance of the estate is not sufficient to repay the cost and trouble of working it. The attention of Government has lately been specially directed to the question of the treatment of the tenantry in the management of these estates. There has been reason to suspect that in some cases the estates have been administered, in the supposed interests of the minor landlord, with undue harshness to the tenants, and instructions have been given to avoid this error in the future.

LAND REVENUE.  
WARDS' ESTATES.  
Bengal.

Three estates, the same number as in the previous year, were under attachment in Assam. Their income was 3,028 *l.*, against 3,406 *l.*, and the cash balance at the close of the year 425 *l.* against 619 *l.*, while the investments in Government securities stood at 670 *l.* against 1,190 *l.*

Assam.

Of the 124 estates under management of the court of wards at one time or other during the year, 13 belonged to disqualified females, 83 to minors, nine to lunatics, 31 to persons declared disqualified by Government, one to a person otherwise disqualified, while one is managed as security for the repayment of a state loan. As 14 of these properties appear in more than one class, the total number (124) above-mentioned is not exceeded. The number of estates under the court's charge at the close of the previous year was 117. Excluding the value of landed property, stock and houses, the total liabilities of these estates were 300,983 *l.* and the total assets 302,057 *l.* There was thus a net surplus of 1,074 *l.* against a net deficit of 71,782 *l.* at the end of 1879-80. Sixty one estates were under state management in Oudh, and 26 of these were encumbered estates held under the provisions of Act XXIV. of 1870. The debts of these estates when first brought under management were 182,458 *l.*, which amount has now been reduced to 102,956 *l.* Of the 35 wards' estates, 21 were in debt, 14 out of debt. The debts of the 21 estates, originally 196,106 *l.*, have been reduced to 113,135 *l.*

N. W. Provinces  
and Oudh.

Thirty-one estates against 36 in 1880-1 were under management in the Punjab at the close of the year, and most of those were jaghires in the old Cis-Sutlej and Trans-Sutlej divisions; many of them were of little value. The income from the estates during the year amounted to 65,188 *l.*, of which a sum of 2,099 *l.* was invested, and 4,040 *l.* paid in liquidation of debts.

Punjab.

The 47 estates under management (against 42 in 1880-1) were situated chiefly in the Jubbulpore and Nerbudda divisions; they occupied an area of 858,686 acres, with an income of 44,512 *l.*, and an expenditure of 44,118 *l.* They have now a balance to their credit of 29,281 *l.*

Central Provinces.

Nine estates were under management in Ajmere against seven in the previous year. The receipts from them were 11,488 *l.* and their expenditure 11,942 *l.*, against 13,802 *l.* and 13,933 *l.* in 1880-1.

Ajmere.

At the beginning of the Fasli year (July) there were 38 estates under management. Three were restored to their owners, and two new estates were taken in hand. The number at the end of the year was therefore 37. Of the estates restored to their owners, one had only been under management for seven months, and the remaining two were handed over with considerable surpluses. The total area under cultivation was 590,634 acres, or over 90 per cent. of the holdings. The gross income was 266,569 *l.* and the charges 247,218 *l.* The balance on hand to the credit of all the estates at the end of the year, including accumulations, amounted to 500,091 *l.*, of which 408,240 *l.* was invested in Government securities.

Madras.

The number of estates under management in Ahmedabad was 81 at the beginning of the year, and this number has now been reduced to 57, owing to the separate estates of all those who are jointly liable being shewn as one estate. Four estates have completely repaid all their dues, and six have liquidated. The Kaira estates under the courts were 41 against 37 in 1880-1. The total

Bombay.

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WARDS' ESTATES.

amount of their debt was 34,509 *l.*, of which 2,460 *l.* has been repaid. The Thakurs will submit to any sacrifices to retain their estates, but it is feared that it will be necessary to exercise the power of sale in some instances. The Act of 1881 empowered the manager to borrow money from Government to discharge the debts of the Thakurs, and immediate advantage of the permission was taken to the extent 7,200 *l.* The Broach estates under attachment numbered 10, with 4,653 *l.* liabilities to private creditors and 20,328 *l.* to Government; of this, 262 *l.* and 3,034 *l.* respectively have been repaid during the year, and 962 *l.* was ordered to be paid. The average rate of liquidation is 13 per cent. There were 33 minor estates in Ahmedabad, one in Kaira and three in Broach, about half of which are in debt. The receipts in each rarely exceed 200 *l.*, and in one case only amount to over 1,000 *l.* The debts paid were more than 2,600 *l.* In Sind 253 estates remained under management at the close of the preceding year, to which 121 were added in 1881-2, while 25 were released. In 16 of these cases the debts of the estates had been discharged. Act XX of 1881 provides that loans may be obtained from Government to satisfy creditors who have agreed to compound; 5,874 *l.* were obtained from Government and 8,522 *l.* from the estates themselves to this end. The whole debt is nearly 32½ lakhs of rupees, of which nearly 17 lakhs is admitted by the manager. Ten and a half lakhs have been wiped off with a payment of eight lakhs, and six and a half lakhs remain besides the Government claims of five and a half lakhs.

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V.

AGRICULTURE.

THIS chapter is divided into five sections. (1) Seasons and Crops, under which heading the year's cultivation is dealt with. (2) Horticulture, Experimental Farms, &c., or the results of the endeavours of Government to improve the agriculture of the country. (3) Agricultural stock, where the numbers and condition of cattle, &c. are, as far as possible, given. (4) Various paragraphs summarising the yield of certain staple crops. (5) Forest Conservancy. A system of Agricultural Departments is being gradually formed, which will, it is hoped, supply the great existing want in India of Agricultural Statistics, most of the figures now included in the Administration Reports being inexhaustive and untrustworthy. The statistics contained in this chapter are therefore incomplete, and little attempt has been made to tabulate them.

SEASONS AND CROPS.

The rains commenced early, and, although very unequally distributed, exceeded the average in all divisions, except Rajshahye and Kuch Behar. Bengal.

The general outturn of crops for the province was abundant, and the produce, added to the stocks accumulated from the previous year, caused a decline in the prices of grain, and a further amelioration in the condition of the people. The agriculturists however suffered from the glutted local markets, and the landlords consequently experienced difficulty in realising their rents. The expansion in progress of the railway system will, it is hoped, eventually equalise the demand for the whole province by bringing the local markets into easy communication with the trade centres. In Tipperah a portion of the area under rice has been diverted to the cultivation of jute. In Patna alone was the harvest not so brilliant, but prices continued low, and no retrogression was observed in the material condition of the people. In the Chota Nagpore division the good harvests of the past two seasons has led to the adoption of a higher standard of comfort. The labourers in Chittagong agitated for a rise of wages owing to the abundance of food, but did not succeed in obtaining it.

The season was a propitious one for the Assam Provinces, and the crops were generally good; in the Surma Valley exceptionally good. The prices were unusually low, so that labour for road-making was less difficult to procure than usual. In the Brahmaputra Valley the rice crop was quite up to the average, but the late and heavy rains in the autumn interfered with the sowing of mustard seed. The potato crop of the Khasi Hills was remarkably heavy. The condition of the people continues to be prosperous, and the well-being of the agriculturists, skilled labourers and domestic servants in Lakhimpur is said to contrast most favorably with the condition of the middle class, who subsist on fixed incomes. An Agricultural Department was formed in Assam of which, since the close of 1881-2, Mr. E. Stack has been appointed director. Assam.

The rainfall in the North Western Provinces and Oudh was abundant. In some districts there were copious showers in June, and heavy rain throughout July and August was general: after August very little rain fell except in the Benares Division, Kumaun and the Dun. The October rains failed almost completely. During the cold weather there was no rain of any value to the crops, except in Bijnor. Cotton suffered in Bundelkhand, but was fairly good in Agra and the Upper Doab. The early rice crops, as well as the rest of the kharif or autumn harvest, were fairly good: but the rabi or spring harvest was thrown entirely on the irrigational resources of the Provinces. The outturns were surprisingly high, and show how little the spring crops depend on the winter rains. N.W. Provinces and Oudh.

The rainfall registered in the Punjab was 25.6 inches as compared with 23.9 in the previous year, and was more evenly distributed. The spring crop of 1880-1 yielded an excellent harvest except in Gurgaon, Peshawar and Kohat. The short duration of the monsoon caused a diminution in the area sown for the spring harvest of 1881-2, which was a bumper, except in certain localities. Punjab.

SEASONS AND  
CROPS.

The autumn harvest of 1881 was likewise very good. Of the spring harvest, wheat is the principal crop, and is computed to have occupied about  $5\frac{1}{2}$  million acres: of the autumn harvest millets occupy the same position and cover almost as large an area.

Central Provinces.

The season was on the whole favorable for the Central Provinces, though the accounts from the different districts are variable. The area under cultivation increased by about 6 per cent., of which the greater portion was under wheat and oilseeds. This increase is in part accounted for by the fact that the area usually devoted to the cotton and jowari crop was not taken up owing to the unfavorable nature of the season. The rainfall was scanty in Jubbulpore, Damoh, Saugor and Narsinghpur, and rather below the average in the remaining districts, except Seoni, Betul and Nimar. In Mandla the season was all that could be desired, and the rice districts of Chattisgarh and Nagpur were similarly favored. The rice crop indeed throughout the province seems to have done well, but the other kharif crops were injured by the excessive rain of July and August. Jowari, cotton and wheat suffered from the same cause. Prices were generally easy throughout the year as there were large stores of grain in hand, and the agricultural population are described as contented and prosperous.

British Burma.

The staple crop of British Burma is rice, of which about 1,100,000 tons were available for export during the year. The rice harvest was unusually abundant except in Thayetmyo, which has suffered from short crops for two or three years, and which began during the year to exhibit serious signs of distress, but notwithstanding the abundance of the rice crop the peasants did not reap the profits of former years. The European markets were glutted, and the price of rice has gradually fallen since April 1878, when it sold at the rate of 13*l.* per 100 bushels, to April 1882, when the same quantity only fetched 5*l.* 4*s.* The loss caused by the fall of prices was however in great measure made up by the increase in quantity exported. The Chief Commissioner is of opinion that in place of the rice duty no other equivalent could be introduced which would press less heavily on the population, though the production of rice would be stimulated by the abolition of the duty. As at present levied, its incidence is unequal. The average rainfall was 136·34 inches, against an average for the five preceding years of 126·12 inches.

Berar.

The average rainfall for Berar was 41 inches 24 cents. against 25 inches five cents. in the previous year. In some parts the kharif crops were deficient, but the season was generally a favorable one. The prices of food-grains fell, but wages remained unaltered despite the return to their homes of many labourers who had been driven by the famine from the South into Berar. Agriculturists availed themselves but little of the benefits of the Land Improvement Act; the regularity of the Government demands for repayment of taccavi loans [*i.e.*, advances to agriculturists to defray the expenses of annual cultivation], induces the native to turn rather to the sowcar or money-lender who, although he charges higher interest, allows more latitude to his debtor. At the close of the year the area under cultivation was 6,641,023 acres, or 34,797 less than in the previous year. This decrease is attributed partly to the wet season, which did not in certain districts allow of the kharif crops being sown, and partly to land being permitted to lie waste for the sake of grass. The percentages of the total area occupied by the principal crops are, jowari 34·5 (1880-1, 38·9); cotton 32·9 (1880-1, 26·1); wheat 10·4 (1880-1, 11·2); linseed 5·6 (1880-1, 4·4). Cotton, linseed and oil are supplanting the food-grains, jowari, gram and bajri.

Ajmere.

The average rainfall in Ajmere and Merwara exceeded that of the previous year, but was deficient in the Todwar Tehsil and on the Meywar Border. The rabi grain crops were scanty on unirrigated land, but good in Chahi and Talabi, where irrigation was available. The kharif were injured first by want and after by excess of rain. On the whole results were fair and prices remained unaltered.

Coorg.

The rainfall was below the average, and the wet crops being entirely dependent on the rain supply suffered considerably. In Central Coorg the rice-crop was about the average, in South Coorg it was short, and in many parts of North East Coorg it proved an entire failure. The ragi was good in some parts and bad in others, but was supplemented by a good yield of horse gram. There was a good yield of cardamoms, but the price fell owing to a glut in the market.

market. This crop has now been successfully propagated from beds. The cultivated area is about the same as in the previous year. The extent of land under food-grains shews a slight increase; 72,940 acres were under rice, and 1,417 acres under dry crops. SEASONS AND CROPS.

The average rainfall for Madras was only 36·10 inches, against 45·96 inches, the average for the six preceding years. The south-west monsoon, on which the greater portion of the Presidency depends, was fairly sufficient in most districts; but the north-east monsoon failed, and its failure caused a deficiency in the winter crops. The average yield of all the crops was about nine-sixteenths of a full crop. But notwithstanding the unfavorable season the price of food-grains shewed a considerable fall, which is attributed to the absence of a special demand for exportation, and also in Kurnool to large importations from the Nizam's territory. Cholum, cumbu, and ragi were cheaper than before the famine. These reduced prices contributed to the general well-being of the working classes. The cultivated area of ryotwari and inam lands was 20,556,412 acres under first crop, and 1,219,616 acres under second crop; an increase of cultivation of 202,656 acres is shown in 13 districts, and a decrease of 297,334 acres in the remaining districts. There was no lack of employment, and the rate of wages throughout the province did not vary much except in the Bellary District, where the construction of the Bellary-Hubli State Railway caused a very great advance in the wages of skilled labor. Madras.

Throughout the Presidency, with the exception of Dhandhuka and a few coast villages in Broach, the people are said to be thriving. The harvests were not, however, favorable in Dharwar, where the ryots are temporarily embarrassed by the failure of the rice crop, Gujarat, and the northern talukas of Nagar. In Sind the outturn has been exceptionally heavy. The Deccan districts are still suffering from the effects of the famine, and the re-occupation of land thrown out of cultivation must be gradual; but the rapid recovery of the famine-stricken districts is beyond expectation. In the year under review alone, more than 100,000 acres have been re-occupied. The winter harvest was abundant, the grain pits are filled, and the only ground of complaint is the lowness of the price of grain. This complaint, however, appears to be hardly a sound one. The registration returns evidence an unusually small amount of borrowing or selling; the Mint returns indicate a remarkable decrease in the amount of ornaments sent by the natives for coinage; the assessments for the license-tax prove that the business of the money-lenders is falling off; while the great increase in the area of cultivation shews that the agriculturists do not hesitate to incur fresh responsibilities. In fact the revenue system is so elastic and so adapted to the variable condition of the ryot that its returns are a sure indication of the agricultural prosperity of the country. Another sign of the well-being of the ryot is the great increase of agricultural stock, in spite of the prevalence of a virulent type of cattle disease. In Khandesh and Kanara the want of labor is a check on cultivation. The wage-receiving class have been greatly benefited by the fall in prices, and in the Southern Division by the demand for labor in connection with the Southern Mahratta system of railways. Jowari (great millet), and bajri (spiked millet), are the staple produce of the province, and occupy about half the cultivated area (viz., 5,810,178 acres + 4,238,579) = 10,048,757. Rice occupies 1,782,397 acres, and wheat 1,581,795. £ 4,827 were advanced to cultivators to assist them in buying seed, cattle, &c., of which the major part went to the Sind zemindars. The failure of ryots to apply for these advances is due partly to their prosperity and partly to their non-comprehension of the terms of the loan. Bombay.

Great improvements were made in the Royal Botanical Gardens at Howrah. Mr. L. J. K. Brace was appointed curator of the herbarium, which has been largely augmented during the year. Interesting experiments have been made with the rubber-yielding plants. The Ceara has done well, and a specimen of the *Landolphia*, presented by Sir J. Kirk, Zanzibar, has been successfully introduced, but the Para plant (*Hevea Braziliensis*) has failed. Messrs Burrows, Thomson, and Mylne, of Behea have made promising experiments in the preparation of *rhea* fibre. Negotiations were opened with Messrs. Schoene, Kilburn & Co., to set up in the Hill tracts of Chittagong machinery utilising plantain for the purpose of making paper. A cheap method is required for removing the useless cellular tissue in order that the fibre may be transported HORTICULTURE, EXPERIMENTAL FARMS, &c. Bengal.

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without danger of fermentation. Experiments are being made with other paper fibres, *Broussonetia papyrifera*, and with a plant, probably *Eriophorum comosum*, or "bhabur" grass. The mahogany and the rain-tree still continue to be in demand, and seeds of the "divi divi" (*Cesalpina ceriaria*), the pod of which yields an admirable tanning material, were distributed for experimental cultivation, but the slow growth of the tree in Bengal is against its success. Carob seed was tried in Bengal without much success. The progress of the Lloyd Botanical Gardens, Darjeeling, has been retarded by accidental causes.

N. W. Provinces  
and Oudh.

X Major Murray, on behalf of Messrs. Lister, to whom the Government operations were transferred, has charge of sericulture at Dehra. The mulberry trees planted are the *Sinensis* and the *Multicaulis*. The experiments have not been very successful. The want of leaf is much against Dehra as a sericultural centre; nor can land for planting be obtained near enough to the factory to be of much use. Cottage sericulture was not a success. The main functions of the Lucknow Horticultural Gardens are the distribution of improved varieties of horticultural produce, the introduction of new plants and improved methods of culture. The costs are small though somewhat swelled last year by the entire failure of the mango crop. The Arabian date has done well, and experiments were carried on in viticulture which promise well. Experience in the cultivation of carrots seem to contradict the theory of the deterioration of acclimatised roots, seeds which had been acclimatised for two years, giving 50 per cent. more than new seeds, and 30 per cent. more than one year old seed. Some of the country vegetables seem susceptible of improvement by selection. The acclimatisation of flowers seems, however, to be the most successful and profitable culture at Lucknow. Carob trees have failed, but *Eucalyptus* gives hopes of success. The annual flower show was the best ever known, and marked improvement was exhibited in the vegetables shewn by natives. The Saharunpur Botanical Gardens are especially active in the growth and preparation of drugs, as well as the training of gardeners. The object of the Kumaun orchard is to provide the neighbouring villagers and settlers with fruit trees. Good results were obtained during the year. The result of experience on the *Cawnpore Experimental Farm* is that the great want of Indian agriculture is nitrogen, which can be applied to the soil in many ways, the simplest of which are early ploughing, which enables the land to absorb the maximum of ammonia from the rain and probably admits of considerable nitrification, or green soiling; *i.e.*, ploughing in any leguminous crop. There appears to be little question as to the advantages of deep-soil ploughing. A satisfactory plough is now manufactured, 393 ploughs were distributed amongst the natives, and the demand seems to be on the increase. The Cawnpore Model Farm seems to have awakened much interest in the provinces, and the Agricultural Department now numbers amongst its correspondents many of the leading native gentry. The total grant on account of arboriculture was 5,330 *l.*, of which 4,689 *l.* were actually expended. The receipts amounted to 3,520 *l.* The figures for the preceding year were, expenditure 3,874 *l.*, receipts 2,111 *l.* The increase in receipts is striking, and there is no reason why the road-side avenues should not become, not only self-supporting, but even lucrative. The length of road under operation was 1,340  $\frac{1}{2}$  miles, and 442  $\frac{1}{2}$  miles were newly planted up. The number of trees planted during the year was 95,075, against 65,938 in the preceding year. Some of the native gentry have been induced to co-operate with the Government in planting road-side avenues. In old days this was considered a pious work, attended with sure spiritual rewards. Numerous experiments were tried with the object of curing *reh*\*, of which the principal were the planting of trees and grasses, the application of manures and drainage, green soiling, and better cultivation. Of the trees planted, *kikar* and *babul* were the most successful, and of the grasses, the *khar usara* is much the best. Elaborate measurements were also made to discover if *reh* is on the increase, but these must be spread over a long succession of years before any result is arrived at. Besides the Batesar Fair, nine agricultural shows were held at various times.

Punjab.

The Behea sugar mills are rapidly superseding the country cane-crusher in the

\* The latest hypothesis as to the cause of *reh*, or barren saline effervescence, is that its production is brought about by the evaporation of subsoil water brought to the surface by capillary attraction.

the Punjab, but the Kaiser deep-soil plough does not gain much popularity. Sorghum yielded good fodder crops in Gurdaspur and Karnal. The value of guinea grass as a fodder crop is undoubted; the cultivators, however, do not seem to care about it. An unusually heavy crop of cotton was obtained from the Hoshiarpur experimental farm started in the previous year. The gardens of the Agri-Horticultural Society at Lahore were damaged both by floods and frost, but they were worked at a slight profit. The more hardy species of *Eucalyptus*, and carob did well. No success was obtained with the rain-tree as the climate is too cold for it. 3,800 fruit trees were sent from the gardens, and efforts were made to introduce a better sort of plantain. The nursery is not, however, well placed. Interesting experiments were made with turnips, wheat and barley. The sericultural show was again held at Madhopur, but will be removed to Pathankot. The number of exhibitors was nearly double that of the previous year, though the results were not so good. The worms throughout the country are reputed as diseased, and it is in contemplation to buy up and destroy the diseased worms. Messrs. Lister gave handsome prizes at the show. Sericulture has been taken up in the Chamba State.

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FARMS, &c.

The kharif crops on the Nagpur Model Farm suffered from excessive, and the rabi crops from deficient, moisture. Sugar cane and Hinganghat cotton were the only remunerative crops. The experimental crops were, with the exception of arrowroot and mesquit beans, a failure. The work of the Agri-Horticultural Society of Nagpur is confined to Horticulture proper. Garden operations at the Maharaj Bagh, Nagpur, are in their immediate charge, and correspondence is kept up with the Deputy Commissioners of districts to whom seeds and plants are supplied. The horticultural show was more than usually successful. The *Eucalyptus rostrata* trees are doing well, and the mahogany, olive, mesquit bean, red plantain and the vine have been successfully cultivated. Fruit trees (1,181), and forest trees (1,842), were supplied to Government Departments and the public. No reports of experiments are made from district gardens, and it is proposed to prescribe for trial in each garden a limited number of experiments which have succeeded at Maharaj Bagh.

Central Provinces.

There are no model farms properly so-called in British Burma. The indolence and want of enterprize of the peasantry are hostile to the introduction of new and elaborate methods of farming. The only practicable way of improving agriculture in this province seems to be to induce initiation of simple reforms of familiar methods, and this is best done by the careful cultivation of fields alongside of those tilled by the natives. Paddy is the staple crop of British Burma, and the well-being of the people is gauged by the annual outturn of the rice harvest. The principal aim of Government is therefore to introduce the cultivation of other crops. Experimental agriculture is carried on at Pongdeh in the Prome district, in the Hanthawaddy district, in the Salween Hill Tracts, at Mergui, in Sandoway, in the Arakan Hill Tracts, and in the Toungoo district. The Pongdeh farm is worked by juvenile convicts. Several crops were cultivated, but it is too soon to judge of results. Tobacco is the principal outturn of the larger Hanthawaddy establishments, while the smaller is cropped in the same manner as the Pongdeh farm. The object of the Papoon farm is to encourage sugar-cane cultivation by the nomad Karens. Coffee, pepper and vanilla succeeded well at Mergui, but cocoa was destroyed by ants. The Sandoway farm was devoted to pepper-vine cultivation, which promises well. The farm in the Arakan Hill Tracts was started with the view of growing tea and cinchona. The field has since been widened. Cotton, manilla hemp and coffee appear to succeed; potatoes not so well. The Toungoo establishment is worked by a private capitalist, Mr. Petley, slightly assisted by Government. It has been proved by his experiments that potatoes, tea, coffee, and cinchona, will all come to perfection at an altitude of 2,500 feet. The Agricultural Society at Rangoon is the only institution of the kind in the Province, and depends for subsistence in great measure on the European residents. Two natives only joined it during the year. Various experiments were made during the year, and seedling trees and seeds were freely distributed.

British Burma.

Particulars of the public gardens at head-quarter stations and at the tahsils have not been furnished. The usual outlay of 992 l. was expended on them out of the town funds. Foreign varieties of trees were planted in the Government gardens; the rain-tree is doing well at Ellichpur. Foreign bamboos, the india-rubber tree, Australian oak, and a few Himalayan pines were introduced

Berar.

HORTICULTURE,  
EXPERIMENTAL  
FARMS, &c.  
Coorg.

into the gardens. The mangoes at Buldana are said to equal those of Bombay.

A large crop of cardamoms was obtained by the lessees of the Government forests on the Western Ghats. Prices, however, fell heavily. Cardamoms have been successfully propagated from beds, and the popular belief that its growth is dependent on the fall of forest trees is thereby disproved. The *Succirubra* variety of cinchona is usually propagated, but experiments are being made with the valuable yet expensive *Ledgeriana*. Cocoa, the oil plant and the rain tree have been introduced, and there seems to be hope that rubber may become an important item of cultivation. Large tracts are suitable also for the cultivation of *Rhea* fibre.

Madras.

Agricultural reform appears to be gradually making its way in Madras. More applications for improved implements were received than in any preceding year; 104 ploughs were supplied, and the natives are themselves constructing ploughs on the same model. The annual ploughing matches on the Saidapet farm brought forth 50 competitors, and the work done was in some instances very good. The district ploughing exhibitions in Cuddapah and Kurnool were prevented by cholera. 41 students were on the rolls of the school of Agricultural College at the end of the year, against 39 at the end of the preceding year. A large central agricultural exhibition was arranged for at Madras. The season was not a favorable one for the Saidapet Experimental Farm. The fodder crops yielded on an average 3,308 lbs. per acre, and the outturn of unirrigated cereals was fair. Brown millet was tried for the first time with success, and Minnesota early amber sugar-cane promises to do well; Chinese sugar-cane, the *reana luxurians*, and the grass, *panicum brownii*, all yielded good crops, but the *reana* cannot stand drought, and is moreover of little use either as grain or fodder. In the Ootacamund Botanical Gardens prickly comfrey, bromegrass and tagasate (*Cytisus proliferens*) retained their reputation as the most valuable fodder plants yet introduced on the Nilgiris. Black wattle was cultivated both for fuel and for tanning purpose. *Cinchona carthagena*, introduced last year, and *Castilloa elastica*, seem likely to do well. Sim's Park, Coonoor, appears however to suit the majority of plants better than Ootacamund. The receipts from the Barliyar Gardens were low, owing to the death of the contractor, who farmed the produce. Liberian coffee flourishes well, as also the ceera rubber tree, and ipecacuanha promises to become an article of commerce. The cultivation of jalap and other medicinal plants is now assured.

Bombay.

The *Mahaji fair* was on the whole better, and more appreciated than in the previous year. The exhibits of horses and cattle were good, but the number of competitors for the cotton prizes fell off, probably because the first prize was reduced in value from 10*l.* to 1*l.* 10*s.* The tobacco was of fair quality, but defective in curing. There are two experimental farms maintained in the Bombay Presidency, one at Bhadgaon in Khandesh, while the other has been moved from Salam to a place near Hyderabad. At Bhadgaon, the season was unfavorable, and neither kharif nor rabi crops were very successful. The outturn of cotton, however, exceeded the most sanguine expectations; the distribution of seed is improving the quality of the native-grown product. A great demand has sprung up for cotton saw gins. Successful experiments have been made in potato growing, and a promising beginning in cheese making. The financial condition of the Hyderabad farm, which was removed to its present site in April 1881, is not satisfactory. A class of boys belonging to the high school, and another of zemindars' sons, attend the farm. Major Coussmaker's experiments in sericulture are attended with better, but not thoroughly satisfactory, results. The cultivation of the mulberry silk-worm has failed. There seems some prospect, however, of the cultivation of the indigenous worm becoming profitable. In the Botanical Gardens, Ganesh Khind, satisfactory experiments were made with henbane, taraxicum, potatoes, carrot, mangoes, and casuarina. Bulrush paper has been made from the *typha elephantina*, but want of machinery prevented the realisation of any profit. The *cryptostegia grandiflora* cannot probably be cultivated for its caoutchouc with profit. Botanical teaching was continued at the gardens during the year. There are in all six public gardens in Bombay maintained by Government.

AGRICULTURAL  
STOCK, &c.

No information is afforded in the Administration Reports as to the amount of



of stock in Bengal and the North-Western Provinces and Oudh. The return for the Punjab is quinquennial, and the figures given were drawn up in 1878-9. Statistics for four districts in Assam are wanting.

		LIVE STOCK.						DEAD STOCK.				
		Cows Buffaloes, and Buffaloes.	Horses.	Ponies.	Donkeys.	Camels.	Sheep and Goats.	Pigs.	Carts.	Ploughs.		Boats.
Assam	{ 1881-2 1880-1	1,205,504 1,194,407	505 392	7,274 7,316	251 67	-	305,337 310,163	285,811 285,933	1,091 1,310	403,500 403,523	169,952 167,997	No information given for four districts.
Punjab	- 1878-9	6,121,417	76,338	33,773	251,088	12,538	3,864,013	41,161	92,855	1,803,278	2,518	Quinquennial State- ment.
Central Provinces	{ 1881-2 1880-1	5,435,188 5,070,178	11,908 12,043	89,429 86,200	23,140 22,129	30 47	783,611 683,345	116,476 100,407	309,508 303,020	1,070,506 777,801	3,731 2,521	
British Burma	{ 1881-2 1880-1	1,559,201 1,524,317	7,603 7,597	-	Elephants, 1,593 " 1,701	-	19,020 19,208	115,200 95,081	222,540 210,802	251,912 347,173	67,420 62,820	
Ajmere	{ 1881-2 1880-1	138,874 145,131	1,428 1,124	981 967	4,264 5,090	30 301	178,761 193,257	-	3,746 3,553	20,884 21,508	-	
Berar	{ 1881-2 1880-1	1,729,340 1,750,833	-	-	-	-	414,250 391,248	-	105,873 103,222	108,601 119,316	-	
Coorg	{ 1881-2 1880-1	169,762 121,165	177 181	378 420	350 316	-	5,729 5,323	12,242 11,623	481 360	37,523 32,433	27 27	
Madras	{ 1881-2 1880-1	7,799,883 7,387,321	9,854 8,086	20,405 23,763	† 119,744 Elephants, 403 † 111,400 Elephants, 532	100 18	7,311,930 6,325,848	237,030 208,551	204,836 224,631	1,535,274 1,030,659	12,925 13,739	† Includes 216 mules. † Includes 71 mules.
Bombay	{ 1881-2 1880-1	6,646,833 6,325,802	126,347 119,306	-	74,904 98,833	-	3,083,330 2,805,864	-	385,342 387,569	977,816 994,317	-	

The introduction of Hissar bulls is said to have undoubtedly effected an improvement in the local breeds, but the Hissar rams are too delicate for the climate. Cattle disease in various forms was prevalent throughout the Punjab, especially in Kulu and Kangra, where it has assumed in its most virulent form. The villagers were, however, induced to isolate the diseased cattle, and it was no doubt partly owing to these precautions that the period of visitation was short. Every means is being taken to instruct the more intelligent villagers how to cope with cattle disease, and it is hoped that the establishment of the veterinary school at Lahore will in the course of a few years supply the province with competent cow doctors. There was a considerable falling off in the number of cattle exhibited at some of the fairs, which is attributed in the case of the Amritsar Dewali fair to the sickness of the town population, and in the case of the Hissar fairs to the ability of the agriculturists, owing to the favorable season, to keep more cattle.

The season was unfavorable to cattle in Berar. In the Buldaun district murrain of a very virulent type broke out in March and lasted till November. There were upwards of 28,000 cases, of which three-quarters terminated fatally. A veterinary department was organised.

The cattle exhibits at the Batesar fair were fairly numerous, but only 98 head of cattle were entered at the talukdars agricultural meeting at Lucknow, there being no prospect of sale to tempt the owners to show their beasts.

Cattle were comparatively free from murrain during the year, and the losses were estimated at 3,811 head, or 707 less than in the previous year.

Cattle disease is noted as having been prevalent in many parts of the Presidency. The total deaths were, however, less by 133,035, or 20 per cent. less than in the previous year.

Despite the prevalence of disease a considerable increase of cattle took place in the affected districts. In Poona the number is rapidly rising to what it was before the famine, and in Belgaum and Dharwar it is nearly equal to the full number required for cultivation.

Bark is chiefly distinguished in the European market by the terms (1) Natural, (2) Mossed Bark, (3) Renewed Bark. The two latter products are obtained by what is known as the "mossing system." In Madras the tree is barked in perpendicular strips, and subsequently enveloped in moss. The bark left after the first operation is, after an interval, removed, and constitutes the second crop. The other crops are of the bark which has re-formed on the denuded strips. There are thus three crops obtained in rotation: (1) The



CINCHONA.

Natural Bark, which (in the *succirubra* variety) contains chiefly cinchonidine and cinchonine, and fetches comparative low prices; (2) The Mossed Bark, which is more valuable; (3) The Renewed Bark, which contains in still greater abundance the alkaloids necessary for the manufacture of quinine. A new method known as the "shaving process," and invented by Mr. Moens of Java, is now under trial. By this method the outer bark is removed by a spoké-shave, and the inner and more valuable bark left to develop. The trees thus operated upon appear healthy, but the renewed bark is not yet ripe for analysis.

The exports of cinchona bark shew a considerable falling off in the private trade from the previous year, the amount being 428,497 lbs., against 699,258 lbs. The value decreased further from 72,470 l. to 45,834 l. The bark is exported almost exclusively from Calcutta and Madras; a very small quantity is sent from British Burma. The figures for total exports of cinchona, exclusively of Government transactions, are as follows:—

		1880-1.	1881-2.
Shipments from Calcutta	Quantity - -	Lbs. 383,324	Lbs. 249,004
	Value - -	£. 31,761	£. 18,079
Ditto - - Madras	Quantity - -	Lbs. 315,934	Lbs. 178,407
	Value - -	£. 38,206	£. 27,119

The figures shew a considerable decline in the value of cinchona at both ports, and especially at the former, where the shipments are said to represent almost exclusively the produce of one firm, which withheld its bark owing to the fall of prices in the London market, already stocked from the plantations of Peru. There was no decrease in the total amount of the bark produced in India. The outlook for the industry is hopeful, despite the South American competition.

Bengal.

The total number of yellow bark trees in the two Government plantations of Mungpoo and Sittong in British Sikkim was at the close of the year 858,223 [viz., *calisaya* (including *ledgeriana*) 566,595, and hybrids 291,628], and it is hoped that during the current year the number of trees will reach one million. The number of red bark (*succirubra*) trees has been reduced by 161,000, but there are still 3,873,285 in the plantations, which, it was hoped, would suffice to meet the demand for febrifuge; 184,000 *cinchona ledgeriana*, or yellow bark trees, were planted out, and 91,730 trees of the unnamed hybrid variety. The bark of four out of six forms of the latter plant have been tested, with the result that three of them are likely to prove valuable species. The surplus seed of the *ledgeriana* was distributed gratuitously, and 175 l. was realised by the sale of seedlings, a considerable demand for which was created by the success of the Poomung Company, Darjeeling. Mr. Gammie's experiments in the manufacture of ordinary and crystalline febrifuge at Mungpoo have not been successful. The bark collected during the year was 341,570 lbs., all of which, except 4,935 lbs., was "red," and made into febrifuge. The total expenditure on the plantations manufacture, &c., was 19,884 l., and the average cost per pound of the manufacture of febrifuge, taking the bark at its actual cost of production, was Rs. 11. 1. 8., or Rs. 1. 13. 0. less than in the previous year. The revenue accounts shew the receipts as 32,917 l., and the net result, allowing for a reduction of the stock in hand, a profit of 13,034 l., or a dividend on the capital of 13 per cent. The entire produce was 341,570 lb. of dry bark. The total amount of febrifuge manufactured was 8,010 lbs., against 9,296 lbs., in the preceding year, the decrease being due to the existence of a large stock in hand. At the beginning of the year the demand was slack, but revived towards the end of the season, so that the sales rose from 8,651 lbs. in 1880-1 to 10,876 lbs., the result being a reduction in the reserve stock of 1,502 lbs. The medical department, 5 at Calcutta, Bombay, and Madras took 3,386 lbs., 1,000 lbs., and 800 lbs., respectively. The Surgeon General bought 995 lbs. for the Bengal districts, and the

publi-

public 4,580 lbs. against 3,150 lbs. in 1880-1. The medical department is supplied at cost price. Since its commencement in 1874-5 the factory has turned out 44,649 lbs. of febrifuge. The policy of Government with regard to the Sikkim cinchona plantations is to confer the maximum of benefit by the diffusion of a useful drug with the minimum amount of interference with private trade. The Lieutenant Governor therefore proposes to confine cinchona cultivation to the production of red bark for the purpose of making febrifuge, and not to compete in the European markets with yellow bark. CINCHONA.

Much money has been spent by Government on the Thandoung cinchona plantation; 54,000 plants are now alive, but the results are not satisfactory. At Pyoonchong the industry has done so badly that further outlay on it will be discontinued. British Burma.

Seven hundred and seventy-one acres in Coorg are under private cinchona cultivation, and the number of plants is in all 617,156. The *succirubra* is generally propagated, but experiments are being made with the *ledgeriana*. The extension of cinchona cultivation elsewhere deters the planters from embarking largely in the enterprise. Coorg.

The total number of trees in the Government plantations rose from 666,815 at the close of 1880-1 to 742,356 in the year under report. The yield of the year was 242,051 lbs. of dry bark, against 243,896 lbs. in 1880-1. The product was disposed in the following manner: 1,000 lbs. were distributed to Bombay Medical Department, while 10,278 lbs. were sold locally; the balance was sent home. Since the commencement of the cinchona enterprise, the receipts have been 268,078 l., and the charges 225,334 l., leaving a net surplus of 42,745 l. The total receipts for the year are entered as 57,200 l., and the expenditure at 1,357 l., leaving a net profit of 45,843 l., against 43,426 l. in 1880-1. The *cinchona pubescens* appears to be much more hardy than the *succirubra*; 20,000 *succirubra* plants were permanently planted out, 80,000 *officinalis*, and 1,000 *ledgeriana*, which latter were not in a satisfactory condition at the close of the year; 31,650 *succirubra* were also rooted up to be replaced by *pubescens* and *officinalis*. Important experiments were being carried out in manures, and labour was plentiful on all estates. 875 lbs. of seed were distributed during the year, and the demand for plants was greater than the supply, which facts point to the extension of private cinchona cultivation. Madras.

The total area under coffee cultivation in India at the close of 1881 was 216,303 acres, of which 132,133 acres were in Mysore and Coorg, and 74,237 in the Wynaad and the other parts of the Madras Presidency. The total outturn is stated as 38,621,844 lbs., as compared with 33,100,778 lbs. in the previous year; 346,364 cwt. were exported, against 369,357 cwts. in 1880-1. COFFEE.

Only five acres were under cultivation in the Chittagong Hill Tracts, and no particulars have been received concerning them. The total yield from mature plants on the Ranchi estate in the Lohardugga district was 2,560 lbs., against 320 lbs. in the previous year, and the average yield per acre 512 lbs., against 64 lbs. Bengal.

Coorg is one of the chief coffee growing countries in India. There were during the year under report 212 coffee plantations owned by Europeans, and 4,594 by Natives; the area of the former is 41,507 acres, and of the latter 35,967 acres, or together 77,474 acres, 1-13th of the total area; in the former estates the average yield per acre is 7 cwts., and, for the whole 40,350 acres in bearing, 3 cwts. The total outturn amounted to 6,125 tons, the average cost of cultivation Rs. 27 per cwt., and the average realizations for Native coffee Rs. 500 per ton, the price having fallen from Rs. 580 in the previous year, though the coffee exported to England fetched better prices. Labour is imported from Mysore to work the estates, and there was no lack of it, though high wages had to be paid. The Nalknad, or drooping variety of the coffee shrub, has quite supplanted the chick or Mysore variety, being less liable to disease, and giving a larger and more certain yield. Coorg.

The coffee districts under the Madras Government are Wynaad, Nilgiris, Tinnivelly, Shevaroy's, and Anamalais. There now exists an almost unbroken chain of coffee estates along the Western Ghâts from the north of Mysore down almost to Tuticorin. The *Coffea Arabica* can be best cultivated at altitudes from 2,000 to 4,000 feet, where the average rainfall is from 80 to 100 inches. The *Coffea Liberica* can however be cultivated at lower levels, though hitherto Madras.

COFFEE.

it has not proved successful. Coffee cultivation has not, for various reasons, extended much for some years. The season was unfavorable in Malabar, Wynaad, and the Nilgiris, and the exports declined from 346,830 cwt., value 1,519,735 £, in 1880-1, and 322,918 cwt., value 1,356,620 £, in the year under review. This was also owing in great measure to the diversion of capital to gold mining and cinchona cultivation, and to the home markets being now largely supplied from Brazil.

COTTON.

The total area returned as under cotton cultivation during the year ended 30 June 1881 was 11,188,787 acres. In Bombay and Sind the area under cultivation increased from 2,109,565 to 2,266,103 acres, and in the Native States of Bombay from 1,648,248 to 1,926,971 acres. In Berar there was a decrease from 2,101,273 to 1,755,946 acres, but in Native Hyderabad the area increased from 583,321 to 811,436 acres. In Madras and the North-Western Provinces there was a considerable extension of area, and in the Punjab and the Central Provinces the reverse, probably owing to the increase of area under wheat. The fall in price, consequent on extended cultivation and increased average yield, has been most noticed in Berar and Bombay.

Central Provinces.

The rents for cotton land slightly increased in the Nagpur, Narsinghpur, Saugor, and Chhindwara districts. The outturn was better in some districts and much worse in others than in the preceding year. The produce per acre varied from 90 lbs. in Wardha to 15 in Sambalpur, averaging for all the districts 57.3 lbs.

Punjab.

There was a considerable extension of cotton cultivation in Madras during the year, and the outturn rose from 653,917 cwts. to 787,581 cwts., the estimated value from 1,310,807 £ to 1,463,485 £, while the average yield per acre remained the same, 96 lbs. The above figures may be accepted as approximately correct. The quantity of cotton exported during the year, as reported by district officers, amounted to 224,418 cwts., of which 147,000 cwts. were sent outside the province, chiefly to Calcutta and Karachi. The season was on the whole favorable except in Gurgaon, Umballa, Peshawar, and Sirsa.

N. W. Provinces  
and Oudh.

A large increase in the area under cotton in the North-Western Provinces is noted, and the produce was even greater than in the previous year, viz., 14,65,963 maunds; the average outturn per acre was 73.4 lbs. Everything contributed to make the harvest a large one, and there was an ample stock of labour both for cultivation and for picking. The results of the experiments at the Cawnpore farm went to shew that for light poor soils the indigenous cotton is the best, but that on better soils and with careful cultivation the New Orleans variety can be grown with success and profit. 9,02,562 maunds of cotton were exported to Calcutta.

British Burma.

A decrease of 28 per cent. took place in the area under cotton cultivation in Burma. The total outturn is given as 735,040 lbs., of which 173,120 lbs. is derived from wild cultivation. Toungya, or shifting cultivation, where cotton is mixed with other crops, shewed a decrease in area of 22 per cent. and an average yield of 40 lbs. of cleaned cotton per acre. Field cultivation diminished by 57 per cent., and gave an average outturn of 161 lbs. of cleaned cotton per acre. None of the cotton grown in British Burma is exported, and the trade is practically confined to staple imported from Upper Burma, which aggregated 15,453 cwt., against 9,664 cwt. in 1880-1. The short staple of the product prevents its popularity in the European market.

Berar.

In Berar, the principal cotton-growing province in India, the area under cotton increased from 26.1 to 32.9 per cent. of the total cultivated area, 6,641,023 acres. The total outturn was 115,571,866 lbs., against 70,005,778 lbs., and the average yield per acre was 52½ lbs. against 41 lbs. in 1880-1. These are the figures given in the cotton report, but it seems probable that they are very incorrect, and that the total production is underestimated.

Madras.

For the first time since the famine the area under cotton in Madras shews an increase amounting to 1.32 per cent. over the area cultivated in 1875-6, the year previous to the famine. The immediate increase is attributed chiefly to the low prices of food-grains and the high prices of cotton. The outturn generally seems to have been fair except in Coimbatore.

Bombay.

The area under cotton cultivation in the Bombay Presidency, including Native States,

States, was 4,196,066 acres under indigenous cotton, with an outturn of cleaned cotton amounting to 2,296,289 cwts. or 54 cwt. per acre, and 615,080 acres under exotic cotton, with an outturn of 282,266 cwt. or 46 cwt. per acre. The average outturn of cleaned cotton for the whole area was 60 lbs. against 52 lbs. in 1880-1. The area under cotton has in two years increased by more than 1,000,000 acres. These figures are not, however, to be relied on. In Ahmedabad and Broach the unfavorableness of the sowing season caused a large area to be thrown out of cultivation; in Ahmedabad the diminution amounted to 48,000 acres, but the yield of the smaller area more than equalled the outturn of the previous year. In Dharwar exotic cotton took the place to a large extent of the indigenous plant, while in Kaladgi the reverse process took place. The greatest increase of area under indigenous cotton was in Kathiawar and Cutch, viz., 420,000 acres. The area in Sind also shewed a considerable increase. During the year Act I. of 1882 was passed, repealing Bombay Act VII. of 1878, which specially provided against fraud and adulteration. The abolition of this safeguard is reported to have been followed by extensive adulteration of cotton and mixture of inferior with superior staples.

The only figures given for Bengal are of the outturn of the crop. The estimated yield for 1881-2 was 1,43,000 maunds, and the actual yield for 1880-1 1,35,405 maunds. Owing to excessive rainfall the crop in Lower Bengal was below the average, but the quality of the whole outturn was fairly good. Exports advanced about 4½ per cent. and prices rose slightly. In the Punjab there was a considerable increase in the area under indigo cultivation, and the average yield per acre rose from 78 lbs. to 104 lbs. The average outturn of indigo in Narsinghpur and Saugor in the Central Provinces was 20 lbs. The small area of cultivation sensibly diminished. Indigo cultivation in Burma is practically limited to the Arakan division, and the average produce per acre was 253 lbs. The area under indigo increased 40·37 per cent. on that of the previous year, and 33·78 per cent. on that of 1875-6, the year before the famine. Favorable prices, and the improved condition of the ryot, are assigned as the principal reasons for this extraordinary increase. No information is available as to the outturn.

				TEA.			
				Area under Tea.	Approximate Yield.	Average Yield per Acre of Mature Plants.	
				<i>Acres.</i>	<i>Lbs.</i>	<i>Lbs.</i>	
Bengal	-	-	-	{ 1880	38,805	6,572,481	239
				{ 1881	42,217	8,323,440	261
Assam	-	-	-	{ 1880	158,657	34,013,583	282
				{ 1881	158,427	37,571,311	282
North Western Provinces	-	-	-	{ 1880	* 4,110	* 838,742	* 202
				{ 1881	8,445	* 859,847	* 289
Punjab	-	-	-	{ 1880	* 7,466	* 927,827	177
				{ 1881	* 7,973	* 966,826	175
Madras	-	-	-	{ 1880	4,275	649,460	252
				{ 1881	4,448	657,916	247
British Burma	-	-	-	{ 1880	179	16,120	105
				{ 1881	161	16,258	106
TOTAL				{ 1880	208,492	43,016,213	—
				{ 1881	221,671	48,395,598	—

\* Incomplete.

TEA.  
Bengal.

Tea is grown in the districts of Darjeeling, Julpaiguri, Chittagong, Dacca, and Hazaribagh and Lohardugga in Chota Nagpore. The number of gardens was 283, against 274 in 1880, while the area of cultivation rose from 38,805 to 42,217. The total outturn was 8,323,440 lbs., and the average yield per acre 197 lbs. In the Darjeeling district there was a decrease of one plantation; the area under cultivation was 30,215 acres, the outturn was 6,596,445 lbs., against 5,160,314 lbs. in the previous year. A general decrease of blight is noted. The teas from this district stand high in the home market, as great care is bestowed on plucking and manufacturing in order to enable them to compete with the China product. There was a general rise of prices, owing to the deficiencies of the China trade, the extreme cheapness of Indian teas in 1880 and the shortness of the Indian crop. In Julpaiguri there were 53 plantations against 47 in the previous year. The area under cultivation was 6,753 and the outturn 1,027,116 lbs. The corresponding figures for 1880 were 7,631 and 817,765. In Chittagong the outturn was short, but the quality superior, compared with what was anticipated. The season was on the whole favorable. In Lohardugga four new plantations were started, but the crop was injured by want of sunshine, while in Hazaribagh it suffered from a deficiency of rain. Altogether the year was an unfavorable one. The price of labour is enhanced by continuous and increasing emigration, and wages may shortly be expected to rise considerably.

Assam

There were 1,058 tea gardens in existence in Assam at the end of the year, or 13 more than in the previous year. The increase is, however, nominal, as 41 gardens were added to the list which had hitherto been excluded, because they were held on annual leases. There is, therefore, in reality a small decrease in the number of tea gardens; 781 gardens were situated in the Assam Valley, and 277 in the Surma Valley. The total yield was 37,571,311 lbs., of which 13,846,285 lbs. were manufactured in the Surma Valley, and 23,725,026 lbs. in the Assam Valley. This is an increase of 3,557,728 lbs. over the outturn of the previous year. The average produce per acre for both years is the same, viz., 282 lbs. The statistics for the year under review were taken from the revenue records by the district officers, and not as previously from the planter's returns. Greater accuracy is thereby secured. The general opinion appears to be that though the outturn for 1881 fell short of the anticipations of the planters, the rise of prices counteracted the deficiency, and the tea market recovered from the depression of the last two years. It is difficult to estimate the profits of tea cultivation, but the planters generally take a hopeful view of the prospects of the industry. Out of the 53 companies who hold land in Assam, no information is obtainable with respect to two; the remaining 51 represent a paid-up capital of 1,671,915 £, of which, 10 submitted no accounts for 1881, and of the remaining 41 (capital 1,345,689 £), 24 made a profit of 47,051 £, 14 a loss of 22,084 £, and three neither gain nor loss.

N. W. Provinces  
and Oudh.

The tea plantations of the North-Western Provinces and Oudh are confined to the hill tracts of Dehra, Kumaun, and Garwhal. There are no exact returns available for the whole province, but the total outturn is estimated at 20 lakhs of pounds, of which by far the greater portion is green tea, manufactured for the Central Asian market. This outlet is now seriously threatened, both by the prohibitive duties imposed by Russia at Katta Kurghan, between Bokhara and Samarcand, and also by the abolition of the duty on Chinese tea hitherto levied in Bombay. Up to the end of March 1883, however, the Russian prohibitive duties had had no effect in checking the export *via* Peshawar, though the Central Asian demand at the plantations themselves and in the local markets has absolutely ceased. The price of China tea has, for the last four years, steadily declined, so that but small margin of profit is left for the importer. It is as yet too soon to judge of the effect of the abolition of the 5 per cent. *ad valorem* duty on the import. But the remarkable correspondence of the amount of teas imported at Bombay with the amount of the exports from the Punjab to Cabul seems to shew that nearly all the China tea imported at Bombay is destined for the Central Asian market. The market for the teas of these provinces is in an exceedingly bad state, and the planters are helpless in the hands of a ring of dealers, and hampered in their competition with Assam for the European and Australian markets by distance from the coast,  
defective

defective communications, and the heavy freight charges imposed by railways. Every effort should be made to open up new markets, and develop those that exist. Kashmir, Yarkhand, and Persia seem to afford opportunities of development, but India itself is likely to be the most promising market. With regard to the Central Asian market, the planters might consult the prejudice of the buyers there by imitating the Chinese green product. The acreage under tea in these provinces was said to be 8,548, against 8,087 in 1880, and has doubled in eight years. The produce of Dehra is given as 859,846 lbs., against 838,742 in 1880. TEA.

In the Punjab, which includes the Kangra plantations, 10,023 acres were under tea, against 9,980 in 1880-1; the average yield per acre was 183 against 168 lbs., and the estimated yield, therefore, 1,834,209 lbs. against 1,676,640. Punjab.

Tea cultivation was introduced in Burma at Thandoung, and promises well. It is hoped that the district will attract capital when the railway to Toungoo is opened. Burma.

The exports of tea from the Madras Presidency to foreign ports amounted to 315,909 lbs., value 36,975 *l.* The culture of tea in Southern India is mainly confined to the upper slopes of the Nilgiris, at elevations from 3,500 to 8,000 feet. The gardens on the eastern declivities produce tea of the finest flavour, but the crops are not so abundant there as in moister localities. The average yield of tea per acre for the Presidency is about 253 lbs. The greater strength and aroma of the Madras teas creates a demand for them in England, where they are mixed with China teas. The prices obtained in England vary from 1 *s.* to 1 *s.* 8 *d.* per lb., but the produce of one estate brings in 2 *s.* 3 *d.* per lb. The local prices average between *Rs.* 1 and *Rs.* 1. 8. per lb. The China tea-plant is the variety most extensively used. Madras.

The statistics of area given for the most part are only approximate. The exports of unmanufactured tobacco fell off by about 26 per cent., from 13,267,325 lbs. to 9,791,392 lbs., and the value from 122,185 *l.* to 95,565 *l.*; the manufactured tobacco, cigars, and other sorts increased from 405,816 to 738,933 lbs., and the value from 186,457 *l.* to 194,717 *l.* The tobacco production of the whole of India has been estimated at 218,750,000 lbs. The tobacco farm at Ghazipur has been leased to Messrs. Begg, Sutherland & Co. for 50 years. The total area under tobacco has risen from 404 acres in 1880 to 482 acres in the year under report, and the produce from 270,000 lbs. to 326,000 lbs. The rate of produce per acre is the same for both years, 675 lbs. of the whole produce; 61,000 lbs. of cured tobacco was shipped to England, and realised 5 *d.* a pound, a price which should encourage the producers: 60,000 lbs. were made into smoking tobacco for India; 10,000 lbs. into cheroots; and 800 lbs. into cigarettes. The Ghazipur farm cultivation covers 50 acres, and the Pusa branch 166. The produce of 266 acres was bought from independent cultivators. The farms employ five Europeans and Americans, and 401 Natives. The prospect of the undertaking seem to be very promising. TOBACCO.

In the Punjab the average yield per acre is given as 763, against 751 in 1880-1. Tobacco in British Burma occupies 38 per cent. of the total area of cultivation, and thrives alike in the Kaladan and Irrawaddy deltas, and in the hill regions of Arakan, Pegu, and Tenasserim. Men, women, and children are inveterate smokers, and the making of cigars is one of the great domestic industries of the country. The home-grown tobacco is altogether insufficient for the wants of the inhabitants, whose consumption has been reckoned at 7 lbs. per head per annum. With an improved cultivation, and better system of curing, Burma might have a place in foreign tobacco markets. At present the manufacturing process is altogether rude and inefficient. Measures are being taken to correct these shortcomings. A small farm of 17 acres has been cleared between Syriam and Kyouktan, and a similar experimental area has been taken up in Arakan, both of which farms are placed under the immediate superintendence of experts. It is thought that a business-loving people like the Burmese will profit by the establishment of a steady market for carefully-cured tobacco, as they have already profited by the establishment of rice mills at the great ports. Punjab.

The export of tobacco from Madras in 1881-2 amounted to 5,934,550 lbs., value British Burma.



TOBACCO.

129,674 l.; about three-quarters of this goes to Burma, and the greater portion of the remainder to Bengal, Mauritius, and the Straits Settlements. The species of tobacco plant mostly grown is *nicotiana rustica*, and the cultivation is principally carried on in the alluvial soils of the Godavari, Trichinopoly, and Madura districts. The Trichinopoly and Dindigal (Madura) tobaccos have a much stronger flavour than the Lunkah (Godavari) tobacco, but the latter appears to possess more nicotine. The use of tobacco amongst the natives is universal. The cheroots manufactured by European firms are very superior articles, and will no doubt soon find a large sale in foreign markets.

Bombay.

Exhibits of tobacco were sent to the Maheji Exhibition in Bombay, and were pronounced of fair quality, but defective curing. The samples sent by the Desai of Nadiad were much superior to the rest, both in growth and curing.

FORESTS.

The idea of forest conservancy was first taken up by the Governments of Bombay and Madras in 1844 and 1847, and was embodied in Forest Act No. VII (India) of 1865. The aim of the forester is to maintain well-stocked forests in a satisfactory condition; where necessary to improve them; and to convert open and unproductive tracts into well-stocked forests. The direct advantages of forest conservancy are the maintenance of reserves of useful timber trees and of fuel, for which the increasing prosperity of India creates a fast growing demand. Experimental plantations attest the increased production that can be gained by careful cultivation. Statistics of the annual yield of forests and plantations are, however, untrustworthy. But besides the actual cultivation and preservation of trees, it is the business of the department to promote the extension of cultivation and grazing grounds on such waste lands as may be adapted for these uses. It is not to be expected that forest conservancy will materially alter the climate of India, but afforestation and conservancy carry with them undeniable local advantages, such as the distribution of rainwater, which, in a tropical climate especially, is precipitated over a denuded surface without percolation, and not only are the supplies of nature wasted in this manner, but the rivers are choked with silt, while low-lying lands, as in the Hoshiarpur district of the Punjab, are devastated and rendered useless to the agriculturist by the down-wash of sterile sand from the bare hill-sides. Again, springs and streams are protected from evaporation, and their supply rendered more equable, the contiguous country being thereby preserved both from floods and drought. The influence exercised by forests on the water supply is a subject that calls for special investigation. To these we must add the contingent advantages of survey and demarcation, protection from fire, restriction of nomadic cultivation. All waste lands are by theory supposed to belong to Government, who must, however, respect the liens upon them possessed by the natives. The forests under the control of Government are divided into three principal classes, reserved, unreserved or open, and plantations. The "reserved" forests are under the immediate control of the Forest Department, and managed exclusively as a source of immediate and prospective profit; their limits are surveyed and demarcated; nomadic cultivation and cattle grazing are forbidden; destructive vegetation is cut down and the hewing of timber is strictly regulated. The "open" or "unreserved" forests are subjected to a less stringent control, and the people still retain therein their rights of cultivation, pasturage, and foresting, but certain kinds of timber are protected. The "plantations" are devoted to the culture of timber trees.

The forest service sustained a great loss during the year in the retirement of Mr. Brandis, who has been associated with all forest legislation in India, including the first Forest Act passed in 1865. He had served in the department since 1856, and was 19 years Inspector General of Forests to the Indian Government. An account of the reorganization of the forest establishment was given in the previous number of this Report, and came into force in September 1882. The only measure worthy of record is contained in a resolution by the Government of India, 1 March 1883, enjoining, as far as possible, a systematic organization of fuel and fodder reserves throughout the provinces of Upper India, to which end the Agricultural Department are to join in working with the Forest Department.

The increase in the area of reserved forests since the previous year was Bengal 825 square miles; North-Western Provinces and Oudh 13; Punjab 217; British



British Burma 986; Coorg one; Assam 51; total 2,101 square miles. The Forests. total reserved area has just doubled since 1878.

PROVINCE.	AREA IN SQUARE MILES IN 1882.				Area in Acres of Plantations.	FINANCIAL RESULTS.			PROTECTION FROM FIRE.	
	Reserved.	Protected.	Unreserved.	Total.		Receipts.	Charges.	Surplus or Deficit.	Attempted.	Actually Protected.
Bengal	4,236	2,325	5,106	11,669	2,905	63,374	59,461	+ 23,912	Sq. Miles. 970	Sq. Miles. 907
North-Western Provinces and Oudh	3,126	98	85	3,509	3,330	106,609	91,621	+ 14,988	908	831
Punjab	1,100	311	3,323	4,704	16,201	68,831	61,627	+ 17,204	11	11
Central Provinces	19,430*	-	289	19,719	-	117,289	49,701	+ 67,587	1,413	1,209
British Burma	3,274	-	-	3,274	8,003	223,180	115,022	+ 108,158	281	178
Coorg	234	-	-	234	437	10,036	5,066	+ 4,971	192	79
Ajmere	122	-	-	122	413	467	1,895	- 980	122	122
Assam	2,066	650	5,286	8,011	1,151	18,005	16,536	+ 69	164	96
<b>TOTAL</b>	<b>33,848</b>	<b>3,393</b>	<b>14,001</b>	<b>51,332</b>	<b>31,540</b>	<b>606,331</b>	<b>† 376,599</b>	<b>230,732</b>	<b>3,961</b>	<b>3,419</b>
Berar	1,304	-	3,030	4,424	1,409	23,361	15,298	8,063	636	864
Bitchistan	-	-	26	26	13	1,862	1,765	94	-	-
<b>TOTAL</b>	<b>25,242</b>	<b>3,393</b>	<b>17,147</b>	<b>65,762</b>	<b>22,962</b>	<b>25,213</b>	<b>17,066</b>	<b>8,147</b>	<b>4,897</b>	<b>4,283</b>
Madras	1,182	-	-	1,182	-	50,671	39,119	11,552	-	-
Bombay	9,769	5,219	-	15,008	-	182,809	114,846	67,963	-	-
<b>GRAND TOTAL</b>	<b>46,213</b>	<b>8,612</b>	<b>17,147</b>	<b>71,972</b>	<b>82,962</b>	<b>866,024</b>	<b>546,630</b>	<b>318,394</b>	<b>4,897</b>	<b>4,283</b>

\* 2,598 are first class; the rest are second class reserves. † The expenditure on surveys in provinces of India, viz., 4,249 l., is included in this figure.

The area of unreserved forests has not been given in all instances, but it is hoped that the missing information will be supplied in future Reports.

According to the law under which these areas have been reserved, they may be classified as follows, excluding Madras and Bombay:—

	Square Miles.
Under the Indian Forest Act, 1878 - - - -	29,580
Ditto - Forest Act of 1865 and Act VII. of 1869 -	3,508
Ditto - Local Rules, Hazara - - - -	236
Ditto - - ditto - Ajmere - - - -	122
Ditto - - ditto - Berar - - - -	1,394
Ditto - Leases - - - -	402
<b>TOTAL - - -</b>	<b>35,242</b>

The above data do not agree with those given in previous Reviews, because the latter included only the first class reserves in the Central Provinces.

The Forest Administration was reorganised in accordance with instructions from the Indian Government, and from the commencement of the current year the returns will be amalgamated according to the rearrangement, the salient feature of which is, that the chief forest officer in each district will be the assistant to the Deputy Commissioner for forest work. Fifty-one square miles were added to the forest area already reserved in Assam, and other additions are contemplated, principally in districts which have, as yet, a small area of reserves. The people of Assam are so well off in the matter of timber, fuel, and grazing, irrespective of the Government forests, that the number of offences against the forest laws is small, 37 against 40 in 1880-81. The area destroyed by fire increased from one to 41 per cent. of the area under protection, which is only one-fifth of what should eventually be protected. This extraordinary increase is said to be due in great measure to the inexperience of the forest officer

## 80 STATEMENT EXHIBITING THE MORAL AND MATERIAL

FORESTS.

officer in charge of the Eastern Duars. Of the total planted area, caoutchouc occupies 912, and teak 170 acres; it is expected that during the next few years the cultivation of caoutchouc will be considerably increased. Timber operations were reduced during the year; 378 trees were cut against 599 in 1880-1. The number of trees sold standing to private purchasers increased from 4,411 to 6,112. 4,377 trees were made over free of charge to the Assam Railway and Trading Company. 23,000 maunds of charcoal were removed from the Government forests, and the demand for this article is likely to increase largely. The financial condition of the Forest Department is not satisfactory; the charges have risen gradually until they now equal the receipts. No large surplus was anticipated from the Department, but the figures for the year are disappointing. Against the unfavorable condition of the tea industry may be put the receipts from india-rubber mehals now shown for the first time in the accounts. The Department is indeed much hampered by want of funds, and it is hoped that the enterprise of the Assam Railway Company, who mean to export timber on a large scale from Upper Assam, will do much to render the forests more lucrative. There is ground for supposing that a considerable quantity of timber exported is obtained fraudulently from Government forests. Measures have been taken, however, under the Bhutan timber rules to check the timber as it crosses the frontier. The pass system at Dhubri was abolished, as causing detention to timber traders. Government timber must now be marked, and private timber covered by a certificate of origin.

Punjab.

In pursuance of the policy of the Indian Government, two non-commissioned officers of the native army have been appointed to the subordinate staff in the Punjab. The redistribution of the Forest Divisional Charges, contemplated in the previous year, has been postponed, owing to the absence of the Conservator, Dr. Schlieh, on Imperial duties, and the short-handedness of the establishment. The scheme has now been modified, but the principle enunciated by the Central Government will be adhered to, and, where practicable, forest officers will be placed in close relation to district officers. Four gazetted officers, and three subordinates, were sent to the Dera Forest School. The forests of the Chamba Division, notwithstanding great capabilities and fine timbered lands, present a recurring deficit. The Pangi forests require rest; but the Ravi forests should, with an improved system of working, leave a surplus. These two latter divisions are now amalgamated. The Kulu and probably the Kangra forests will be treated as protected, and not as reserved areas. The number of offences against the forest laws decreased from 875 in 1880-1 to 710. The number of trees felled was 5,840, of which 4,553 were deodar, and the amount of timber received in the depôts about the same as last year; viz., 497,000 cubic feet, but the sales from depôts increased by about 57,000 cubic feet. The coal mines in the Jhelum Salt Range have been transferred to the charge of the Customs Department. The results of the amani or direct departmental management of forest or rakh grazing grounds are satisfactory.\* The total area of grazing ground under the Forest Department thus dealt with amounted to 209,728 acres, which supported on an average 35.77 beasts per 100 acres, exclusive of young cattle which graze free of charge. The allowance of grazing ground for each head of cattle may be calculated at from 2.8 to 3 acres per head. It has been decided to select certain hill-sides to be afforested experimentally, with the view of checking the "ehos," or down-rush of sand and rock in the torrent season in Hoshiarpur, and the Sewaliks.

Central Provinces.

There was little change in the classification of the Government forest land, but the surplus rose from 35,463 l. to 67,587 l. As, however, the figures for one or two years are not sufficient or legitimate data for deduction, it may be well to give the surpluses for four periods of three years each, from which it will be seen that profits are slowly but surely increasing, 1870-73, 26,685 l.; 1873-6, 33,564 l.; 1876-9, 39,935 l.; 1879-82, 50,488 l. The timber operations are not at present very lucrative, but are gradually in some districts, viz., Chanda and Mandla, assuming considerable dimensions; and, whilst making provision for the future, have every prospect of ultimately realising a substantial profit. 9,230 offences were committed against the forest laws; most of these were of a trivial

\* Reports on the system of selling grazing over rakh and forests have been called for by the Central Government.

trivial nature, and only a very few prosecutions took place. There is no growing tendency to disregard the forest law, but the contrary. The decrease in the forest area under protection is only apparent and consequent on the correction of mistakes in the area returns. The percentage of acreage burnt has increased from 6 in 1880-1 to 14; the average for the preceding four years being 11 per cent. This is equivalent to a passage of fire over the whole forest area once in seven years, and is decidedly unsatisfactory. Cultural operations were not extensive, and the chief operations (in Nimar and Saugor) only partially successful. There appears to be no call for expenditure on experiments in the province.

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The work of reservation in British Burma advanced rapidly, and when it is completed, as it soon will be in the Pegu Circle, the Tenasserim Circle will, it is hoped, receive the attention necessary to place it in the same advanced condition. The rights and claims of the inhabitants have been patiently inquired into and respected, as is evident from the paucity of offences against the forest laws. The percentage of the acreage under fire-protection actually burnt was 1.6, compared with 20 in 1880-1. A considerable portion of the area devastated by fire consisted, however, of Government plantations. Fire-protection in Burma is exceptionally difficult, but the regular destruction of plantations might be minimised by precautionary measures, such as planting the boundaries with evergreens. The extension of the fire-protected area is not advisable until complete success is achieved with the forests now in hand. The plantations under Government have progressed satisfactorily. Departmental agency has, however, abandoned the plantation system, and confines it to Toungya teak cultivation, the results of which during the year are most encouraging. In the Bwet and Nyanleh reserves the flowering bamboo is cultivated with great success, and experimental catch plantations have been formed in the Bwet and Bawbin reserves. The number of trees girdled during the year was 24,209, of which 18,850 were teak. The total outturn of timber during the year was 118,417 tons, and the amount of teak 31,246, against 22,253 in 1880-1. The number of catch trees cut is estimated at 176,000, against 436,500 in the previous year. The falling off is said to be due to the gradual exhaustion of the article outside the reserves; but the doubling of the fee may have had something to do with it. The quantity of timber imported from beyond the frontier for the last five years is, 1877-8, 208,198 tons; 1878-9, 170,910 tons; 1879-80, 157,260 tons; 1880-1, 124,618 tons; 1881-2, 154,290 tons. At the solicitation of the Moulmein timber merchants the duty on foreign timber was on the 1st January 1882 reduced from 7 to 1 per cent. *ad valorem*. The advantages accruing from this reduction appear to be monopolised by owners of the timber in the foreign states to the exclusion of the Moulmein merchants. The loss to the department from this deduction will, it is expected, be recouped from the stimulated market. The export of teak stood at 133,751 tons, as compared with 151,174 tons in 1880-1. The average surplus for the five years ending 1876-7 was 60,168 *l.*, and for a similar period ending in 1881-2, 69,574 *l.* The figures vary considerably from year to year, but shew a steady rise; the present high figures are due in some measure to the high price of teak, which induces the department to sell largely.

British Burma.

The additions made during the year nearly complete the probable reserved forest area in Berar, and the reorganisation of the department in accordance with the orders of the Government of India will shortly be consummated. The reclassification of district forests has been commenced without, at present, very satisfactory results. Forest fires were more than usually destructive: the area under protection was larger than in the previous year by 65,368 acres, and the acreage destroyed was 7.9 per cent., against 1.6 in 1880-1; the latter figures are however exceptional, the percentage destroyed by fire being in previous years 8.5. In the Ghatbori reserve three fires were ascribed to incendiaries, a fact which indicates dissatisfaction with the forest administration. A large area of grass was reserved for hay and burnt while dry; it is a mistake thus to provide fuel for forest fires. The profits on the year's administration shew a considerable falling off. Hitherto the department has relied for its income in the Melghat unreserved forests which are becoming exhausted; it will have henceforth to look to the reserved forests for its profits, but at present there appears to be no market for forest produce. The extension of road-communication will, it is hoped, remedy this evil. A decrease is noted in the export of teak of 39,116 cubic feet, and of the number of bamboos of 481,200, or one-

Berar.

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third of the total export. The former falling off is ascribed to the quadrupling of the tax on balties, which has resulted in a loss of 1,200 *l.* to the revenue. This fact seems to point to the importance of interfering as little as possible with the unreserved forests, a policy hitherto adopted. The tax will however be continued for the present. The finances of the Department are, in the opinion of the Resident, unduly taxed by the over-efficiency of the Department.

Ajmere.

The area of reserved forest in Ajmere remains practically unaltered (77,875 acres), and the execution of the scheme for its enlargement has been deferred. The receipts were 407 *l.*, against 112 *l.* in 1880, the charges 1,395 *l.*, against 1,242 *l.*, and the deficit 989 *l.*, against 1,130 *l.* The increase in receipts is due to a reclassification of the profits of certain grazing lands. The results of the year's administration are successful, and the popular dislike to forest conservancy is said to be abating.

Coorg.

The results of the Coorg Forest administration for 1880-1, cannot be considered altogether satisfactory. The revision of the Coorg Forest rules was deferred till the passing of the new Madras Forest Act, and will now be shortly completed. Sixty-three miles of Ghat Forest were demarcated during the year, which finishes the whole work of forest demarcation. The proportion of acreage burnt to acreage under protection is very high, viz., 62 per cent., and it furthermore appears that the fires owed their origin to the *Shikaris* and others, as they all originated within the boundaries of the forests. The results of fire-protection are not considered creditable to the Department. The area of plantations has increased, but the planting was unsuccessful in many instances owing to defective method and unseasonable rainfall. The working of the distant Ghat Forests is still in an unsatisfactory condition, as evidenced by considerable thefts of timber from them. The license system has proved a failure as affording facilities for smuggling; the system of leasing to a contractor is not remunerative to the contractor; and it only remains to work the forests departmentally. Conservancy should be extended to the unreserved and exhausted forests, but the operation will be a delicate one as the rights of the natives are very valuable to them, and will have to be rigidly respected. The receipts from the administration and the surplus are larger than in the previous year, though they shew no improvement on the average for the last five years. Only 60 $\frac{3}{4}$  tons of sandalwood were sold against 120 tons in the previous year, and the realizations were 1,406 *l.* against an estimate of 4,320 *l.* The stock was reserved owing to the lowness of the prices, kept down by a combination of the merchants and the competition of Mysore.

Bombay.

The total area of forests in Bombay was increased by 120 square miles during the year. In the Northern Division 212 $\frac{1}{2}$  miles were disforested, chiefly consisting of unproductive salt marsh. In Khandesh and Poona large areas were disforested, but in the former district the reduction was more than counterbalanced by additions, and in Sholapur 63 square miles were brought under Forest Conservancy. In the Southern Division, in Belgaum and Dharwar, 51 square miles were added to the forest area, and 125 $\frac{1}{2}$  square miles were transferred from the head of protected to the head of reserved forests. Great progress was made in demarcation and settlement, but as this cannot be done satisfactorily without careful inspection of the lands and consideration of evidence, rapid completion is impossible. Forests are being rendered more compact and manageable, and the department is acquiring control over all desirable land, while it gives up to cultivation such land as it does not require. Conservancy is making great progress in native states, notably Bhor and Idar. There are only 586 acres in Sind which remains the same as last year, except for the addition of a fuel reserve at Hyderabad. It is stated, however, that 10,675 acres were gained by alluvion, and only 6,180 acres were lost by diluvion. The difference, therefore, would constitute an increase of area. Large tracts have, however, been selected as suitable for forests, and will be brought into operation when the final settlement of claims is made. In Sind the people obtain wood in sufficient quantities from waste lands, but in the other divisions a system of free grants is established which, in 1880-1, amounted in value to 1,007 *l.*, and in 1881-2 to 1,307 *l.* These grants were made to the greatest extent in Kanara. Grazing permits are now given in all the districts of the Southern Division, and have proved very successful, the receipts amounting to 5,138 *l.*, against an average for the three years ending 1879-80, when

the contract system was in force, of 1,086 *l.* The terms of the grazing system in the Northern Division are not stated; the receipts shew 14,209 *l.*, being an advance of 4,200 *l.* on the previous year. In Sind all the forests, except 46,000 acres, are open for grazing. The number of prosecutions for forest offences stands at 2,209, against 2,103 in 1880-1. The very large proportion of prosecutions in Thana, and the very small proportion in Kanara, together with a comparison of these figures with the other returns, leave no room to doubt that the law is not satisfactorily administered in these districts. The financial figures given in the statement include Sind, which is not, however, in so satisfactory a condition as the other divisions. The departmental system of working the forests is considered the best, both in the Northern and Southern Divisions, *i.e.*, of paying the natives for the collection of such produce as myrabolams, firewood, &c., directly, and not through contractors; and in the case of grazing permits, levying a fee (usually two annas per head of cattle) direct from the owner, instead of letting out the right to graze cattle to contractors. Thus the people most likely to impede the progress of Forest Conservancy are employed and conciliated. The system of paying natives for cutting and conveying wood a share of the proceeds was tried unsuccessfully in Kolaba, where there exists also a system by which natives acquire permanent agreements for a share of the produce on condition of protecting the forests. There appears to be a hesitation in devizing the interests so acquired, but the system should not, in the opinion of the Commissioner of the Northern Division, be discontinued incautiously. The amounts spent on plantations were, for the Northern Division, 1,153 *l.* in 1880-1, and 707 *l.* in the year under the Report; the figures for the Southern Division are 964 *l.* and 867 *l.* No information is given for Sind. The great problem of Indian forestry, *viz.*, the reboisement of arid districts, has been grappled with in Bombay by sowing broadcast the seeds of all sorts of likely trees and bushes; the result of which proceeding is now apparent in the appearance of "countless millions" of young plants. The Kanara saw-mill barely paid its expenses.

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VI.  
PUBLIC WORKS.

IRRIGATION AND  
CANALS.

To understand the various methods by which public works of different kinds are carried out, it is necessary to know the meaning of the terms: (1) Productive, (2) Protective, and (3) Provincial, as applied to Public Works; (1) Productive Works are those which are paid for out of borrowed money, and which are estimated to yield 4 per cent. per annum on the gross capital outlay, for railways within five years, for irrigation works within 10 years, from the date of opening. The limit for the annual loan for this purpose was fixed in 1879 at 250 lacs of rupees to be distributed between railways, canals, and miscellaneous works in proportions to be determined each year. (2) The object of protective works is to forestall famine, but they may be ultimately productive, because they will probably open up new fields of agricultural produce. Such works are constructed on a yearly allotment of 750,000 l.; the moiety of the one and half a million set apart annually as a Famine Insurance Fund. (3) Provincial works are works of a productive character, constructed on the financial responsibility of the Local Government under arrangements with the Supreme Government. Capital is either provided by the Central Government, or from provincial sources, or borrowed locally.

The irrigation areas of India lie principally in the river basins and deltas, but exist also in districts, such as in the southern portions of Madras, where a watershed enables a system of tanks to be formed. The chief systems are situated in the Indus, the Ganges, Jumna, the Mahanadi, the Nerbudda, Tapti, Sutlej, and Ravi Basins, and in the deltas of the Godavari, Kistna, and Kalerun in Madras. A detailed account of the irrigation systems is given in the number of this Report for the decade ending 1872-3. The following statement gives the statistics of irrigation of all kinds throughout India.

FINANCIAL RESULTS of Irrigation Works for 1881-2.

	Productive Works.			Ordinary or Provincial Irrigation Works.			Protective Works.	
	Disbursements.	Receipts.	Surplus or Deficit.	Disbursements.	Receipts.	Surplus or Deficit.	Disbursements.	Receipts.
	£.	£.	£.	£.	£.	£.	£.	£.
Bengal	115,656	125,681	10,025	86,563	431	-86,132	—	—
Rajputana	—	—	—	1,416	8,182	+6,766	—	—
British Burma	—	—	—	9,724	44,441	+34,717	—	—
North-Western Provinces and Oudh	132,169	554,667	422,498	—147	19,548	+19,695	16,026	—
Punjab	227,840	266,325	38,485	-3,819	165,806	+169,625	40,667	—
Madras	39,513	349,518	210,105	8,213	13,295	+21,508	5,983	—
Bombay	50,626	62,818	12,192	23,605	95,579	+119,184	72,023	—
TOTAL	565,804	1,359,109	793,305	125,555	347,282	+221,727	135,208	—

The following table gives the mileage and financial condition of the productive irrigation works in Bengal.

PRODUCTIVE IRRIGATION WORKS.

PRODUCTIVE WORKS in Bengal.

Bengal.

	Mileage in Operation in 1881-2.	Area Irrigated in 1881-2.	Total Revenue.		Total Charges.		Surplus or Deficit.		Total Revenue at end of 1881-2.	Total Charges at end of 1881-2.	Total Surplus or Deficit at end of 1881-2.
			To end of 1880-1.	For 1881-2.	To end of 1880-1.	For 1881-2.	To end of 1880-1.	For 1881-2.			
			£.	£.	£.	£.	£.	£.	£.	£.	£.
Orissa Canals	837½	129,531	125,722	22,315	258,854	34,507	-133,132	-12,192	146,037	293,361	-145,324
Midnapore Canal	315	104,147	135,168	25,007	160,981	23,859	-21,813	+1,148	154,175	184,840	-20,665
Tidai Canal	29	—	42,230	4,730	31,741	2,999	+10,489	+1,731	46,960	34,740	+12,220
Sone Canals	1,286½	173,073	167,324	73,629	187,578	49,019	-20,254	+24,610	240,953	236,507	+4,356
TOTAL	2,467½	411,753	474,444	125,681	639,154	110,384	-164,710	+15,297	600,125	749,538	-149,413

The Orissa canals extend over the deltas of the four rivers, Mahanadi, Brahmani, Baitarni, and Salandi, and the water is supplied to them by means of a weir or anicut thrown over the Mahanadi. They are intended to avert danger in time of drought and flood, as well as for purposes of navigation. The Midnapore canal is a branch of the Orissa works, and runs through the Midnapore district to the Hooghly river, 16 miles below Calcutta. The Hidelgee Tidal Canal is for navigation only, and runs from the Hooghly to the Haldi, and thence to the Rasulpur river. The Sone canals in South Behar intercept the flood discharge of the Sone at Delhi, so as to irrigate a dry district along the south bank of the Ganges. The system includes also the Arrah and Buxar canals.

PRODUCTIVE IRRIGATION WORKS.

The expenditure of the current year on the Orissa works will cause an excess which was anticipated; 4,752 l. was expended on the extension of the Golni canal between Guudukia and Alba. The Midnapore project is almost completed, only about 40,000 l., chiefly for dredging machinery and plant remaining to be spent on it. The distributaries under Midnapore and Panch Konah weirs have been completed. In the Sone system the expenditure was principally on the heavy works at the terminus of the Buxar canal, and several distributaries from it and from the Gurra Chowbey Branch canal have been opened for irrigation. The navigation tollage receipts were 5,715 l. against 4,187 l. on the Orissa canals; 9,784 l. against 7,769 l. on the Midnapore canals; on the Tidal canal 4,534 l. against 5,406 l., and on the Sone canals 5,436 l. against 3,854 l.; the tonnage afloat on the different systems was respectively 143,522, 332,325, 132,984, and 113,971, against 89,863, 292,452, 152,781, and 69,597 in 1880-1. The *tuccari* outlay, i.e., works executed on private estates from funds advanced by Government, was 4,093 l. against 18,747 l.

PRODUCTIVE WORKS in the North Western Provinces and Oudh.

N. W. Provinces and Oudh.

	Length of Canals open at the end of 1881-2.	Area Irrigated in 1881-2.	Total Revenue		Total Charges		Surplus or Deficit		Total Revenue at end of 1881-2.	Total Charges at end of 1881-2.	Total Surplus or Deficit at end of 1881-2.
			To end of 1880-1.	For 1881-2.	To end of 1880-1.	For 1881-2.	To end of 1880-1.	For 1881-2.			
			£.	£.	£.	£.	£.	£.			
Ganges Canal - - -	2,968	772,321	3,004,841	237,349	1,691,178	88,223	+1,373,663	+149,128	3,302,190	1,779,401	+1,522,789
Agra Canal - - -	456	152,603	148,792	59,084	108,628	24,364	+40,166	+34,720	207,876	132,990	+74,886
Lower Ganges Canal -	2,154	631,261	1,230,392	162,162	419,973	54,348	+810,419	+107,814	1,392,554	474,321	+918,233
Eastern Jumna Canal -	748	254,986	1,708,878	96,072	616,338	18,962	+1,092,538	+77,110	1,804,948	635,300	+1,169,648
<b>TOTAL - - -</b>	<b>6,378</b>	<b>1,811,071</b>	<b>6,152,901</b>	<b>554,607</b>	<b>2,826,115</b>	<b>185,897</b>	<b>+3,316,786</b>	<b>+368,770</b>	<b>6,707,568</b>	<b>3,022,012</b>	<b>+3,685,556</b>

The Betwah canal, sanctioned as a famine protective work, absorbed 17,274 l., and was commenced during the year. The Lower Ganges canal is also not as yet in full operation, as the distributary systems, and some portions of the branches are unfinished. The canal systems of the North-Western Provinces, are situated in the Doab, between the Ganges and the Jumna, and it is in this tract as well as in the Madras Presidency that the British Government have been most successful in averting famine and drought by irrigation. The Ganges canal, designed by Sir Proby Cautley, is a gigantic work, which starts from Hurdwar and flows for 260 miles; in the course of the first 20 miles it is passed below two wide torrent beds, through one and over a fourth. The total \*Kharif area irrigated during the year was 706,025 acres, and the irrigated †rabi area 1,209,823 against 700,139 and 1,032,010 in 1880-1. The latter figure is much greater than in any previous year, while the increased area under the more valuable Kharif crops, sugar cane and indigo more than compensated for the decrease under cereals. The only addition to the waterway of former years is between Narora, the head of the Lower Ganges Canal, and the junction with the Cawnpore Branch, but its effect on the traffic is not discernible at present. The revenue collected from navigation was 2,316 l., against 2,822 l. in 1880-1, and the tonnage afloat was 76,176 against 65,322.

\* Kharif = autumn crops.

† Rabi = spring crops.



## STATEMENT EXHIBITING THE MORAL AND MATERIAL

## PRODUCTIVE WORKS in the Punjab.

Punjab.	Mileage in Operation in 1881-2.	Area Irrigated in 1881-2.	Total Revenue		Total Charges		Surplus or Deficit		Total Revenue at end of 1881-2.	Total Charges at end of 1881-2.	Total Surplus or Deficit at end of 1881-2.
			To end of 1880-1.	For 1881-2.	To end of 1880-1.	For 1881-2.	To end of 1880-1.	For 1881-2.			
Western Jumna Canal	1,069	300,545	£. 4,235,208	£. 123,954	£. 1,160,499	£. 43,116	+ 3,074,709	£. 80,318	£. 4,359,142	£. 1,203,615	+ 3,155,527
Bari Doab Canal	1,228½	368,002	1,668,267	142,391	908,363	51,056	+ 759,904	91,335	1,810,658	359,419	+ 851,239
Sirhind Canal	-	-	-	-	2,737,279	384,979	- 2,737,279	- 384,979	-	3,122,258	- 3,122,258
TOTAL	2,297½	668,547	5,903,475	266,325	4,806,141	479,151	+ 1,097,334	- 212,826	6,169,800	5,265,292	+ 884,508

The main line and head works of the Sirhind canal were virtually completed, and the work on the main branches was nearly finished during the year. Considerable progress was made with the Swat River Canal, and a canal for the irrigation of the Sind Sagar Doab was in contemplation. The rainfall on the Bari Doab Canal above Amritsar was the heaviest on the record. On the 13th and 14th July the hill torrent works near the head of the canal were damaged by rain-fall, but the canal itself was not seriously damaged.

British Burma.

On the Pegu canal heavy works have been carried out, and it is in a decidedly better condition than in the previous year. The Minywa escape, designed to pass off drainage from the large area to the west, without letting in the tidal waters from the Sittang river, being badly built and designed, cracked so that it was necessary to reopen the Kyazoo creek. The creek was ultimately closed again at a heavy cost, and the canal traffic thereby relieved from the inconveniences of a tidal river. Important works were carried on in tidal creeks at Kyouktan and Twantay. An account of the Irrawaddy embankments will be found in the section of this chapter entitled Civil Buildings, Communications, &c.

## PRODUCTIVE WORKS in Madras.

Madras.	Mileage in Operation in 1881-2.	Area Irrigated in 1881-2.	Total Revenue		Total Charges		Surplus or Deficit		Total Revenue at end of 1881-2.	Total Charges at end of 1881-2.	Surplus or Deficit.
			To end of 1880-1.	For 1881-2.	To end of 1880-1.	For 1881-2.	To end of 1880-1.	For 1881-2.			
Godavari Delta System	3,202	549,998	£. 4,678,607	£. 167,067	£. 892,078	£. 9,916	+ 3,786,529	£. 157,151	£. 4,945,674	£. 901,994	+ 3,943,680
Kistna Delta System	2,105	287,074	2,200,202	97,145	555,908	11,473	+ 1,704,294	+ 85,672	2,357,347	567,381	+ 1,789,966
Cauvery Delta System	512	1,005,797	3,192,857	68,331	101,717	-	+ 3,091,140	+ 68,331	3,261,188	101,717	+ 3,159,471
Penner Anicut System	149	57,865	166,784	10,079	142,886	-	+ 23,898	+ 10,979	177,765	142,886	+ 34,877
Srivai Kuntham Anicut System.	177	34,450	46,028	6,096	122,340	106	- 75,712	+ 5,990	52,724	122,446	- 69,722
Sangam Project	-	-	-	-	5,113	18,018	- 5,113	- 18,018	-	23,131	- 23,131
TOTAL	6,145	1,935,164	10,345,078	349,618	1,820,042	39,513	8,525,036	+ 310,105	10,694,696	1,869,555	+ 8,835,141

The Godavari Delta system "is a monument of the engineering skill and ability of Sir Arthur Cotton." Navigation is practicable on a portion of the river between the ghats and the Anicut for five months during the year. The navigable waterway is now 458 miles in length, and when the system is completed will be 502½ miles long. A black soil is carried down the Godavari, which fertilizes the sandy Delta where the chief crop is rice. The Kistna system is now connected by the Buckingham canal, which affords a boat communication of 400 miles, with the Godavari system. In the Kistna system itself, there are 278 navigable miles, which, on completion of the system, will be extended to 349 miles. The Cauvery, with its affluents, waters probably a greater area than any river in India, including Mysore, Coimbatore, Salem, Trichinopoly and Tanjore, and while the revenue derived from it exceeds that of any Indian river, the cost of construction, and maintenance is on the most moderate scale. The system of irrigation is very ancient, and Sir Arthur Cotton's great work in 1836, the Anicut, preserved the river

river from the danger of its waters forcing a passage into the Coleroon. In the Godavari canals, there was ample water for all requirements up to the end of September, but in October and November the supply was very scarce. There was a falling off in irrigated area, owing to the low price of paddy. The excess of the year's outlay over revenue in the Kistna canal is due to the transfer of the expenditure on navigation works of the Commamur canal to the Productive Works capital account of this system. The rains ceased towards the end of October, and there was for a short time a scarcity of water, but the completion of the temporary stone bund over the Anicut, and rain early in November, prevented loss of crops. The area under irrigation was less than in the previous year. Under extensions and improvements in the Cauvery system two major works, Kodamurti and Tirumalrajen regulators and the Upper Coleroon undersluices were in progress. Heavy rains fell in December, but for which the crops in the Delta would have suffered severely. The area irrigated shewed a considerable increase on the previous year. In the Penner Anicut system, cultivation was fairly supplied with water, except during the latter half of October, but the outturn of crops was below the average. In the southern section of the Srivai Kuntham Anicut system, the head sluice to Nallur channel was completed. The supply in the Tambraparni river was very limited, and much difficulty was experienced in supplying the lands under the Anicut, a large area of which scarcely produced any ear crop. During the north-east monsoon the supply was however ample. The Sangam Anicut system will be completed in eight years, and the ultimate area of irrigation will be 94,000 acres. The project was only begun in July 1881. As it was impossible to improve the condition of the Kurnool canal as long as it remained under the charge of the Madras Irrigation and Canal Company, it was resolved to forestall the date of termination of the contract with the company, and to bring the canal under the direct control of Government. The final transfer was authorised by a judgment of the Vice Chancellor on the 16th March 1882, and in the previous August a committee was appointed to determine what changes of arrangements should be introduced. They reported that the canal may not be regarded as valuable for purposes of protection against famine, although it may be remunerative, and they proposed certain remedial measures, with a view to encourage the ryots to extend irrigation. The traffic during the year was more than threefold that of the previous year, and the receipts increased from 578 l. to 1,615 l., but the increase in working expenses was so great as to cause a net loss greater than in the previous year. The total credits and debits under capital account were 162,458 l., the latter side of the account including 8,215 l. balance of cash with Government, but as it was decided to purchase the work the required funds were advanced without reference to the revenue earned. The area irrigated was 24,683 acres against 18,001 in 1880-1 and the revenue from irrigation 7,744 l. against 5,917 l.

PRODUCTIVE WORKS in Bombay and Sind.

	Total Mileage in Operation in 1881-2.	Area Irrigated in 1881-2.	Total Revenue		Total Charges		Surplus or Deficit		Total Revenue at end of 1881-2.	Total Charges at end of 1881-2.	Total Surplus or Deficit to end of 1881-2.	Bombay.
			To end of 1880-1.	For 1881-2.	To end of 1880-1.	For 1881-2.	To end of 1880-1.	For 1881-2.				
Desert Canal	60	92,177	£ 67,474	£ 11,037	£ 19,008	£ 2,329	+ £ 48,376	+ £ 8,708	78,511	21,427	+ 57,084	
Begari	148	122,026	216,586	12,155	129,070	6,222	+ 87,516	+ 5,933	228,741	135,292	+ 93,449	
East Narra Works	253	89,120	332,285	17,387	184,941	7,057	+ 147,344	+ 10,330	349,672	191,998	+ 157,674	
Hathmati Canal	44	2,521	1,595	394	5,809	786	- 4,214	- 392	1,989	6,596	- 4,606	
Lower Panjhra River Works.	45	2,452	3,914	978	2,387	490	+ 1,527	+ 488	4,892	2,877	+ 2,015	
Kadra River Works	34	1,348	2,779	1,193	3,747	583	- 968	+ 608	2,972	4,332	- 360	
Lakh Canal	35	316	1,361	77	7,478	420	- 6,117	- 343	1,438	7,898	- 6,460	
Mutha Mula Project	127	8,973	62,101	16,129	24,808	7,042	+ 37,293	+ 9,087	78,230	31,850	+ 46,380	
Ekrak Tank	48	1,230	3,645	813	16,450	1,421	- 12,805	- 608	4,468	17,871	13,403	
Krishna Canal	54	4,346	16,074	2,655	22,067	1,683	- 6,393	972	18,329	23,760	- 5,431	
<b>TOTAL</b>	<b>848</b>	<b>324,516</b>	<b>707,414</b>	<b>62,818</b>	<b>415,855</b>	<b>28,035</b>	<b>+ 291,550</b>	<b>+ 34,783</b>	<b>770,232</b>	<b>443,890</b>	<b>+ 326,342</b>	

IRRIGATION AND  
CANALS.

Cultivation in Sind is entirely dependent on irrigation, and water is drawn from the Indus for this purpose by inundation canals which fill only when the river is in flood, and by perennial channels. The former for the most part the work of the ancient rulers of the country, or of the cultivators themselves, and the latter have been constructed since the rise of British rule. In Sind irrigation is treated as an integral department of the land administration. In Gujarat the supply of water is drawn from wells, and in the Deccan from tanks, while along the Konkan coast the rainfall makes artificial navigation unnecessary. The Indus conservancy experienced a favourable inundation, though the floods did much damage to forest lands. The river is said to be forcing an outlet to the sea through the Hydri channel, which has been closed for 20 years, while the Hajamri channel is silting up. The receipts from fees levied on vessels plying on the river were 2,092 l., and expenditure 45,720 l. There was a decrease in river traffic due to increased facilities of railway transit and loading at the Prince's Dock, Bombay, but the number of boats (3,320) exceeded the number in the previous year by 99.

## RAILWAYS.

The three systems on which railways in India have been constructed and worked are: (1) Guaranteed, (2) State, and (3) private enterprise. The first railways in India were constructed on the guaranteed system. It was found that joint stock companies could not succeed in raising capital without State assistance, which took the form of the guarantee of a certain rate of interest on the capital raised by the companies, with the sanction of Government. In 1869, during the vice-royalty of Lord Mayo, it was resolved that railway extension should be undertaken by the State. In January of the year under review, instructions were issued to the Indian Government on the subject of private enterprise, which was to receive every encouragement short of pecuniary assistance, and only if it could not be otherwise persuaded to come forward was it to be stimulated by pecuniary aid. The following companies were formed during the year under review: (1) The Bengal Central Railway has been granted an advance of interest of 4 per cent. on the paid up capital during construction, to be repaid by half the net earnings over 5 per cent. (2) The Assam Railways and Trading Company receive a provincial guarantee to make the profits up to 5 per cent. for 20 years (to commence on the completion of the line), and the concession of coal, iron and petroleum licenses. (3) The Baidyanath Deoghur Tramway Company receive no concessions, except that of the free grant of land, which is common to all these lines. (4) A line from Darjeeling to the Himalaya range, begun as a tramway, was reconstructed as a railway 50 miles in length, and opened throughout in 1881. It receives no pecuniary assistance from Government, but is aided by grants of land and concessions. Negotiations were also entered into, (1) with the Bengal and North Western Railway Company for the construction of a railway from Sonpur, near Patna, to Bahraich, in Oudh, with three branches on the metre gauge, comprising a total length of 455 miles; (2) with a local company for the construction of a railway from Burdwan to Khatwa and Dainhat on a 2½ feet gauge, 40 miles; the capital, 13 to 15 lacs of rupees, to be raised locally. These lines are the property of companies and are constructed by them, without pecuniary assistance from Government, but with free grants of land required for purposes of the lines. Besides these, the Southern Mahratta Railway Company in June 1882, entered into an agreement for the construction and working of a metre gauge line to Bellary, from the terminus of the West of India Portuguese Guaranteed Railway on the British frontier, with branches to Poona and Sholapur, comprising a total length of 435 miles. The total capital required is estimated at 5,000,000 l., the capital being raised by the Company, and deposited with Government, who pay 2½ per cent. interest during maintenance of contract. In addition, Government advance a further ½ per cent. interest on capital expended during the first seven years of the undertaking: the Secretary of State is the owner of the property, and supplies funds to the Company as required for construction. The guaranteed lines will ultimately pass into the hands of Government at the termination of the leases; but may be purchased at certain periods previous to the termination of the 99 years' lease, powers to that effect having been reserved to the State by the original contracts. Thus the East Indian Main Line and Jabalpure Branch were purchased in 1879, and handed back to that company to be worked by them

them. The operation resulted in an actual annual saving to Government of 136,646 *l.* Similarly, the Eastern Bengal Railway will be purchased in 1884, and the Sind, Punjab, and Delhi may be purchased in 1885, the Oudh and Rohilkund in 1887, the South Indian in 1890, and the rest at subsequent dates. Government also reserve the right to purchase lines constructed by private enterprise, at periods fixed in each contract.

The results of the year, briefly summarised, are as follows: The length of railways open on the 31st March 1881 was 9,595 miles, and on the 31st March 1882, 9,963½, shewing an additional mileage during the year under review of 368½. The financial results for 1881 were, gross earnings, 14,328,080 *l.*, the working expenses 7,071,246 *l.*, and the net profits 7,251,834 *l.* The Punjab Northern line was extended to Attock and Khushalgar, and has since the close of the year been carried to Peshawar, completing the communication with the North Western Frontier. Additions were made to the Northern line connecting Nasirabad with Nimach, to the Cawnpore-Farrukhabad line to the Nagpur-Chhattisgarh line, to the Kathiawar system, and to the Mysore State line, which will connect the capital of that state with Bangalore. The works in progress were the Bengal Central line, the Assam line, extensions in Tirhut and Oudh; a second line in Burma; the South Mahratta line; the Bareilly and Kumaon, and Ootacamund lines, while the bridges over the Gauges at Benares, and over the

Illegibly were commenced. A great advance is noted under the head of traffic receipts, the figures being 13,211,082 tons, value 9,151,168 *l.* against 10,453,137 tons, value 7,918,356 *l.* in the previous year. The great increase was in grain and cotton. The Great Indian Peninsula Railway carried to Bombay about 500,000 tons of wheat alone against 146,600 tons in 1880; and the wheat railed to Calcutta amounted to 137,700 tons in 1880, and 304,400 tons in 1881. The total capital cost of all open lines was 134,739,089 *l.*, and the per-centage of net profits on capital cost was 5.38 as compared with 4.97, per cent. in 1880, on a total capital 128,569,129 *l.* A comparison of the length and cost of the open line under the head of broad and narrow gauge is interesting.

	Length open in Miles.	Total Cost.	Cost per Mile.	Length under Construction in Miles.
		£.	£.	
Broad Gauge	6,969	121,392,865	17,875	457
Narrow Gauge	2,955	20,412,010	6,908	986

The length of railways open for traffic has doubled during the last ten years, and notwithstanding the large addition of comparatively new lines on which the traffic cannot as yet be fully developed, the financial returns are very satisfactory. The general improvement is most encouraging, and indicates that, with care in the selection of route, with economical but substantial construction, and careful management of working, railway enterprise in India will become extremely profitable. The commencement already made in construction by private enterprise gives great hopes in this direction for the future, and it may be hoped that the present results of railway operations will be the means of attracting further capital for providing the additional lines so much required. For further information on this subject reference may be made to the Annual Report on Railways in India, compiled by Mr. Juland Danvers, and presented to Parliament in 1882. This series of Reports, which has been for the last 22 years drawn up by Mr. Danvers in this country, will for the future be prepared in India.

The following tabular statements give the principal facts about Indian railways for the calendar year 1881, in comparison with the figures for 1880. The rupee is taken at the convenient rate of 2 *s.*

STATEMENT EXHIBITING THE MORAL AND MATERIAL

GUARANTEED RAILWAYS.

	Year.	Length Open on 31st December.	Number of Passengers.	Goods Traffic.	Gross Receipts.	Gross Expenses.	Net Earnings.	Capital Outlay to 31st December.	Percentage of Net Earnings to Capital Outlay.
	1.	2.	3.	4.	5.	6.	7.	8.	9.
		<i>Miles.</i>		<i>Tons.</i>	<i>£.</i>	<i>£.</i>	<i>£.</i>	<i>£.</i>	
East Indian*	1880 1881	1,516 1,518	8,094,604 8,414,070	2,761,048 2,870,265	4,251,510 4,545,030	1,419,069 1,446,964	2,978,441 3,108,066	53,096,150 53,327,531	8.60 8.35
Eastern Bengal	1880 1881	158 159	1,999,425 2,202,222	392,005 412,508	445,132 512,906	190,763 189,766	254,377 323,140	3,416,352 3,817,242	7.07 8.74
Oudh and Rohilkhand	1880 1881	247 247	2,482,465 2,712,873	600,270 611,376	445,515 494,873	255,074 295,303	190,441 197,570	3,779,638 3,844,077	3.30 3.35
Siud, Punjab, and Delhi	1880 1881	663 663	4,109,123 4,102,154	881,181 1,002,720	1,216,789 1,002,024	637,436 620,181	579,357 321,903	11,055,218 11,137,738	6.24 5.79
Madras	1880 1881	838 868	4,008,047 4,269,642	608,213 624,171	616,254 631,131	420,541 424,446	195,713 207,685	11,045,539 11,103,729	1.77 1.97
South Indian	1880 1881	615 655	4,477,855 4,828,447	818,040 817,603	365,959 375,569	262,957 251,790	93,002 123,773	4,167,256 4,289,676	2.23 2.70
Great Indian Peninsula †	1880 1881	1,435 1,418	4,761,977 5,397,962	1,249,920 1,752,351	2,572,659 3,206,682	1,394,770 1,583,734	1,177,889 1,622,948	23,237,511 26,347,777	4.70 6.19
Bombay, Baroda, and Central India ‡	1880 1881	444 444	6,245,110 7,128,234	657,923 687,906	824,437 874,513	350,972 309,948	473,465 574,570	8,284,215 8,474,873	5.71 6.56
TOTAL	1880 1881	6,266 6,392	56,165,006 59,356,904	7,361,439 9,096,935	10,771,225 11,730,808	4,922,574 5,261,233	8,848,651 9,478,575	102,012,790 103,381,691	5.73 6.24

\* Includes Dildarnagar-Ghazipur Line.  
 † Includes Mohani Branch, Dhond and Maumud, Amraoti, and Khamgaon State Lines.  
 ‡ Includes Patri Line.

STATE RAILWAYS.

	Year.	Length Open on 31st December.	Number of Passengers.	Goods Traffic.	Gross Receipts.	Gross Expenses.	Net Earnings.	Capital Outlay to 31st December.	Percentage of Net Earnings to Capital Outlay.
	1.	2.	3.	4.	5.	6.	7.	8.	9.
		<i>Miles.</i>		<i>Tons.</i>	<i>£.</i>	<i>£.</i>	<i>£.</i>	<i>£.</i>	
<b>BENGAL:</b>									
Calcutta and South Eastern	1880 1881	28 28	595,803 637,328	81,442 87,279	14,210 15,251	10,134 10,131	4,076 5,120	601,934 673,617	0.61 0.78
Nalhati	1880 1881	27 27	135,091 116,376	7,277 8,577	6,992 6,700	7,365 5,307	373 1,393	32,521 30,778	1.15 4.33
Northern Bengal	1880 1881	243 245	703,707 686,243	121,092 140,660	141,930 164,118	85,430 84,445	56,501 80,673	1,967,373 1,965,204	3.02 4.04
Tirhoot	1880 1881	85 85	475,877 467,844	70,571 84,794	45,292 45,699	26,220 27,915	19,072 20,783	515,133 549,049	3.70 3.85
Patna Gya	1880 1881	57 57	510,696 546,569	52,694 64,123	48,136 51,543	27,030 33,429	21,106 17,914	822,005 250,440	6.56 5.11
TOTAL	1880 1881	440 442	2,431,674 2,473,459	282,907 346,493	299,589 287,111	156,188 161,227	103,392 125,884	3,791,106 3,490,988	2.95 3.62
<b>NORTH-WESTERN PROVINCES AND OUDH:</b>									
Muttra-Achnera	1881	23	—	—	604	618	76	59,124	0.13
Muttra-Mathras	1880 1881	29 20	392,478 326,323	32,247 29,342	13,523 13,533	7,760 8,563	5,767 4,170	108,816 105,096	5.30 3.97
Cawnpore-Farrukhabad	1880 1881	49 56	7,125 611,102	25 33,264	220 27,838	518 19,435	293 8,424	270,869 312,683	0.11 2.69
TOTAL	1880 1881	78 138	329,603 637,425	32,272 62,606	13,742 42,085	8,268 20,416	5,474 12,670	379,624 476,905	1.41 2.66
<b>PUNJAB:</b>									
Punjab Northern	1880 1881	225 255	1,949,790 1,928,179	273,560 240,616	336,828 346,956	280,411 310,206	56,417 36,960	4,043,792 5,473,140	1.40 0.66
Indus Valley and Kandahar	1880 1881	613 653	1,361,425 1,529,970	599,859 652,999	647,266 631,869	453,940 418,628	193,326 114,241	6,028,261 7,142,591	3.79 1.54
TOTAL	1880 1881	678 1,008	3,211,215 3,458,149	774,100 793,616	941,004 879,825	734,251 729,624	249,743 150,201	10,071,993 12,615,731	2.21 1.16

STATE RAILWAYS—continued.

RAILWAYS.

	Year.	Length Open on 31st December.	Number of Passengers.	Goods Traffic.	Gross Receipts.	Gross Expenses.	Net Earnings.	Capital Outlay to 31st December.	Percentage of Net Earning to Capital Outlay.
	1.	2.	3.	4.	5.	6.	7.	8.	9.
<b>CENTRAL PROVINCES:</b>									
Nagpur and Chhattisgarh	1883	63	130,008	107,080	10,305	8,268	2,127	307,769	0.70
	1881	93	403,714	10,798	28,153	21,817	6,606	568,316	1.16
Wardha Coal	1880	46	70,123	42,471	13,300	23,838	-8,248	561,580	-1.47
	1881	46	110,788	82,950	47,899	49,671	-2,072	570,673	-0.37
<b>TOTAL</b>	1880	99	209,491	145,511	23,605	32,106	-6,121	865,349	-0.77
	1881	144	579,532	108,658	75,751	71,218	4,534	1,138,989	0.39
<b>BRITISH BURMA:</b>									
Bangoon and Irrawaddy Valley	1880	161	1,112,424	112,706	132,371	80,163	52,108	1,250,724	4.23
	1881	161	1,61,253	174,713	151,302	89,854	64,508	1,219,208	5.17
<b>NATIVE STATES:</b>									
Gackwar's	1880	47	—	—	12,803	6,369	6,514	114,421	5.69
	1881	69	—	—	14,125	9,238	4,885	123,161	3.98
Nizams	1880	121	327,469	80,673	70,772	47,811	22,431	1,206,229	1.88
	1881	121	374,882	83,334	75,683	46,106	29,377	1,217,347	2.40
Rajputana Malwa †	1880	820	8,660,744	508,701	517,279	357,374	159,404	6,940,081	2.38
	1881	1,199	4,262,582	730,113	981,193	628,021	354,172	9,003,176	3.93
Mysore †	1881	68	163,078	13,268	13,152	7,777	5,375	360,089	1.49
Bhavnagar Gondal	1881	193	—	—	68,833	48,313	20,523	673,411	3.03
Sindia	1880	67	214,300	24,814	20,182	17,771	2,411	815,190	0.30
	1881	73	175,877	132,294	30,168	22,334	7,834	829,633	0.91
<b>TOTAL Native States</b>	1880	1,071	4,202,479	624,189	620,616	429,355	190,760	8,075,915	2.36
	1881	1,704	4,976,499	939,631	1,156,137	762,089	424,064	12,236,337	3.46

ASSISTED RAILWAY.

Darjeeling-Himalaya	1881	50	—	—	26,115	15,230	10,885	181,872	5.98 ‡
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\* Only on lines under construction.

† Includes Rajputana, Western Rajputana, Holkar and Sindia-Neemuch.

‡ Or 8 per cent on capital called up.

TOTAL FOR ALL INDIA.

	Year.	Length Open on 31st December.	Number of Passengers.	Goods Traffic.	Gross Receipts.	Gross Expenses.	Net Earnings.	Capital Outlay to 31st December.	Percentage of Net Earning to Capital Outlay.
	1.	2.	3.	4.	5.	6.	7.	8.	9.
		Miles.		Tons.	£.	£.	£.	£.	
<b>GUARANTEED RAILWAYS*</b>	1880	6,266	30,165,006	7,361,430	10,771,225	4,922,374	5,848,851	102,912,790	5.75
	1881	6,392	38,556,304	9,006,293	11,739,708	5,261,233	6,478,475	104,681,691	6.24
<b>BENGAL</b>	1880	440	2,451,674	292,907	269,380	156,168	103,392	3,501,105	2.95
	1881	442	2,472,059	316,193	287,111	161,237	125,874	3,590,984	3.52
<b>NORTH-WESTERN PROVINCES AND OUDH</b>	1880	78	329,608	32,392	13,742	8,288	5,474	370,614	1.44
	1881	138	837,426	62,606	42,025	29,416	12,679	476,803	2.66
<b>PUNJAB</b>	1880	878	3,214,215	774,409	984,024	734,251	249,843	10,971,923	2.27
	1881	1,008	8,458,149	703,300	879,823	729,924	150,201	12,915,731	1.16
<b>CENTRAL PROVINCES</b>	1880	99	209,491	149,531	23,605	32,106	-6,121	865,349	0.77
	1881	144	579,532	199,658	75,751	71,218	4,534	1,138,989	0.39
<b>BRITISH BURMA</b>	1880	161	1,112,424	112,706	132,371	80,163	52,108	1,250,724	4.23
	1881	161	1,61,253	174,713	151,302	89,854	64,508	1,219,208	5.17
<b>DECCAN AND NATIVE STATES</b>	1880	1,071	4,202,479	624,189	620,616	429,355	190,760	8,075,915	2.36
	1881	1,704	4,976,499	939,631	1,156,137	762,089	424,064	12,236,337	3.46
<b>ASSISTED RAILWAY</b>	1881	50	—	—	26,115	15,230	10,885	181,872	5.98 ‡
<b>GRAND TOTAL FOR ALL INDIA</b>	1880	8,993	47,665,492	9,337,193	12,807,613	6,363,493	6,444,107	117,937,600	5.07
	1881	9,389	59,269,121	11,632,192	14,391,216	7,119,891	7,271,225	139,379,321	5.24

## STATEMENT EXHIBITING THE MORAL AND MATERIAL

COMMUNICATIONS,  
BUILDINGS, &c.

EXPENDITURE on Buildings, Communications, and Miscellaneous Public Improvements.

	India, General.*	Central Provinces.	British Burma.	Assam.	Bengal.	North Western Provinces and Oudh.	Punjab.	Madras.	Bombay.	TOTAL.
	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.
<b>IMPERIAL:</b>										
Military - - -	714,689	30,807	-	21,989	14,420	2,776	63,712	49,044	122,538	1,020,035
Other Services:										
Civil Buildings - -	91,038	505	-	1,790	114,045	12,132	8,556	10,604	11,538	259,208
Communications - -	53,930	-	-	-	-	-	-	-	-	53,930
Miscellaneous - -	59,877	1,557	-	474	24,014	18,690	34,097	7,315	14,793	160,817
Imperial net outlay in India (after deductions for outlay in India).	918,764	32,920	-	24,253	152,438	33,598	101,955	75,963	147,418	1,487,818
<b>PROVINCIAL:</b>										
Military - - -	-	-	50,511	-	-	-	-	-	-	50,511
Other Services:										
Civil Buildings - -	-	15,846	74,633	21,711	240,234	88,736	67,124	50,688	71,724	732,696
Communications - -	-	51,694	144,726	43,489	211,526	113,846	117,526	10,901	122,507	816,215
Miscellaneous - -	-	37,747	177,299	55,514	464,230	159,740	122,982	135,599	169,938	1,323,989
TOTAL Provincial -	-	89,411	322,025	99,093	675,756	273,626	240,508	146,500	292,445	2,139,304
<b>INCORPORATED LOCAL FUNDS.</b>										
Civil Buildings - -	669	757	77	-	-	6,120	6,968	822	18,498	33,711
Communications - -	2,919	4,345	26,524	418	-	130,468	48,211	20,774	126,121	366,780
Miscellaneous - -	2,330	32,296	38,790	28,516	389,912	70,444	11,523	355,577	62,277	992,265
TOTAL Incorporated Funds	5,918	37,998	65,391	28,934	389,912	213,032	66,702	376,973	1206,896	1,391,756†
<b>GRAND TOTAL - -</b>	<b>924,682</b>	<b>160,368</b>	<b>387,416</b>	<b>152,190</b>	<b>1,218,106</b>	<b>520,256</b>	<b>409,165</b>	<b>599,436</b>	<b>646,070</b>	<b>5,017,698</b>
										Add Expenditure in England - - -
										96,018
										<b>GRAND TOTAL - - - £.</b>
										<b>5,113,716</b>

\* Includes Inspector General of Military Works, Central India, Coorg, Hyderabad, Port Blair, Rajputana, and Quetta.  
† Deduct 880 l. amount shown by Telegraph Department.

Bengal.

The business connected with the administration of Public Works, which has been carried on by three distinct departments, with separate offices, was in the year under review removed to one central general office in Calcutta, where, however, the different branches are still kept distinct. Economy has been the result. The only military work of importance was the erection of a new office for the Controller of Military Accounts. £. 87,039 (Imperial Expenditure) were spent on the new Civil Buildings in Dalhousie-square, Calcutta, whilst the provincial expenditure on Civil Buildings amounted to 292,926 l. The expenditure on provincial roads amounted to 211,526 l., of which the most important items were the re-construction of bridges on the Grand Trunk Road in the Hooghly and Burdwan districts, and the construction of the Teesta Sivoke road. The policy of leaving the construction of feeder roads to railways in the hands of local committees not having met with the success anticipated in the districts served by the North Bengal State Railway, some of the most important lines of road were taken in hand by the Public Works Department. On district roads 489,701 l. were expended. A liberal proportion of the disposable funds were applied by the local committees to the improvement of village tracks, and the principle has been pursued of inducing the ryot to take interest in the construction of such roads as are of purely local importance. Little money was available for any important work.

Limited



Limited as were the allotments for Public Works in Assam by the straitened condition of the finances, it has always been found impossible to spend them because of the difficulty of procuring labour. This difficulty in the Brahmaputra Valley was more apparent than ever. Fresh batches of coolies from Nipal were imported into Assam, but from want of sufficient care on the part of the registering agent in making agreements with them they managed in the Dibrugarh district to evade their contracts. In this district, however, the construction of the Makum railway created so great a rise in wages that the temptation offered to the coolies would not in all probability have been resisted by them under any circumstances. In the Naga Hills, where there was no such competition, a certain number of coolies were secured, but they were sickly, and work was much delayed. Out of 17½ lakhs allotted altogether, only 12¼ were spent, and the expenses of the establishment amounted to 27 per cent. of the total expenditure. This very high ratio is partly to be accounted for by the greatness of the distances, the difficulty of communication, and the high rates of wage; but something will be done towards reducing the ratio in 1882-3. The chief work carried out was the construction of the road to Kohima, which cost 14,051 l.; and of the cart-road to Cherra Punji from Shillong, which was about half finished, at an outlay of 13,973 l.; the Gauhati and Sylhet jails were advanced a stage; the Dhubri Treasury and Cutcherry, and the Shillong account offices were finished; and the Sylhet Judge's Cutcherry nearly completed. Improvements were made on the Shillong and Gauhati cart-road and on the Trunk Road, especially in the Nowgong district, though no large work or important bridge was undertaken, the tramway from Kokilamukh to Jorhat was pushed on, and the rails laid down.

COMMUNICATIONS,  
BUILDINGS, &c.  
Assam.

The outlay of the year on roads and buildings (omitting Imperial works) was 447,900 l.; 146,685 l. of this was spent on original works, and 232,276 l. on repairs. Of the expenditure on original works, 73,024 l. was on account of civil buildings, and 56,618 l. on communications. From provincial funds there is a large annual expenditure on revenue, gaol, and police buildings, and 9,012 l. were spent on buildings of archæological interest at Agra, Jaunpur, &c. The Muir Central College at Allahabad is approaching completion, and the total outlay has been 57,862 l. against an estimate of 63,466 l.

N. W. Provinces  
and Oudh.

It was found possible to place a somewhat larger sum to the credit of the Public Works Department in the Punjab than in former years, but provincial works have long been starved in this province, and the outlay which is urgently demanded for public buildings in different localities is larger than can be afforded from the provincial revenues, unless spread over a series of years. The principal military works proceeded with during the year, were the reconstruction of married men's quarters in the Right Native Infantry lines at Dera Ghazi Khan, and 6,770 l. were spent on the Left Native Infantry lines, which work was, however, stopped pending sanction of the estimate. At Abbottabad, Jhelum, and Rajanpur reconstruction and repair of lines, &c. were carried on. Work on the Khushalgarh-Thal road was stopped pending sanction. Progress was made in improving the Chattar Sing road, 22 miles in length, which was completed with the exception of one bridge which remains to be built. A boat-bridge was completed at Khushalgarh over the Indus. The restoration of the old Nurmahal Sarai in Jullunder, and of Jehangir's tomb at Shahdara, near Lahore, were taken in hand, and specimens of ancient and modern art industries were photozincographed. The construction of a temporary building for the Lahore Exhibition was completed in a remarkably short space of time, despite the prevalence of fever. Part of the foundations for the new Chief Court of Lahore were excavated, but the site was abandoned owing to the treacherous and unstable nature of the subsoil, and a new civil jail was built at Hoshiarpur. The outlay on roads was chiefly confined to the metalling and repairing old roads and building bridges. The Leh bridge on the Rawalpindi and Murree road remained in hand during the year, but delay was caused by unpunctuality in the despatch of girders from Roorkee. Several boat bridges were constructed throughout the province. The Chichawatni boat bridge over the Ravi sustained considerable damage in June 1881, and that over the Indus at Attock was broken in April of the same year.

Punjab.

COMMUNICATIONS,  
BUILDINGS, &c.  
Central Provinces.

Great progress has been made in opening out the Central Provinces, and the Nagpur and Chhattisgarh railway has already done something, and will do much more towards bringing the remote districts into easy communication with the rest of the province and with the port of Bombay by the Great Indian Peninsula Railway. The Gondia and Balaghat road was completed during the year, at a cost of 4,059 *l.*, and will be a valuable feeder to the railway. The Mandla road, which connects that district with the railway at Jubbulpore, a distance of 60 miles, will also prove a very valuable feeder, as it will open out a wild and backward district, and greatly benefit the Government Forests in Mandla. This work is virtually completed.

British Burma.

Expenditure on public works in Burma is now more nearly proportionate to the needs of the province. A sum of 32,199 *l.* was spent in the repairs and maintenance of existing roads, while 139,475 *l.* were spent on the construction of 661 miles of new road. In the three districts of Hanthawaddy, Tharrawaddy, and Proime, where much expenditure has been incurred on feeder roads to the railway, no less than 214 bridges were erected during the year. It is hoped henceforward that from 80 to 120 miles of the metalled and bridged road will be completed yearly. Under the head of Military Works the usual repairs and construction of barracks and hospitals were continued. Heavy guns were mounted on the Monkey Point battery which guards Rangoon Harbour, and the Fort of Toungoo has been rebuilt. The only large civil buildings under construction were the general post and telegraph office at Rangoon, and the Rangoon Central Jail, built with convict labour. The civil buildings over the rest of the country are the wooden court-houses and police offices, which are being very generally built. In some few places, however, these buildings are of stone. Waiting-rooms for natives at railway stations were erected during the year, and witness sheds are being gradually supplied at every court-house. No extension of the great series of Irrawaddy embankments was attempted during the year, and the accounts of these works have been closed. They cost in all about 300,000 *l.* An important experiment is being made in embanking the island of Maoobin for 85 miles, at a total estimated cost of 24,500 *l.* By this measure 130,000 acres of fertile land will be reclaimed, the revenue from which will in five years' time amount to 10,000 *l.*, and in 10 years to 20,000 *l.*

Berar.

£ 18,070 of the Imperial grant were devoted to the military buildings for the troops at Secunderabad and Trimulgherry. The principal roads constructed were a section (seven miles) of the Ellichpur Pili road, at a cost of 636 *l.*, which completes the communication between the Melghat forest reserves and the plains of Berar, and the road from Ghatang to Chikalda (13½ miles), which connects the hill station of Chikalda with the plains.

Coorg.

Good communications are more required at present than any other public works in Coorg, and attention is concentrated on them. Out of the Imperial grant of 16,000 *l.* a sum of 14,919 *l.* were expended during the year, of which 8,893 *l.* were spent on communications. The most important work in contemplation is the construction of a bridge over the Cauvery river on the Mercara-Siddapur road, the estimate for which has been sanctioned.

Madras.

The work on the sick lines at the Remount depôt, Hosur, was completed at a total expense of 2,775 *l.*, and the conversion of the European Infantry Hospital at Bangalore into a garrison hospital, at a total cost of 1,269 *l.*, was also finished. Repairs and alterations of the old European barracks at Poonamallee, Chingleput, were finished at a total outlay of 2,490 *l.*; 1,322 *l.* were spent on the post and telegraph office at Ootacamund, and 16,571 *l.* at Madras. 3,910 *l.* were spent on Government House, Ootacamund, out of an allotment of 6,000 *l.* Government have decided, by means of such yearly grants as can be spared from Provincial Funds, to raise in class the through road between Ootacamund *via* Naduvatam to Gudalur, and to leave the remaining lines of road in the Wynaad to depend on the assignments available from Local Funds, with possibly some slight grants-in-aid from Provincial and special Local Contributions. During the year a curator of ancient monuments and a director of archæological survey were appointed; 2,499 *l.* were spent on the restoration of Tirumala Naik's palace in Madura, which was adapted for use as public offices, and in Masulipatam steps were taken for the preservation of the sculptures at the Krishna mantapam and the great rock carving known as "Arjuna's penance."

COMMUNICATIONS,  
BUILDINGS, &c.  
Bombay.

Of the outlay (122,632 *l.*) on military works in Bombay, 42,500 *l.* was on original works, and 47,500 *l.* for repairs. The work of enlarging the military prison at Poona was finished, as well as the canteen in the Wanowri line, where a new quarter-guard and cells for a regiment of European infantry were erected. A hospital for British troops was begun at Ahmedabad, and improvements and additions were made at Kolhapur, Jacobabad, and Aden. A fortified position, with a powder magazine, &c., was commenced at Ahmedabad. Under the head of Civil Buildings, all the works in connection with the Salt Department were finished, and the construction of a custom-house at Malvan was commenced. The churches at Malabar Hill, and in the camp at Ahmedabad, were finished, and the Alexandra Native Girls' English Institution has been completed, as well as the west wing of the Cathedral High School. The works executed for the improvement of communications in the Presidency extended over a large area, but only about 32,000 *l.* were expended on roads and bridges, of which about a third was applied to original works. The road from Kalyan to the Malsej Ghat is an important undertaking; from Surat to Bardoli the road is practically complete, and in Broach, causeways have been thrown over two salt creeks which intercepted the traffic. Dhanduka has been brought into communication with the Bhowanagar Railway, and several useful roads have been made in the Panch Mahals. In Kanara a section of the Kanara-Yellapur road has been improved, and this will develop forest traffic, while in the South Mahratta country an arterial system has been proposed by the Commissioner, Southern Division, which will supplement the railways and provide connection between the sea and the great centres of trade. The Amba and Nari roads in the Southern Division are practically finished, and the important Loni-Bari road will give the northern talukas of Nagar an outlet to the railway near Igatpuri, while the number of feeder roads which are being built to connect these districts with the Dhond-Manmad Railway must prove extremely useful, and the Government have undertaken to give a grant-in-aid of half a lakh a year until their completion.

MARINE-  
Bengal.

The number of pilots in the port of Calcutta at the commencement of the year was 63, but was reduced to 61 by two deaths; these vacancies have been filled up by the promotion of two leadsmen to the rank of mate pilot. Notwithstanding changes in the distribution of tonnage among the various grades of pilots, introduced during the year with a view to raise the earnings of the junior members of the service, the average monthly number of ships piloted by each branch pilot was 5.48 against 4.72 in the previous year. The increase was due to the rapid rise which has taken place in the size of the vessels rather than to the increase of their numbers. The average number of vessels piloted by the senior master pilots rose from 2.88 to 3.05, while the nine junior masters only obtained an average of 2.7 a month, and the mates 3.4. The number of arrivals in the port was 1,074, of departures 1,058, being in excess of any previous year except 1876-7 and 1877-8, when the trade of the port was abnormally increased by the Madras famine. The average tonnage of ships arriving was 1,683, and of ships leaving 1,676. The above figures do not include 21 Government vessels, and 189 arrivals and 191 departures of vessels for the Orissa ports. The proportion of accidents to traffic, which was 5.55 per cent. in 1868 and 4.4 in 1872, fell to 2.1 during the year, and the number of groundings decreased from 46 in 1880-1 to 33, while in only one case was any injury received. In six cases were the pilots in fault, but in only one instance was it necessary to inflict a severer punishment than a reprimand. The number of collisions rose from 7 to 12, but in half the cases no damage was done. Courts of inquiry were held in several accidents, but only one of these was a subject of general interest. This was the loss in February 1882 of the Ghattal passenger ship plying between Ghattal and Calcutta, which collided with one of the pontoons of the Hooghly Bridge, and sank, with considerable loss of life; as the collision happened in the dark, a port rule has been passed prohibiting vessels from being under weigh after sunset and before sunrise between Hastings Bridge and Ahiriola Ghat.

A loan of 100,000 *l.* was raised at the commencement of the year by the Port Commissioners, but against this increase to the liabilities of the port trust is to be set a reduction of 9,073 *l.* in the consolidated debt to Government. The debt at the close of 1881-2 stood at 791,783 *l.* against 701,856 *l.* at the close of

MARINE.

the previous year. The total value of the property held by the Port Commissioners, exclusive of the value of the foreshore lands made over to the trust by Government, was estimated at 1,343,361 *l.* against 1,273,675 *l.* in the previous year. Of a total expenditure of 87,759 *l.* nearly half was paid for the site of the East Indian Railway Company's premises at Armenian Ghat, 7,769 *l.* were spent in jetty works, 3,707 *l.* on wharves for inland vessels, 4,098 *l.* on the tramway, chiefly in purchase of new rolling stock, 10,687 *l.* on the Howrah foreshore road, and 8,619 *l.* on the extension of the port moorings.

The remarkable extent to which trade has expanded in Chittagong is shown by the comparison of the number and tonnage of vessels visiting Chittagong for the last three years; 1879-80, number of vessels 1,989, tonnage 162,899; 1880-1, number 2,486, tonnage 189,827; 1881-2, number 2,794, tonnage 229,536. The most noticeable feature in the foreign trade of the port was its extension during the year to the West Indies and Australia. The quantity of grain shipped increased from 46,106 tons in 1880-1 to 82,478 in 1881-2, and its value from 192,930 *l.* to 332,253 *l.*, while the importations of salt rose from 9,554 tons to 13,826. The total income of the port dues was 6,083 *l.* against 4,663 *l.* in the previous year; half of this amount was derived from port dues. As regards the Orissa ports, False Point, Pooree and Balasore, their combined trade shows a considerable increase over the previous year. The ships entered and cleared rose from 1,022 to 1,344, and the total value of the trade from 1,221,802 *l.* to 1,284,181 *l.*, and the port dues from 2,732 *l.* to 3,600 *l.* The improvement is due entirely to expansion of trade in Balasore, which took place principally in exports of rice and passenger traffic.

British Burma.

The Rangoon Port Trust furnished the first report of their stewardship for the year under review. The yearly income of the commissioners amounted to 66,566 *l.*, with which sum they not only met the regular charges, but spent nearly 25,000 *l.* on new works and on additions to the plant and property of the port, and reserved a cash balance. In addition, they relieved the shipping of the charges on account of the Rangoon Hospital, and took these charges on the port funds. The pilot service has been well performed since the pilots were placed under the Port Commissioners, and accidents were fewer than in the previous year. Both at Rangoon, Moulmein and Bassein the port dues are now reduced to 6 *d.*, a ton, which rate previously obtained at Akyab. The income of the three last-mentioned port funds was 27,264 *l.* against 26,114 *l.* in the previous year. These ports are managed by the local port officers under the direction of the divisional commissioner.

Madras.

During the year a most important change was initiated, by which the whole marine expenditure was borne by the Port Fund instead of being allotted in proportions of one-third to Imperial and two-thirds to Port Fund. The number of vessels visiting the out-ports during the year was 34,160, of a tonnage of 4,038,738, and the value of dues collected was 16,993 *l.* 957 vessels visited Madras, with a tonnage of 655,978, and the dues collected were 11,215 *l.*, or 25 per cent. of the value of the sea-borne trade. The rate of port dues at Madras was raised from 4½ annas a ton to 6 annas. The provisions of the Ports Act, No. XII. of 1875, having been extended to all the out-ports of the Presidency, there are now 148 ports at which dues are levied, at 25 of which the rate of 3 annas a ton is charged, and at the rest 2 annas. The ports of Calingapatam, Bimlipatam and Vizagapatam were visited with a view of ascertaining their capabilities for the formation of first-class harbours. Mr. Parkes reported in favour of the latter, but recommended systematic surveys at all three before any definite decision was arrived at. The Madras lighthouses underwent important changes. The charges of the six lights, previously borne by the Imperial Government, were transferred to the Port Fund, which now bears the entire cost of lighting the coasts of the Presidency. The casualties during the year were 20 in number, four cases of foundering, 11 of stranding, and one collision. The Madras Harbour Works suffered disastrously in the cyclonic gale of the 12th November 1881, nearly the whole of the curved arms of the breakwater being destroyed. The question of the best means to be adopted in repairing the damage was not decided till after the close of the year under review.

Bombay.

The revenue of the Bombay Port Trust was 374,569 *l.* and the expenditure 287,261 *l.* This favourable result agreeably disappointed expectation, and is said

said to be owing chiefly to increased trade in grain and seeds. The great development of trade is seen in the extraordinary profits of the Prince's Dock; not long ago it was believed that this dock would be a burden on the Trust, but already there is not room for the vessels which would use it, and the expediency is discussed of building a new dock. The net earnings of the Prince's Dock were 60,000*l.*, or nearly 7 per cent. on the cost of construction. The total surplus of the Trust was nearly 90,000*l.*, and the Trustees have been enabled to make judicious reductions in shipping charges and wharfage rates. They were also able to raise a loan of 70,000*l.* at 4 per cent. interest, at a premium of a quarter rupee, and they consequently applied for powers to raise a large amount to pay off the debt due to Government. These powers were conferred by law, but the opportunity for raising the sum had passed owing to the rise in the current rate of interest.

MARINE.

The total receipts of the Kurrachee Harbour Board were (including the opening balance) 44,810*l.*, and the expenditure 37,667*l.*; the loss of import dues caused by the cessation of the war was counter-balanced by the expansion of the wheat trade.

From the 1st January 1882 money order exchanges were introduced with Victoria, Tasmania, China, Japan, the Straits Settlements, and Mauritius, and a new parcel post exchange came into operation with China. The most important measure from a financial point of view was the reduction of the registration fee on inland book and pattern packets from 4 to 2 annas, which took effect from the 1st August 1881. A new system was introduced under which the postage on newspapers to be transmitted by the inland post can be prepaid in cash, and a reduced rate of postage of  $\frac{1}{4}$  anna only was at the same time allowed for all light newspapers posted under this system. Telephone offices under the charge of the local postmasters were experimentally established at Hazaribagh and False Point, and Post Office Savings Banks were opened in April 1882. The average of letters and other articles per head of the total population of British India is only '67. The Post Office is most extensively used in Sind and Bombay, while Behar and Central India are most backward in this respect. The figures correspond to a great extent with the development of commerce and education in the different provinces. Bengal, including Behar and Eastern Bengal, takes the eighth place only, a fact which is attributed to the restrictions imposed by the Zemindary Dak Act. There is an increase in the magnitude of the transactions under all heads, and especially under post-cards, which shew an increase of 48 per cent., and parcels, the number of foreign parcels received having increased 300 per cent. since 1873-4. A new dead-letter office was opened at Kurrachee, and a new railway service enquiry office at Ajmere. The number of articles undisposible and deposited as dead has decreased from 673,108 in 1880-1 to 621,451 in 1881-2. The total number of articles (169,160,000, or, including money orders 171,804,000) given out for delivery increased more than  $6\frac{1}{2}$  per cent. Of these, about 96 $\frac{1}{2}$  per cent. were delivered at once, and about  $\frac{1}{2}$  per cent. only were ultimately deposited as dead. The highest percentage of increase, 13, is found under book and pattern packets, while the smallest percentage, about 5, is under newspapers. The number of paid letters was 99,144,000 (increase 3.19 per cent.); of unpaid letters, 28,747,000 (decrease 4 per cent.); of post cards, 21,953,000; of newspapers, 12,526,800; and of book and pattern packets, 2,387,000. The number of registered letters increased by 20 per cent., and, contrary to expectation, this increase has been simultaneous with a rapid increase in money order business (25 per cent., or a total of  $5\frac{3}{4}$  crores of rupees). The gross value of ordinary postage labels sold was 459,355*l.*, a fall of 42,693*l.*, but the value of service postage labels, 139,110*l.*, rose 5,756*l.* The sales of  $\frac{1}{4}$  anna envelopes and labels constitute more than half the receipts under the ordinary postage labels, the fall in receipts from the total ordinary labels being merely nominal. The statement shewing the issues and payments of money orders in the different postal circles discloses remarkable peculiarities. In Madras, the Punjab, Behar, and Rajputana, the value of applications nearly corresponds with the value of orders paid; in Eastern Bengal, the Central Provinces, British Burmah, Sind, Central India and Assam, it is greatly in excess of payments, while in Bengal, the North-Western-Provinces, Oudh, and Bombay, payments are greatly in excess of applications. The value-payable post from a small beginning is with a reduced rate of commission rapidly developing into an important

POST OFFICE.

98 STATEMENT EXHIBITING THE MORAL AND MATERIAL

POST OFFICE.

important branch of business. The number of articles sent under this system in the year under review was 99,416, or an increase of 101 per cent. on 1880-1, and the value of these articles was 108,054 *l.* against 57,657 *l.* The total number of complaints from the public fell from 6,463 to 5,433, the decrease, which took place mainly in Bengal, being attributed to a revision of the establishment of the Calcutta Post Office. The number of highway robberies fell from 49 to 31, of which nine took place in the North-Western Provinces and seven in Rajputana. The total strength of the postal establishment in India was said to be 33,588 persons as compared with 31,053 in 1880-1. The revenue from the purely postal branch of the department amounted to 870,426 *l.*, an increase on the previous year of 17,066 *l.*, and the expenditure to 795,876 *l.*, an increase of 54,464 *l.*; the receipts from the non-postal branches being 60,748 *l.*, and the disbursements 62,370 *l.* The net result of purely postal operations was a surplus of 74,549 *l.* as compared with 111,947 *l.*, but the addition of other items chargeable against the Post Office converts this surplus into a net deficit of 56,165 *l.* The following table gives the principal figures for each province :

Names of Postal Circles.	31st March 1881.			31st March 1882.			Revenue.		Expenditure.	
	Post Offices.	Letter Boxes.	Village Postmen.	Post Offices.	Letter Boxes.	Village Postmen.	1880-1.	1881-2.	1880-1.	1881-2.
	No.	No.	No.	No.	No.	No.	£.	£.	£.	£.
Bengal - - - -	782	2,280	641	858	2,493	778	154,516	158,983	117,895	185,393
Madras - - - -	717	737	314	723	761	318	134,125	141,549	82,549	86,425
Bombay - - - -	735	1,380	513	794	1,454	578	155,886	155,930	116,204	119,655
North-Western Provinces -	580	187	1	598	218	3	109,179	104,401	76,085	71,171
Punjab - - - -	515	266	198	565	241	277	257,547	164,733	220,488	128,140
British Burma - - - -	28	46	-	28	49	-	24,726	25,388	13,145	13,683
Central Provinces - - - -	252	281	219	277	295	237	34,033	36,311	30,006	32,824
Ondh - - - - -	180	102	87	170	99	96	22,050	23,727	13,099	15,781
Rajputana - - - - -	76	42	44	79	48	45	16,546	17,445	13,441	14,279
Assam - - - - -	130	103	164	141	94	174	17,902	19,723	21,861	22,611
Behar - - - - -	267	346	426	278	354	474	37,731	39,811	23,852	26,645
Eastern Bengal - - - - -	133	315	143	160	310	172	18,691	19,791	15,002	17,089
Central India - - - - -	61	48	26	66	52	31	16,359	17,225	10,026	12,452
Sind - - - - -	85	29	57	77	44	58	15,475	21,308	4,144	14,809
Railway Mail Service - - -	-	558	-	-	633	-	-	-	-	-
<b>TOTAL - - - -</b>	<b>4,521</b>	<b>6,720</b>	<b>2,833</b>	<b>4,819</b>	<b>7,190</b>	<b>3,241</b>	<b>1,014,816</b>	<b>948,325</b>	<b>819,297</b>	<b>760,957</b>
Deduct, Discount on Sale of Stamps - - - -							15,583	14,151	-	-
Add, Charges for Central Control, &c. - - - -							-	-	143,294	168,489
<b>GRAND TOTAL - - - £.</b>							<b>999,233</b>	<b>981,174</b>	<b>962,591</b>	<b>929,446</b>

TELEGRAPH.

The following are the total mileages of line, wire and cable, on the 31st March 1882, contrasted with those existing on the same date in 1881 :

	Line Miles.	Wire Miles.	Cable Miles.	TOTAL.
1880-1 - - - - -	19,679	54,318	115	74,112
1881-2 - - - - -	20,602*	58,219*	117.5	78,938

The capital account stood at 2,736,538 *l.*, the receipts were 385,421 *l.*, the expenses 323,564 *l.*, and the net profit 61,857 *l.* The latter figure is lower than in the two previous years (in 1880-1, 133,017 *l.*), which is accounted for by the fall of the message revenue on the cessation of the Afghan war, but is in excess of the net profit for 1878-9, if the sum of 5,715 *l.*, the value of free copies of Government and press messages which was credited to revenue up to and including that year but omitted from the accounts since 1880-1, be excluded. The total number of paid messages was 1,613,375 against 1,642,777 (Ceylon excluded for three months). There were several important modifications of the inland tariff during the year. In July 1881, a tariff of two annas a word for each word in excess of the minimum group of six words for the rupee was introduced, and in January 1882

\* Exclusive of 448 miles of line and 1,233 miles of wire, owned by Railway Companies and maintained by Government.

1882 the minimum group was raised to eight words for the rupee, and an urgent tariff at double rates, together with a deferred tariff at half rates, was introduced. Subsequently, in order to clear the lines during the busy hours of the day and to utilize them by night, it was decided that all State messages should be classed as deferred unless specially marked urgent. These changes only came into operation in the last quarter of the year under review, but it was already evident in the May following that their effect was beneficial; up to that time 22·03 per cent. of the private traffic was tendered at the cheaper deferred rate, but the increase in the number of messages which resulted nearly counterbalanced the effects of the reduction in tariff. In fact, the net revenue from this source was slightly in excess of that for the previous year, owing to an increase in the foreign message revenue. Government contemplate a further reduction of tariff in the probable event of the enhancement of receipts under these conditions, and also the employment of postal or other agency in branch offices where the traffic would not be sufficiently lucrative to maintain highly paid signallers. TELEGRAPH.



## VII.

## MINERAL RESOURCES.

STATE RIGHTS TO  
MINERALS.

The policy of Government is to secure as much indirect advantage as possible from the mineral resources of the country. In the Lower Provinces, therefore, where it is likely that mines will be thoroughly and profitably worked by the landholders, Government is disposed to interpret very liberally any rights over minerals that it may possess. But on the other hand, in Madras, Bombay, and Northern India, as neither amongst the peasant proprietors of the two Presidencies, or the village communities of the Upper Provinces, would mining enterprise be likely to prosper, Government reserves to itself all existing rights.

## COAL.

Indian coal has a great field before it in satisfying the demand of the railways as the growing scarcity of wood is rapidly excluding it from consumption as an article of fuel. In July 1882 wood was only used on the Madras Railway, on the Indus Valley line, from Kotree to Mooltan, and on the Punjab and Delhi Railway, from Mooltan to Lahore; also on the branch lines from Sukkur to Jacobabad, and from Lala Musa to Miani. At present, however, Indian coal cannot compete in price with the English product on the lines in the vicinity of Bombay and Madras. The following facts as to the use of different coals on Indian railways may prove interesting as shewing roughly the extent of the market which at present exists for each coalfield:—

Fuel.	Used on
Wood - - - -	{ The Madras Railway from Mysore and Beypore to Jalarpet, and from Tirupati to Raichar. Indus Valley Line. Punjab and Delhi (Mooltan to Lahore). Nizanis Railway.
English Coal - - -	{ Kurrachee to Kotree (Sind). Jacobabad to Sibi (Khelat). Bombay and Baroda (with branches) and Rajputana, as far as Nana. Malwa Railway (Khandwa to Rutlam). Great Indian Peninsular (Bombay to Nandgaon, and to Raichar). Madras Railway (Guntakal to Bellary). South Indian Railway (Rangoon to Prome, Burma).
Bengal Coal - - -	{ Consumed in North India, all over a region the Southern limit points of which are Lahore, where the fuel is wood, Nana and Rutlam, where English coal and Sohagpur Mopani coal are used.
Warora - - - -	{ Great Indian Peninsular (Manmad to Nandgaon), and to Gondin and Warora.
Mopani - - - -	{ Great Indian Peninsular (Khandwa to Sohagpur).

The relative values of English and Indian coal as railway fuel are given as:—

English patent fuel and Bengal Kurhurbaree - - - -	1,000
Bengal Barakur - - - -	870
Rewah Umaria - - - -	800
Mohpani - - - -	720
Warora and Singareni - - - -	700
Wood - - - -	330

The average prices of English coal at Bombay, Madras, and Karachi are respectively Rs. 15, Rs. 17, Rs. 17 per ton; and the values of country coal at the pits are, Bengal Rs. 3. 8 a., Warora Rs. 5, Mohpani Rs. 9, Rewah-Umaria Rs. 5, Singareni

Singareni Rs. 5. A comparison of these prices, with the working equivalents given above, of the different coals will shew how much the limitation of the market area is due to cost of carriage and handling. The quantity of English coal consumed on railways was 175,951 tons, and English patent fuel 9,360 tons, while of Indian coal 383,709 tons were consumed. The output from the 66 mines in Bengal during 1881 was 930,203 tons, against 988,565 tons in 1880, and an average of 878,376 tons for the three years previous to 1881. The outputs from the Mohpani and Warora mines in the Central Provinces were 8,019 and 59,508 tons respectively or a total of 67,527 tons against 31,228 in 1880, and an average for three years of 43,413 tons. In Assam there is said to exist a procurable quantity of coal amounting to not less than 40 millions of tons. 5,000 maunds of coal were excavated from the Salt Range Mines in the Punjab, but the mineral was so full of shale that it was rejected by the Punjab Northern Railway.

Iron has been found in almost every district of India, and has been in most parts of the country worked on a small scale with charcoal by native agency. The increasing scarcity of fuel, and the competition with English iron, has in a large proportion of cases taken the industry out of native hands. English agency has attempted iron-manufacture in several districts, but in no case altogether successfully. Its success depends on the co-existence and co-operation of iron and coal, or wood of exceptionally good character and sufficiently plentiful. The most recent report on the iron districts of India estimates the prospects of manufacture by private enterprise throughout India. In the Punjab and Sind the scarcity of fuel is an insuperable obstacle; in the North-Western Provinces a series of experiments has been tried since 1857, but unsuccessfully, nor is there any probability of better results in the future; in the Central Provinces, Jubbulpore and Chanda afford very fair promise; in Central India the Gwalior iron-field may possibly succeed, but the sources of fuel are too distant; while at Berwai the manufacture has failed, but not on the merits of the district as an iron field; there the recent enhancement of the price of fuel will, however, militate against success. At Rewah, about which district little authentic information is obtainable, there appear to exist elements of success in connection with the Jubbulpore works; especially as the geological survey reports of Rewah that the results of trial borings as to the extent, thickness, and quality of coal are very promising; in Rajputana and the Bombay Presidency scarcity of fuel and English competition appears to preclude operations on a large scale. In Bengal, of the Bengal iron-works alone can favorable prognostications be made. In Orissa the coal is too poor. In Assam the ore, where abundant, is not sufficiently rich, and in the coal measures where it is rich it is not sufficiently abundant; a new era in the manufacture of iron may be inaugurated here, however, if petroleum can be utilised to this end. In the Nizam's Dominions fuel and ore are not in juxtaposition. In Madras the scarcity of fuel prevents the utilization of most valuable ore. In Burma there exist elements for the production of iron, but the market for it is limited. To summarise: There are only three probable centres of iron manufacture on a large scale by the agency of English capital, (1) the Bengal Iron Works, (2) the Jubbulpore District, (3) the Chanda coal and iron-fields. Ritter von Schwarz, an Austrian gentleman deputed to report on the subject, regards the probable annual outturn of these latter iron-fields as 260,000 tons of iron and steel, and remarks that besides supplying India with much of her iron and steel requirements, Chanda is able to open an export trade to England in certain articles now imported into England from the Continent, particularly in ferro-manganese and Brescian steel. The native mining industry in Madras, producing iron in small quantities, aggregated for the year a total outturn of the value of 4,658 l. In Bengal a native joint stock company called the Sheik Ahmed Company, Limited, has been formed to work the iron ore discovered in the Behar rock; 700 out of the 1,000 shares issued had been subscribed for during the year.

The operations of the "Borong Oil-refining Company" on the Boronga islands of Akyab, and on the Ramree island of the Kyookpyoo district, have not been attended with success, and though the company believe themselves, after four years' labour and an expenditure of 35,000 l., to be on the eve of great results, the Government of British Burma does not share their sanguine expectations, but is of opinion that the existence of oil-sources such as to repay costly workings

## MINERAL OIL.

is doubtful. The concessions obtained by the mineral oil company in Assam have been transferred to the Assam Railways and Trading Company, and since the concession extends over the same tract as the coal concession already granted to that company, there is no necessity for any separate definition of the boundaries of the tract selected for working. An application has been made to work coal and mineral oil in the Chitta Pahar Hills of the Rawalpindi district, Punjab.

## GOLD.

Little information is forthcoming respecting the gold-fields in the South of India. Government has profited by the Australian experience that the largest indirect advantage to the State is secured by making mining leases simple and liberal on the one condition that a certain quantity of labour is employed per acre on *bond fide* operations. The operations of the eight gold-mining companies in the Nilgiris were restricted to erecting the necessary machinery and opening out the mines. Important modifications were made in the rules for the grant of leases to mine for gold and other metals, under which applicants can now be granted more than one lease at a time, and for a much larger area in each case than formerly, without any restrictions as to the labor to be employed. The Honnali and Kolar goldfields in Mysore were traversed in the summer of 1881, by Mr. Foote, of the Geological Survey, who records successful washings performed at both places in his presence. At Honnali the head talgar informed him that the best day's work he had ever done was finding a small pocket worth 8 l.

OTHER METALS  
AND MINERALS.

Messrs. Burn & Company have recently in connection with their pottery works at Raniganj, in Bengal, started lime works which produced 150,000 maunds during the year, selling for 20 Rs. per 100 maunds. The Shuroop copper mine has proved unsuccessful, but the southern portions of Bhagalpur are said to have a future before them in the way of mining industries. In Burmah, tin is found at Malewoon where it is picked from the beds of streams by Chinese, but there is no opening for European capital and labour in this direction. The abolition of the export duty on tin is said to have stimulated the production of the metal in Southern Tenasserim. Applications have been received for prospecting the lead-bearing fields in Shwaygyin, and antimony is procured in the Toungwaing Hills. Limestone occurs in isolated patches in Arakan and Tenasserim; the best lime is brought from the neighbourhood of Menlureni. In Assam the value of the yield from the 32 lime quarries situated in Sylhet, the Khasi Hills and Garo was 3,452 l. against 3,766 l. in 1880-1; 11 of the quarries were unlet, and out of a demand of 2,990 l. only 1,021 l. were realized. The duration of the leases has been hitherto a year or more, but it has been decided to let the quarries for a period of seven years, giving the lessee power to cancel the agreement where there has been a *bond fide* attempt to work the quarry for a year. Two Government quarries have been worked on the royalty system with probabilities of success. The reason of the comparative failure of the quarries in 1881-2 is the fall of prices and the competition of other limes. Mystery still attaches to the actual discovery of the so-called Zanskar sapphires, and the precise site in Kashmir of the alleged mine. The stones have, however, been pronounced genuine. In Madras applications were received to work the old diamond mines in Kurnool and Cuddapah. The total value of minerals worked, consisting chiefly of gravel and stone, was estimated at 64,512 l. Rules were issued settling the conditions mining of leases for diamonds and other stones, and providing proving leases which enable prospectors to test specific localities before applying for mining leases.

VIII.

MANUFACTURES.\*

The revolution which has taken place in the commercial relations of England and India, is curiously exemplified in comparing the recent legislation with that of the beginning of the 18th century, when the mother country was obliged, in deference to the economical notions then existing, to protect her own production by making laws forbidding the wearing, and use in England, of all wrought silks, figured calicoes, &c., imported from China, Persia, or the East Indies, whilst at the end of the year 1881-2 the remaining duty on all stuffs, cottons, &c., imported into India was repealed. The history of Indian cotton manufactures under British rule divides itself into three periods, development in connection with foreign markets, competition with British goods, and partial exclusion from both foreign and native markets, and lastly the development of mills and factories in India which may ultimately re-establish her position as a rival to England. There has, however, always existed an immense cotton manufacture for domestic purposes, but the competition of Manchester has resulted in a general decline and deterioration of Indian manufactures. Side by side with the establishment of large factories for the supply of goods after the European pattern, efforts are also being made to preserve and improve the artistic qualities of Indian hand-work. Amongst these may be noted the exhibition of the arts and manufactures of the Punjab which was opened at Lahore in December 1881, and remained open throughout the succeeding year. Its object was to ascertain the progress made in the quality of native industry since the last Exhibition in 1864, and to encourage original native design. Only inhabitants of the Punjab were permitted to exhibit. The undertaking may be pronounced an unqualified success. It is hoped it may be found possible to hold others, on a smaller scale, at intervals of five years. Village artisans by virtue of a sort of "perpetual contract" are allowed a position in the community, and in towns to which community of interests has drawn them, in numbers, they have formed themselves into guilds with hereditary membership and caste rules. The supply of information under this head is very meagre; but further information as to the cultivation of the staples will be found in Chapter XV.

The following statement of steam cotton mills shows a decided advance during the year :—

COTTON MILLS Worked by STEAM on the 31st March 1881 and 1882.

		Number of Mills.	Number of Looms.	Number of Spindles.	Average Daily Number of Hands Employed.
Bengal - - - - -	{ 1882 1881	7 6	- 126	185,334 166,726	4,300 4,166
North-Western Provinces - - - - -	{ 1882 1881	2 2	377 278	57,000 38,328	1,997 1,194
Central India - - - - -	{ 1882 1881	1 1	224 224	10,272 10,272	416 388
Central Provinces - - - - -	{ 1882 1881	2 1	325 Average 240	40,000 30,000	3,458 1,640
Hyderabad - - - - -	{ 1882 1881	1 1	200 200	15,000 15,000	619 600
Bombay - - - - -	{ 1882 1881	46 44	13,260 12,215	1,184,262 1,163,476	39,844 38,681
Madras - - - - -	{ 1882 1881	3 3	- -	59,076 47,928	1,507 1,380
TOTAL - - - - -	{ 1882 1881	62 58	14,386 13,283	1,550,944 1,471,730	52,231 47,955
INCREASE in 1882 - - - - -		4	1,103	79,214	4,276

Hand-loom

\* Much of the information given in this chapter is derived from Sir G. Birdwood's book, "The Industrial Arts of India."

COTTON.  
Bengal.

Hand-loom cotton fabrics are manufactured all over Behar, Bengal, Orissa, and Assam. The superior products are made of cotton cloths and stuffs in the Satkirah subdivision of the 24-Pergunnahs, in Burdwan; at Santipur, an old manufacturing centre under the East India Company; in Chittagong; at Jahanabad, where the industry is a survival of the Patna factories; at Kassim-bazaar, where there has been a great decline in the once celebrated factories; and at Palamow, Chota Nagpore; of fine muslins at Sarail in Tipperah, and at Dacca; but the products of the former town are now almost a thing of the past, the demand for flowered and sprigged muslins having been supplanted by an increasing demand for *tussur* (wild silk) embroidered muslins, called *kasidas*. Coarse cloth is made at Charpata in Chittagong, and at Sarail, while towels and bath cloths are a speciality of Behar. There is absolutely no information respecting the progress of cotton manufacture for the year for Bengal, Assam, or Burma; for the latter province, however, a comprehensive report is promised for 1882-3. The Deputy Commissioner, Lakhimpur, mentions the beautifully-dyed tartans of the Khampti and Singpho tribes, the colors of which are very like those used by the Manipuris, who are said to guard the secret of their production with great jealousy.

N. W. Provinces  
and Oudh.

It is the finer classes of weaving that have generally suffered from competition with English goods, and the weaving of common cotton cloth is carried on in almost every village in these provinces, and here occupies often only part of the artizans' time, alternating with agricultural labor. Information of this industry is said to be difficult of attainment, and none is supplied for the year under review. There are special fabrics of coarse cloth at Jhansi, called *kharua*, and at Saharanpur (*gara*), both in the North-Western Provinces. Fine muslin is made at Chandari, but the trade has greatly declined; turbans are a speciality of Sikandarabad, the Brahman sacred cord of Bijnur, and colored muslins of Benares. In Oudh muslin (*mamudi*) is made in the Hardoi district, and weaving thrives in many districts. In the Lucknow district, however, the looms are little occupied, and the weavers of Cawnpore are said to form the most indigent of all the classes, the average daily earnings of a family being only  $1\frac{1}{2}$  anna. The Lucknow colored chintzes are, however, in considerable demand, as are also those of Farukhabad and Kanauj, the patterns of the latter products being remarkable for pattern and coloring. At Jais, in the Saltanpur district, various kinds of textile cloth are made, of which a peculiar kind of muslin (*tansib*) is the most famous. Its peculiarity consists of inwoven patterns and sentences taken from the Koran, the Vedas, or Dr. Watt's Hymns.

Punjab.

Every city and town in the Punjab is a centre of cotton manufacture, and in the large cities almost every fabric is woven. A speciality of Ludhiana is the manufacture of drills, checks, and other cloths in imitation of European articles, which branch of industry appears to be now fairly established at Aligarh. Another speciality of Ludhiana is *lungis* (head and waist cloths). Multan is noted for its cotton pile carpets, calicoes, printed and hand-painted, and *dhotis* (waist-cloths) with a red border. The principal seat of the finer cotton-weaving is the Jullundur Doab, where, despite the European competition, the fine diapers (*gatis*) of Rahon, and the muslin turbans of Bajwara still hold their own. A coarse cloth (*khada*) is largely exported from the Doab and many places in the Punjab to Central Asia; also chintzes and printed fabrics. The centre of this export trade is Mooltan. The Gugaira district, and especially the towns of Syadwalla and Pak-Pattan in the Derajat, are noted for *lungis* and *khesis* (wrappers or robes), Kushad for *lungis* (silk and cotton) Peshawar for *lungis*, Kohat for a dark blue scarf with a crimson edge, Hazara for a similar scarf plain and bordered with gold, the Punjab districts bordering on the North-Western Provinces and Rajputana for muslin turbans, Amballa, and the country throughout, for *dari* carpets (twills). The muslin of Rohtak is said to be of high quality and cheap, but little known. The cotton trade has been for some time especially depressed, and the total value of the manufactures of the province for 1881-2 amounted to 2,874,827 *l.*, against 3,231,764 *l.*, in 1880-1, and 2,796,709 *l.* in 1879-80.\* The Hoshiarpur district alone shews a falling off of 43 lacs of rupees, but the figures of the previous year are said to have been exaggerated. Here it is reported that many weavers are abandoning the business of cotton manufacture for that of agriculture. The manufacture in Amritsar district is said to be thriving owing to the good cotton crop, but the municipal

\* The figures are only, however, approximate.

municipal returns shew a decrease due to the prevalence of epidemic fever. In Ferozepore the manufacture is reported as highly remunerative, and in Gujranwala and Gujrat as declining. COTTON.

Cotton looms are found everywhere in the Central Provinces. The gold wrought tissues and brocaded silk of Barhanpur, and the embroidered apparel of Nagpur and Bhandara, still hold their own throughout the Province. Native cloth is also made in the Bhandara district, of which the finest is made at Pauni, and is highly prized by the natives; red *saris* of different colors are manufactured at Mohari and Audhalgaon, turbands at Bhandara, and *kadi* cloth at Bagri. In Nagpur all kinds of cloth from the dearest to the cheapest are made, and the best comes from the towns of Khapa, Maunda, and Bhiwapur. The weaving trade at Hoshungabad has partly succumbed to Manchester wares. Coarse and fine cloths are still exported from Chanda to all parts of Western India, and at Bastar the outcast Mahars and Pariahs weave narrow coarse cloths, used as *langulis* (waist cloths) by the Murias and other wild tribes. The native cotton goods (piece and twist and yarn) exported from the Central Provinces during the year amounted in value to 16,054 *l.* The outturn of yarn and cloth at the Empress mills at Nagpur was 1,804,530 and 149,945 lbs. respectively, and the values 83,972 *l.* and 75,415 *l.* The enormous increase of production over previous years is due to the fact that work is carried on at night by electric light. Rules under the Factories Act are now in force. The Hinganghat mills were opened a fortnight before the close of the year. Central Provinces.

In Berar stout cotton cloths (*kadis* and *dhotars*) are made everywhere; at Bolapur turbaned cloths are woven, and at Ellichpur turbands and other fine cloths for male and female apparel. Excellent cotton carpets are made at Ellichpur, Akot, and Balapur. Cotton weaving is by far the largest industry in Berar, there being 20,948 male and 37,087 female cotton workers. There are 16 cotton presses worked by steam in the province, and a new one has been started at Badnera. Berar.

Coarse cloth is woven all over Coorg. In the village of Sirangala are made the shawls and the red and black kamarbands worn in Coorg, and at Kodlipet a fine cloth is made, but manufactures do not flourish in Coorg owing to the great demand for labor and the prevailing high rate of wage. 114 looms were at work during the year in Seringala and the other cotton-working villages in North Coorg. Coorg.

In the Godavari district in Madras most excellent cloths are made at Urpada and in the villages about Utapalli and Nursapur, and the fine turbands made at Urpada are still in requisition. Tent cloth of a superior kind is manufactured at Rajamundri. The large manufacture of *salampores* at Nellore was quite broken up by the West Indian Emancipation Act, as the freed negroes refused to wear these badges of servitude, and owing to the isolated position of the district no cotton goods are now exported despite the immense natural resources of Nellore as a manufacturing centre. Fine shirtings, pocket handkerchiefs, &c., are however still made at Kwar, and fine cloths and curtain cloths at different places in Nellore. At Vizagapatam a strong cloth (*punjam*) is made, dyed blue at Madras, and exported to Bengal, the Mediterranean, and to London for the West Indies. Imitation Scotch checks and plaids are made in the Madras Presidency for the large population of poor native christians. The chintzes of Masulipatam have been celebrated since the days of Arrian, and probably of the Mahabharata, but their destruction is threatened by Manchester competition. There is still a great demand for them in Burma, the Straits, and the Persian Gulf. Their designs are Persian in character. In Bellary cotton is generally woven, and cotton carpets are made at Adoni, and exported thence in large quantities to Southern India. A speciality of Yapallagunta is fine muslins, of Kandukur tent-cloths, of Valaparla handkerchiefs, and of Madura stained cloths, very coarse and printed in red and black with mythological subjects. These are made for the service of the temples. The exports of country-made cotton piece goods exceeded those of the previous year by nearly 3½ lacs of rupees, the increase occurring chiefly in colored goods shipped to the Straits. The bulk of the goods were colored handkerchiefs, which amounted to 80.3 and 15.2 per cent. of the total value. Madras.

Surat has of late years shewn signs of revival from the collapse which followed the extinction of the East India Company's trading monopoly in 1833, and the Hindu weavers now make cloth of a new pattern, chiefly for bodices, which is largely

COTTON.

largely exported to the Deccan. In Broach, which suffered from the same cause as Surat, only seven varieties of cloth are manufactured, against the 30 odd made in 1777. Cotton weaving is still, an important industry in the Ahmedabad collectorate. At Ranpur fine cloth is made from English yarn, at Dholka *tadis* (women's robes), and in Ahmedabad superior cloth of many kinds. It is likewise an universal village industry. The class which is said to be benefited by the establishment of the steam mills at Ahmedabad, is not the weavers but the *vaghris*, a wild tribe. These large factories and those of Bombay have almost extinguished cotton weaving in the Kaira collectorate. But the dyeing industry is still kept up at Kaira, and its printed cloths are exported even to Siam. In Gujarat various ways of printing and decorating cotton cloths are practised, as also in Kattywar. The towns of Nasik and Yeola are famous for silk and cotton manufactures, as is Gulutgud in Kaladgi for its *saris* and *cholis*. Spinning and weaving is commonly practised in the Belgaum collectorate, and the speciality of Bil-Hongae in the Sampgaum taluka, are *saris* of great perfection, and of Deshmur cloth manufacture. Nandgad in Bidi is the great mart for cotton goods imported from the eastern districts. The statistics of the extensive steam cotton manufacture are given in the foregoing table. The opening of the Rajputana-Malwa Railway has created an outlet for the mill products of Ahmedabad, which are sold even so far as Cawnpore. It is enacted under the Factories Act that no child under seven years of age shall be employed in factories, and that no child between seven and 10 years of age shall be employed for more than nine hours a day, or without an interval of one hour; four days a month are allowed as holidays, and children are not allowed to do dangerous work. A special inspector will see that the Act, which applies to 64 factories in Bombay, and 35 in the Mofussil, is duly observed.

SILK.

Silk was introduced from China into India. It is mentioned in the Ramayana, but the actual period of its introduction is uncertain. As silk is woven with the striped cotton *susis* of the Punjab and Sind, so cotton is mixed with silk piece goods, which are then known by such names as *mashru* and *suff*, permitted and lawful; it being lawful for Mahomedans to wear silk mixed with cotton, but not lawful to wear silk pure. Such are the *shuja-khanis* of Bahawalpur which differ from *mashrus* in that they have not the satin-like lustre of the latter goods. These mixed stuffs are made at Agra, Hyderabad (Deccan), Tanjore, Trichinopoly, and largely in the Punjab and Sind. Pure silk fabrics are chiefly made at Lahore, Agra, Benares, Hyderabad (Deccan), and Tanjore. Printed silks worn by the Parsi, Bhatia, and Bunia women of Bombay are a speciality of Surat; wild silk is woven chiefly in Cachar and at Darjeeling, Bhagulpur and Warangal. Gold-bordered loom embroideries are made principally at Sattara, and gold or silver-striped at Tanjore; gold-figured *mashrus* at Tanjore, Trichinopoly, and Hyderabad (Deccan); highly ornamented gold figured silks and gold and silver tissues principally at Ahmedabad, Moorshedabad, Benares, and Trichinopoly.

Bengal.

Silk manufacture, which was once an important industry, is rapidly failing. There was little or no demand for cocoons, reeled tusser (wild) silk, or tusser cloth; the whole export was valued at 6,800 L., against 11,000 L. in the previous year. With the exception of one filature in the Nuddea district the only place in the Presidency division where silk is manufactured is at Moorshedabad, which is still famous all over the world for its gold brocades or *kincohs*, but the manufacture has declined during the last 50 years, and is rapidly losing its importance. In the Rajshahye division the manufacture is principally of silk, and it is recorded that three ships laden with Maldahi cloth were sent from Maldah to Russia in the year 1577. But though the silk filatures of Rajshahye are declining, it is hoped that the decline may be checked by abatement of rent on mulberry lands. In Rogra, the place of manufacture of the once celebrated cloth, *garrad*, Rungpore, and Darjeeling, a certain amount of silk is obtained from the *eria* (wild) cocoon. An enquiry will be made into the question of sericulture in the Rajshahye and Moorshedabad divisions. In the Patna division a *tusser* silk is made from cocoons imported from Hazaribagh, and in the neighbouring sub-divisions of Behar silk fabrics are largely produced. Patna is noted for its embroideries. Tusser cloth is made throughout Assam, Orissa, and Chota Nagpore. In the Bhagulpur a tusser cloth called *bafta* made from silk in the  
warp



warp is in great demand, but the industry is declining owing to an epidemic among the silk worms.

Benares is one of the chief seats of the *kinco* or gold brocade manufacture.

*Daryai* (plain silk) and *Galbadan* (striped) are made principally at Amritsar. *Khesis* and *lungis* are made at Multan, Khushab, Bera, Jhelum and Batala, and damasked silks (*suja-khanis*) at Multan and Bhawalpur. At Peshawar silk is made for export to Cabul, Balkh, and Merv. Throughout Cashmere all denominations of silk manufacture flourish. Netted silks and miscellaneous silk articles are made in Nurpur, Pattiala and Nabha. The silk industry is reported to be stationary or declining in both Amritsar and Mooltan, the reason given in the one case being the fever visitation in 1881, and in the other the competition of European fabrics. The silk works at Amritsar are, however, manufactories for making silk cloth like *daryai* and *pathas*, and the demand for *pathas* for Burma has almost ceased, while the price of silk thread has risen owing to the small importation from Bokhara. *Galbadans* of Mooltan have been partially superseded by an article imported from Europe. The silk industry, for which that city has long been famous, is thriving, and the cocoons have increased in number. The manufacture at Jullunder prospers, and the export is considerable, while the product of Dera Ghazi Khan, though of small amount, is said to excel that of Mooltan in quality. The value of silk manufactures exported in the year is given as 136,923 l., against 136,809 l. in 1880-81.

Silk.  
N. W. Provinces.  
and Oudh.  
Punjab.

In all the cities where cotton manufacture interwoven with gold and silver wire is carried on brocaded silks are also made. A curious cloth is manufactured at Nagpur, bordered with gold, *mashrus* at Chanda, and tusser at Narsinghpur. There is a great demand for silk and embroidered borders, which can be attached as readily to English as to Indian cloth. Lace is made of a mixed thread (*kaluhattu*) of silver and silk.

Central Provinces.

Sericulture is successfully pursued in the north of Burma, and dyeing, spinning and weaving are practiced by the silk growers and others.

British Burma.

Silk weaving is carried on at Kholapur, Ellichpur, Balapur, &c.; and tusser silk is made at Garcheroli.

Berar.

Silk is woven throughout Mysore and other towns in the Presidency of Madras. Rich silks are made at Bangalore, and a high-priced silk interwoven with lace at Mysore. Other articles of manufacture in the Presidency are purses, cards, and tassels. A speciality of Ganjam is silk cloth.

Madras.

The *kinco*s of Ahmedabad are the finest in India. Earlier even than the 16th century the manufactures of Ahmedabad commanded a market from Cairo to Peking. The prosperity of the city was first of all shaken by the piracies of the Portuguese, and then injured by the competition of Surat, until it sank to its present isolated position. China is the chief source of supply for the raw silk. *Mashrus* and *elaichas*, of mixed cotton and silk, now going out of fashion as a polished silk cloth, *gaji*, and *kinco*s are made at Surat. There is an increased demand in Siam and China for Bombay brocades. The silks of Tanna are of ancient fame. A yellow cloth, *pitambar*, is made there, at Yeola and Poona, and is worn on sacred occasions; fine bordered silks are made at Yeola and Nasik; *saris* at Bagmandli, and *cholis* and *saris* of mixed silk and cotton at Gulutgud in the Kaladgi district.

Bombay.

JUTE MILLS WORKED by STEAM on the 31st March 1881-2.

Jute.

	Number of Mills.	Number of Looms.	Number of Spindles.	Average Daily Number of Hands Employed.
Bengal - - - - - { 1882	19	5,404	87,071	39,083
- - - - - { 1881	10	4,893	66,274	33,904
Bombay - - - - - { 1882	1	121	2,310	590
- - - - - { 1881	1	102	2,320	450
Madras - - - - - { 1882	1	70	1,384	878
- - - - - { 1881	1	70	1,384	791
TOTAL - - - - - { 1882	21	5,065	90,755	40,551
- - - - - { 1881	21	5,065	69,978	35,235

JUTE.

The export of gunnybags, &c., is almost entirely from Bengal, and has declined since 1879-80, when it was larger than in any previous year. This decline is not however caused by a decrease of manufacture, but by an increase of local consumption. In Bengal jute is manufactured in the 24-Pergunnahs, Dinagepore, Bogra, Rungpore, and Jalpaiguri, and on a very large scale at Serajgunge in the Pubna district. At the latter place cloth is made chiefly for export, and the outturn for the year amounted to 10 million yards. Jute is manufactured at Vizagapatam in Madras, and in the city of Bombay.

GOLD AND SILVER  
WORK AND  
JEWELLERY.

The jeweller is indispensable in India; jewellery represents the savings of the ryot, and forms a reserve fund from which he can draw in times of necessity. The vast quantities of bullion imported into India, of which no positive account can be rendered, are doubtless made into personal ornaments. Gold and silver work and jewellery are, next to cotton, the most important products of the Punjab. The parcel gilt silver work of Cashmere is the best known of the manufactures. The gemmed and enamelled jewellery of these countries is the finest in India. The estimated return from these products in 1881-2 was 2,979,188*l.* against 2,748,642*l.* in 1880-1. In the Delhi district alone the estimated outturn in jewellery was 550,070*l.*, and the number of hands employed in this industry is calculated at 50,000. The best workman it is said cannot earn more than 4 annas a day. The duty on the raw materials brings in to the Delhi municipality an income of over 2,500*l.* The gold and silver plate made in Lucknow bears a close resemblance to that made in Cashmere, but is distinguished from it by the introduction of the shawl-cone pattern in the chasing. Two methods of decorating the surface of vessels are practised; one known as "bidri," in which thin silver leaf is hammered into the metal by a process resembling damaskening; the other called "zarbuland," where the surface is ornamented with raised patterns covered with silver leaf. The annual value of the products under these processes is estimated at between 400*l.* and 450*l.* The most noted product of Lucknow is however its gold and silver embroiding, the outturn of silver braid alone being estimated at 25,000*l.* It is conjectured that 429 workmen are employed on embroiding. These industries of Lucknow are said to be declining. Gold and silver plate of good original design and excellent workmanship is made at Dacca in Bengal, chiefly for export to Calcutta, and manufacture of the precious metals is a growing industry also in Chittagong, where, however, the work is plain and to pattern only. At the former town the influence of seasons of abundance in the promotion of comfort and luxury is seen in the growing prosperity of carpenters and goldsmiths. At Cuttack, in Orissa, gold and silver filigree workers are prospering. This work is generally done by boys, who are wonderfully skilful and delicate in their manipulation of the fine silver threads. In British Burma silver work is turned out in the form of bowls, &c., embossed with grotesque native designs. Enamelling on silver or *niello* work is carried on in Shwaygyin and Thayetmyo. The fame of the gold and silver workers of Chanda in the Central Provinces has departed, but good work of a strong local character is still turned out there. The outturn of gold and silver lace in Ajmere for 1881-2 is estimated at 4,959*l.* against 12,316*l.* in 1880-1. Everywhere in Madras gold and silver are superbly wrought, but the most characteristic production is the *swami* work, where the ornamentation consists of Puranic gods in high relief. Nothing can exceed the technical excellence of the gold rose chains and bracelets made in Trichinopoly, or the silver filigree work of Travancore. The outturn of gold and silver manufacture is given as 1,034,066*l.* against 787,745*l.* in 1880-1. The plate of Kutch and Gujarat in the Bombay Presidency has long been famous. The gold repoussé work of the former district is of Dutch origin, but has been perfectly assimilated to the native style. The Kutch jewellers have colonised Gujarat and Kathiawar. The jewellery of Ahmedabad is of a massive character, that of the Marathas in the Deccan lighter and more refined, while the Mahomedans and Parsis of Bombay have ornaments peculiar to themselves, though the latter have begun to adopt European fashions in jewellery. There is a large colony of jewellers in Bombay of all the nationalities of the Presidency.

RHEA AND PAPER  
FIBRES.

No advance was made during the year with regard to the utilisation of rhea fibre. In the North-Western Provinces, the manufacture of paper from waste fibre

fibre of the flax, hemp, or *sanaï* (*Crotalaria juncea*) is of considerable antiquity, and is carried on in almost every district headquarters for the supply of the vernacular Government Offices. The industry is, however, injured by competition with the machine-made paper of neighbouring works. *Papier-maché* workers were introduced in 1879 from Cashmere, and the manufacture seems to be well established at Jaunpur. In British Burma the conversion of *Kaing* or elephant grass into paper stock was experimented on. The grass grows abundantly in the huge swamps and savannahs of the delta, but the cost of preparation locally is too high. Mechanical contrivances are required to cheapen the process. The cheap paper manufacture of Sialkot, in the Punjab, has suffered considerably from the competition of the jails, but it is hoped that the industry may be restored by the present limitations placed on prison manufacture. In Bombay paper is made, at Junnar Nasik, and Ahmedabad.

RISEA AND PAPER  
FIBRES.

The following artistic industries are carried on in Bengal: (1) Brass work, in which *kansha* plates are a speciality of Burdwan and Midnapore. Nuddea, Panihati, and several other places in the Burdwan division are also noted for their metal pots and pans. Brass and bell metal are made throughout the Rajshahye division, especially at Moorshedabad and Malda, also at Shahabad in the Patna division and throughout Orissa. Brass and pewter are manufactured in Chota Nagpore; iron and brass in the Dacca division, especially about Mymensingh, where at Kagmari brass, iron, and white metal work are produced on a large scale. (2) *Bidri* or damaskening in silver, "the highest art practised in India after enamelling," is carried on at Purneah, in Bhagalpur, where it is imitated also in pottery. *Bidri* ware is, however, dying out. (3) The blackwood furniture of Monghyr is well known. The principal woods used are tal or palm (*Borassus flabelliformis*) and ebony. At the same town ebony carving, principally in geometrical designs, on boxes, sometimes inlaid with ivory, is practised, but the industry is declining. Household furniture is also made in large quantities at Dacca, where the demand was larger than it had been for 10 years. The same town is famous for its stucco mouldings, the art of making of which has been handed down from the days of Shaista Khan. Sylhet is noted for its ivory fans, the Chota Nagpore division for its soapstone carvings, Gaya for its animals carved in black chlorite. (4) Shellac is manufactured in large quantities in Bengal, but the supersession of lac dye by English dyes is diminishing the importance of the lac industries at Bankoora and Beerbohm, while the Ranchee Lac Company, in the Lohardugga district of Chota Nagpur, have for some months been running the dye off into the fields, as it does not pay the cost of manufacture, having been completely supplanted by aniline dyes. The lac only is sold, and for this the season was not favorable, as although the raw stick lac was cheap and plentiful, the prepared article fetched low prices in the market. (5) Pottery is made unglazed universally in India. In Bengal, Savan in Patna, Burdwan, Ferozepur in Decca, and Dinagepore in Rajshahye are noted for it. Of fancy pottery, black and silvery ware is made at Surrujgurrah, and imitation *bidri* at Purneah, both in Bhagalpur. (6) Amongst the small wares produced in Bengal may be noted the bracelets made at Dacca from *chank* shells imported from the Maldivé and Laccadive Islands, and the bamboo work of Monghyr. Among commercial manufactures may be mentioned indigo, sugar, rice, castor-oil, mustard-oil, and jute baling. (1) The indigo factories of Jessore realised high prices for their produce, the outturn of which was not large. In Nuddea a large number of factories still exist, but the industry is declining, and the past season was rendered unfavourable by the lateness of the rains and the subsequent sudden rise of the rivers. In Patna the indigo season was below the average, but a fair outturn and prices were realised. The manufacture in Rajshahye is extensive but unpopular, and in Bhagalpur the falling off appears to be of a permanent character. (2) Raw date sugar is manufactured to a large extent in Nuddea, and *gur* (molasses), the produce of the first inspissation of the juice of the cane, is produced in very large quantities at Jessore. The outturn is estimated at 400,000 maunds, and valued at 160,000 *l*. *Gur* is also made extensively in the Dacca division and the Rajshahye and Kuch Behar division. In Assam this manufacture is said to be on the increase in Sibsagar and Lakhimpur, but to be stationary elsewhere. In Gya the manufacture of sugar is greatly stimulated

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by facilities of irrigation, and the manager of the Maharaja of Durbhungar's Kurruckpur property in the Bhagalpur division is said to have extracted sugar of excellent quality from the date palm. This industry is largely practised in other parts of India. In this division the manufacture of sugar is said to be the only flourishing industry; there the Behea has been substituted for the native press, and great economy of material has ensued. (3) The rice-mills of Chittagong were well employed during the year, but the want of communications prevented the opening of a husking mill. This difficulty will be surmounted by the opening of the Chittagong Daudkandi Railway. (4) The castor-oil mills of the suburbs of Calcutta were depressed by the extended use of Kerosine. (5) The chief seat of mustard-oil manufacture is in Nowgong (Assam), where it is on the increase. The prospects are said to be very hopeful. (6) The large jute-baling industry of Naraingunje is carried on mainly by up-country men, supported by European capital. Here, under the heading of manufactures, may be mentioned an important financial undertaking, the Jessore Loan Company, for the advance of loans to the public, whose earnings during the year amounted to 20 per cent. on a capital of 8,000 l., shortly to be increased to 12,000 l. This company has won a large share of the public confidence, and similar companies have been established in other parts of the country. It receives deposits and does ordinary banking business, besides advancing money on the security of landed property, houses, jewellery, and goods. All these companies are entirely under native management. The native is said to prefer disposing of his money in deposits, where it can easily be got at, to investing it in any description of paper.

N. W. Provinces  
and Oudh.

The wood curving of the North-Western Provinces is amongst its most important industries. The white-wood curving of Saharanpur is executed in Dhudhi wood (*Holarrhena antidysenterica*); the designs are almost entirely of European origin, and the execution coarse. The industry occupies 48 workmen, and was started some 30 years ago. The total value of the year's outturn is estimated at between 400 l. and 500 l. The black-ebony curving of Nugina (Bijnor) is dated 200 years back; the designs are all purely native, and in relief; it employs 103 workmen, and the annual outturn is reckoned at 2,700 l. The carpenters of Pilibhit are engaged on the repair of rice carts, which during the cold weather months ply between Pilibhit and Bareilly, but during the rainy months employ themselves in making patterns or "kharacus," and carved wood-work for house decoration. The art of inlaying wood with brass wire is also practised in this town; the outturn of these carvings and inlayings does not exceed 300 l. The wire inlaid woodwork of Kuraoli near Mainpuri is undoubtedly one of the most elegant arts in the province, and now, after having passed through a period of depression, seems to be reviving; the industry employs 43 men, and the annual outturn is valued at 550 l. The furniture of Bareilly is a considerable industry, and consists of plain furniture, French-polished furniture, and *Kahrva* varnished furniture; *Kahrva* is a decorative varnish, laid on so as to represent metallic foliage or tracery. These three industries employ 112, 65, and 42 men, respectively, and realised 1,900 l., 3,000 l., and 900 l. Lacquering on wood is largely practised in the provinces, the articles most commonly manufactured being ornamented legs for *churpoys*\*. Sikanderabad and Agra turn out the best goods. Toys are made of lacquer ware at Ahraura, near Mirzapur; and guns at Najibabad, as well as other metal-work. The engraved metal ware of Moradabad has attracted within late years almost as much attention as the brass ware of Benares, and with better reason. The vessels are made of brass covered with tin, and patterns are cut through the tin. A school of design has of late years given great impulse to the manufacture, which employs 1,455 men, and realises 3½ lakhs of rupees annually. The brass work of Benares has declined in quality, as the large demand for it has created a supply of cheap goods. The annual production is estimated at 6,000 l. The outturn of the Agra mosaics, which date from 1627 and were revived 30 years ago, is calculated at 1,500 l., and the business employs 126 men. Enamelled glass bangles (*churis*) are made at Rumpur near Meerut. The agate pebble work of Banda is worth 100 l. or 110 l. a year. The pottery of Azamgarh has arrived at its present fineness of execution in the last 30 years; it is of a polished black, diversified with white patterns. A red unglazed pottery is made at Chunar,

\* Indian bedsteads, consisting of a rope or tape netting supported by four feet.

and *Kanker* (carbonate of lime) ware, at Aligarh. A brittle and vulgar pottery is manufactured at Amroha, and a rough glazed pottery of great antiquity at Rampur. The clay modelling of Lucknow may also be mentioned. The only leather manufactures are those of Sabaranpur and Cawnpore. At the former the skin of the *sambhar* deer is used, and the annual outturn is put at 2,000 *l.* The Cawnpore leather work is a household work, and affords perhaps the only instance of a large native industry being founded in these provinces by Government; the outturn is 1½ lacs of rupees. The city of Jaunpur is noted for its scent manufacture, which employs 97 men. Experiments were made in glass manufacture from *reh* (saline exudation), and it is thought probable that coarse glass and beads may be made from it. There are 17 lac factories at Mirzapore, where the industry is concentrated entirely; the total capital employed is over 25 lakhs of rupees, and the value of the annual outturn 160,000 *l.*; almost four-fifths of the capital is in European and American hands. The industry is suffering severely from the fall in the price of lac dye. The production of indigo employs 1,504 factories, with an annual outturn of 50,000 maunds of dye, value 90 lacs of rupees. Only 176 of these factories were in European hands, but they are the largest, the distribution of vats being 1,366 belonging to Europeans and 7,574 to natives. The extension of irrigation is increasing the number of these factories, which in 1880 was 1,224, and the construction of new factories is confined to natives.

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Brass work is made all over the Punjab, Amritsar, Amballa, Hoshiarpur, Ludhiana, and Jullundur, have an export trade to the hills and Afghanistan. Lahore is noted for the high brass tree-like candelabra, known as *char divas*. In Cashmere *niello* work is done, a description of which has been given. The brass and copper manufactures of Karnal are for domestic uses. The trade is depressed, and many dealers are bankrupt. Brass and copper utensils of very good quality are made at Jhelum, at Mooltan and Amritsar, the industry in these articles is growing, but is slightly declining at Rewari in Gurgaon. Knives with ornamental stone handles are made at Bhera in Shahpur, and Panipat. Enamel work is done at Kangra, and enamelled glass ornaments and lac bracelets are made at Mooltan, Delhi, and several other towns. *Charpoy* legs and ivory are carved at Jhabkara, Marara, Gurdaspur; the chief seats of ivory carving are at Amritsar, Patiala, and Delhi. Cabinet making is carried on at Karnal, coach-building at Karnal and Panipat, and lacquered turnery at Kaithal. In Ludhiana the outturn of wood manufacture has declined from 107,589 *l.* to 89,404 *l.*; this is due to a decrease in the manufacture of cart wheels in Jagraon, owing, it is said, to the exhaustion of material during the Afghan war. The industry of inlaying wood with ivory at Hoshiarpur is very prosperous, orders from all parts of India having come in since the Lahore Exhibition. Lacquered wood-work is also extensively manufactured here. The carved and inlaid wood of Ferozepur did well at the Lahore Exhibition. The industrial school at this town has been closed. Specimens of doors and window frames carved at Bhera received high praise at Lahore. The starred "Khesis" of Leiah and the lacquered woodwork of Dera Ismail Khan have a high reputation, and an unlimited demand exists for the latter, even in the English market, but the art is confined to three or four families. The wooden manufactures of Lahore are daily improving. Leather stands, water bottles, &c., ornamented with strips of green leather and brass mountings, are made at Sirsa, Simla, Kangra, and other places. Formerly many native regiments used to be supplied with shoes from Karnal, but the manufacture has deteriorated owing to the bad quality of material used. The estimated outturn of leather work in Rohtak has declined from 129,559 *l.* to 67,244 *l.*, and one reason for this decrease is to be found in the orders under which the hides of animals dying of disease are slashed so as to render them unserviceable. Shoes made at Hoshiarpur and Anandpur are largely exported, and in the villages near Mahilpur, gaiters, gloves, socks, &c., are made of deers' skin. In Amritsar the leather manufacture increased owing to the demand for tanned hides for export. The leather work of Lahore, consisting of saddles, &c., for native use and export, as well as embroidered shoes, "Chandui," is flourishing.

Punjab.

The woollen industries of Karnal, consisting mainly of native blankets for export,

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export, of Gurdaspur, which turns out *lois* mixed with cotton, of Lahore (various articles of *pashmina* or woollen cloth), of Gujrat, where, however, *pashmina* manufactures do not find ready sale, of Mooltan, where woollen carpets of good quality, and other articles of coarse articles are made, and of Marwal (bright-colored bed rugs), are flourishing; but those of Ludhiana, Jullundur, and Sialkot are declining. The carpet manufactory in connection with the Hoshiarpur School of Industry is doing well, and has lately received numerous American orders. The shawl industry of Amritsar shows a great falling off, which is attributed partly to the epidemic fever from which the Cashmiri were especial sufferers, and partly to the low prices realized by the products in London. The dyeing industry has also suffered on account of the decline in the shawl trade, and the competition of cheap European dyes. The Mooltan dyes have always borne a good name, as do those of Kehra and Shujabad, especially the former. A peculiar pottery is made at Ferozepore Jhirka, Gurgaon, and pottery of an ornamental kind at Tanda, while the glazed ware of Lahore is becoming very saleable. The well-known glazed pottery of Mooltan is made in two establishments. Kerosine is supplanting native oil in Gujrat and Amritsar; at Lahore, the Punjab Steam Company's oil mills have been opened since the close of the year. The alum manufacture in Koteki and Kalabagh, Bannu, is a large industry, and the sale of sulphuric and nitric acids made at Lahore is very brisk. The Dalhousie Brewery, Gurdaspur, started in May 1881, appears flourishing; 12,500 gallons of beer, value 937 l., were sold during the year. The Murree Brewery, Rawalpindi, is also doing well.

## Central Provinces.

Bell metal, brass and copper work, is a large industry of the Central Provinces. Nagpur, Bhandara, Pauni, Chanda, Sambalpur and Chikhli are the seats of manufacture. The brass work of Nagpur is distinguished by its pure traditional forms. Hatchets and knives are made along the Upper Godavari, and steel of excellent quality is forged at Tendukhera, Narsinghpur, and along the Nerbudda river. Glass ornaments are made at Mangrul. At Nagpur carving in wood and stone, for which that place was formerly famous, still lingers in a high degree of excellence. There are skilful stone carvers also at Chanda, which town, together with Brahmपुरi, has a great reputation for the manufacture of native slippers.

## British Burma.

Considerable artistic success is attained in the potteries of Shwaygyin and Bassein. The chief work done in metal is the manufacture of *tees* for pagodas in iron, and the casting of bells and images of Gaudama in brass. A demand has of late years sprung up for Burmese carving, which was formerly confined to the ornamentation of religious edifices, and since the close of the year a company of wood carvers has been formed at Rangoon. Boat-building, cart-making, mat-weaving, torch-making, the manufacture of paper umbrellas, ivory-carving, lacquer-work and stone-cutting are more or less successful industries. Rice mills are becoming every year more numerous at the four principal seaports. An impetus has of recent years been given to the preparation of table-rice. Among the improvements lately introduced into the processes of milling may be noticed the substitution of iron discs covered with emery cement for millstones, and of paddy husk as fuel in lieu of coal. The principal steam sawmills are at Rangoon and Moulmein, but sawing is carried on at all the principal towns. There is a large and increasing local and foreign demand for sawn timber. Besides the rough preparation of cutch in the forests, an important industry is springing up, chiefly in the hands of the Bombay-Burma Trading Corporation in the refining and preparation of this article for the home market. The process of manufacture is improved by the use of steam as an evaporator. The Prome and Thayetmyo cutch factories employ a large number of hands.

## Berar.

One thousand five hundred and eighty-one males and 743 females work in wool, which manufacture is confined to the weaving of coarse black blankets. 1,021 males and 562 females work in hemp. These laborers are of the vagrant and other low castes. At Dewalghat fine steel is forged.

## Coorg.

About a dozen artizans make the knives ordinarily worn by the Coorgs. The sheaths are usually mounted in silver, and are many of them of considerable value. The Tilery at Mercara is doing a good business in "Mangalore Tiles." The clay found is of excellent quality, and some of the Mercara tiles are said to be stronger than those made at Mangalore. A few pot-makers exist in North, and a few braziers in South Coorg. Kerosine is gradually supplanting the local vegetable oils, the price of which has, however, risen.

Vessels



Vessels of brass, copper, iron and steel are made at many towns in the Madras Presidency. The utensils and idols of the Tumkur district (Mysore) are widely known. In the Hassan district the Jains enjoy a monopoly of the manufacture, which employs more than 1,300 persons. Very good brass work is made at Nellore, but that of Madura and Tanjore is the finest in India. The Madras bells are distinguished both for their tone and their stately architectural forms. Glass bangles are made at Matod and Tumkur (Mysore). Blackwood furniture, exclusively of European design, is largely made at Madras. Vizagapatam is noted for work in ivory, bison and stag-horn, and porcupine quills. The industry is of very recent origin. Mysore is remarkable for sandalwood carving, the best of which comes from Sorab. Harpanahalli is also noted for its wood-carving. In Mysore and elsewhere in the Deccan a lacquered ware is made in which the ground is painted in transparent green on tin-foil, and the subjects, chiefly mythological, are painted on it in the brightest opaque colors. The Madura pottery, generally in the form of water bottles with a globular and long neck, is of the highest excellence. In South Arcot a sugar factory worked by steam like that belonging to Messrs. Parry in the same district, has been opened by a native gentleman and promises well. In South Canara occupation is given to 500 people by the extraction of oil from sandalwood brought from Mysore.

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Madras.

Nasik, Poona, and Ahmedabad have always been famous for their brass and copper work, and the latter town is noted for its tracery. A good deal of iron-work is also done there. Idols in all the metals are largely manufactured at Nasik and Poona. Brass utensils are made at Kelshi and Bagmandli, and bullock bells at Sirsangi. But in Bombay alone there are said to be 1,069 copper-smiths, and 1,536 blacksmiths. Glass-making has its head-quarters at Kaipadvanj, Gujarat, where bangles, beads, animals, &c., are made for export. Glass trinkets are also manufactured in other parts of the Kheda district, and at Bagmandli common pottery; glass bangles and lac bangles are, however, made almost everywhere. Toys in ivory and clay are constructed in Surat and Poona, and the artistic pottery and carpets of Sind have a wide reputation. There are special potteries also at Ahmedabad and Khanpur. The chief places for the manufacture of encaustic tiles are Balri and Saidpur in Sind. The wood-carving of Ahmedabad and Surat is a familiar object, and the American Agency in the former city for making and exporting artistic furniture has been very successful. The wood most commonly used is *shisham* (*Dalbergia*, sps.), and the style of carving is evidently derived from the Dutch. The common jackwood (*artocarpas integrifolia*) is also used for furniture, which is rectangular in shape and simple in style. The carpenters of Dholera have in some respects a higher reputation than their neighbours of Ahmedabad. The Ahmedabad mother-of-pearl inlaid work is almost extinct, but the inlaid work of Bombay is ubiquitous. In this work tin wire, sandalwood, sponge, *sappan* (Brazil) wood, ivory, and stag-horn are used. The sandalwood carving of Surat and Bombay is in low relief, and consists almost entirely of foliated design; that of Canara and Mysore is in high relief, and the subjects are chiefly mythological, whilst the Ahmedabad work is in flat relief, deeply cut, and the objects are mixed floral and mythological. Stone carving is practised at Malwan and Patgaum. A speciality of Sind is lacquered boxes and charpoy legs. Slippers are made at Poona and Rajapur, embroidered leather mats in Gujarat, and leather shields at Ahmedabad. The manufacture of coir rope is a thriving industry in the Konkan and Kanara, and coarse kamblis or blankets are made in Khandesh, Nasik, Sholapur and Ratnagiri.



IX.  
T R A D E.\*

The following table is a comparative statement of the total private trade for the last four years. The rupee is taken at the conventional estimate of 2 s.

	1878-9.	1879-80.	1880-81.	1881-2.
<b>IMPORTS :</b>	£.	£.	£.	£.
Merchandise - - - - -	36,566,195	39,742,166	50,308,834	46,992,064
Treasure - - - - -	7,056,749	11,655,895	8,988,214	11,322,781
<b>TOTAL IMPORTS - - -</b>	<b>43,622,944</b>	<b>51,397,561</b>	<b>59,297,048</b>	<b>58,314,805</b>
<b>EXPORTS :</b>				
Merchandise - - - - -	60,803,611	67,173,158	74,531,282	81,901,960
Treasure - - - - -	3,895,545	1,928,828	1,409,404	1,097,387
<b>TOTAL EXPORTS - - -</b>	<b>64,789,156</b>	<b>69,101,986</b>	<b>75,940,686</b>	<b>82,999,347</b>
<b>TOTAL PRIVATE TRADE - - -</b>	<b>108,412,100</b>	<b>120,499,547</b>	<b>135,237,734</b>	<b>141,314,212</b>
Excess Exports of Merchandise - - - - -	24,327,416	27,430,992	24,222,448	34,909,876
Excess Imports of Treasure - - - - -	3,161,204	9,728,507	7,587,810	10,225,394
<b>Net Excess Exports of Private Trade - - -</b>	<b>21,166,212</b>	<b>17,704,425</b>	<b>16,634,638</b>	<b>24,684,482</b>
<b>Net Excess Exports of Total Trade (including Government Transactions).</b>	<b>20,062,399</b>	<b>16,426,112</b>	<b>13,916,508</b>	<b>22,632,042</b>
Percentage of Total Trade <i>via</i> Suez Canal - - -	48.04	51.64	58.79	61.39

It will be seen that the volume of trade greatly exceeded that of any previous year. Imports of merchandise (treasure excluded) fell off by more than three millions (this deficiency was however nearly made up by the excess of imports in treasure). Exports, on the contrary, increased by more than 7½ millions, so that the total volume of trade of all kinds was raised from 138,126,027 l. in 1880-81 to 143,504,352 l. in the year under review. The total net imports of gold and silver in 1881-2 exceeded those of any year since 1877-8, and this has taken place simultaneously with a large increase in the drawings of the Secretary of State, which in 1877-8 amounted to 11,698,500 l. only, while in 1881-2 they stood at 22,210,900 l. The net imports of gold shew an increase of 1,188,785 l. over the previous year, of which enhancement Australia contributed no less than 1,030,649 l., the total figure of the import from that country being 1,321,860 l. The import of silver exceeded that in 1880-1 by 1,486,476 l.; the principal increases were with China and the United Kingdom.

The foreign trade was thus apportioned amongst the several maritime provinces.

	1880-1.	1881-2.
<b>Bombay :</b>	£.	£.
Imports - - - - -	25,984,916	27,159,427
Exports - - - - -	27,481,660	32,250,914
<b>TOTAL - - -</b>	<b>53,466,576</b>	<b>59,410,341</b>
<b>Bengal :</b>		
Imports - - - - -	24,009,953	22,363,198
Exports - - - - -	33,508,055	34,283,544
<b>TOTAL - - -</b>	<b>57,608,008</b>	<b>56,646,742</b>
<b>Madras :</b>		
Imports - - - - -	4,210,582	4,214,845
Exports - - - - -	7,317,187	7,842,545
<b>TOTAL - - -</b>	<b>11,527,769</b>	<b>12,057,390</b>

\* This chapter is taken from the Parliamentary Return of Indian Trade.

		1880-1.	1881-2.
British Burma:		£.	£.
Imports	- - - - -	3,846,346	3,344,053
Exports	- - - - -	6,565,230	6,579,726
TOTAL	- - -	10,411,582	9,924,679
Sindh:			
Imports	- - - - -	1,155,250	1,332,443
Exports	- - - - -	1,068,546	2,042,617
TOTAL	- - -	2,223,796	3,275,059

The trade of Bombay exceeded that of any of the other provinces, and was larger than the trade of Bengal by 2,763,600 *l.* The increase in the imports to Bombay is due entirely to the larger importation of treasure, the imports of merchandise having fallen off by 1,130,680 *l.* as compared with 1880-1. The value of the treasure imported to Bombay amounted to 9,015,330 *l.* in 1881-2 against 6,719,139 *l.* in the previous year. The imports of treasure to Bengal in 1881-2 amounted to 1,922,139 *l.* only, of which 699,350 *l.* was in gold. The imports of merchandise to Bengal were less in 1881-2 than in 1880-81 by 1,823,345 *l.*, and the value of the aggregate trade of Bengal for the year under review shows a decrease of 961,267 *l.* The falling off in Bengal is, however, made up for in Bombay, where there has been a very large expansion of the export trade, the aggregate value of which increased during the year by no less than 5,943,765 *l.* This increase is due to a great extent to the fact that a large portion of the trade in wheat and seeds has been diverted to Bombay by the facilities for transport afforded by the Rajputana Railway. The exports from Sind increased from 1,068,546 *l.* in 1880-1 to 2,042,617 *l.* in 1881-2, and this increase also is mainly attributable to greater facilities for transport of grain by the Indus Valley Railway.

The following table shews the distribution of the foreign trade of India :

	Merchandise.		Treasure.		TOTAL.
	Imports.	Exports.	Imports.	Exports.	
	£.	£.	£.	£.	£.
United Kingdom	38,581,671	34,617,803	4,866,177	20,171	78,385,822
China	1,540,961	13,625,050	2,889,508	7,514	18,063,033
France	677,561	8,014,017	81,907	3,020	8,778,505
Straits Settlements	1,541,885	3,524,104	86,837	16,821	5,160,647
Italy	524,433	3,107,401	392,238	200	4,024,272
United States	466,064	2,685,434	-	-	3,161,498
Austria	295,861	2,436,220	61,897	290	2,794,274
Ceylon	401,839	1,615,316	294,233	444,348	2,755,736
Australia	225,989	803,763	1,333,161	-	2,362,913
Belgium	2,250	1,970,579	-	-	1,972,829
Mauritius	964,698	720,345	1,187	284,300	1,970,530
Persia	493,621	1,170,744	63,105	106,871	1,834,341
Arabia	328,324	915,563	502,238	78,120	1,824,242
Turkey in Asia	251,715	345,968	215,228	13,209	826,120
Zanzibar	244,064	536,139	23,432	10,111	613,746
Other Countries	451,151	5,703,507	511,633	112,412	6,778,703
TOTAL	46,992,084	81,901,959	11,322,781	1,097,387	141,314,211

As compared with the preceding year, this table brings out two noteworthy variations in the order of importance of the trade of India with other countries, viz., that Australia is raised from the twelfth to the ninth place, and that Belgium, the aggregate trade with which in 1880-1 amounted only to 335,982 *l.*, in the year under review ranked tenth, with a total trade of 1,972,829 *l.* The latter figure is composed mainly of exports of Indian produce, which rose from 334,844 *l.* to 1,970,314 *l.*

The total trade with the United Kingdom amounted for 1880-1, to 76,373,691 *l.*, of which 45,214,078 *l.* was on account of imports, and 31,159,613 *l.* was exports.

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The great excess of the imports of 1880-1 over those of previous years was due to the exemption from duty of all grey goods under 30 s.; a reaction from the over supply of these goods is now apparent in the diminution of the imports. Of the increase of exports, 3,900,000 l., wheat accounted for 1,900,000 l. and raw cotton for nearly 1½ millions. The per-centage of trade with the United Kingdom to the total foreign trade of India is 55.4. The trade with China falls under two heads, Hong Kong and the Treaty Ports. The imports from Hong Kong were 3,762,015 l., of which 2,412,048 l. was treasure, and the exports were 9,462,007 l., of which 6,856,233 l. was on account of opium. The imports for the Treaty Ports were 668,454 l. and the exports 4,170,557 l., of which 4,155,425 l. was opium. The most important of these ports is Shanghai, and the trade with them is chiefly confined to imports of raw silk and tea and exports of opium; the value of the exports of cotton piece goods having fallen from 22,285 l. in 1880-1 to 3,875 l. There is a general decrease in the imports from China of raw silk, silk piece goods, sugar and tea, but an increase is shown in copper and glass ware. Exports of opium fell off by about 2,700,000 l. In the trade with France, imports declined by 28,019 l., but exports advanced to the extent of 1,518,005 l. This increase is more than accounted for under the head of wheat, of which France took a quantity valued at 2,388,886 l., against 641,560 l. in 1880-1. Imports from Italy decreased by 51,894 l., and exports thither rose by 326,197 l.; cotton constituted 64.96 per cent. of the total exports. In the case of the United States also there was a decrease of imports to the extent of 24,784 l., with an increase of 77,209 l. in the exports. Mineral oils form the bulk of the imports, valuing, in 1881-2, 445,027 l. out of the total of 466,064 l. The comparative statistics of the trade with Australia are an increase of 113,934 l. in the imports, and of 270,435 l. in the exports. The principal imports are horses and copper. The average value of the horses imported in 1881-2 showed considerable improvement. Besides the copper sent direct to India, a great deal goes by way of England owing to the difficulty of making financial arrangements for direct shipments. The value of the Indian tea supplied to Australia was 67,570 l., as compared with 51,591 l. in 1880-1, and 6,474 l. in the year preceding it, and of gunny bags 611,606 l., against 313,338 l. The exports of rice and castor oil declined in value, but trade in these articles is always uncertain.

In the following table are shown the principal articles imported in 1881-2, a comparison being given of their quantity and value, as compared with the imports of 1880-1.

Articles.	1881-82.		More or Less than in 1880-81.	
	Quantity.	Value.	Quantity.	Value.
<b>IMPORTS.</b>				
<i>Manufactures.</i>				
Cotton twist and yarn - - lbs.	40,761,751	3,222,065	- 5,114,824	- 477,112
" piece-goods, grey - - yds.	1,008,461,495	12,894,877	- 72,092,324	- 651,055
" " " white - - "	269,804,100	3,563,332	- 15,554,802	- 127,467
" " " coloured - - "	254,842,804	3,964,051	- 63,208,740	- 1,483,588
Silk, raw - - - lbs.	1,760,595	749,211	- 751,207	- 317,807
" piece-goods (including mixed piece-goods) - - yds.	12,190,150	1,209,260	- 1,974,926	- 139,356
Woolen piece-goods - - "	8,850,816	922,230	- 2,403,613	- 187,231
Metals: copper - - - cwt.	338,108	1,467,469	- 43,575	- 152,353
" Iron - - - "	2,452,507	1,414,384	- 213,097	- 132,157
" Tin - - - "	26,977	169,715	- 3,950	- 7,668
" Other sorts - - "	392,984	465,313	+ 86,735	+ 30,577
Coal (including coke, &c.) - tons	637,124	1,020,044	- 56,644	- 219,511
<i>Oils.</i>				
Mineral: Kerosine - - - gals.	8,816,474	439,458	- 875,795	- 26,424
" Other kinds - - - "	1,006,575	64,575	+ 689,818	+ 43,399
Other kinds - - - "	350,992	56,553	+ 124,347	+ 14,437
<i>Food.</i>				
Sugar (unrefined and refined) - cwt.	775,982	1,243,758	- 210,339	- 367,399
Liquors: Malt - - - gals.	1,109,395	284,612	+ 46,717	- 323
" Spirits, Brandy - - "	430,236	362,795	- 41,739	- 66,917
" " Whisky - - "	175,503	148,226	+ 29,287	+ 20,034
" " Other sorts - - "	237,000	99,806	+ 6,353	- 5,302
" Wines - - - "	430,900	410,112	- 50,259	- 25,204
" Other sorts - - - "	7,346	3,121	+ 36	- 11
Salt - - - - - tons	357,224	569,067	- 16,432	- 96,450

Exports of 1881-2, compared with those of 1880-1 :

TRADE.

Articles.	1881-2.		More or Less than in 1880-81.	
	Quantity.	Value.	Quantity.	Value.
<b>EXPORTS, INDIAN PRODUCE.</b>				
<i>Raw Products.</i>				
		£.		£.
Cotton raw - - - - cwt.	5,627,453	14,935,060	+ 1,085,914	+ 1,694,226
Cutch and gambier - - - "	198,897	253,084	- 121,859	- 173,558
Jute, raw - - - - "	7,510,314	5,030,302	+ 1,700,499	+ 1,096,272
<i>Oil-seeds :</i>				
Linseed - - - - "	5,146,110	3,009,107	- 851,062	- 669,020
Rape - - - - "	1,995,621	1,091,927	+ 680,041	+ 960,893
Til or jinjili - - - "	1,917,854	1,217,731	+ 10,846	- 94,062
Other sorts - - - - "	1,466,513	795,334	+ 397,164	+ 131,979
Opium - - - - - "	123,913	12,492,142	- 3,571	- 4,168,006
Saltetre - - - - - "	354,860	359,437	+ 1,805	+ 7,709
Silk, raw (including chussum and coccons) - - - lbs.	1,117,026	388,263	- 185,550	- 159,939
Tobacco (including cigars, &c.) - "	10,530,325	115,038	- 3,142,816	+ 25,793
Teak wood - - - - - Cub. tons.	56,377	508,792	- 9,249	+ 6,745
Wool - - - - - lbs.	21,580,618	814,551	- 1,022,072	- 199,566
<i>Manufactures, &amp;c.</i>				
<i>Cotton goods :</i>				
Twist and yarn - - - lbs.	80,786,304	1,368,936	+ 3,884,958	+ 86,260
Piece goods, grey - - - yds.	20,508,843	251,163	- 1,232,213	- 24,548
" coloured, &c. - - - "	9,079,488	286,869	+ 883,261	+ 42,847
Indigo - - - - - cwt.	150,363	4,509,080	+ 33,493	+ 937,499
Hides and skins (including raw) - "	815,210	3,948,792	+ 3,321	+ 215,227
Jute bags - - - - - No.	42,072,819	1,084,061	- 10,313,408	+ 7,462
Lac, shell - - - - - cwt.	80,490	555,241	+ 25,648	+ 123,614
Castor oil - - - - - gals.	3,009,288	297,712	+ 118,485	- 12,758
Silk piece goods - - - yds.	2,126,635	205,772	- 941	+ 5,365
Woollen shawls - - - No.	16,652	124,164	- 9,949	- 26,015
<i>Food.</i>				
Coffee - - - - - cwt.	340,364	1,447,465	- 22,993	- 152,204
Rice (not in the husk) - - - "	28,519,422	8,249,577	+ 1,750,078	+ 722,084
Wheat - - - - - "	19,863,520	8,604,082	+ 12,419,145	+ 5,320,140
Sugar (unrefined and refined) - "	917,493	598,232	+ 383,319	+ 286,481
Tea - - - - - lbs.	48,091,725	3,609,150	+ 2,278,215	+ 551,896

Of the total decline of 3,316,750 l. in the imports of 1881-2, cotton goods (including twist and yarn) are chargeable with 2,615,730 l. There were also large decreases under silk and silk manufactures (456,486 l.), sugar (367,399 l.), metals (262,804 l.), coal (219,812 l.), and woollen goods (177,898 l.); while, on the other hand, there were increases under machinery (451,202 l.), and provisions (132,902 l.). The enhancement of 7,370,677 l. in the exports is mainly caused by the balance of the following increases and decreases:—

INCREASES.		DECREASES.	
	£.		£.
Wheat - - - - -	5,826,140	Opium - - - - -	1,168,006
Cotton - - - - -	1,694,225	Rice - - - - -	722,084
Cotton manufacture (including twist, &c.) - - - - -	101,382	Oil-seeds - - - - -	291,110
Jute - - - - -	1,096,273	Wool and woollen manufactures	213,178
Indigo - - - - -	937,499	Cutch and gambier - - - - -	173,657
Tea - - - - -	554,896	Silk and silk manufactures - - - - -	161,137
Sugar - - - - -	280,481	Coffee - - - - -	152,204
Hides and skins - - - - -	215,227	Oils - - - - -	112,012
Lac - - - - -	141,208	Spices - - - - -	57,991
Saltetre - - - - -	7,708	Jute manufactures - - - - -	83,083
		Tobacco - - - - -	25,793
<b>TOTAL - - - - £.</b>	<b>10,561,039</b>	<b>TOTAL - - - - £.</b>	<b>3,111,055</b>

TRADE.

Cotton is chargeable with the principal decrease in the imports for 1881-2. The decrease in raw cotton was 41,574 cwts., value 104,277 *l.* against 56,825 cwts., value 145,552 *l.* in the previous year. The increased supply and lower prices of the Indian article have no doubt lessened the demand for foreign cotton. The diminution in the imports of cotton goods represents 64½ per cent. of the total decrease in the import trade, but the figure is still higher than that of any former year except 1880-1, which was exceptional, and it even now constitutes 44·20 per cent. of the total imports of merchandize. The abolition of the customs duties on cotton goods took effect from 10th March 1882, it has therefore no place in the history of the year under review. The quantity of silk imported declined with some enhancement of price; the principal market for it is in Bombay and British Burma. The continued demand for machinery and mill work indicates a development of local industries. Whiskey is superseding brandy and claret with the upper European classes, but gin is the favourite spirit of the Burmese. The trade in sugar is fluctuating and depends merely upon production in India and Mauritius. The import trade in mineral oils was 439,123 gallons, valued in 1876-7 at 49,117 *l.*, but in the following year it suddenly expanded and has gone on increasing. The development of the trade in kerosine with the United States is in some measure attributable to the temporary stoppage of the grain trade, the consequent liberation of tonnage for other purposes and the depression of rates of freight. There was in 1881-2 an increase in the imports of oils to Calcutta and an equivalent decrease in the imports to Bombay. Tea imported from China is used principally by the Indian native population, being cheaper than the Indian product. A considerable quantity of Chinese tea is however re-exported to Persia, Asiatic Turkey, Central Asia, &c. Imports of coffee still shew a steady increase. Gold mining in the Wynaad has, as observed last year, diverted attention from the native coffee industry.

Exports.

5,672,453 cwt. of raw cotton, valued at 14,935,959 *l.*, were exported against 4,541,539 cwt., value 3,241,734 *l.* The average for the three years preceding 1881-2 was 3,818,692 cwt., value 10,766,744 *l.* The increase in value during the year would have been much greater but for a heavy fall in price. The advance in quantity is attributable to the superiority of the Indian over the American crops. There has been a steady expansion for several years in the cotton twist and yarn trade of which by far the largest portion goes to China. The quantity of rice exported was much greater than in any previous year, and, as the effect of this enormous supply, the price fell to the lowest point known for years. The figures were as follows (paddy not included):—1880-1, 26,796,344 cwt., 8,971,661 *l.*; 1881-2, 28,519,422 cwt., 8,294,577 *l.* The wheat trade is subject to extreme fluctuations but the figures for the year are very remarkable; 19,863,520 cwt. were exported, at a value of 8,604,081 *l.*; the largest figure for any previous year was 7,444,375 cwt., value 3,277,942 *l.* in 1880-1. The enormous increase of the last year is attributed to various causes,—a deficient harvest in America, the action of speculators in the United States in keeping back supplies for the purpose of forcing up prices, increased facilities afforded by the extension of the railway system, and the low rates of freight to Europe. England, Belgium, and France together took 17,312,536 cwt. out of the total of 19,863,520 cwt. In jute also the largest trade was done as compared with all former years, viz.: 7,510,314 cwt., value 5,030,302 *l.*; the average for the previous three years being 6,170,622 cwt., value 4,034,829 *l.* The decline in the price of rice is supposed to have induced the ryots to extend the cultivation of jute. A considerable and continued depression of prices set in in October of 1881-2: The export of jute manufactures decreased by 33,083 *l.*; this is accounted for by the increased demand in the native market owing to the use of gunny bags in the export of grain. A total decrease is noted in the export of oil-seeds of 291,110 *l.*; the most important kind, linseed, declined from 3,698,126 *l.* to 3,009,107 *l.*, while rapeseed advanced from 671,034 *l.* to 1,031,927 *l.* The quantity of indigo exported increased from 116,870 cwt. to 150,363 cwt. and the value from 3,571,581 *l.* to 4,509,080 *l.*, with a decline in prices. A slight increase is noted in the value of the trade in prepared hides and skins; the raw article, however, declined considerably in value; the supply was scarce and the prices prohibitive. The tea industry was rescued from imminent disaster by a rise in prices. The amount exported, increased 5 per cent. in quantity and 18 per cent. in value. Two advantages, however, are

are considered to have followed from the depression, viz., increased consumption in the United Kingdom, accompanied with the development of a taste for Indian tea, and the search for new markets, notably Australia and the United States. The trade in coffee and spices exhibits a general falling off. In proportion as the imports of refined sugar have increased since 1877-8 the exports have decreased, but the export trade in unrefined sugar has gradually developed. A slight increase may be observed in the export of tobacco with a decline in the price of cigars. The increased local demand may effect the external trade; 89,338 chests of opium were exported, value 12,432,142*l.*, against 92,190 chests, value 13,600,148*l.* in the preceding year, of which 11 million pounds worth went to China and over 1½ million to the Straits Settlements.

TRADE.

In regard to these a noticeable feature is the falling off of imports, although they remained at a higher figure than in the two years previous to 1880-1:—1878-9, 1,234,399*l.*; 1879-80, 1,423,837*l.*; 1880-1, 2,807,936*l.*; 1881-2, 2,121,290*l.*

Government Stores.

The imports of 1880-1 were exceptionally large in consequence of requirements for railway material, coal, &c., connected with the war in Afghanistan; but a portion of the decrease in 1881-2 is the result of the present policy of Government which encourages local production wherever possible in preference to the plan of transporting stores from England. This policy has been in particular carried out in regard to coarse woollen goods, boots, stationery, soap, and spirits.

The gross amount of customs duty in imported merchandise, excluding salt, amounted to 1,555,237*l.*, or 216,121*l.* less than in the previous year. The duty on salt amounted to 2,392,478*l.* Nearly one-fourth of the total net revenue is derived from duty on liquors which amounted to 404,496*l.*, or 26,914*l.* in excess of the receipts in 1880-1. From the 10th March 1882, all imports, with the exception of arms and ammunition, liquors, opium, and salt, were freed from duty, and no doubt the diminution in the customs receipts may be in a measure ascribed to this cause; but the principle reason was the diminution in the imports of cotton goods adverted to under that head. The gross receipts from the duty in exports was 762,555*l.*, and the net revenue exceeded that of the previous year by 40,445*l.* The only article on which duty was levied was rice.

Customs Revenue.

Six thousand four hundred and sixty vessels of an aggregate burden of 3,632,248 tons entered Indian ports during the year. Of these vessels, 1,829 were steamers with an aggregate tonnage of 2,263,604; the number of vessels last year is larger than in any of the previous four years, and the aggregate tonnage has increased by 899,850 tons, or nearly 14 per cent., as compared with the figures for 1880-1, this increase being, in a great measure, the result of the remarkable development in the grain trade already noticed. The average capacity of each vessel had also increased considerably. The number of vessels entering in ballast rose very noticeably last year, whilst the number leaving in that condition was lower than in any of the previous four years, except 1879-80. This increase is most noticeable in Bombay, where 152 steamers entered in ballast, as against 29 in the previous year, and 15 cleared in the same condition as compared with 26 in 1880-1. In Bengal, 86 steamers entered in ballast as against 31 in the previous year, while none left without cargoes in 1880-1, and only two in 1881-2. In Burma, 146 steamers entered and eight left in ballast as compared with 101 and 13 in the previous year. In Madras, the numbers were 53 and eight as against 27 and eight in 1880-1; and in Sind, 23 steamers entered without cargoes, while none left in that condition, the entries in the previous year being one, and the clearances four. The total number of steam vessels entered and cleared *via* the Suez Canal was 1,989 with a tonnage of 2,887,988 and a per-centage of the total steam tonnage employed in the Indian trade of 63; against 1,459 vessels of 2,133,872 with a per-centage to the total steam tonnage of 60. The proportion to the total tonnage for the year of British tonnage was 79.48 per cent. of British Indian tonnage 5.58, and of foreign tonnage 12.49.

SHIPPING.

There has been a decrease in the aggregate trade both in imports and exports, the total of both in 1881 being 8.66 per cent. less than in the previous year, and 3.73 per cent. less than in 1879-80. The decrease has taken place chiefly in the trade with Upper Burma, Kashmir, and Kandahar, while there was an increase of trade with Bajaur, Karennee, Ladakh, Sewestan, Towang, and Zimmeh. The following

FRONTIER TRADE.

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TRADE.

following table gives a comparison of the frontier trade for 1881-2 with that of the previous year.

	1881-2.			1881-2 compared with 1880-1.	
	Imports.	Exports.	Total.	Increase.	Decrease.
	£.	£.	£.	£.	£.
Lus Beyla - - -	39,570	11,687	51,257	-	3,019
Khelat - - -	70,675	120,141	190,816	5,801	-
Khorassan - - -	791	-	791	791	-
Kandahar - - -	15,860	105,028	120,888	-	81,530
Herat - - -	1,980	-	1,980	1,980	-
Ghuzni - - -	-	54	54	54	-
Pishin - - -	240	-	240	-	2,256
Sewestan - - -	32,637	80,117	112,754	30,438	-
Kabul - - -	278,208	838,926	1,117,136	2,244	-
Tirah - - -	5,880	4,990	10,870	-	1,532
Bajaur - - -	42,011	78,782	120,793	20,322	-
Kashmir - - -	495,049	359,193	855,142	-	239,004
Ladakh - - -	37,248	35,860	73,108	24,086	-
Thibet - - -	64,206	21,973	86,179	4,572	-
Nepal - - -	1,889,548	869,720	2,259,268	-	271,383
Sikkim - - -	16,753	8,667	25,420	535	-
Bhutan - - -	18,586	12,841	31,427	-	15,595
Towang - - -	24,406	8,135	32,541	22,690	-
Duffa and Aka Hills - - -	971	318	1,289	-	879
Naga and Mishmi Hills - - -	6,430	3,479	9,909	-	5,948
Hill Tipperah - - -	23,817	2,146	25,963	1,214	-
Lushai Hills - - -	6,448	4,488	10,931	-	958
Manipur - - -	2,881	3,395	6,276	-	8,938
Abor Hills - - -	-	-	-	-	41
Khaupri - - -	-	29	29	-	905
Upper Burma - - -	1,303,375	1,485,886	2,789,261	-	537,012
Karenee - - -	607,721	82,417	690,138	232,940	-
N. Shan States - - -	57,682	25,883	83,565	-	19,855
S. Shan States - - -	2,096	1,725	4,721	2,724	-
Zimneh - - -	5,768	3,010	8,778	3,523	-
Siam - - -	38,850	106,166	145,016	-	6,039
<b>TOTAL - - -</b>	<b>4,591,482</b>	<b>4,275,056</b>	<b>8,866,538</b>	<b>353,974</b>	<b>1,194,956</b>

The large falling off in the trade with Kandahar is apparent only because part of the traffic has been diverted to the Kandahar state railway; the extent of the diversion is not ascertainable. There was also a considerable decline in the export trade consequent on the withdrawal of the troops from Afghanistan. The increase in imports from Sewestan is chiefly in manufactured fibres, timber, and raw wool, and is due to the quieting down of the Belooch frontier, the raising of the blockade against the Mahsuds, and the more favourable harvests. The state of trade with Kabul remains in much the same condition as in 1880-1. There was however a large decrease in the export of European piece-goods and of Indian tea, while exports of Indian piece goods, indigo, and China tea have risen. Much of the trade with Kabul formerly flowed through that country and Bokhara into Turkistan, but has of late been thrown back from the last-named country by reason of the heavy duties imposed by the Russians at the Katta Kurghan Pass, which are reported to be almost prohibitive of trade with countries beyond Bokhara. It is to this cause that the decrease in the exports of European piece goods and of Indian tea is attributed, but it is stated that there never was much demand for the latter article in Kabul and Bokhara, and that the main consumers have always been the people of Turkistan. On the other hand, China tea finds an extensive sale both in Kabul and Bokhara. Indian piece goods also are believed to be in large demand in Afghanistan, and the increase in the exports to Kabul of those goods as well as of indigo is mainly due to the recovery of the country from the effects of the war.

The increase in the Bajaur trade is said to be mainly due to the fact that, in order to avoid the tolls levied in the Khyber, merchandise for Kabul is taken there by another route and declared to be for Bajaur. This would account for the decrease in the Kabul trade. The imports of shawls from Kashmir decreased



decreased by 106,439 *l.*; but the demand created by the Viceroy's Durbar at Lahore made, the supply of 1880-1 unusually large. The cessation of famine caused a decrease in the export of food-grains. The decrease in the export of salt is accounted for partly by the storage of that article in Kashmir, and partly by the prohibitive duty imposed by that Government. The decrease in the Nipal import trade is mainly in rice and wood. The excess in value of imports over that of exports, which amounted last year to 519,828 *l.*, and in 1880-1 to 683,205 *l.*, is attributed in a great measure to two causes, *first*, that as both classes of goods are valued at rates obtaining in British territory, the value of the exports includes a smaller allowance for traders' profits than is included in the value of the imports; and *second*, that the exports are valued when untaxed, but the imports after having been taxed by the Nipalese officials. These taxes are farmed, and, together with an octroi duty levied on entering the bazaars, are seriously inimical to the vitality of trade. The maintenance of monopolies in Upper Burma has severely affected the foreign trade of that country. The monopolist cannot interfere with the internal market, but all goods of which he holds the monopoly pass on crossing the border through his hands. On the 20th February 1882, however, was announced the entire cessation of all monopolies excepting those sanctioned by treaty. TRADE.

Trade at Aden is chiefly transit. In the year under review the imports amounted to 2,107,623 *l.*, of which 177,440 *l.* was treasure and 189,941 *l.* land trade; the exports were 1,602,430 *l.*, of which 246,780 *l.* was treasure and 84,686 *l.* land trade. The total trade was 3,710,053 *l.*, a decrease of 130,039 *l.* from the figure of the previous year. ADEN.

## X.

## PUBLIC HEALTH AND SANITATION.\*

HEALTH OF  
GENERAL  
POPULATION.

THE following statement shews the registered mortality in the different provinces of India from the four principal diseases and from all causes in 1881:—

PROVINCES, &c.	CHOLERA.		SMALL-POX.		FEVERS.		BOWEL COMPLAINTS.		DEATHS FROM ALL CAUSES.	
	Total Deaths.	Ratio per 1,000.	Total Deaths.	Ratio per 1,000.	Total Deaths.	Ratio per 1,000.	Total Deaths.	Ratio per 1,000.	Total Deaths.	Ratio per 1,000.
Bengal, excluding Calcutta - - - - -	1880 39,643	0.66	22,953	0.38	689,605	11.51	44,969	0.75	922,633	15.40
	1881 79,180	1.32	24,371	0.40	940,911	15.71	57,029	0.95	1,255,478	20.96
Calcutta - - - - -	1880 805	1.87	114	0.26	3,707	8.83	1,267	2.85	11,691	27.19
	1881 1,693	3.90	133	0.03	3,765	8.09	1,491	3.44	13,030	30.00
Madras - - - - -	1880 613	0.02	14,529	0.50	209,940	7.29	19,622	0.68	454,101	15.71
	1881 9,446	0.32	15,766	0.55	203,542	7.09	18,961	0.60	465,682	10.20
Bombay - - - - -	1880 684	0.04	940	0.06	246,779	15.21	24,452	1.51	328,073	20.25
	1881 16,694	1.01	539	0.03	272,403	16.56	30,342	1.84	381,450	23.18
Punjab - - - - -	1880 274	0.01	9,145	0.52	327,727	18.74	20,736	1.18	472,731	27.03
	1881 5,207	0.30	6,749	0.38	355,279	20.32	17,281	0.99	519,779	29.72
North-Western Provinces and Oudh - - - - -	1880 71,546	1.67	8,240	0.14	987,220	23.11	80,312	1.88	1,221,155	29.99
	1881 25,865	0.58	17,153	0.39	1,100,599	24.95	82,814	1.88	1,402,473	31.79
Central Provinces - - - - -	1880 390	0.04	5,184	0.69	136,840	18.46	19,205	2.59	215,647	29.10
	1881 9,140	1.23	1,816	0.24	143,933	19.42	22,133	2.98	241,467	32.59
Berar - - - - -	1880 1	-	39	0.02	31,027	14.16	7,997	3.65	51,725	23.65
	1881 3,404	1.29	225	0.08	41,681	15.84	11,951	4.54	76,661	29.14
Assam - - - - -	1880 2,803	0.74	2,239	0.59	31,272	8.24	7,825	2.06	51,666	13.61
	1881 5,010	1.12	3,129	0.69	42,553	9.49	9,865	2.20	71,941	16.04
British Burma - - - - -	1880 2,638	0.85	5,402	1.73	27,597	8.86	3,500	1.12	55,185	17.72
	1881 5,239	1.42	1,766	0.48	27,743	7.51	3,808	1.03	68,136	16.75

Ajmere, Bangalore, and Coorg are not included in this statement.

Bengal.

For some years past the registration of births in Bengal has been confined to certain selected areas, but very little progress has been effected. Hopes, however, are entertained that better results will be secured when boards have been formed under the local self-government scheme. During 1881 births were registered in the same 46 towns as in the previous year, and the returns shew a slight improvement, the number having increased from 35,779 or 23.44 per 1,000 of population to 38,856 or 25.51. In 20 towns the birth-rate was below the average, ranging from 5.92 to 24.68 per 1,000, and only in 16 towns were births recorded in excess of deaths. A greater number of deaths were registered in 1881 than in any year since registration was inaugurated in 1870. This is attributed partly to an improvement in registration, more attention having been paid to the subject by district and local officers, but chiefly to the great unhealthiness of the year, both cholera and fever having prevailed to a most unusual extent. Little reliance can, however, be placed on the ratios, as they have been calculated on the census population of 1871, which is about 10 per cent. below that of 1881. Cholera deaths rose 0.62 per cent. These were recorded in 594 registration circles out of 674, and in 8 per cent. of the villages. The disease was most severely felt in the

\* Vide Parliamentary Return of Sanitary Measures in 1881-2, from which this chapter is taken.

the Presidency and Orissa divisions, displaying its greatest severity in the districts of Balasore, Nuddea, and Cuttack, where the death-rates were respectively 4·93, 3·38, and 3·34 per 1,000. Among the towns Pooree suffered most, yielding 370 deaths, or 16·30 per 1,000 of a population of 22,695. All the large fairs were exempt from cholera outbreaks during the year, and with the exception of Bankoora the chief pilgrim routes escaped. The year's experience shews the erratic nature of cholera distribution. Generally speaking, however, when it hovered over a district it swooped down wherever local insanitary conditions courted it. Small-pox deaths rose 6·02 per cent. and the disease was most fatal in the five districts of Pooree, Cuttack, Balasore, Noakholly, and Chittagong, where the death-rate ranged from 6·09 to 0·92 per 1,000. The highest town death-rate was 17·53 per 1,000 in Pooree, and in Balasore town the mortality reached 7·66. In the Contai Thana of Midnapore district, where inoculation is practised, not a single death from small-pox was reported, while the number registered in 1880 was 1,282. In Ganjam, Madras, however, inoculation is credited with having been the cause of abnormal mortality. More fever deaths were registered in 1881 than in any previous year. All the districts but two shewed an increased mortality from this cause. In Nuddea the mortality attained most alarming proportions, and, notwithstanding that every effort was made to mitigate the sufferings of the people by the free distribution of medicines and other assistance, the fever death-rate rose from 29·53 per 1,000 in 1880 to 39·72. In consequence of this heavy mortality a Commission was appointed to visit the worst part of the districts and to inquire into the conditions and causes of the outbreak. No specific cause is assigned for the outbreak, but attention was drawn to the insanitary condition of many of the villages. It is probable that atmospheric causes are responsible for the number of fever attacks, while the percentage of mortality is dependent on local and terrestrial conditions over which no control can be exercised. In Calcutta the year on the whole was an unfavorable one from a sanitary point of view. The registered deaths rose from 27·19 per mille to 30·0, calculated on the census population of 1881. The increase was chiefly due to cholera, the deaths from which were more than double the number of the previous year. From fevers there were nearly the same number of deaths as in 1880, which is somewhat surprising, as in the adjoining districts of Nuddea and Moorshedabad fever mortality was exceptionally high. Small-pox also was slightly more fatal.

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The general health of the population of the Madras Presidency was not so satisfactory as in the previous year. The total births registered was 731,866 or 25·5 per 1,000 against 659,991 or 22·9. This was a higher ratio than had been recorded in any of the preceding 12 years, and more than double the rate to which it was reduced in 1878, the year following the famine. It may be inferred, therefore, that the registration, imperfect as it still is, was improving. The registered deaths rose 1·5 per mille, the increase being almost entirely due to cholera. The three highest district death-rates were 37·9 at Madras, 24·3 at Tanjore, and 21·7 at Chingleput. These three districts also recorded the highest birth-rates, and the satisfactory results obtained in the two latter is attributed to the special care and attention which the collectors had devoted to the subject. The immunity from cholera, noted in 1880, continued during the first nine months of 1881, when only 423 deaths were recorded, but during the last quarter of the year this pestilence broke out in the southern part of the Presidency. Of the deaths recorded 2,220 were registered as having occurred in towns and 7,226 in districts. The disease was principally felt in the Tanjore, Tinnevely, and Trichinopoly districts. These three districts contributed more than two-thirds of the total cholera deaths. In the opinion of the Army Sanitary Commission, during the last 16 years epidemics of cholera have prevailed every third year, followed in each case by two years of comparative quiescence, and there is therefore no grounds for attributing the epidemic of 1881 to returning pilgrims from the Tirupati festival. There was an increase under the head of small-pox, Ganjam registering more deaths from this cause than any other district, a pre-eminence which is ascribed to the extensive practice of inoculation. Young children were again the principal sufferers from this disease, for out of the total 15,776 deaths, no less than 11,202,

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or considerably over two-thirds, occurred among children under 12 years of age. Fever deaths were not quite so numerous as in 1880. Dividing the last 16 years into two periods, the deaths from fever up to 1873 were 1,241,138, and for the subsequent period 2,250,997. Some allowance must, however, be made for the heavy fever mortality of the famine years 1877 and 1878, though the last seven years alone, shew a much higher mortality than the previous eight.

## Bombay.

Satisfactory improvement was made in the registration of vital statistics in the Bombay Presidency during 1881. The number of registered births rose from 370,873 or 22·85 in 1880 to 459,657 or 27·93 per 1,000 population, calculated on the census of 1881. The increase was general throughout the Presidency, for only one district (Bombay City) out of 24 shewed a decrease in number. The excess of births over deaths equalled 4·75 per 1,000 of population. In all the five divisions into which the Presidency is divided except the Konkan, the death-rate was higher than in the previous year. By districts the death-rates ranged from 37·91 in Broach to 6·56 in Sind, though the latter ratio is apparently under the truth. Of the chief diseases, cholera prevailed epidemically, and the deaths increased from 684 in 1880 to 16,694 or 1·01 per 1,000 in 1881. The disease, however, was not universally prevalent, for no deaths were recorded in the Sind division. Deaths were recorded in 144 registration circles out of 285, but only six per cent. of the villages were affected. Of the districts, Khandesh, Surat, and Ahmednagar were the most affected. The circumstance of the year being one of heavy cholera mortality would seem to confirm the theory of the triennial choleraic wave, which is substantiated by the most recent statistics. In Bombay City there were 529 deaths against 30 in the previous year. The disease prevailed for 10 months out of the 12, and records shew that out of 408 months, making up the period from 1848 to 1881, it was present in this city in 389. The influence of improved sanitation in the mitigation of cholera is attested by the decline of deaths during the last 17 years, the mortality being less than one-third of that during the previous 17 years. The Presidency was remarkably free from small-pox, and the mortality from this disease was confined almost entirely to the Konkan and Sind divisions. The number of fever deaths is in excess of the average for the previous nine years. In the districts of Bombay City, Belgaum, Dharwar, Kaladgi, and Rutnagiri, there was less mortality than in the previous year, but in the remaining 19 there was an increase. The highest district fever death-rate was 33·14 per 1,000 in Broach, and the lowest 5·37 in the Upper-Sind frontier district. This general increase in fever mortality is attributed to an improvement in registration. Purification of the water supply, village cleansing, and surface drainage, are recommended as the most needful sanitary reforms. The deaths from bowel complaints were 5,890, in excess of 1880. In all the districts but five there was an increase, Khandesh recording the highest death-rate, namely, 3·68 per 1,000. In the capital of the Presidency 21,856 deaths were registered during the year, exceeding the number of 1880 by 710. Calculated on the census population of 1881, the death-rate equalled 27·65 per 1,000. The increase in mortality was chiefly due to respiratory diseases and cholera, especially the former, the deaths from which rose from 1,973 in 1880 to 3,799. From cholera there were 546 deaths against 30 in 1880. On the other hand, fever deaths declined from 7,513 in 1880 to 6,437, and small-pox from 207 to 35.

## Punjab.

Considerable improvement was effected in the registration of vital statistics in the Punjab in 1881. The year was the second of the registration of births for the whole province, and the returns give a total of 695,766 or 39·79 per 1,000 of population against 544,659 or 31·15 in the previous year. The improvement was not confined to particular districts, but was almost general throughout the province, for only two out of 32 districts, viz., Ferozepore and Dera Ghazi Khan, shewed a decrease. A further proof of the progress made in registration is the fact that the birth-rate exceeded the death-rate by nearly 10 per 1,000, and excepting in the four districts of Simla, Kangra, Amritsar, and Peshawar, births were everywhere more numerous than deaths. The rise in mortality was due chiefly to cholera and fevers. The death-rate of the rural circles equalled 29 per 1,000, and that of the towns 48. By districts Amritsar recorded the highest mortality, namely, 50 per 1,000 against 29 in 1880, the excess being caused by a severe epidemic of fever in the town. Lahore came

came next with a death-rate of 41 per 1,000, being 10 per 1,000 in excess of the previous year, which was also due to fever. Ten other districts had death rates ranging from 38 to 30, and 17 from 30 to 20 per 1,000. The highest town death-rate was 125 per 1,000 at Amritsar, Lahore following with 56. Of the total deaths 46 per cent. occurred among children under six years of age. Of the chief diseases cholera shewed a considerable increase. Eight districts out of the 32 were entirely exempt from the disease, in eight others the deaths ranged from 1 to 6, in 13 the epidemic influence was mild, while in Lahore, Jullundur, and Amritsar it prevailed with great severity, especially in the former district, which recorded nearly a third of the total cholera mortality. Of the 5,207 deaths, 3,693 occurred in the municipal towns, the remainder in the rural circles. All the deaths were registered in 371 villages out of 34,973. The great predisposing disease causes are to be found, not in public streets and places but within the houses and compounds. Fewer deaths were registered from small-pox than in any previous year, all the deaths but 445 occurring among children under 12 years of age. The disease was almost exclusively confined to the frontier districts, and was fatally prevalent in those of Peshawar and Dera Ismail Khan. The present lull, however, must not be altogether understood as a permanent triumph won by vaccination over the disease. Since the amalgamation of the Vaccination with the Sanitary Department the vaccination service has been reorganised, and considerable additions made to the number of vaccinators. Under the head of fevers the death-rate per mille has risen 1.58. The highest mortality (35) was recorded in the district of Amritsar, (Lahore 27), and in the districts of Delhi, Karnal, Umballa, Mooltan, and Muzaffargarh. Out of the 28,962 fever deaths in Amritsar district, 11,724 occurred in the city alone, equal to a death-rate of 86 per 1,000. The outbreak was attributed to excessive and unusual rainfall, obstructed drainage, rise of the spring level and consequent water-logging of the soil, combined with insanitary condition of crowded dwellings, imperfect conservancy, and contaminated water-supply. Orders were issued with the view of remedying the defects of drainage and conservancy. At a comparatively early period of the outbreak hardly a single individual had escaped; the poorer classes, however, suffered most, and of the infantile population it is said that two-thirds are already dead, and the remaining one-third are so shattered in constitution that comparatively few of the poorer classes especially, will survive their fifth year. The mortality from bowel complaints was confined to 6,099, out of 34,973 population groups. Simla, as usual, recorded the highest district death-rate, namely, 2.83 per 1,000.

Satisfactory progress has been made in the registration of vital statistics in the North-Western Provinces and Oudh since its introduction in the combined provinces in 1879. During 1881 the registered births numbered 1,779,473 or 40.34 per 1,000, calculated on the recent census, which shewed the population to be 44,107,869. In the previous year there were 1,390,870 births registered, equal to 32.55 per 1,000. In all districts excepting Kumaon, Terai, Dehra Dun, Fyzabad, and Ballia, the births exceeded the deaths, while in the previous year there was an excess of deaths over births in 25 districts. On the whole the birth-rate was higher than the mortality by 8.55 per 1,000. This general improvement was to a very great extent due to the new system of registration introduced during the year, under which every village watchman keeps a nominal register of births and deaths. A number of these registers was inspected by the Sanitary Commissioner, and he was satisfied as to their correctness. The registered number of deaths increased 1.80 per mille. The district death rates varied from 47.33 per 1,000 in Terai and 41.45 in Cawnpore to 20.76 in Dehra Dun, and the town death-rates ranged from 115.26 in Ajudhia to 16.31 in Muzaffarnagar. In many districts and municipalities the registered mortality was apparently below the truth, "but taken generally," the Army Sanitary Commission observe, "the recent improvements in registration methods have led to more exact record of facts." Cholera was considerably less prevalent, and out of 117,630 centres of population only 4,573, less than 4 per cent., furnished deaths. The infected centres were however, generally distributed throughout the districts. Cholera broke out in the great fair (Magh Mela) held at Allahabad in February 1882, and the contaminated pilgrims dispersed to their homes, but no general outbreaks seem to have followed in their track, so that

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in Dr. Cunningham's opinion these facts "furnish further proofs that cholera is not carried by persons from one locality to another, so as to cause persons not themselves exposed to the necessary local influences to become affected by the disease." The Hurdwar fair in April enjoyed immunity from the disease. Small pox deaths rose from 8,240 to 17,153. Of these, 15,401 were registered during the first six months of the year, chiefly in the months of the hot season, March, April, and May. Deaths were registered in all the districts, and in 673 registration circles out of 1,107. Although the epidemic covered a wide area, a very small number of population centres suffered, about 1 in 14, and in these the epidemic was of very low intensity, and shewed little disposition to spread beyond the first cases attacked. Deaths from fever rose 1·84 per 1,000. But under this head a variety of diseases is supposed to have been registered. In 18 districts the mortality was very high, Terai, as usual, coming first with a rate of 41·41, and Meerut, Bareilly, Ghazipur, and Ballia following with death-rates of over 30 per 1,000, while in 13 others the ratios ranged from 29·50 to 26·29. Of these 18 districts, eight are canal irrigated, and have always recorded high fever mortality. In four other irrigated districts, with ratios ranging from 25·46 to 22·24, there was a decided falling off in fever mortality. In eight districts the mortality from bowel complaints was unusually high, averaging 6·3 per 1,000. Of these, Cawnpore shewed the greatest increase, the death-rate having risen from 1·4 per 1,000 in 1878 to 6·3 in 1881.

## Central Provinces.

The number of births registered in the Central Provinces during 1881 was 362,744 or 48·94 per 1,000 of population against 332,438 or 44·87 in 1880. The increase was pretty general, for only in four districts out of 20 was there a decrease, and in every district but one the birth-rate was over 40 per 1,000, whereas in 1880 six districts were below that ratio. In all districts the births exceeded the deaths, and, with few exceptions, in the towns also. Except for the sake of comparison, however, the ratios are of little value, as they have been calculated on the population of 1872, which the census of 1881 shews to have increased to the extent of about 25 per cent. A striking proof of the need for correction is given by the Sanitary Commissioner in the case of Murwara town, which recorded a birth-rate of 83·54 per 1,000, and a death-rate of 112·30, rates which, calculated on the population of 1881, are reduced to 27·98 and 37·62 respectively, the population having increased from 2,885 in 1872 to 8,612 in 1881. The increase shewn in mortality would seem to point to an improvement in registration. By districts the death-rate varied from 43·93 per 1,000 in Narsinghpur to 26·58 in Burhanpur. The average town death-rate was 40·65 per 1,000 against 32·59. The mortality from cholera nearly trebled that of 1880, but was still small compared with 1878 and 1879. One half of the towns were exempt from the disease, and, with the exception of Kamptee, all the most populous towns were comparatively free. Small-pox was less prevalent than in any year since 1869. Every district was affected, but the outbreaks were local. Death from fevers, which were generally prevalent, rose 0·96 per 1,000 in 1881. There was a general prevalence of fevers, no less than 21,497 villages having returned deaths. The district death-rates ranged from 5·89 at Nagpur to 32·24 at Narsinghpur. The returns, however, are untrustworthy, as in many districts almost every disease is included under the head of fever. From bowel complaints 22,133 deaths were registered against 19,205 in 1880; all being returned from 7,535 population groups, which the Army Sanitary Commission remark throws doubts on the records or on the diagnosis.

## Berar.

A considerable advance was made in the registration of vital statistics in Berar in 1881, and now that the revised rules for simplifying and improving the system have received the sanction of Government, still further progress is expected in the future. The registered births for the year numbered 104,921 or 39·9 per 1,000 of population, according to the census of 1881, against 91,105 or 41·7 in 1880. The nominal decrease in the birth-rate is explained by the fact that the population had increased to the extent of 20·3 per cent. since the census of 1867. Had the birth-rate been calculated on the census of that year it would have equalled 48 per 1,000. In all districts births were in excess of the previous year, and in all cases they were more numerous than the deaths, the average excess for the entire province being 10·8 per 1,000. The increase of 24,956 deaths was due mainly to the prevalence of cholera, fevers, and bowel complaints, and

and to improvement in registration. The district death-rates ranged from 33·1 per 1,000 in Akola to 25·0 in Wun and 25·6 in Amraoti. The returns for 1880 shew an absence of cholera, but those for 1881, 3,404 deaths from that disease. The great variations in the mortality from cholera appear as elsewhere, to resolve themselves into triennial periods. All the districts were visited by cholera, the greatest number of deaths having taken place in Buldana, Basim, and Akola. Several towns were entirely free from disease, but in Malkapur and Akola towns the ratios were very high, namely, 8·1 and 9·8 per 1,000 respectively. The only district in which small-pox prevailed in an epidemic form was Akola. Children were the principal sufferers. The mortality for the last 10 years shews a very considerable decline, which may in great measure be attributed to vaccination. The mortality under fevers was very great, and in each district there was a considerable increase. The maximum mortality to population was in the Wun District, namely, 21·1 per 1,000, with an average rainfall of 44·11 inches; and the lowest mortality was 13·7 in Buldana, where the rainfall (26·20 inches) was less than in any other district. In Wun District the villagers used charpoys (native beds on legs) to a very much greater extent than in any other district of Berar, yet the fatality from fever is always highest in this district. This is apparently an exceptional result, and the reasons for the mortality must be sought in local causes. The classification of bowel complaints is stated to be still very imperfect, deaths due to many other causes being classed under this head by the village registering agency.

The sanitary history of Assam in 1881 shews a remarkable improvement in the registration of vital statistics. In former years births were registered only in eight towns, but during the year under review the system was extended to six districts of the province. In the other two districts under registration, namely, Sylhet and Cachar, birth registration was to take effect in the former from 1st July 1882, while in the latter it appears that births have been recorded for many years, but by an oversight the statistics have never been returned, nor included in the provincial reports. In the six districts above alluded to, namely, Goalpara, Kamrup, Nowgong, Darrang, Sibsagar, and Lakhimpur, the number of births registered was 42,733 or 19·20 per 1,000, exceeding the death-rate by 2·27 per 1,000. The improvement which has taken place in the registration of deaths is somewhat obscured by the fact that the death-rate of 1881 was based on the census population of that year, which was found to have increased to the rate of 18½ per cent. since the taking of the previous census in 1871-2. All districts shewed an increased mortality compared with the previous year, especially Kamrup, Nowgong, and Sylhet. With regard to the causes of mortality, cholera was much more prevalent. Although the disease was present as usual in each month of the year and in each district of the province, there does not appear to have been any great epidemic outbreak. Kamrup suffered more than any other district, recording a mortality of 2·66 per 1,000; Nowgong and Sibsagar followed, with death-rates of 2·35 and 2·05 respectively. In the other five districts the mortality ranged from 0·84 to 0·02 per 1,000. Silchar was the only town that escaped the disease. Of the other seven, Gauhati recorded 216 deaths or 18·47 per 1,000, which was the highest local rate of the year. Cholera deaths were reported from 201 out of 389 registration circles, and from 620 villages out of 17,355. Small-pox prevailed throughout the province, no district or town escaping the scourge. Small-pox was most markedly severe in Nowgong, where 197 villages registered 549 deaths, equal to 1·77 of population, and in Sibsagar 493 deaths were recorded in 194 villages, shewing a death-rate of 1·33 per 1,000. In the districts of Goalpara and Cachar the death-rate was at a minimum, but in each of the other three districts the death-rates ranged from 0·60 to 0·67. The highest district fever death rate was 14·39 at Darrang, Nowgong coming next with 12·66; in four other districts the mortality ranged from 8·99 to 10·90, and in Lakhimpur and Cachar 5·85 and 4·32 were the respective rates. In the Goalparra district fevers are reported as being the scourge of the population, no less than 4,840 of the total 5,855 deaths from all causes having been recorded from them. "The heavy fever mortality in the Nowgong district," the Civil Surgeon reports, "is easily to be accounted for by the fact of heat and wet acting on the heaps of filth collected in villages and producing poisonous vapours, the influence of which the people,



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in an already enfeebled state, are unable to withstand." There were 9,865 deaths registered from bowel complaints, shewing a death-rate of 2·20 per 1,000 against 7,825 or 2·06 in 1880. As usual, Sibsaigar recorded more deaths under the head of bowel complaints than any other district, a pre-eminence which may probably be ascribed to better registration.

The registration of vital statistics in British Burma is gradually improving year by year, and the attention which has been given to the subject in some of the larger towns of the province has resulted in considerable improvement. The actual number of births and deaths registered was greater than in any previous year, but as the ratios for 1881 have been calculated on the census of that year, which shewed that the population under registration had increased by 577,859 since the taking of the previous census, they appear less than those of 1880. The number of births registered during 1881 was 73,754 or 19·98 per 1,000 against 72,121 or 23·16 in the previous year, and the excess of births over deaths equalled 3·57 per 1,000. The highest death-rate recorded in the districts of the province was 28·20 at Thayetmyo, and the lowest, 8·88, at Tharawaddy. The increase of 2,951 deaths was mainly due to cholera, the deaths from which were more than double the number of the previous year. Excepting in Kyoukpyoo and Sandoway, cholera was present in every district, but the disease was not very widely diffused, for out of 875 circles, in only 97 were deaths reported, and in 222 villages out of 15,451. The epidemic influence of the disease was chiefly felt at Thayetmyo, Henzada, and Prome, which respectively recorded death-rates of 7·0, 3·88, and 2·41 per 1,000. There was a considerable falling off in small-pox deaths, and, as was the case in the previous year, all the districts were affected but Tavoy and Mergui. A large number of deaths really due to other causes are ascribed to fever. Remittent fevers are said to be more common, and the ordinary ague or intermittent form does not appear to be a very fatal disease among the Burmans.

Ajmere.

With the exception of a slight local outbreak of cholera round Ajmere in the autumn and a severe attack of small-pox in the southern part of the district, the year was remarkably healthy. 12,791 births are recorded against 12,730 in 1880, and the birth-rate was 27·76 (census of 1881). The registration of births is, however, untrustworthy. The death-rate was 23·33 per 1,000, the total number of deaths being 10,749, or a decrease of 1,478. Of this total number, 16 were due to cholera, 1,603 to small-pox, 6,310 to fever, and 1,010 to bowel complaints. The corresponding figures for the previous year were 3,660, 7,917, and 1,473.

Coorg.

About seven-eighths of the registered mortality was from fever, while cholera and small-pox hardly made their appearance. 2,829 (15·86 per mille) births were registered against 2,012 (11·95 per mille) in 1880, and 3,192 (17·90 per mille) deaths against 3,612 (21·64 per mille) in 1880.

Bangalore.

The number of births registered was 2,167 (27·47 per mille) against 1,004 in 1880-1. Births exceeded deaths by 7·76 per 1,000. The number of deaths was 1,555 (19·71 per 1,000). Small-pox prevailed in an epidemic form from the beginning of the year to October, and the greatest mortality (88 out of the total 277) prevailed in the General Bazaar. The death-rate from fevers was 3·26, and from bowel complaints 2·41 per mille.

VACCINATION.

VACCINATION.

		Total Number of Vaccinations.	Primary Operations.	Re-vaccinations.	Per-centage of Success to Primary Operation.
Bengal - - - - -	{1880	1,304,312	1,360,038	54,274	96.23
	{1881	1,319,607	1,337,631	11,976	98.39
Madras - - - - -	{1880	659,759	653,383	6,376	88.72
	{1881	601,222	590,081	10,541	91.1
Bombay - - - - -	{1880	704,984	612,505	62,479	95.95
	{1881	786,092	724,323	56,769	96.52
Fanjah - - - - -	{1880	483,763	-	-	90.95
	{1881	* 316,574	280,046	36,528	94.0
North-Western Provinces and Oudh - -	{1880	729,185	708,274	20,911	90.57
	{1881	707,259	745,925	21,834	91.70
Central Provinces - - - - -	{1880	325,021	317,838	7,183	94.0
	{1881	396,782	387,498	9,284	96.0
Berar - - - - -	{1880	85,790	80,683	5,107	80.7
	{1881	96,420	95,269	1,151	89.8
Assam - - - - -	{1880	-	24,167	-	87.61
	{1881	40,300	30,128	1,181	88.67
British Burma - - - - -	{1880	45,192	43,265	1,927	† 77.48
	{1881	51,085	48,550	2,535	† 78.66
Ajmere - - - - -	{1880	4,619	4,545	68	80.0
	{1881	5,105	5,023	82	87.0
Coorg - - - - -	{1880	3,800	-	-	88.5
	{1881	4,887	4,093	104	† 90.11

\* For nine months.

† Of total operations.

The total number of vaccinations in India during 1881 was 4,414,342. Further progress was made in vaccination work in Bengal during 1881-82 Bengal. by an extension of the operations of the Vaccination Establishment, for the first time, to certain tracts in the districts of Purneah, Maldah, Bhagulpore, Mymensingh, and Pooree, together covering a total area of 6,035 square miles, with a population 2,070,413, of whom 329,813, or 16 per cent., were vaccinated. In addition portions of Purneah and Darjeeling, and the entire Sonthal Pergunnahs district, were made over to licensed vaccinators. The decrease was confined to the Metropolitan, Eastern Bengal, Orissa, and Darjeeling circles, but principally to the Metropolitan, where the falling off was due, it is stated, to certain areas having been repeatedly gone over in previous years by Government vaccinators. The decrement in the other circles was attributed to great sickness among the establishment, to the opposition of the natives, to paucity of vaccinifers, and to other causes. In the Ranchi and Sonthal Pergunnahs circles there was a considerable increase. In respect of age, 150,235 children under one year of age were successfully vaccinated, and 831,096 above one and under six years. As was the case in 1880, in no circle was the estimated birth-rate of 30 per 1,000 of population overtaken by the infant vaccination ratio. Of the estimated births in the areas under operation only 11.32 per cent. were vaccinated against 13.94 in 1880. This is the more unsatisfactory, the Lieutenant-Governor points out, because of the total deaths from small-pox 72 per cent. occurred among children. In the course of their work the Government vaccinators visited 21,929 villages, and inspected 856,628 persons out of the 1,284,925 who had been vaccinated in the different circles. This proportion, compared with the number inspected in the previous year, shews a falling off of 61,421. In addition, sanitary inspections were made by the vaccination officers at a number of villages, but in the majority of the cases the reports submitted were very poor and contained nothing of special value. The Compulsory Vaccination Act was introduced during the year into the towns of

VACCINATION.

of Rungpore, Rampore, Bauleah, Soory, Hooghly and Chinsurah, Pubna, and Bogra, and since the close of the year it had been extended to Howrah. The working of the Act was not attended with any great difficulty, the people in most cases having yielded to simple persuasion, and in the few instances where they proved refractory the issue of a summons was almost always effectual. Generally speaking, vaccination would appear to be making satisfactory progress in Bengal. Opposition, fostered by caste prejudices, is in some places still offered, but as a rule the masses now accept vaccination with readiness and docility, and in some parts it is even sought after and paid for. The law prohibiting inoculation was extended during the year to several towns, and hopes are entertained that before long vaccination will take its place.

Madras.

In the Madras Presidency, the falling off in the year's work was chiefly due to the great decrease of vaccinations in the Tanjore district, where they fell from 160,979 in 1880 to 44,763, or 116,216 less. A decrease in this district was expected, as in the two previous years almost all the unprotected children were vaccinated by order of the late Collector. The fact, however, that there were 59,770 births in Tanjore during the year, and only 6,712 infants vaccinated, shews that the decrease was greater than it ought to have been. Five other districts also shewed a decrease in the number of operations, still in many instances there was a marked improvement, especially in Coimbatore, where vaccination had been very backward, Madura, and the Malabar district. The improvement in these three districts was due to the great interest taken in the spread of vaccination by the divisional officers, and the pressure that was brought to bear by them on heads of villages. Among children under one year of age there were 98,292 successful operations, representing only 13 per cent. of the registered births; and among children between one and under six years the successful primary cases were 260,565. Notwithstanding that there was a net increase in the municipalities of 11,008 over the vaccinations of the previous year, vaccination work in most municipalities is still very backward. The municipal populations are not amenable to persuasion, and under the voluntary system it is impossible to keep up a good supply of lymph.

Bombay.

Vaccination work in the Bombay Presidency was attended with more satisfactory results in 1881-2 than the previous year; 749,429 were vaccinated by the special establishment, 29,308 by dispensaries, and the remainder were operated on in the army. The percentage of success in primary operations was in all districts higher than in the previous year, and ranged from 98.76 in the Cutch circle to 74.63 at Aden; the ratio of success per 1,000 of total population also rose from 24.60 to 27.54. According to age, 463,311 children under one year of age were successfully vaccinated, and 223,313 between one and six years. Exclusive of Native states, there were 384,286 surviving infants available for vaccination during the year, and of these 282,480 or 73.51 per cent. were protected from small-pox. Allowing a rate of 31 per 1,000 on the total population as that of infants available for vaccination, 58.48 per cent. were successfully operated on against 49.27 in 1880-1. The working of the Bombay Compulsory Vaccination Act continued to make satisfactory progress; and through the Kurrachee Vaccination Act a great improvement had been effected in the quality of the work, although, owing to many unprotected children above one year of age having been operated on in the previous year, there was a falling off in the total results.

Punjab.

Owing to the amalgamation of the Vaccination with the Sanitary Department in the Punjab, which came into operation in October of 1881, the provincial vaccination establishment, by which operations were formerly carried on, was broken up and district establishments were formed and placed under the immediate superintendence and control of the Civil Surgeons, subject to inspection by special officers of the Sanitary Department. Everywhere, it is stated, district authorities cordially adopted the new plan of operations, and the scheme promises to work well. Under the new arrangements, the staff of Native Superintendents and Vaccinators was considerably strengthened, and it is expected that the working of the new department in future years will shew a marked improvement over the results hitherto obtained. With a view to secure uniformity with the annual vital statistical returns, the compilation of vaccine returns was changed from the official to the calendar year; no useful comparison can therefore be made between the results of the two years 1880 and 1881. In order, however, to preserve uniformity with other provinces, the Government of India has since ordered that in future the official year is to be continued.

In

In the North-Western Provinces and Oudh there was a marked increase in the amount of vaccination work done in 1881-2 compared with previous years. This continued progress is most satisfactory, but that there is still plenty of room for improvement is shewn by the fact that while 1,779,473 births were registered during the year, only 302,175 children under one year of age were successfully vaccinated. There were 183,746 successful primary vaccinations performed in the first circle, comprising the Meerut and Agra divisions and Terhi, against an average of 170,503 for the five previous years. Eight of the 13 districts shewed an increase, and five a diminution of operations; the most conspicuous among the former being Bulandshahr, and among the latter Saharanpur. In the second circle, comprising the Rohilkhand and Oudh divisions, out of 22 districts only in three was there a falling off in work, Kumaon shewing the greatest; this decrease is to be regretted since this district has invariably recorded the best results. Satisfactory progress was made in all the districts of Oudh, especially in Rae Bareilly. In the third circle, comprising the Allahabad, Benares, and Jhansi divisions, out of 16 districts only in four was there a falling off in cases, these do not call for any special notice. Progress was greatest in the Banda and Hamirpur districts. The results of the numerous inspections made by the Sanitary Commissioner were most satisfactory.

VACCINATION.  
N. W. Provinces  
and Oudh.

Of late years much progress has been made in vaccinating the people of the Central Provinces. Among children under one year of age there were 167,950 successful primary operations, and among those of one and under six years of age there were 169,986. Estimating the annual births at 40 per 1,000, the percentage of infants vaccinated equalled 56.6, against 49.7 in 1880. In all districts there was an improvement in work as regards the number of operations performed. Twelve out of the 18 districts in the provinces shewed a considerable increase, the foremost being Raipur, where the operations rose from 13,440 in 1880-1 to 33,425. This number, however, was considered small in proportion to the strength of the staff, and the average number of operations performed by each man was smaller than in many other districts of the provinces. Generally speaking, there appears to be no serious opposition on the part of the people to vaccination, and even where it is offered the cases are reported to be generally traceable to the want of tact on the part of vaccinators. In some districts the inhabitants are said to be apathetic, receiving vaccination as a matter of course, though not apparently alive to its benefits.

Central Provinces

Notwithstanding the unfavorable attitude of the people of Berar towards vaccination, there was a considerable increase in the number of operations performed during 1881-2. The highest per-centage of success in primary vaccination was obtained in the Wun district, namely, 93.4, and the lowest, 86.7, in Akola. The standard of success obtained in primary operations in Berar does not compare favorably with that for other provinces in India, though it is better than the results obtained last year. The cause of this cannot be explained other than in the difficulty experienced by the vaccinators in carrying on arm-to-arm vaccinations. Much progress was, however, made during the year in infantile vaccinations, 50,357 children under one year of age having been successfully operated on, and 33,693 children between one and six years old. Reckoning the births at 40 per 1,000 of population, the per-centage of infants successfully vaccinated was 47.9. During the season an attempt was made to extend the benefits of vaccination amongst the hill people of the Melghat Taluka. A first class vaccinator was attached for the purpose to the camp of Mr. Ballantyne, Deputy Conservator of Forests, an officer of much influence among these primitive and timid people. The vaccinator met with considerable opposition; in some villages he was driven out by the people, and in others they fled at his approach. He succeeded, however, in vaccinating 1,341 persons, equal to 23.2 per 1,000 of the population, and the per-centage of success obtained was 87.4.

Berar.

Vaccination work was more successfully carried on in Assam during 1881-2 than in any previous year. An increase in the outturn of work was to be expected, as during the season the agency of vaccination was augmented from 17 vaccinators to 36, and ex-inoculators from 58 to 96. Still, considering the imperfect means of communication in the province, the sparseness of the population, and the prejudices of the people, the improvement is satisfactory. The local authorities were doing all in their power to further vaccination, and

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the Chief Commissioner had signified his intention to grant funds for the purpose if assured that the additional expenditure would produce an adequate return.

Hitherto the progress of vaccination in British Burma has been very slow. The Burmese being accustomed to inoculation, prefer to adhere to the practice, except when the advantages of vaccination are made very clear to them. Another source of hindrance is reported to exist in the frequent failure in the quality of lymph supplied from England. In spite of all drawbacks, however, there was an increase in the number of operations of 11·8 per cent. Of children under one year of age, only 7,310 were successfully vaccinated during the year, less than one-tenth of the estimated births. The inhabitants of the towns were still much opposed to the adoption of the Compulsory Vaccination Act. In the previous year proposals were made by the municipal committees of Rangoon, Akyab, and Toungoo for the extension of the Act to those towns. At the two former towns, the suggestion aroused considerable opposition among the natives; and as it was found that the arrangements in force at Akyab for vaccinating the public were sufficient to afford complete protection, the enforcement of the Act was postponed pending their completion. It was also proposed not to enforce the Act at Rangoon until the measure had been considered by the recently-elected Municipal Committee; while the Toungoo municipality withdrew their proposal.

Ajmere,

There was a decrease in the Ajmere divisions on the average number of vaccinations for the previous five years, but an increase on 1880 of nearly 20 per cent.

MEDICAL INSTITUTIONS, CIVIL HOSPITALS AND DISPENSARIES.

	Number of Civil Hospitals and Dispensaries Open during Year.	Total Number of Patients Treated.	Number of In-Patients.	Number of Out-Patients.	Death-rate among In-patients (per mille).	Total Receipts.	Government Contributions.	Subscriptions.	Other Sources.	Number of Patients treated for			
										Cholera.	Fever.	Bowel Complaints.	
Bengal	{ 1880 1881	231 236	911,662 970,678	23,567 24,144	883,003 947,534	151·0 158·0	42,405 40,194	13,058 10,638	10,991 14,781	12,606 14,775	3,437 1,772	105,786 209,514	40,472 45,894
Calcutta and Howrah	{ 1880 1881	6 6	273,925 275,714	21,548 21,764	251,477 253,950	138·1 142·7	41,627 42,419	22,184 20,830	3,473 1,954	10,220 13,627	356 5·9	5,021 4,417	3,081 2,989
Madras	{ 1880 1881	218 235	1,813,364 1,483,692	38,870 37,363	1,874,434 1,412,269	83·3 70·4	77,823 79,313	27,627 27,974	2,822 2,838	47,176 46,003	94 7,311	207,353 760,006	45,977 30,516
Punjab	{ 1880 1881	187 157	1,235,435 1,275,394	35,020 35,679	1,200,396 1,239,715	74·0 61·0	93,782 93,306	73,004 73,378	240 280	19,929 19,628	178 2,057	262,920 267,470	44,513 51,510
Punjab	{ 1880 1881	184 183	1,265,470 1,245,208	34,720 37,011	1,233,790 1,208,197	84·7 72·0	33,946 35,272	7,609 7,404	1,363 1,612	23,657 20,160	154 3,234	234,821 341,815	72,915 62,212
North-Western Provinces and Oudh	{ 1880 1881	203 214	1,469,940 1,591,807	30,438 40,077	1,439,454 1,550,730	07·3 70·4	37,305 38,773	20,867 19,745	0,420 0,863	10,308 12,743	4,482 1,253	270,000 317,416	75,535 70,059
Central Provinces	{ 1880 1881	87 81	509,361 532,675	7,823 8,159	501,470 524,516	101·1 91·6	11,132 12,314	5,300 5,541	2,841 3,270	2,032 3,094	72 52	124,264 35,327	20,145 5,030
Bihar	{ 1880 1881	33 39	162,700 157,098	2,270 2,220	160,479 154,818	30·0 38·0	0,017 10,273	7,382 8,161	472 1,005	1,153 1,100	1 989	48,496 30,240	6,543 0,008
Assam	{ 1880 1881	23 29	41,456 20,001	2,265 2,863	41,193 35,138	102·0 135·4	3,833 3,771	1,210 1,610	1,180 1,175	1,134 943	53 142	8,380 6,131	3,745 3,524
British Burma	{ 1880 1881	27 27	108,752 121,708	10,262 9,880	98,490 111,912	92·2 76·6	18,212 14,801	5,065 7,028	1,254 2,876	0,203 5,037	124 103	19,804 48,632	5,738 6,684
TOTAL	{ 1880 1881	1,217 1,248	7,897,003 6,992,63	116,296 119,376	7,180,797 6,781,269	101·0 80·7	364,324 370,581	184,021 185,808	37,005 36,633	142,808 145,635	8,803 12,911	1,495,617 1,447,635	318,563 314,326

Bangalore, Ajmere, and Coorg are excluded from this statement.

The work of reorganising the dispensaries of Bengal was vigorously prosecuted in 1881, and resulted in considerable progress. In many instances inquiry into the financial condition and public usefulness of this class of institution has shewn that, while many were perfectly able to stand alone without Government aid, on the other hand many were useless as public charities, were regarded with indifference by the people, and existed solely by means of grants from the State, and chiefly for the benefit of the medical officer in charge and a few well-to-do supporters. This is shewn by the fact that on the withdrawal of State aid private subscriptions fell off, followed by the collapse and closure of the dispensary. In some cases, however, where the dispensary had become firmly established, and was widely used and appreciated by the public, subscribers readily came forward

on the withdrawal of Government aid, and undertook the management and maintenance of the institution. The most important step of progressive work in 1881 was the issue of a new code of rules, prescribing a simple and clearly defined system, by which all dispensaries are divided into three classes, namely, the first or unaided class; the second or aided class; and the third class consisting of institutions supported entirely by Government. The rules also liberate Government from the obligation of establishing or continuing to support institutions which cannot be shewn to be necessary or useful as public charities; and Government is no longer bound, as before, to supply medical officers and European drugs and instruments in every case in which a moderate local subscription may be raised. During the year State aid was withdrawn from 64 mofussil dispensaries, but of these only 16 were closed, private subscribers having undertaken to make good the loss in the remainder. Considering the prevalence of fever and cholera the attendance at hospitals was not duly proportionate to the sickness of the country. Certain districts may, however, be excepted from this remark.

MEDICAL INSTITUTIONS.

The public health of Calcutta was less satisfactory during 1881 than in the previous year, the town having suffered very severely from an outbreak of cholera. The evidence of the hospitals was not in accord with that of the general town record, for although the total fever cases under treatment was considerably less than in 1880, chiefly from want of space in the Campbell Hospital, the actual number of deaths was considerably in excess, and the death-rate much higher than in 1880. The hospital death-rate is considered to be a truer test of the mortality from fever than that to be deduced from town registers, and it is therefore to be inferred that fever in Calcutta was more fatal in 1881 than before. As already remarked, fever cases were fewer, although the deaths from this cause increased from 330 in 1880 to 365 in 1881.

The decrease in the number of in-patients is ascribed to the general good health of the population and to the favourable conditions of existence as regards food supplies and absence of epidemic disease. On the other hand, there has been a constant rise in the number of out-patients, which is stated to be due to the opening of new institutions (the number being three times as great as in 1877) and the growing popularity of those already established. The malarious disorders which were so abundant amongst the population after the famine, have, as shewn by the hospital returns, steadily decreased with regular seasons and normal rainfall. The practical administration of dispensaries in the interior, which was formerly in the hands of deputy surgeons-general, has now devolved entirely upon civil surgeons of districts; and as the duties of inspection and supervision were becoming more and more onerous, owing to the great increase in the number of dispensaries, a scheme was under consideration of the Government for affording efficient aid to the civil surgeons.

Madras.

The decrease of two in the number of hospitals, and the corresponding increase in the number of dispensaries, were owing to the conversion of the hospitals at Gogha and Alibág into dispensaries. During his tour of inspection the Surgeon-General visited the three principal hospitals in Bombay, and 23 civil hospitals in different parts of the mofussil, and reports favourably of the officers whose work came under his personal supervision.

Bombay.

The increase in the number of applicants for relief was due chiefly to the great prevalence of fever in certain localities, especially in the Amritsar district, where the patients suffering from this cause was more than 55,000 in excess of the number registered in 1880. In nearly all the principal hospitals and dispensaries more in-door patients were treated than in 1880, the greatest increase occurring at Mayo Hospital (359), Amritsar (160), and Delhi (137). The greatest mortality took place at the Amritsar Civil Hospital, viz., 280·2 per 1,000, Rawalpindi following with 164·7, Delhi with 142·5, and Peshawar with 123·5. In surgical operations there was a considerable increase, especially in the major cases, which numbered 4,466, or 935 in excess of 1880. This increase the Lieutenant-Governor viewed with satisfaction, as shewing the development of surgical proficiency in the ranks of assistant surgeons.

The increase in the number of patients is highly satisfactory, and was most marked under fevers. A strong proof of the usefulness and popularity of these dispensaries is the increase in the number of surgical operations, especially in the major cases, which numbered 8,288, or 639 more than in 1880. Out of these 5,758 were cured and 283 proved fatal. Cataract cases rose from

N. W. Provinces and Oudh.

MEDICAL  
INSTITUTIONS.

2,672 to 2,801, of which 1,803 resulted in the restoration of good sight. "A very great amount of good," the Surgeon-General observes, "has thus been done. A visit to one of the hospitals where this operation is regularly practised by an experienced officer would convince the most sceptical as to the great value of this delicate branch of operative surgery." Of minor operations 69,538 were performed, shewing an increase of 2,977 over the number of 1880.

## Central Provinces

Altogether there were 44,314 more cases under treatment than in the previous year, and this increase the Surgeon-General attributed in some measure to the greater unhealthiness of the year in some districts and to the prevalence of cholera; "but as the increase," he states, "has taken place in districts which were pronounced to be healthy, and in which cholera did not prevail to any extent, it may be safely attributed to the greater appreciation of the benefits to be derived by the people, and to the greater exertions of all concerned in the management of these institutions." A satisfactory increase took place in the surgical operations, the major kind having risen from 398 in 1880 to 567, and the minor from 15,856 to 18,111. There is still, however, the Surgeon-General remarks, a great field open to the surgeon for the exercise of his professional skill in these provinces.

## Berar.

There was an addition of one new dispensary at Berar to the 35 which were open in the previous year, but it was not in operation until the month of July. The diminution in admissions was solely among out-patients, and confined entirely to the dispensaries of the Akola and Ellichpur districts. There was an increased attendance of children at the dispensaries during the year, and this the Surgeon-General considered satisfactory, as tending to prove that the prejudices against European treatment were gradually dying out. Mothers more readily sought the aid of hospital assistants in their children's ailments in preference to the village hakims.

## Assam.

The small attendance of in-patients is stated to be "not so much the want of professional skill as it is the absence of pauperism among the Assamese population, the rarity of diseases requiring surgical skill which fill the dispensaries in other provinces, and, hitherto, the poor and unsuitable accommodation which our poorly endowed dispensaries have afforded."

## British Burma.

As very few of the medical officers possess more than an elementary knowledge of the Burmese language, the Chief Commissioner considered the progress made by the dispensaries was remarkable. Efforts are being made to train up natives of the country for civil medical employment in this province, and civil surgeons are now required to pass an examination in Burmese. It may be expected that these measures will lead to a wider appreciation of the advantages of the European system of medicine among the Burmese. During the year 2,870 operations were performed, 116 being major and 2,754 minor, shewing a decrease of 331 major and an increase of 851 minor operations over those performed in 1880; the total increase shewed that European surgery was becoming more valued than heretofore.

## Ajmere.

The in-door patients numbered 704 and the out-door 38,455 against 567 and 34,727 in the previous year, and 120 major operations were performed against 98 in 1880.

## Coorg.

Four hundred and twenty-nine in-patients and 8,665 out-patients, against 612 and 10,842, were treated during the year. The decrease is attributed to the better circumstances of the year, and the disappearance of famine cases.

*Lock Hospitals.*

## LOCK HOSPITALS.

The subject of Lock Hospitals, and the working of the Contagious Diseases Act, is fully treated in the Parliamentary Return of Sanitary Measures during 1881. On the 1st November 1881, the operation of the Act was confined in Calcutta to that part of the town and suburbs frequented by soldiers.



LUNATIC ASYLUMS.—LUNATICS.

LUNATIC ASYLUMS.

	Re- mained on 1st January.	Admitted during Year.	Re- admitted.	Total Popula- tion.	Discharged.				Died.	Average Daily Sick.	Total Expendi- ture.	Number of Asy- lums.	Number of People of Unsound Mind in Province.	
					Cured.	Im- proved.	Others.	Total.						
Bengal	{ 1880 1881	888 881	183 188	23 28	1,104 1,004	73 93	34 41	7 8	114 142	100 54	400 3493	9,002 10,378	5 5	- 30,735
Madras	{ 1880 1881	350 363	179 171	4 4	519 538	75 60	19 24	10 17	104 109	45 34	3282 2157	7,000 8,103	3 3	- 10,126
Bombay	{ 1880 1881	583 646	291 253	39 5	918 903	87 67	93 149	50 7	230 223	37 53	384 400	1,156 1,077	5 5	- 7,764*
Punjab	{ 1880 1881	318 366	88 129	4 3	405 448	58 51	10 7	6 19	74 77	25 46	- -	3,500 3,782	2 2	- 0,208
North-Western Pro- vinces and Oudh	{ 1880 1881	811 825	282 † 304	- 25	1,093 1,154	- 149	- 58	- 29	173 † 229	76 73	- -	- 5,278	4 4	- 0,347 †
Central Provinces	{ 1880 1881	247 238	27 42	5 2	270 282	19 17	7 7	5 9	25 33	16 15	490 800	1,080 1,646	2 2	- 2,400
Berar	{ 1880 1881	27 25	4 6	- 3	31 34	2 1	- 3	4 -	6 4	- 2	201 150	380 376	1 1	- 832
Assam	{ 1880 1881	44 46	20 22	2 2	60 70	10 8	2 -	1 -	13 8	7 7	123 209	602 803	1 1	- 1,613
British Burma	{ 1880 1881	189 176	32 46	4 2	225 224	26 21	1 1	3 2	30 24	19 25	470 424	2,087 2,086 †	1 1	- 3,726
TOTAL	{ 1880 1881	3,437 3,508	1,100 1,160	91 71	4,628 4,737	- 466	- 290	- 91	760 847	336 339	- -	- 34,493	24 24	- 74,010

\* Exclusive of Aden and Feudatory States. † Unspecified. ‡ Exclusive of Feudatory States. § Incomplete.  
Ajmere, Bangalore, Coorg, and Native States are excluded from this statement.

In 1876 orders were issued by the Government of India restricting the admission of patients into lunatic asylums to criminal lunatics, and to such others as were absolutely dangerous, or were without friends or resources, and yet required medical treatment for their recovery. Since that year there has been a steady decline in the number of patients confined in the Bengal asylums, and it would seem that there is little hope of further reduction. The statistics of the three years ending 1881 certainly point to this conclusion, for though the fresh admissions fell from 196 in 1878 to 173 in 1879, there was an increase of 10 in 1880 and a further increase of five in 1881. The most frequent cause of insanity amongst those admitted was excessive use of intoxicating liquors or drugs, as is shewn by the fact that out of 111 admissions in which the cause of insanity was known, 66 were said to be due to ganja, 3 to bhang charas, 13 to spirits, and 2 to opium. Since 1878 there has been a gradual and satisfactory improvement in the health of the lunatics. As usual, the deaths were most numerous in the Dullunda Asylum, where they numbered 33, Patna coming next with 30. The heavy mortality in these two asylums was attributed partly to the condition in which lunatics were received during the year and partly to the larger proportion of maniacs to the total number of patients in them, maniacal affections being considered more fatal than any other form of insanity. Of criminal lunatics there were 380 under treatment during the year against 369 in 1880, the primary admissions numbering 72.

Twenty-eight criminal lunatics were admitted during the year against 33 in 1880, making a total of this class of 91 under treatment. Of the total cases 131 were said to have originated from physical and 57 from moral causes, a large proportion of the former being attributed to the abuse of narcotics. The general health of the inmates of the asylums was on the whole satisfactory. The mortality was highest in the Waltair Asylum, being in the ratio 34.5 per cent. to daily strength; in the Madras and Calicut Asylums the death-rate was only 6.01 and 8.3 per cent. respectively. The heavy death-rate at Waltair, though lower by 5 per cent. than that of the previous year, was again attributed by the medical officer to the fact that only a small number of hopeless and incurable cases were detained in the asylum. As, however, the average rate since 1878-9 was nearly double that of the seven preceding years the Madras Government ordered that a strict inquiry should be instituted with a view to ascertain whether in addition to the cause assigned there were special local causes at work.

Of the total cases, the alleged cause of insanity was given in 416, of which 350 were ascribed to physical and 66 to moral causes. Among the former 178 were

**LUNATIC ASYLUMS.** were said to have been due to intoxicating liquors and drugs, while of the latter 45 were due to grief. Though not so good as in the previous year, the general health of the inmates of the asylums was satisfactory, excepting at Ahmedabad, where cholera and fever were very prevalent. At the end of 1880 there remained 90 criminal lunatics in the asylums; these were increased during the year to 110 by 20 new admissions. Of the total number, which was 5 in excess of the previous year, 9 died and 8 were cured.

**Punjab.** Of the primary admissions to the Lahore and Delhi Asylums, 14 were criminal lunatics, and at the end of the year there were 39 of this class in confinement. As regards the health of the inmates of these two asylums there was a slight increase of sickness, with a considerable excess of mortality. The chief death cause at Lahore was cholera, and at Delhi diarrhoea and pneumonia.

**N. W. Provinces and Oudh.** The number of admissions during the year was 329, and of these 144 were reported to have become insane from physical, and 19 from moral causes. The largest number of deaths (28) occurred at the Bareilly Asylum, but the rate of mortality was highest at Agra, namely, 9.44 per cent., and was attributed to the want of a sufficient supply of antiscorbutic vegetables and fruits. At the Bareilly, Benares, and Lucknow Asylums great care was taken to secure at all time the best vegetables in season, which, supplemented with lime-juice, and fruits, proved of great benefit to the health of the inmates. During the three years ending 1880 there had been a steady decline in the number of criminal lunatics, but in 1881 they began to increase again, rising from 168 in 1880 to 202.

**Central Provinces.** At the two lunatic asylums in the Central Provinces, namely, Nagpur and Jubbulpore, there was a considerable increase in sickness, but especially at Nagpur, where there were 136 admissions to hospitals, 56 of which were due to fevers. Mortality was heaviest at Jubbulpore.

**Berar.** The health of the inmates of the Amraoti Asylum was very satisfactory. Of the total cases, the cause of insanity was known only in 16, of which 11 were ascribed to intoxicating liquors and drugs, 3 to epilepsy, and 2 to grief. The number of criminal lunatics under treatment was 9 against 8 in the previous year.

**Assam.** The chief causes of sickness at the Tezpur Lunatic Asylum in Assam were fevers, lung diseases, and bowel complaints. Out of 73 admissions to hospitals no less than 38 took place during the last three months of the year, and were due chiefly to fever and diseases of the respiratory system.

**British Burma.** Of the 48 new admissions to the Rangoon Asylum, 11 owed their insanity to physical, and 16 to moral causes. The health of the population was not so satisfactory as in previous years, owing entirely to a severe outbreak of cholera which broke out on the 18th November, and was the cause of 31 of the admissions and 12 of the deaths. But for its appearance the superintendent considered that in no period of its history had the asylum shewn so well. Certain proposals have been approved for improving the sanitary condition of the asylum. The total number of criminal lunatics admitted was 13 against 9 in 1880, and the total criminal population 61 against 53.

#### SANITATION.

The amalgamation of the Vaccination with the Sanitary Department has been carried out in all the provinces of India, and every endeavour is now being made to make these new establishments as useful as possible in sanitary work. With this view, vaccinators were being instructed in the elements of sanitary science, a knowledge of which would enable them to assist greatly in the diffusion of sanitary information among the people, especially the villagers. The system of local self-government which has lately been inaugurated, and which is being generally introduced into all the provinces of India, will, it is anticipated, also have a decided influence on sanitary progress.

**Calcutta.**

On the whole, satisfactory progress was made in improving the sanitary condition of the town of Calcutta during 1881. Much attention was given by the Commissioners to road-making, Calcutta improvements, and filling in of noxious tanks, and, notwithstanding the difficulties with which these matters are beset, progress was apparent in almost every direction. But the most urgent of all the needs of the town is the extension of the water-supply. During the year the supply was again found to be very insufficient, while the demand continued to increase. The deficiency will to some extent be met when the arrangements for increasing the unfiltered supply are completed, which it is hoped

hoped will be some time in 1883, as by these means all the filtered water used for watering the streets, &c., will be set free, and a million or more gallons a day of filtered water will then be added to the present consumption to meet the growing wants of the town. The drainage system of Calcutta is fast approaching completion, and the Municipal Committee hope that by the end of 1883 the work will be brought to a conclusion. In the course of 1881, 14·15 miles of drainage were finished, leading only 21·12 miles to complete the work. But to render the work really complete, these measures must be supplemented by others. With the view of further improving the sanitary condition of the port of Calcutta, measures have been adopted to prevent the defilement by coolies of that part of the Calcutta foreshore extending from Matiabruj Ghât down to the upper boundary of the Bengal Cotton Mills premises. Owners of lands on the river-side have been warned to prevent the commission of nuisances on their lands, and notices have been issued to owners of premises where kerosine oil, cargoes, or straw was discharged, to provide common latrines for persons resorting to their premises; in the meantime temporary latrines have been provided and arrangements made for cleaning them, and the Commissioner of Police has been requested to station constables to prevent the committal of nuisances. A large latrine has been constructed on the edge of the river bank by the East Indian Railway Company, but no extension of latrine accommodation had been made by the Port Commissioners or the Calcutta Corporation.

SANITATION.

The proportion of municipal income expended on sanitary works in Bengal during the year was 24 per cent. of a total income of 279,121 £. against 27 per cent. of income in 1880. Generally speaking, fair progress was made in sanitation in the towns and districts, particularly with regard to drainage, the cleansing of the abominable private privies by the municipal mehters instead of private mehters, and the construction, metalling, and improvement of roads. Among the principal works that were finished or in progress were the following. In the suburbs of Calcutta great improvements in bustees have been carried out, and schemes for the supply of water were under consideration. The Eden or Jujuti Canal project, by which a supply of good water was made available for the districts of Burdwan and Hooghly, and the country through which the canal passes, was completed in December. The Burdwan water-supply scheme, for supplying the town with filtered water from the Damuda through distributary pipes, was matured, and a loan, repayable by levying a water-rate on the holdings that would be benefited by the measure, was to be applied for. It was in contemplation also to re-open the old Gangoor river in the Burdwan district, by which a large tract of country will be drained and supplied with good water. In Manbhum the Govindpore lake has been made by private subscription, and will be the means of providing sufficient good water to a large number of people residing in its locality, and to travellers passing along the Grand Trunk Road. At Dinagepore the main drainage channel with its subsidiary drains was completed, the entire cost amounting to 5,734 £. At Rungpore also the drainage of the town was further improved by constructing surface drains and joining them to the main drainage. In Dacca many sanitary improvements were effected. New drains were constructed, and a complete drainage scheme was under consideration. It had also been determined to extend the waterworks to the whole town, and it was decided to improve the sanitary condition of, and to convert into a civil station, the important but very filthy commercial town of Naraingunge. Appreciable improvements were carried out in the town of Darjeeling and several other districts, while district officers and others in many cases had been especially instrumental in promoting sanitation. In a number of towns, including the great pilgrim cholera centre, Pooree, the Bengal Municipal Act was extended, and the Act empowering the Commissioners of first-class municipalities to control public and private latrines was also brought into operation in several places for the first time. In connection with the scheme of local self-government the Lieutenant-Governor directed that the municipalities, stations, and unions in Bengal should be relieved of all police charges from the financial year 1882-83. "The effect of these orders," the Sanitary Commissioner says, "will therefore be to give them a grant of three and a half lacs of rupees per annum; and the intention of this concession is, that this amount shall be expended on sanitation, and on other works of improvement, and on education; the last subject

SANITATION.

subject has been, however, postponed for future consideration. The great drawback to progress in sanitation, namely, want of funds, has thus to a material extent been removed, and it is hoped that the municipalities will now be enabled to carry out some of the many sanitary and other improvements which are urgently called for in many towns."

Madras City.

Considerable attention appears to have been given to sanitary work in the Madras municipality during 1881. In the work of diverting sewage from the river Cooum, wherever it was possible, land was taken near the outfall, and the sewage from the various sewers led into wells on the land obtained. In the course of the year the sewage from eight separate sewers which flowed into the river was diverted in this way, and the sewage was being profitably disposed of over the lands from which large crops of grass are obtained. Mr. Jones's scheme for the drainage of Black Town has been accepted, and sanction was given for the raising of a loan of 10,000 L. in order to commence operations. Towards the extension of water-supply the Commissioners determined to complete as far possible the distribution of the Red Hills water throughout so much of the area of the city as was intended to be supplied, and for this purpose they had sanctioned the raising of a loan of 25,000 L., a sum which it was estimated would complete the work, and which had also received the sanction of Government. Conservancy arrangements were well attended to, and in many places great improvements effected. In the Tinnevely Settlement and Nagatha Covil Parcherry, which were formerly the most loathsome and filthy quarters of the town, huts were removed, and lanes and streets thoroughly opened to sanitation, a step which had greatly conduced to the health of the people during the recent cholera epidemic. Owing to the outbreak of cholera the conservancy staff had also been considerably strengthened, and overseers of wards had been specially instructed to give redoubled energy in sanitation and conservancy, especially to inspection.

Madras  
Presidency.

Although no work of any great magnitude was undertaken in the Madras Presidency during 1881, sanitary work generally appears to have been fairly well prosecuted in district municipalities. Conservancy arrangements were considered on the whole satisfactory, but in matters of water-supply and house sanitation there was still much need for improvement. Out of a total municipal income of 147,323 L., 30 per cent. was allotted for sanitary purposes, but of this amount a little over one-fourth remained unutilised, and only in three instances was the full allotment expended. In future, Presidents were to be held responsible that the budgeted grants were not allowed to lapse without the express sanction of Government. In local fund circles the total available income (one-third land cess) was 135,139 L. Of this sum 38,696 L. were allotted for sanitary purposes, of which, however, less than two-thirds were so expended. There would seem to be a great want of conservancy arrangements in the towns and villages of some circles; and it is strongly urged that legal power should be given to district authorities to enforce the observance of simple rules of sanitation, that more professional supervision should be introduced, and that villages should be more frequently inspected by some responsible officers, who should be empowered to deal with not only external but internal dirt also. In regard to improvements in villages, the existing methods of dealing with them, such as they are, should be better systematised, and the village officials called on to give practical effect to powers which they appear to have already. In local fund-circles the Government trust that the several boards will soon see their way to making large sanitary grants than they do at present, especially for the improvement of village sites and of the water-supply. As it is, the allotments were not fully utilised. The results of the fairs and festivals held in the Madras Presidency between September 1881 and December 1882 shew that with very few exceptions the sanitary and other arrangements were satisfactory, and that 28 out of 33 were exempt from cholera. The practical lesson to be learnt from these festivals is that camping outside and away from the crowded town populations should be the rule, and that considerable increase of the conservancy staff and arrangements are required.

Bombay City.

The new main sewer of Bombay City, extending from Frere Road, near Carnae Bunder, to Love Grove, near the new pumping station, a distance of 4½ miles, was completed by the 1st June 1881. The outfall sewer was also completed, but owing to unusually severe weather the rubble and concrete covering of the sea end for a length of 192 feet was displaced, but before the close of the year the

the greater part was repaired. The foundations of the new pumping station at Love Grove were finished during the year, and it was anticipated that the new engines would shortly be at work. Unfortunately, slow progress was made with pipe sewer work in connection with the main sewer, which caused great inconvenience to the public. At the end of the year 16½ miles of pipe out of 23¾ miles had been laid. SANITATION.

Several important surveys in connection with the main and outfall sewers were under consideration, the chief of which were—

1. The survey and estimates for house connection in the first portion of the sewage scheme.
2. The connection of the new sewerage system to the district of Camati-poor, with house connections complete.
3. The interception of the present outfalls in Back Bay.
4. A new and comprehensive surface drainage scheme, comprising several new drains and a flood reservoir on the flats.

As regards water-supply, the most important work carried out was the raising of the dams of the Tulsi Lake by 6 feet. It was estimated that this would yield an additional storage of 480 million gallons. In consequence, however, of the comparatively small rainfall, the lake did not fill up its waste weir level, and the addition to the storage was consequently only 234 million gallons. But slight progress was made with the Bhandawara reservoir, a little more than one-half of the work which it was expected would have been completed remaining unfinished. To a certain extent the work has been attended with unexpected difficulties, but with every allowance for these the slow progress made by the contractors cannot be justified. Conservancy work received considerable attention. Considerable results were attained in the reclamation of the flats, in the improvement, construction, and regulation of cattle-sheds, and in regulation of unwholesome trades, and prevention of nuisances. Real progress is being made rooting out the epidemic disease causes in the city, but the drainage should in have been more advanced during the year.

In the Bombay Presidency the total income of the municipalities, exclusive of Bombay City, was 256,979 £., of which 63,371 £. were expended on conservancy arrangements. In several towns important improvements were carried out in waterworks, and much attention was devoted to the cleansing and repairing of drains, to the erection and repairing of latrines, besides other minor sanitary matters. Of late years good progress has been made in improving the sanitary condition of the towns of Bombay, but the death statistics of some shew that increased activity in this direction is much needed. Sanitary work in the local fund circles consisted chiefly in the improvement of wells and other water sources. Bombay  
Presidency.

The only important sanitary work executed in the Punjab in 1881 was the completion of the works for the water-supply of Lahore. The service reservoir failed, but a constant supply was kept up to the whole of the city and suburbs, with the exception of certain localities at a high elevation. The water was pronounced to be of excellent quality, the prejudice which the people had at first entertained regarding it was disappearing, and the demand gradually increasing. The householders did not shew much disposition to have the water connected with their houses, which is attributed to the water-rates being too high; consequently the *bhisties* employed by the richer inhabitants take possession of the stand-posts to the exclusion of the poorer classes. The drainage works of the city were reported to be progressing satisfactorily, and when completed will leave little to be desired in respect of thorough conservancy. At Delhi plans and estimates for the city waterworks were completed; the old Shahjahan drains were opened up and thoroughly cleaned out; and the Conservancy Department, which was re-organised in 1879, has proved very successful, with the result that the city is now pronounced by all to be very clean and healthy. At Peshawar a considerable sum was expended on the construction in the city of masonry channels for sewage and for drinking water. These, no doubt constitute a great improvement on the state of things previously existing, but it cannot be allowed that they ensure the water-supply from dangerous pollution. It is recommended that no similar scheme should be sanctioned for any town in future. At Amritsar the main drainage scheme Punjab.

## SANITATION.

was nearly completed round the eastern side of the city, and the internal drainage had been improved by the adjustment of the street drains with the outer main drain. The subject of the drainage of the whole locality, with a view of obviating the swamping and water-logging of the soil which resulted from the heavy rainfall of the year, has been taken up, and surveys have been made. A scheme for improving the water-supply was also under consideration. In Jullundur and Hoshiarpur important drainage schemes were being carried out; in Ludhiana special measures have been taken to preserve the water-supply both of the district and town from pollution; and in Rawalpindi a scheme for supplying the town with pure water was on the eve of execution. Sanitary improvement engaged the earnest attention of the district authorities, and a fair share of the funds at their disposal was devoted to it. In nearly all the central towns, however, a supply of pure water brought from beyond the inhabited area was much wanted, and in many improved drainage was urgently needed. During the year a considerable number of villages were inspected, and grave sanitary evils were brought to light. Efforts were, however, being made to convince the natives of the reality of these evils and Dr. Cuninghame's Sanitary Primer has been introduced as a text-book in a large number of schools.

N. W. Provinces  
and Oudh.

No sanitary work on any great scale was carried out in the North-Western Provinces and Oudh during 1881, still much good work was done in the municipalities in surface drainage, providing sources of pure water, filling in excavations, cleansing wells, &c. At Almora the drainage of the town site was completed, and the town has now a plentiful supply of good water. The public latrine arrangements were also extended. At Bulandshahr a work of considerable sanitary importance for preventing flooding, was carried out, and much progress made in general town improvements. At Cawnpore City a total length of 13,509 running feet of the new drainage system was constructed, and two unwholesome excavations in the middle of the city were completely filled up and levelled, a work which the Sanitary Commissioner considers a very important sanitary improvement. The main city drainage way was extended for the further effectual removal of the rainfall drainage. At Benares the keeping of pigs within the municipal limits was forbidden, but no progress was made with the long-proposed water-supply and drainage scheme, which remain still under the consideration of the Municipal Committee. At Lucknow a total length of 30,838 feet of stone and masonry-built drains was constructed, new wells were sunk, 17 ditches had been filled up, and many others were in process of filling, and an artesian well sanctioned. Considerable progress is also said to have been made in rural sanitation, and several districts, notably Jalaun and Bahraich, have followed the example set in Banda of enforcing a few simple rules to secure cleanliness, and to prevent pollution of the water-supply. No opposition of any moment to any of the rules appears to have been offered, while the improvement which has been effected in the health of the people by their introduction was very satisfactory.

## Central Provinces.

In the Central Provinces the chief sanitary event of the year was the commencement of a scheme for supplying the city and station of Jubbulpore with pure water from a reservoir seven miles distant, at an estimated cost of 60,000 *l.* The work was being actively carried on, and hopes were entertained that early in 1883 the first supply would be turned into the city. Good progress was being made with the Hinganghat waterworks, and in several other town improvements were effected in their sources of water-supply. Out of a total income of 52,214 *l.*, the municipalities spent 12,338 *l.* on their conservancy arrangements. Much good work was done by civil surgeons of districts in their inspections of towns and villages; but their reports testify to the fact that many villages suffered from epidemics through their bad sanitary condition. Vaccination officers appear to have done fair work in advising the people of the villages on matters of sanitation, and in every district except Seoni have reported some villages as clean, and as attempting sanitary improvements.

## Berar.

No sanitary works of any great importance were undertaken during the year in the municipalities of Berar, but conservancy and general sanitary arrangements received attention. In the five municipalities of the province the total sanitary expenditure amounted to 2,586 *l.* A scheme for the supply of water to the town of Khamgaon was sanctioned, the estimated cost being 8,636 *l.* The work was about to commence, and when complete the water-works



works are expected to provide an adequate supply of water for all purposes. A project for supplying the town of Amraoti with water was under consideration, but the drainage scheme still remained to be completed. In the districts a large amount of useful work was effected in the course of the year at an expenditure of 8,903 £., especially in villages containing more than 5,000 inhabitants, which for registration purposes are classed as towns. The employment of Native Superintendents of Vaccination in sanitary inspection work was attended with satisfactory results, their inspection having proved specially conducive to more careful registration of vital statistics. With the view of extending village sanitation, every village patel has been furnished with a copy of the village sanitary rules, and Dr. Cuninghams' "Sanitary Primer" has been distributed both to the vaccination service and to all schools in the province. SANITATION.

Very little progress appears to have been made during 1881 in the way of sanitary improvements in Assam. In fact, as the Army Sanitary Commission remark, sanitary work in this province "is only being begun." The chief improvement effected was the extension of the water-supply to the village of Maokhar and to the regimental lines in the cantonment of Shillong. The drainage system of Gauhati was being slowly carried on, and it is satisfactory to learn that the introduction of properly sunk wells fitted with apparatus for lifting the water was beginning to claim the attention of municipalities. It is hoped that the funds will be speedily made available for the provision of a pure water supply throughout the towns of the province. During his tour of inspection the Sanitary Commissioner visited many tea-gardens, and he again testifies to the care and attention bestowed on the tea coolies. Assam.

Except in the larger towns, little was done to improve sanitation in British Burma. The construction of the works for supplying the town and shipping of Rangoon with water is rapidly advancing, and upwards of 5,000 £. has been sanctioned for improving the surface drainage of the town. At Prome sanitary works were energetically carried on; a complete drainage scheme was sanctioned, the works being already begun; plans were in course of preparation for the erection of a bund to prevent the annual flooding of the town; a scheme for the water supply of the town was also under consideration, and efforts were made to abolish the cesspit system. At Bassein 7,000 feet of brick drains were constructed in the course of the year; the reclamation of a great part of the Athegye swamp was completed; additional public latrines were erected; cesspits were being replaced by proper drains, and a scheme for supplying the town with water was in contemplation. At several other towns important improvements were in process of execution. In the villages efforts were being made to extend a knowledge of elementary sanitary principles among the people. A translation of Dr. Cuninghams' Sanitary Primer altered so as to specially adapt it to Burma, has been prescribed as a school text-book. British Burma



## XI.

## EMIGRATION.

EMIGRATION.

SOME very interesting remarks are contained in Major Pitcher's report on Emigration from the North-Western Provinces and Oudh, compiled in 1882. Recruiting is divided into two systems, (viz.) that of the Trinidad Agency and that of the Demerara Agency. Under the former, the sub-agents receive for the most part a monthly salary in addition to a certain commission on each recruit, payable on embarkation, for which commission the sub-agent undertakes all necessary expenses, license and other fees excepted, incurred on behalf of the recruit from the date of his engagement to his entry into the Calcutta depôt. The sub-agent's contract usually makes the recruiter responsible for the coolie's good faith and expenses up to his delivery into the train, casualties, expenses, &c, amongst coolies previous to the starting of the train falling on the contracting recruiter. Casualties occurring between the station of delivery up-country and embarkation from the Calcutta depôt fall on the sub-agent. This system is likely to entail great caution both in the selection of recruits and their treatment *en route*. Below the sub-agents are the *arkatis*, whose business is confined to introducing coolies to the sub-agent, and who receive a cash payment. The Demerara agency pays no fixed salary to the sub-agents, but allows on the whole a higher rate of commission, and gives at the end of the season a bonus per hundred coolies to such sub-agents as have worked well. Recruiters pay the license fee themselves. The Trinidad system is the most popular of the two and is better managed.

There is no doubt that emigration is unpopular with natives generally. It is a common belief amongst them that coolies are suspended head downwards in order that oil may be extracted from them. They dread interference with their caste and forcible conversion, and their fears are heightened by the paucity of news they receive from emigrants. On the other hand this antipathy is greatly lessened by the reports of those who return to their homes, and who frequently re-emigrate with their families and friends. Major Pitcher thinks that all exertions should be made to facilitate the correspondence of coolies with their families, and their return to India after their term of service is up. And further that the Agricultural Department, magistrates and police service should cooperate in the cause of emigration; the former to ascertain and communicate where pressure exists, and consequently the localities where the desire for emigration might with advantage be fostered; the latter to inspect the licenses of recruiting officers, and to secure to them that freedom of action which the unpopularity of their calling at present denies them; while the magistrates would supervise the proper management of depôts, and the conduct of registration as at present done.

The administrative measures of the year were two in number; (1), the notification of a revised scale of crew for emigrant vessels with the object of reducing what was considered to be an unnecessarily numerous crew to a somewhat smaller, but more efficient body of men; (2), the exemption of emigrant vessels sailing to places east of the Cape from the compulsory use of Thier's ventilators. There is no doubt as to the high cost of this apparatus, but opinion is divided as to its utility. Subsequent to the close of 1881-2 the Bengal Government agreed to vessels, not already fitted with Thier's ventilators, being provided with Boag's apparatus. This measure is by way of experiment. The higher death-rate on the passage to Mauritius amongst coolies from Calcutta as compared with those from Madras was made the subject of a special report in which the conclusions arrived at were; (1), that the Madras coolie is of acknowledged superiority; (2), that the smaller requisitions from Madras admitted of the exercise of a stricter selection of coolies; (3), that the longer detention of emigrants in depôt admitted of their being better prepared to withstand the voyage; (4), that the voyage from Madras to the colonies is comparatively shorter. Statistics prove that the longer the voyage the higher is the

the rate of mortality. It is therefore of the greatest importance that every effort should be made to secure to the coolies quick and easy voyages. During the year Messrs. Tyser & Co. of London tendered a proposal to establish a line of steamers for the conveyance of emigrants from India to Trinidad and Demerara, but the Colonial Legislatures rejected the offer. EMIGRATION.

The number of coolies asked for and despatched during 1881-2 was as follows:—

COLONIES.	1880-1.		1881-2.	
	Statute Adults.		Statute Adults.	
	Required.	Despatched.	Required.	Despatched.
Demerara - - - - -	5,500	4,168	4,760	2,971½
Trinidad - - - - -	3,130	3,100½	2,892	2,402½
Jamaica - - - - -	350	480	—	—
St. Lucia - - - - -	320	300½	—	—
Fiji - - - - -	—	—	1,300	—
Mauritius - - - - -	125	208½	500	—
Natal - - - - -	1,100	918	1,587	1,183
Surinam - - - - -	1,000	803½	450	446½
Guadeloupe - - - - -	1,300	1,325½	923	942½
TOTAL - - - - -	12,825	11,304½	12,314	7,946

The deficiency of supply to demand was therefore 2,668 against 1,513 in 1880-1; the enhancement of this figure is due to the increased prosperity of the country.

The emigration agencies for St. Lucia and Jamaica did no work during the year, those for Mauritius and Fiji only commenced at the close of the year, and the consignments of coolies were despatched to those colonies at the commencement of 1882-3.

The number of recruiters employed was 452 against 559 in 1880-1, and 443 in 1879-80. The Trinidad agency has reduced its numbers from 146 to 75, and received a warning as to the disadvantage of working with too small a staff owing to the temptation afforded to recruiters to employ unlicensed assistance; the difficulty of obtaining laborers led to the employment of irregular modes of procedure by the recruiters and a consequent increase in the number of licenses cancelled. The following statement shows (1) the per-centage of coolies recruited at each place of recruitment; (2) the place of residence of coolies recruited:—

	Per-centage of Coolies Recruited at each Place.			Per-centage of Coolies Recruited to Place of Residence.
	1878-7.	1880-1.	1881-2.	1881-2.
	Bengal - - - - -	6.07	1.93	7.23
Behar - - - - -	31.62	14.42	8.35	9.03
North-Western Provinces - - - - -	38.46	58.76	59.17	38.9
Oudh - - - - -	16.86	15.69	15.2	19.7
Punjab - - - - -	.65	6.25	8.98	7.35
Other Places - - - - -	6.84	2.95	1.02	4.65
TOTAL - - - - -	100.00	100.00	100.00	100.00

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EMIGRATIONS.

The numbers of men and women embarked were 8,349 and 2,293 respectively, and the orders of Government respecting the proportion of the sexes were strictly observed. The number of emigrants who returned during the year was 3,160 against 4,137 in the previous year, and their average savings were 20 l. 3 s. against 18 l. The general rate of mortality in depôt was about the same as in 1880-1, i.e., 0.50 per cent., but there was an increased ratio of casualties or failures amongst intending emigrants after recruitment. The number of re-emigrating coolies was 320 against 486 in 1880-1.

Assam.

The total number of immigrants into Assam during 1881 was 17,116 against 15,913 in 1880, and 43,061 in 1878. There is a considerable increase on the immigration of 1880, but a very large falling off from that of 1878. The immigration of coolies is an index, roughly speaking, of the state of the tea industry. The rate of mortality was the lowest ever attained, being 3.17 per cent. against 3.52 in 1880. This ratio is below the ordinary rate of mortality of an Indian population. A new Act came into force after the close of the year regulating coolie immigration in Assam, and superseding Act VII. of 1873. Its history belongs to 1882-3.

British Burma.

The following statement gives the emigration and immigration figures for British Burma during the year:—

	Emigration.		Immigration.	
	1880-1.	1881-2.	1880-1.	1881-2.
Arakan - - - - -	5,581	6,439	9,061	7,228
Pegu - - - - -	20,530	16,852	18,832	25,379
Irrawaddy - - - - -	26,792	24,480	25,792	29,406
Tenasserim - - - - -	26,052	8,669	36,813	23,977
TOTAL - - - - -	78,955	56,439	89,998	85,990

The immigrants consist chiefly of coolies from India and also of natives of Upper Burma, some of whom take up their residence in the province while others come merely as harvest laborers. Since the close of the year immigration has been increased by subsidising the two principal steamer companies to lower their deck-fares to *bonâ fide* native passengers from Calcutta and Madras.

Madras.

The following table shows the emigration from Madras during 1881-2 and the previous years:—

Emigration to	1875-6.	1878-9.	1879-80.	1880-1.	1881-2.
Mauritius and Bourbon - - -	2,507	3,697	6,548	3,102	806
Ceylon - - - - -	87,609	99,146	63,344	45,292	46,594
British Burma - - - - -	3,118	7,337	10,377	6,053	8,620
West Indies - - - - -	908	105	3,147	2,733	640
Other Places - - - - -	4,216	6,803	4,070	5,254	3,695
TOTAL - - - - -	98,258	117,148	88,386	62,182	59,945

Ceylon, Madura, and Tinnevely furnished 97.16 per cent. of the total emigrants, but the emigrants to Ceylon increased by 13,297. The number of immigrants was 64,603 against 74,665 in 1880-1; the bulk of immigration is confined to Madura and Tinnevely, which absorb 90.65 per cent. of the whole number.

## XII.

## E D U C A T I O N .

THE funds at the disposal of the Education Department may be enumerated as follows: (1.) *The Imperial Grant.* A portion of this assignment to the local Governments, for the several departments of their administration, is expended on education, subject to the regulations laid down by the Secretary of State in 1854 and subsequent years. (2.) *Local Cesses.* Rates levied by the Local Governments, a portion of the proceeds of which are appropriated solely to the elementary education of the agricultural population by whom they are paid. (3.) *Municipal Assignments.* Designed to provide education for the town populations somewhat in the same way as the local cesses for rural cess-payers. (4.) *Fees.* The fees paid by the scholars are the best test of the popularity and efficiency of the schools. (5.) *Subscriptions and Donations.* EDUCATION.

The history of education in India may be briefly described as the transition from the "filtration" scheme (by which the energies of Government were devoted to the provision of superior education for the upper classes in the belief that the knowledge thus communicated would *filter* down to the masses), to the system inaugurated in 1854, which, while it provided a first-class education for the wealthier classes, had for its principal object the elementary instruction of the masses. The endeavour of Government is to create an unbroken chain of education, stretching from the primary schools, with their simple elementary instruction, to the complicated curriculum of the universities; in no stage, however, does it recognise any obligation to create educational institutions to the discouragement of private enterprise, but only to afford facilities for the improvement and elevation of existing institutions. In the absence of such institutions, however, Government takes the initiative. The results of the examinations for entrance into each school is therefore a test of the efficiency of the school immediately below it, while the prospects of advancement of national education are found in the prosperity of the normal schools which furnish instructors, more especially for the elementary schools.

The year under review was pre-eminently one of transition. The body of the reports is occupied both by a discussion of the effects of the Local Self-Government policy, which will place in the hands of the native representative bodies the charge of all but the higher educational institutions, and likewise by material furnished for the consideration of the Educational Commission that assembled in the autumn of 1882 at Calcutta to deliberate on the condition of education in India, and more especially to discuss the best means of giving effect to the orders of the Home Government in 1870, that "Government expenditure should be mainly directed to the provision of elementary education for the mass of the people." Tangible progress has, however, been made in the revision of the rules for grants-in-aid based on the attendance of the scholars, and the results attained by them in examination, by the formation of a chain of scholarships extending from the primary schools to the universities, and by the means adopted for the encouragement of certificated teachers to open schools on their own account. Measures of this nature are in discussion, more or less, for the whole of India, while in Burma and Bengal they have already been adopted. An outline of the system is given under the head of Bengal.

In the following Table the receipts and expenditure on education are compared with the previous year:—

## \* STATISTICS for BRITISH INDIA (00 L omitted)

YEAR.	Schools.	Scholars.	RECEIPTS FROM -						TOTAL.
			Grants from Provisional Revenue.	Endowments and Subscriptions.	Municipal Grants.	Revenues of Native States.	Fees and Fines.	Other Funds.	
			£.	£.	£.	£.	£.	£.	£.
1881	82573	2195014	6239	1230	389	368	3873	1875	16501
1882	97008	2458024	6370	1532	402	450	4303	1762	17737

  

YEAR.	EXPENDITURE										TOTAL.
	Universities.	Colleges.	Normal and Technical Schools.	Secondary Schools (Boys and Girls).	Primary.		Schools for Europeans, &c.	Direction and Inspection.	Scholarships.	Buildings, &c.	
	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.
1881	165	1563	888	4980	6101	747	4	1706	468	884	17595
1882	178	1681	893	4210	7213	952	282	1689	530	1236	18875

Under the head of each province will be found two tables, the first of which will, as far as is practicable, shew the progress of education since the taking of the previous census as exemplified in the per-centage of literate persons to total population, taking separately the principal religions, and the second will exhibit the change in the number of schools and scholars since the previous year† :—

## BENGAL.—Scholars and Literate Persons in 1881.

	Males.	Females.	TOTAL.	Per-centage to Total		
				Males.	Females.	TOTAL.
Hindus - - - - -	2,809,407	59,755	2,869,162	10.18	26	5.13
Mahomedans - - - - -	659,824	19,988	679,812	6.08	18	3.13
Others - - - - -	42,351	17,460	59,817	3.55	1.42	2.61
TOTAL - - - - -	3,001,582	97,209	3,098,791	8.05	23	4.48

CLASS OF INSTITUTION.	SCHOOLS.			SCHOLARS.		
	1880-1.	1881-2.	Increase.	1880-1.	1881-2.	Increase.
Government Institutions - - - - -	303	327	+24	20,775	32,379	+2,504
Aided - - ditto - - - - -	40,400	51,510	+11,020	777,173	966,070	188,897
Unaided - ditto - - - - -	6,714	6,942	-472	121,541	106,496	-15,045
TOTAL - - - - -	47,507	58,079	10,582	928,489	1,106,645	178,156
Colleges - - - - -	{ Males - 28 Females - 1	{ 31 1	{ +3 —	{ 3,183 5	{ 3,480 6	{ +303 +1
Secondary Education - - - - -	{ Males - 3,535 Females - 396	{ 1,894 51	{ +1,641 -345	{ 189,598 13,898	{ 140,317 4,335	{ -49,281 -9,563
Primary Education - - - - -	{ Males - 41,849 Females - 432	{ 50,788 991	{ +8,939 +559	{ 688,980 20,581	{ 800,132 32,966	{ +111,152 -17,385
Special Instruction - - - - -	{ Males - 30 Females - 2	{ 46 2	{ +16 —	{ 1,497 54	{ 3,110 75	{ +1,613 +21
Madrasahs, Toles and Maktabas	{ Males - 1,384 Females - —	{ 4,264 11	{ +2,880 +11	{ 11,323 —	{ 53,763 1,155	{ +44,440 +1,155
TOTAL - - - - -	47,507	58,079	10,572	928,489	1,106,645	178,156

Note.—No complete educational statistics are given for Bengal in the Census Returns of 1871-2.

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\* See Statistical Abstract, No. 17.

† Where the figures given in the tables disagree with those in the text the former are the more correct.

The educational system is seen in its completest development in Bengal, where the schools are definitively classified, and the chain of progression betwixt the classes is continuous and evenly graduated. Besides technical schools, and schools for girls and children of European extraction which lie somewhat outside the main classification, the Bengal educational system is divided into three great classes, primary, secondary, and university education. These are subdivided into upper and lower primary schools (the latter of which subdivisions is split up into higher and lower sections according as the pupils can or cannot read a printed book); high, middle English, and middle vernacular secondary schools; first and second class colleges. In the lower primary schools the teaching consists of the first four rules of arithmetic according to the English method, mental arithmetic according to the native method, and reading a simple printed book. In the upper primary schools the same course is taught with the addition of the vernacular language of the country, of arithmetic and zemindari accounts, Euclid, the history and geography of Bengal, and the elements of physical science. In the middle vernacular schools, the lowest grade of secondary instruction, the curriculum is the same as the preceding, and differs only in regard to the fuller character of the knowledge imparted, and in the addition of an optional English class. Similarly the middle English schools are an improvement on the foregoing class; in them the study of English is compulsory; while the high schools are preparatory for the colleges and at the same time preserve touch with the lower grades. The second class colleges teach up to the first arts standard and improve on the instruction given in the high English schools; the first-class colleges undertake the full B. A. course, which is the fullest and ultimate development of the instruction given in the inferior grades. The system of scholarships which facilitates the progression of the successful pupil is as follows. In the primary schools, marked proficiency in the subjects taught in the lower primary schools qualifies for a scholarship of Rs. 2 per mensem, tenable for two years at any upper primary school, or at those schools of the secondary group where vernacular is the basis of instruction. Similarly, scholarships of Rs. 3 are tenable for two years at middle vernacular or middle English schools for proficiency in subjects taught at upper primary schools. Pupils of middle vernacular schools and middle English schools may gain scholarships of Rs. 4 and Rs. 5, both tenable at any Government or aided school. Finally, 152 junior scholarships of Rs. 20, Rs. 15, and Rs. 10 in value are awarded for the greatest proficiency at the university entrance examination, and 49 senior scholarships of Rs. 25 and Rs. 20, all tenable for two years, are the prizes to be competed for in the First Arts examination. These are all Government scholarships, but many more are founded by private agency. The supervising and controlling agency of the educational system consists of the director, who is generally responsible for the whole organisation, the circle-inspector, who controls the secondary schools, and the magistrate who has charge of the primary schools. The circle inspector is the chief local administrative officer of the Department, and in addition to his control of secondary, also reports on primary schools. There are also joint and assistant inspectors. The magistrate is associated with the district committee as a consultative body, and is an ex-officio visitor of all the schools in the district, in addition to his closer relations with primary schools. The district committee has under its particular charge the zillah or district schools, besides deciding other local educational questions. There are also deputy and sub-inspectors whose duties lie with secondary and primary schools respectively. The annual return for Bengal shews an increase in the number of pupils of 178,156, and of schools 10,572, figures which are quite out of proportion to the gain of previous years but are strikingly confirmed by the results of the census. The details of the returns of primary instruction are admittedly incorrect, and the Lieutenant-Governor regards with gratification the means that will probably be created by the Local Government Boards for the closer supervision of the chief gurus and chief inspectors. A scheme for the organization of a supervising body consisting of chief gurus, village schoolmasters, is under consideration. It is estimated that one boy in four, and one girl in 95, are actually attending school. The total expenditure was 641,200 £., of which Government paid 265,000 £. The only change of importance in the constitution of the controlling staff was the appointment of assistant inspectors of schools for the Presidency and Patna Divisions, which was attended with marked success.

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The increasing popularity of English schools, especially in Behar, which has always been backward in this respect, is very satisfactory; indeed the demand for English schools is such that one district officer remarks, "unless technical schools are provided as outlets, the mere scholastic element will breed political discontent." The growth of technical education is, however, hampered by want of industrial centres. A falling off is noted in educational progress as tested by examination, but this does not necessarily imply a deterioration in the quality of teaching supplied.

Assam.

ASSAM.—Scholars and Literate People in 1881.

	Males.	Females.	TOTAL.	Per-centage to Total		
				Males.	Females.	TOTAL.
Hindus - - - -	86,959	1,464	88,423	5.50	.09	2.88
Mahomedans - - - -	21,921	294	22,215	3.25	.05	1.68
Others - - - -	4,140	1,096	5,236	1.65	.43	1.04
<b>TOTAL - - -</b>	<b>113,020</b>	<b>2,854</b>	<b>115,874</b>	<b>4.51</b>	<b>.12</b>	<b>2.37</b>

CLASS OF INSTITUTION.	SCHOOLS.			SCHOLARS.		
	1880-1.	1881-2.	Increase.	1880-1.	1881-2.	Increase.
Government Schools - - - -	34	42	+ 8	3,203	3,810	+ 607
Aided - ditto - - - -	1,146	1,314	+168	94,172	99,818	+ 5,670
Unaided - ditto - - - -	105	99	- 6	3,396	3,113	-- 183
<b>TOTAL - - -</b>	<b>1,287</b>	<b>1,455</b>	<b>+168</b>	<b>40,071</b>	<b>46,771</b>	<b>+ 6,100</b>
Secondary Education -	{ Males - 94	{ Females - 92	{ Increase - 2	{ Males - 7,543	{ Females - 8,130	{ Increase - 587
	{ Females - -	{ Females - 1	{ Increase - +1	{ Females - 40	{ Females - 56	{ Increase - 7
Primary Education -	{ Males - 1,115	{ Females - 1,230	{ Increase - +165	{ Males - 31,150	{ Females - 36,973	{ Increase - + 5,814
	{ Females - 63	{ Females - 71	{ Increase - + 5	{ Females - 1,592	{ Females - 1,209	{ Increase - - 323
Special Instruction -	{ Males - 12	{ Females - 11	{ Increase - - 1	{ Males - 581	{ Females - 394	{ Increase - + 13
	{ Females - -	{ Females - -	{ Increase - -	{ Females - 7	{ Females - 9	{ Increase - + 2
<b>TOTAL - - -</b>	<b>1,287</b>	<b>1,455</b>	<b>+168</b>	<b>40,071</b>	<b>46,771</b>	<b>+ 6,100</b>

The total expenditure amounted to 31,109 L., against 28,741 L. in 1880-1; of this sum 65.8 per cent. was contributed by the State. The public contribution has increased from 33.6 per cent. to 34.2. The figures given in the table exhibit the increase of scholars as 15 per cent., which is more than commensurate with the increase (8.2) in expenditure. The expenditure on account of primary education stands at 6,493 L., against 5,516 L. in the previous year, but the supply of qualified teachers is inadequate, and the normal schools are noted as the most unsatisfactory part of the educational system. The Williamson school and survey class are in need of radical reform.

Scholars and Literate People in the

NORTH-WESTERN PROVINCES.							OUDEH.					
	Males.	Females.	Total.	Per-centage to Total			Males.	Females.	Total.	Per-centage to Total		
				Males.	Females.	TOTAL.				Males.	Females.	TOTAL.
Hindus -	{ 1871 409,248	{ 1871 209	{ 1871 409,457	{ 3.30	{ -	{ 1.70	-	-	-	-	-	-
	{ 1882 832,155	{ 1882 11,279	{ 1882 843,434	{ 5.80	{ .08	{ 3.07	259,039	2,893	261,975	5.06	.06	2.63
Mahomedans -	{ 1871 59,578	{ 1871 49	{ 1871 59,627	{ 2.73	{ -	{ 1.42	-	-	-	-	-	-
	{ 1882 135,290	{ 1882 4,421	{ 1882 139,711	{ 5.87	{ .20	{ 3.11	39,323	1,481	40,804	5.45	.20	2.84
Others -	{ 1871 2,784	{ 1871 308	{ 1871 3,092	{ 47.11	{ 5.66	{ 28.68	-	-	-	-	-	-
	{ 1882 40,220	{ 1882 9,609	{ 1882 49,829	{ 54.54	{ 18.46	{ 41.64	6,578	1,378	7,956	79.69	46.08	69.41
<b>TOTAL North-Western Provinces -</b>	{ 1871 531,610	{ 1871 586	{ 1871 532,196	{ 3.24	{ -	{ 1.78	1304,951	1,053	1,306,004	3.93	-	1.33
	{ 1882 1,027,705	{ 1882 25,309	{ 1882 1,053,014	{ 6.02	{ .10	{ 3.24	304,978	6,052	311,020	5.21	.10	2.73

† Unspecified.



EDUCATION.  
N. W. Provinces  
and Oudh.

CLASS OF INSTITUTION.	SCHOOLS.			SCHOLARS.			
	1880-1.	1881-2.	Increase.	1880-1.	1881-2.	Increase.	
Government Schools and Colleges	6,200	6,106	-94	205,065	204,493	-572	
Aided ditto ditto	355	368	+13	19,049	19,874	+825	
Unaided ditto ditto	40	47	+7	1,289	1,229	-60	
<b>TOTAL</b>	<b>6,595</b>	<b>6,521</b>	<b>-74</b>	<b>225,403</b>	<b>225,596</b>	<b>+193</b>	
Colleges	11	11	-	888	937	+49	
Secondary Education	Males	634	601	-33	8,752	9,415	+663
	Females	12	13	+1	348	348	-
Primary Education	Males	5,610	5,562	-48	205,903	205,160	-743
	Females	303	310	+7	8,906	9,144	+238
Special Schools	Males	20	20	-	438	395	-43
	Females	5	4	-1	168	191	+23
<b>TOTAL</b>	<b>6,595</b>	<b>6,521</b>	<b>-74</b>	<b>225,403</b>	<b>225,596</b>	<b>+193</b>	

The total expenditure for the year amounted to 205,543 l., of which Government contributed 152,563 l.; the increase in receipts from fees is 16,217 l., against 14,685 l. in the previous year, a decidedly encouraging feature of the report. The per-centage of expenditure on primary education is still very small, while there appears to be a great lack of competent teachers. A new central normal school has been opened at Lucknow with the view of increasing the supply. The variation in the standard of examination, perhaps unavoidable, renders it very difficult to compare the annual results; there appears to have been, however, a decided improvement in the number of students who passed in the middle class high vernacular examinations. These and the vernacular examinations are of great importance, as not only do they afford the best test of the efficiency of the schools throughout the province, but they have been constituted the standard for candidates for employment in the public service. The rules on the latter subject were laid down in 1877, but they have not been exercised to the extent contemplated. It is proposed either to remunerate the examiners or to relieve them of part of their examining duties.

PUNJAB.—Scholars and Literate Persons in 1881 (including Native States).

Punjab.

	Males.	Females.	TOTAL.	Per-centage to Total		
				Males.	Females.	TOTAL.
Hindus	401,069	2,886	403,955	7.06	.07	4.36
Mahomedans	164,367	5,623	169,990	2.63	.10	0.94
Sikhs	45,434	740	46,174	4.67	.10	2.70
Others	28,882	5,250	34,141	54.04	13.68	42.00
<b>TOTAL</b>	1868	9,062	382,865	3.88	.12	2.18
	1881	14,508	654,260	3.02	.14	2.88

CLASS OF INSTITUTION.	SCHOOLS.			SCHOLARS.			
	1880-81.	1881-82.	Increase.	1880-81.	1881-82.	Increase.	
Government Schools and Colleges	1,752	1,748	-4	88,616	93,856	+5,240	
Aided ditto ditto	336	341	+5	10,307	10,671	+264	
<b>TOTAL</b>	<b>2,088</b>	<b>2,089</b>	<b>+1</b>	<b>104,923</b>	<b>110,427</b>	<b>+5,504</b>	
Colleges	1	1	-	94	103	+9	
Secondary Education	Males	225	227	+2	6,201	5,920	-281
	Females	1	3	+2	9	17	+8
Primary Education	Males	1,524	1,526	+2	88,195	93,919	+5,724
	Females	322	317	-5	9,686	9,739	+53
Special and Technical Education	Males	9	10	+1	502	560	+58
	Females	6	5	-1	236	169	-67
<b>TOTAL</b>	<b>2,088</b>	<b>2,089</b>	<b>+1</b>	<b>104,923</b>	<b>110,427</b>	<b>+5,504</b>	

The expenditure was 158,428 l. against 139,253 l. in the previous year, which increase is principally on account of items not included in last year's report. The distinguishing feature of the report is the increase noted under the head

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of Primary School's attendance. The number of scholars now nearly amounts to the figures attained in 1877-8, which was the highest on record. It is agreed that the facilities offered for primary instruction are very inadequate, about one half per cent. only of the population being under instruction in Government and aided schools, and that a very large extension of education in this direction is possible at the present time when the success of the middle vernacular schools has insured a good supply of teachers and local inspectors. Measures are in contemplation similar to these adopted in Bengal and Burma for the revision of the grants-in-aid rules and the foundation of scholarships.

Central Provinces. CENTRAL PROVINCES.—Scholars and Literate Persons (excluding Native States).

		Males.	Females.	TOTAL.	Per-centage to Total		
					Males.	Females.	TOTAL.
Hindus	{ 1871	708,001	2,043	110,134	3.70	.07	1.87
	{ 1881	108,746	3,735	197,481	5.28	.10	2.69
Mahomedans	{ 1871	8,491	415	8,906	7.05	.30	3.92
	{ 1881	10,472	1,118	20,590	13.84	.82	7.46
Others	{ 1871	10,381	2,088	12,464	.98	.20	.59
	{ 1881	20,654	2,505	23,159	1.84	.22	1.03
TOTAL	{ 1871	120,963	4,541	131,504	3.64	.11	1.60
	{ 1881	233,872	7,358	241,230	4.71	.15	2.48

CLASS OF INSTITUTION.	SCHOOLS.			SCHOLARS.		
	1880-81.	1881-82.	Increase.	1880-81.	1881-82.	Increase.
Government Schools and Colleges	955	981	+6	56,443	56,539	+2,096
Aided - ditto - ditto	387	398	+6	19,768	20,605	+237
Unaided - ditto - ditto	95	89	-6	3,340	3,258	-82
TOTAL	1,437	1,468	+6	79,551	81,402	+2,251
Colleges - Males	2	2	-	60	67	+7
Secondary Education - Males	55	55	-	2,518	2,860	+282
	Females	2	2	+2	14	14
Primary Education - Males	1,270	1,262	-8	72,833	74,335	+1,502
	Females	81	82	+1	3,375	35,89
Special Schools - Males	28	30	+11	745	980	+235
	Females	1	1	-	20	17
TOTAL	1,437	1,468	+6	79,551	81,402	+2,251

The expenditure increased from 63,080 l. to 63,936 l.: of this the sum actually disbursed by Government was 56,343 l., 61.3 per cent. of which was on account of primary education. Fees rose from 2,312 l. to 2,620 l. The three classes of Government schools are favorably spoken of, and the progress in female education is regarded assatisfactory, though there is great difficulty in training competent mistresses in the normal schools. With the exception of Saugor there is no town in which there is not a school for Europeans or Eurasians wherever children of a school-going age can be found.

British Burma.

BRITISH BURMA.—Scholars and Literate Persons.

		Males.	Females.	TOTAL.	Per-centage to Total		
					Males.	Females.	TOTAL.
Hindus	{ 1871	5,715	158	5,873	19.78	2.04	16.02
	{ 1881	16,609	592	17,201	22.54	4.15	19.37
Mahomedans	{ 1871	18,964	2,085	21,049	31.06	5.21	21.08
	{ 1881	27,832	2,255	30,087	25.13	3.87	17.80
Buddhists	{ 1871	315,356	12,331	327,687	25.02	1.03	13.38
	{ 1881	814,578	50,910	865,488	50.02	3.25	27.54
Others	{ 1871	9,863	3,396	13,259	11.38	4.46	8.14
	{ 1881	27,986	9,039	37,025	23.13	5.36	16.26
TOTAL	{ 1871	349,898	17,970	367,868	24.37	1.37	13.30
	{ 1881	917,063	62,766	979,829	46.00	5.59	26.22

The figures for 1871 were considered to be far below the mark.

CLASS OF INSTITUTION.	SCHOOLS.			SCHOLARS.			EDUCATION.
	1880-81.	1881-82.	Increase.	1880-81.	1881-82.	Increase.	
Government Schools or Colleges - - -	47	46	-1	2,778	3,448	+670	
Aided - - ditto - ditto - - -	838	809	-27	34,247	30,026	+1,829	
Unaided - ditto - ditto - - -	2,381	2,491	+50	51,083	49,516	-2,167	
TOTAL - - -	3,266	3,286	+20	88,708	80,050	+342	
Colleges - - - - -	1	1	-	8	9	+1	
Secondary Education -							
{ Males - - -	30	33	+3	1,116	981	-135	
{ Females - - -	6	6	-	131	93	-38	
Primary Education -							
{ Males - - -	3,210	3,223	+13	80,977	81,073	+96	
{ Females - - -	12	15	+3	6,316	6,677	+361	
Special or Technical Education - - -	7	8	+1	100	217	+57	
TOTAL - - -	3,266	3,286	+20	88,708	89,050	+342	

A considerable increase in expenditure is noted, viz., 49,779 l., against 41,308 l. in 1880-1, but this is balanced by an increase in receipts from fees. The proportion (13 per cent.) of allotment from provincial revenues to indigenous education is about the same as in the previous years. An educational syndicate has been appointed which will have the conduct of, and control over, provincial examinations, as well as the promotion of education in special subjects. The chief interest of the year's report is centred in the primary indigenous schools. The figures given in the 1881 census show that the average of people who can read and write in Burma more than trebles that of any other province, a fact which demonstrates the utility of the monastic and lay indigenous schools. It has been the policy of Government to furnish aid to these institutions while depriving them as little as possible of their independence. With this object, and with the hearty co-operation of the owners of the schools, more than 3,000 schools during the last decade have been brought under the inspection of the educational officers, in whose hands the newly-appointed syndicate has left these duties. It had been hoped that when the system and standards of examination had become familiar the results might be more satisfactory than had hitherto been the case, but there is much ground for disappointment in the results attained. The standard of qualification has been found too high. New rules have been framed for grants-in-aid which will now be based on the attendance of the pupils and the actual results of provincial examinations, while special inducements have been offered to certificated teachers to open independent schools, but the hands of the Education Department are much tied by the impossibility of procuring competent native teachers. The supply available hardly suffices for the single district of Pegu. A chain of scholarships has been organised which extends from the lower primary schools to the Calcutta University; and the survey schools, established 18 months ago, which proved so great a failure, have been re-constituted in the form of classes attached to the high schools at Akyab and Moulmein in connection with the Burma cadastral survey.

AJMERE.—Scholars and Literate Persons in 1881.

Ajmere.

	Males.	Females.	TOTAL.	Per-centage to Total		
				Males.	Females.	TOTAL.
Hindus - - - - -	17,558	536	18,094	8.68	.31	4.81
Mahomedans - - -	2,630	96	2,726	8.22	.37	4.71
Others - - - - -	9,995	576	10,571	08.37	4.09	30.32
TOTAL - - - - -	30,183	1,208	31,391	12.13	.56	6.81

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EDUCATION.

CLASS OF INSTITUTION.	SCHOOLS.			SCHOLARS.		
	1880-81.	1881-82.	Increase.	1881-82.	1880-81.	Increase.
Government Schools - - - - -	76	70	-6	2,858	3,003	+145
Aided ditto - - - - -	3	3	-	417	388	-29
Unaided ditto - - - - -	60	57	-3	2,142	2,009	-133
<b>TOTAL - - - - -</b>	<b>139</b>	<b>130</b>	<b>-9</b>	<b>5,417</b>	<b>5,400</b>	<b>-17</b>
Colleges - - - - -	1	1	-	211	225	+14
Secondary Education - - - - -	-	-	-	-	-	-
{ Males - - - - -	-	-	-	-	-	-
{ Females - - - - -	-	-	-	-	-	-
Primary Education - - - - -	133	123	-10	5,125	5,054	-71
{ Males - - - - -	3	4	+1	58	78	+20
{ Females - - - - -	1	1	-	20	20	-
Special Instruction - - - - -	1	1	-	3	23	-
{ Males - - - - -	1	1	-	3	23	-
{ Females - - - - -	-	-	-	-	-	-
<b>TOTAL - - - - -</b>	<b>139</b>	<b>130</b>	<b>-9</b>	<b>5,417</b>	<b>5,400</b>	<b>-17</b>

The total expenditure for the year was 6,352 l. (against 6,394 l. in 1880-1), and the contribution paid from Imperial funds was 4,153 l. The amount realised from fees and fines was 300 l. against 315 l. in 1880-1, and from subscriptions and donations, 517 l. against 468 l. The system of giving one month's vacation to village teachers is not approved, but is to be granted further trial. An annual test examination has been introduced to promote efficiency among the village Pandits whose present attainments are noted as limited. Education is said to be progressing favorably in Ajmere but cannot be considered to have yet attained popularity.

Berar.

BERAR.—Scholars and Literate Persons in 1881.

	Males.	Females.	TOTAL.	Per-centage to Total.		
				Males.	Females.	TOTAL.
Hindus - - - - -	74,282	666	74,948	5.98	.06	3.09
Mahomedans - - - - -	6,619	202	6,821	6.37	.22	3.63
Others - - - - -	4,273	277	4,550	13.90	.96	7.65
<b>TOTAL - - - - -</b>	<b>85,174</b>	<b>1,145</b>	<b>86,319</b>	<b>6.17</b>	<b>.09</b>	<b>3.23</b>

CLASS OF INSTITUTION.	SCHOOLS.			SCHOLARS.		
	1880-81.	1881-82.	Increase.	1880-81.	1881-82.	Increase.
Government Schools - - - - -	475	477	+2	26,327	28,056	+2,629
Aided ditto - - - - -	134	212	+78	2,856	4,263	+1,407
Unaided ditto - - - - -	266	297	+31	3,038	2,572	-466
<b>TOTAL - - - - -</b>	<b>875</b>	<b>896</b>	<b>+21</b>	<b>32,221</b>	<b>35,891</b>	<b>+3,670</b>
Colleges - - - - -	-	-	-	-	-	-
Secondary Education - - - - -	-	-	-	-	-	-
{ Males - - - - -	7	7	-	250	308	+58
{ Females - - - - -	-	-	-	-	-	-
Primary Education - - - - -	855	876	+21	31,449	35,040	+3,592
{ Males - - - - -	12	12	-	452	469	+17
{ Females - - - - -	1	1	-	71	79	+8
Special Instruction - - - - -	-	-	-	-	-	-
{ Males - - - - -	-	-	-	-	-	-
{ Females - - - - -	-	-	-	-	-	-
<b>TOTAL - - - - -</b>	<b>875</b>	<b>896</b>	<b>+21</b>	<b>32,221</b>	<b>35,891</b>	<b>+3,670</b>

The expenditure amounted to 33,932 l. against 31,966 l. in the previous year; the largest amount of increase was under the head of primary schools for boys. Besides the 477 Government schools shewn in the foregoing statement, 21 branch schools, with an average of 30 pupils each, were opened during the first half of the year. This doubtful experiment has met with success; it popularises education and promises to be the means of establishing permanent schools in the villages. The figures under the head of Middle Schools testify to a steady advance during the year. The three boarding establishments at Akola and Amraoti are doing well. The sympathy, self-confidence, and fusion of mutual interests, engendered by such groupings of students of different castes and positions within the walls of these institutions, contrast with the apathy and exclusiveness

exclusiveness of the people in general. Many of the members of the school committees take an active interest in the schools, and the number of visits which they paid to the schools increased from 316 in the previous year to 463. 1,038 £ were collected by private subscriptions against 755 £ in 1880-1, and the amounts of the receipts from school fees for the two years were respectively 2,362 £ and 2,758 £.

EDUCATION.

COORG.—Scholars and Literate Persons.

Coorg.

		Males.	Females.	TOTAL.	Per-centage to Total		
					Males.	Females.	TOTAL.
Hindus	1871	6,789	131	6,920	7.87	.19	4.49
	1881	10,799	478	11,277	11.90	.60	6.94
Mahomedans	1871	786	27	813	11.55	.60	7.19
	1881	1,417	65	1,482	17.08	1.39	11.80
Others	1871	567	132	699	40.90	11.51	27.60
	1881	891	244	1,135	48.06	17.20	34.68
TOTAL	1871	8,142	290	8,432	8.62	0.39	5.09
	1881	13,167	787	13,954	18.04	1.01	7.79

CLASS OF INSTITUTION.	SCHOOLS.			SCHOLARS.			
	1880-81.	1881-82.	Increase.	1880-81.	1881-82.	Increase.	
Government Schools	56	60	+4	2,708	3,142	+439	
Aided - ditto	3	3	-	89	91	+2	
TOTAL	59	63	+4	2,792	3,233	+441	
Secondary Schools	2	2	-	143	157	+14	
Primary - ditto	Male	55	59	+4	2,013	3,043	+430
	Female	1	1	-	30	26	-4
Normal School	1	1	-	6	7	+1	
TOTAL	59	63	+4	2,792	3,233	+441	

The condition of Mysore has necessitated the removal of the Education Department in Coorg from the supervision of the Director of Public Instruction in Mysore, whose duties have been divided between the Inspector of Schools and the Chief Commissioner of Coorg. The above figures testify to a general advance. The vernacular masters are reported to be zealous, but deficient in attainments. A prize fund has been established in the central school by the principal Coorgs.

MADRAS.—Scholars and Literate Persons.

Madras.

		Males.	Females.	TOTAL.	Per-centage to Total		
					Males.	Females.	TOTAL.
Hindus	1871	-	-	1,377,465	-	-	4.69
	1881	1,812,900	87,649	1,900,549	12.54	.39	6.50
Mahomedans	1871	-	-	91,401	-	-	4.88
	1881	153,553	12,474	166,027	16.12	1.27	8.58
Others	1871	-	-	60,789	-	-	10.60
	1881	89,160	33,552	122,712	24.51	8.93	16.59
TOTAL	1871	-	-	1,529,715	-	-	4.49
	1881	2,055,613	133,675	2,189,288	18.82	.84	7.02

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EDUCATION.

CLASS OF INSTITUTION.	SCHOOLS.			SCHOLARS.		
	1880-81.	1881-82.	Increase.	1880-81.	1881-82.	Increase.
Government Schools - - - - -	1,428	1,471	+48	51,221	55,726	+4,505
Aided - - ditto - - - - -	6,078	7,828	+1,750	178,609	223,293	+44,684
Unaided - ditto - - - - -	5,372	6,151	+779	97,078	114,664	+17,586
<b>TOTAL - - - - -</b>	<b>12,878</b>	<b>15,453</b>	<b>+2,575</b>	<b>327,808</b>	<b>393,683</b>	<b>+65,875</b>
Colleges - - - - -	28	29	+1	1,721	1,928	+207
Secondary Education - - - - -	480	740	+260	10,059	21,701	+11,642
Primary Education - - - - -	11,793	14,003	+2,210	272,019	328,334	+56,315
Special Instruction - - - - -	34	38	+4	1,174	1,341	+167
<b>TOTAL - - - - -</b>	<b>12,878</b>	<b>15,453</b>	<b>+2,575</b>	<b>327,808</b>	<b>393,683</b>	<b>+65,875</b>

During the decade the Hindu and native Christian pupils have doubled, whilst the Mahomedan pupils have almost trebled, and under the head of "Others" the advance has been more than 300-fold. This is remarkable as showing that education has reached even the casteless classes. The general advance of education throughout the country is ascribed to the increasing interest taken by the executive officers of local and municipal boards in elementary education, to the gradual strengthening of the subordinate inspecting staff and the stricter supervision exercised over its work by the inspectors; as well as to the favorable acceptance of the results system by the people and their increasing desire for education, a desire evinced by the efforts of young men who teach while awaiting permanent employment. The important increase which has taken place during the year in the number both of institutions and scholars is principally due to the development of vernacular education. The total expenditure in 1881-2 was 346,751 l. against 310,771 l. in the previous year, of which 183,239 l. was derived from fees and voluntary contributions.

Bombay.

BOMBAY.—Scholars and Literate Persons.

	Males.	Females.	TOTAL	Per-centage to Total		
				Males.	Females.	TOTAL.
Hindus - - - - -	644,456	8,159	652,614	664	13	490
Mahomedans - - - - -	685,616	10,268	701,884	100	27	570
Others - - - - -	76,700	4,149	80,849	496	31	234
<b>TOTAL - - - - -</b>	<b>1,006,772</b>	<b>12,576</b>	<b>1,019,348</b>	<b>660</b>	<b>51</b>	<b>704</b>

CLASS OF INSTITUTION.	SCHOOLS.			SCHOLARS.		
	1880-1.	1881-2.	Increase.	1880-1.	1881-2.	Increase.
Government Institutions - - - - -	4,424	4,005	-419	266,708	256,951	-9,757
Aided - - ditto - - - - -	255	307	+52	10,979	23,129	+12,150
Unaided - ditto - - - - -	664	1,392	+728	30,197	76,820	+46,623
<b>TOTAL - - - - -</b>	<b>5,343</b>	<b>5,704</b>	<b>+361</b>	<b>317,884</b>	<b>356,901</b>	<b>+39,017</b>
University Education Colleges - - - - -	11	9	-2	1,130	1,045	-85
Secondary Education - - - - -	274	281	+7	20,028	22,566	+2,538
Primary Education - - - - -	4,705	5,013	+308	275,642	312,771	+37,129
Special or Technical Schools - - - - -	37	46	+9	1,219	1,548	+329
<b>TOTAL - - - - -</b>	<b>5,343</b>	<b>5,704</b>	<b>+361</b>	<b>317,884</b>	<b>356,901</b>	<b>+39,017</b>

\* The figures given for the girls' schools appear to be incomplete.

The total expenditure for the year is given at 240,580 *l.*, against 224,041 *l.* in the previous year; and the contribution paid by Government was 112,815 *l.* The increasing popularity of the schools is evidenced by a large increase in receipts from fees (*viz.*, 53,530 *l.*, against 46,644 *l.*), and the active demand for new village schools. There is a satisfactory and general increase in the number of Mahomedans attending the schools. The number of indigenous schools still unconnected with the Education Department is not yet ascertained, but plans are being discussed for diffusing education through the medium of these indigenous establishments. Education in the native states is reported as making good progress, the best native schools having long ago beaten our worst, while in a few cases they are approaching the standard of our best schools.

EDUCATION.

The number of students under instruction in colleges in Bengal was 2,745, or 219 more than in the previous year; of these 1,305 attended Government colleges, 895 aided colleges, and 545 unaided colleges, the figures for the previous year being 1,260, 808, and 458 respectively. Four out of the 24 colleges in Bengal are supported by private munificence. The total expenditure on collegiate education rose from 45,612 *l.* in 1881 to 51,912 *l.*, and the average total cost per pupil in the Government colleges diminished from 32 *l.* 10 *s.* to 32 *l.* 2 *s.*, but the share of Government, on the contrary, rose from 21 *l.* 10 *s.* to 21 *l.* 14 *s.* In the aided colleges the cost per pupil fell from 19 *l.* 6 *s.*, to 18 *l.* 10 *s.*, and the share of Government from 3 *l.* 4 *s.* to 2 *l.* 16 *s.* The expenditure by Government on collegiate education is said to be incompatible with the due discharge of its duties in regard to primary education. The results of the three university examinations were less satisfactory than in the previous year, and in the entrance examination the unaided schools were more successful than those in receipt of Government grants. This is explained by the fact that the principal unaided schools are attended by urban populations, against which a rural population cannot compete successfully.

UNIVERSITIES AND COLLEGES.

Bengal.

In the absence of the college classes at Gaunati, scholarships have been founded at the Calcutta University for the encouragement of Assamese students. Twenty-four students passed their matriculation.

Assam.

The total cost of all the colleges in the North-Western Provinces and Oudh was 20,199 *l.*, the principal items of which were 12,366 *l.* met from provincial revenues, 5,121 *l.* from endowments, and 1,106 *l.* from fees. The total cost of each student averaged from about 27 *l.* 5 *s.*, against 31 *l.* 2 *s.* in 1880-1, the cost to Government being 16 *l.* 14 *s.*, against 19 *l.* 10 *s.*; this reduction of cost to Government took place principally in the Allahabad College, where the average daily attendance of students was 23 per cent. greater than in 1880-1, and at the Agra College, where the attendance increased by 20 per cent. The results of the year's examinations contrast unfavourably with the figures of the previous year: 133 students were examined against 145, and the number passed was 56 against 79. The Muir College at Allahabad, the Benares Sanscrit College, and the Mahomedan Anglo-Oriental College at Aligarh, however, did well, but the state of the Agra College is such as to call for a thorough change of system.

N. W. Provinces and Oudh.

The passing of the Punjab University Act belongs to the history of 1882-3; it is hoped that the senate of this body will assume the position of a Board of Education and that it will illustrate in its proceedings and functions the accepted principles of local self-government which task its popular constitution will peculiarly fit it to undertake. There were altogether 312 candidates for the Calcutta and Punjab matriculation examination, of whom 115 passed. In these examinations the boys from Government schools succeed much better than those from aided schools, and this inequality is accounted for by the want of proper supervision over the elementary classes which furnish students to the mission schools, and not to inferior instructions in the latter schools. The Central Training College was only brought into working order during the year under review, and it is therefore too soon to gauge its value by the test of results; it has suffered from the failure of an attempt to open in connection with it a model school where the embryo teachers could have tried their prentice hands.

Punjab.

A good report is given of the students from the Central Provinces at the Muir Central College and the Poona College of Science, and though the candidates from Jubulpore at the First Arts examination were not so successful as in the previous year, the results of that examination were fairly creditable to the school.

Central Provinces.

There



UNIVERSITIES AND  
COLLEGES.  
British Burma.

There was no extension of University Education during the year in British Burma. The Government high school remains the only institution with a College Department. Nine students were on the rolls against eight in the previous year, and one student passed in the first division of the Calcutta University first arts examination. Several promising students were withdrawn to take up Government appointments or to undergo special training. The establishment of University scholarships will act as an encouragement to higher education, but it will take long to overcome the tendency of the Burmese to prefer appointments offering immediate advantages to the more solid benefits of a finished education.

Ajmere.  
Berar.

Six out of eight candidates passed the Calcutta University matriculation.

There were eight students from Berar, the same number as in the previous year, studying at the Bombay University. Four students matriculated, out of eight candidates. The number of matriculations in 1880-81 was eight.

Coorg.  
Madras.

Four students matriculated against two in 1880-81.

By a change in the University bye-laws certain privileges hitherto confined to the alumni of Indian Universities were extended to graduates of other recognised universities. Important changes in the arts and law curricula were proposed, but were not carried into effect till after the close of the year. Four colleges teaching up to the first arts standard, and one up to the B.A. degree, were affiliated. The results of the examinations were generally satisfactory, but the passes in the matriculation examination fell from 1,371 to 1,131, while the number of candidates rose from 3,519 to 3,725.

Bombay.

Three hundred and eighty-eight candidates passed into the Bombay University against 429 in 1880-1. The percentage of successful candidates was 37.17 in the case of Government high schools, and in the case of privately managed high schools, 33.07. The college at Guzerat, which is now in the third year of its existence in its present form, does not appear to be doing well, as the numbers on the rolls are falling off, as well as the percentage of success in examinations. A college class has been started at Baroda in which lower fees are charged.

MAHOMEDAN  
EDUCATION.

Though progress is slow, the proportion of Mahomedan to Hindu students continues to advance, and the percentage of the former to the latter now stands at  $22\frac{1}{2}$  against 20 per cent. in 1881, and  $18\frac{1}{2}$  in 1880. The proportion among the different classes of schools, exclusive of indigenous schools, varies from 1.8 in the professional colleges, to 25.1 in the lower primary schools, and increases steadily as the lower grades are reached. Measures for the popularization of Mahomedan education are under consideration. The number of Mahomedan pupils attending school in Bengal was 260,821. In Assam 6,681 Mahomedan pupils are returned, out of a population of 1,316,928 Mahomedans. The number of pupils in 1880-1 was 5,498. In the North-Western Provinces and Oudh the number of Mahomedan pupils was 36,855 against 37,330 in 1880-1; in the Punjab the number was 41,900 against 39,368 in 1880-1; in the Central Provinces it was 5,381 in the previous year, but no information is forthcoming for the year under review; in Ajmere it was 218 against 230 in the previous year; in Berar 4,604 against 3,570; in Coorg 87 against 76; in Madras 25,565 against 22,075. During the last decade the Hindu and native Christian pupils have doubled, but the Mahomedan pupils have trebled. In Bombay the number of Mahomedan pupils was 41,093.

FEMALE  
EDUCATION.  
Bengal.

There has been a marked increase in the number of girls' schools and attendance; the figures are 1,042 schools with 21,018 pupils, against 840 schools with 19,673 in 1880-1. The Bethune school at Calcutta has 106 pupils, of whom six are matriculated students at the University, three studying for the B.A., and three for the F.A. examination, while two have passed through the University examinations and have joined the Madras Medical College. The other Government institution, the Eden School at Dacca, has 199 pupils. Where female education is backward, the means of encouragement recommended is the promotion of the attendance of girls at boys' schools; 1,841 pupils are reading in zenanas or in schools connected with zenana agencies. Instruction has hitherto been gratuitous in these schools, but it is arranged that fees should be charged.

Assam.

A girls' school was established at Shillong for the education of European and Eurasian girls. It had an average monthly number of pupils of 15, who cost  
more

more than 16 *l.* 7 *s.* a-piece, and is quite the most expensive school of its class in India. It is still, however, in an experimental stage.

FEMALE  
EDUCATION.  
N. W. Provinces  
and Oudh.

The total number of girls under instruction in primary schools in the North-Western Provinces and Oudh was 9,144 against 8,906 in 1880-1; of these 332 were Europeans and Eurasians, 1,266 Native Christians, 4,668 Hindus, 2,852 Mahomedans, and 26 of other classes. The total cost of the schools was 10,281 *l.*, and the cost per girl was 1 *l.* 8 *s.*, of which the share payable by Government amounted to about 12 *s.*

The total number of girls taught throughout the Punjab was 9,925 against 9,931 in the preceding year. Government primary schools for girls are cheaper than those in any other province, Government or aided, with the exception or the aided schools in Bengal, but the high cost of education in aided vernacular girls' schools, owing to the fact that so many ladies are employed by the various missions, renders it impossible to extend this branch of education. The progress of the zenana classes cannot be tested by the Department, and the instruction imparted therein must of necessity be meagre, but there can be no doubt as to the civilizing influence exercised by them.

Punjab.

There are 84 schools for girls in the Central Provinces with 3,603 scholars, and an average attendance of 2,363, costing Government 1,779 *l.* The proportion of scholars to population is insignificant, but such success as has been achieved was in the face of difficulty, and some of the schools are exceedingly good. Several private persons are interested in the work.

Central Provinces

A female normal school has been opened in connection with the Mission School at Kemmendine, for the purpose chiefly of providing instruction to the female classes in the lay indigenous schools. The girls' schools do not seem to have done well at the examinations.

British Burma.

Female education in Ajmere is in a very backward state, and much of the money spent on girls' schools is thrown away as far as any immediate prospects are concerned. In the city of Ajmere the attendance of pupils is however satisfactory, and the establishment of two more schools is recommended.

Ajmere.

The average daily attendance at the Government girls' schools was 180 against 198 in 1880-1, and the total expenditure 279 *l.* against 298 *l.*

Berar.

There were 26 girls in the primary schools against 30 in the preceding year.

Coorg.

The total number of girls under instruction in Madras was 393,683, against 327,808 in 1880-1. The increase is greatest in Hindu girls (24 per cent.), and the rise in the number of Mohomedan girls was 10 per cent. These figures are highly satisfactory; out of 2,211 girl candidates at the primary examinations 1,273 passed.

Madras.

The number of girls' schools shows an increase of 28 on the previous year, and of scholars an increase of 2,305. The aided schools chiefly in Bombay and Poona are very useful institutions, but the Mofussil schools are reported as generally unsatisfactory. The girls' schools in Native States are very promising.

Bombay.

The number of publications in Bengal officially recorded during the year 1881-2 was 1,476, or less than the number published in the previous year by 346. New editions which are merely reprints, are now, however, excluded from Government purchase, and consequently from the figure given above. Otherwise the number of books would have been as high as in the exceptional years 1874 and 1880. 231 were published in English and other European languages, and 998 in the vernaculars of the province. The great mass of publications shew no variation in quality from year to year, but the select literature, by which the advance of native letters can most fitly be judged, maintained the high standard reached in the previous year. There were 14 books of biography, including a life of Raja Rammohun Roy (both comprehensive and interesting), memoirs of Monica, the mother of St. Augustine, and a memoir of Hahnemann, which points to the growing popularity of homœopathy amongst the natives, a sign of the tendency of education to lead the Bengali mind in search of novelty; 73 dramas were published, which shew a marked improvement in style and poetical conception. Dramatic literature is said to occupy a conspicuous position in the market of letters. 73 new novels, some of which were of striking merit, were issued; 143 volumes of poetry, 316 books on language, and 133 books on religion. It cannot be denied that Bengali literature has undergone remarkable expansion and development within recent years. The number of daily newspapers

LITERATURE AND  
THE PRESS.  
Bengal.

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LITERATURE AND THE PRESS.

newspapers was 6, weekly 38, fortnightly 3, and monthly 4, making in all 51, or 12 more than in the previous year. Of the daily papers one has a circulation of under 700, and another of 500; of the weeklies, two had a circulation of 4,000, one of 2,000, and seven of between 500 and 1,000, and of the monthlies one had a circulation of 2,100.

Punjab.

1,090 publications were registered in the Punjab against 1,037 in 1880. Of these 285 were religious, 265 poems, 133 on law, and 128 on language. 512 books were issued for the first time. 37 newspapers were in circulation. There was a considerable decrease in the number of works registered under the Copyright Act, the provisions of which are said to be very imperfectly understood.

British Burma.

There were 93 publications in British Burma, or three more than in the previous year, of which 33 were republications. 11 vernacular works were issued under the head of drama, which class of work is very popular with the Burmese; 21 presses were at work in the provinces. There were two vernacular daily papers published at Rangoon (the combined circulation of which is about 700 or 800), and one at Moulmein.

Assam.

Twelve works were published in Assam against ten in the preceding year. Three newspapers were in circulation, the same number as in the previous year.

N. W. Provinces and Oudh.

The total number of publications registered in the North-Western Provinces and Oudh was 1,029 against 409 in 1880, and 541 in 1879. The increase is not so great as it appears, but there is a real preponderance over last year's figures of 334. Language contributed 167 books, law 155, and religion 270; 509 were original new books, and 181 new translations. Literature has not improved in quality as it has in bulk. Physical science and agriculture have been more seriously considered than usual, and an English-speaking Brahman has written plainly and forcibly on the subject of Indian self-government; 57 newspapers were published during the year in the North-Western Provinces and 23 in Oudh.

Berar.

No books were received for registration, and only four newspapers were in circulation, the same number as during the previous year.

Madras.

821 publications were registered in Madras against 875 in 1880, the falling off being chiefly in Tamil and Telugu works. A decrease is also shewn of 68 in original publications and republications, and an increase of 14 in translations. About 170, or one-fifth, are educational works, a small proportion, while 443 books are religious. No information as to the vernacular press is forthcoming.

Bombay.

The total number of works catalogued in Bombay was 931, or 49 less than in the previous year; the Oriental publications stand at 814 against 117 European. Of the Oriental books 228 were Marathi and 249 were Gujarathi; 47 works were dramatic, 42 fiction, 171 poetical, and 73 religious. In Sind only 11 books were published; 92 vernacular newspapers were in circulation as against 78 in 1880; most of them were in Marathi and Gujarathi.

XIII.  
NATIVE STATES.

The Native States of India cover an area of 509,284 square miles, with a population of 55,150,456, and paying a tribute varying between 675,000 *l.* and 768,000 *l.*

*States under the direct administration of the Government of India.*

	Area in Square Miles.	Population Census of 1881.	Previous Census, 1871.	Per-centage of Literate Persons and Scholars in 1881.
Baroda - - - - -	8,570	2,185,005	2,004,442	5.5
Hyderabad - - - - -	81,807	9,845,594	—	3.1
Mysore - - - - -	24,723	4,186,188	—	5.6
TOTAL - - - - -	115,100	16,216,787	—	—

There were no reports for (1881-2) Hyderabad, Baroda or Mysore, which is now administered by a native government for the first time since 1831. The Baroda report for 1880-1 has, however, just come to hand, and the leading facts included in it may be interesting, as shewing the condition of the administration when His Highness the Gaekwar assumed the reins of government. All branches of the administration exhibited animation and progress; the organization has been completed, and the machinery of the State kept in working order. The Gaekwar is represented as being desirous and capable of carrying on the Government as it should be carried on. 124,500 *l.* were expended on public works, and 15,645 *l.* on education, while the total revenue receipts were 1,438,213 *l.*, and the total disbursements, 1,305,737 *l.*, a balance being left in the Treasury of one year's income.

Hyderabad, Baroda, and Mysore.

GROUP, CHARGE, OR STATE.	Area.	Population.	Education: Schools under Inspection.	
			Number of Scholars, 1880-1.	Number of Scholars, 1881-2.
Banswarra - - - - -	1,500	152,045	*—	†—
Bhurlpore - - - - -	1,974	645,540	4,408	4,203
Bickaneer - - - - -	22,340	509,021	—	—
Boondee - - - - -	2,300	254,701	—	—
Dholpur - - - - -	1,200	249,657	475	471
Dungarpur - - - - -	1,000	153,381	—	—
Jeyypore - - - - -	14,405	2,534,357	10,772	11,884
Jeysulmere - - - - -	16,447	108,143	—	—
Jhallawar - - - - -	2,624	340,488	—	—
Jodhpore - - - - -	37,000	1,750,403	—	—
Kerowlee - - - - -	1,208	148,670	—	—
Kishengurh - - - - -	724	112,633	—	—
Kotah - - - - -	3,797	517,275	234	348
Lawa - - - - -	18	2,682	—	—
Oodeypore - - - - -	12,670	1,494,220	420	415
Partahgarh - - - - -	1,460	79,568	—	—
Shahpur - - - - -	400	51,750	—	—
Sirohee - - - - -	3,020	142,003	—	—
Tonk - - - - -	2,509	338,029	—	—
Ulwur - - - - -	3,024	682,926	3,418	3,828
TOTAL - - - - -	129,750	10,268,292	—	122,000

RAJPUTANA AGENCY.

\* 1879-80.

† 1880-1.

‡ Approximate.

The principal occurrence in an otherwise uneventful year was the visit of the Viceroy to Rajputana. Lord Ripon's progress, though rapid, was marked by a pageantry which betokens that the various chiefs concerned in it were animated by feelings of liberality and loyalty. The history of the Bhil outbreak in Meywar, which took place in the last week of the preceding year, properly belongs to the year under review. The cause of the disturbances was practically the census, as it raised the suspicions of the Bhils that foul play and exactions were contemplated by the Government. The actual outbreak, however, was the result of a collision between a sowar of the Thannadar of Bara Pal, 14 miles south of Oodeypore, and a Bhil Gameti, a village headman of Padona. The Bhils of Bara Pal then made common cause with Padona, exacted bloody reprisals on the Bara Thanna, and decamped to raise the surrounding villages. In the latter project, however, they only partially succeeded. The Durbar troops were now ordered out, and the hostile attitude of the Bhils confirmed by the shooting of one of their number. Desultory hostilities were maintained till finally the outbreak was repressed by the employment of Imperial troops, the raiding which had become general was also put a stop to by the same means, and British officers were specially deputed to punish the offenders. Previous to the insurrection the country has been quiet for 40 years. No just cause for discontent could be discerned, but a salt depôt has been established at Rohera, as the dearness of that product was one of the causes alleged. The salt agreements entered into in 1878 with the chiefs of Rajputana have proved successful, and in 1881-2 agreements were entered into with Tonk, Boondee, Shahpura, Kotah, Jhallawar, and Kerowlee for freeing salt from all duties while in transit. Jodhpore, Bhurtpore, and Kerowlee were visited by a copious rainfall, but the monsoon was generally deficient throughout Rajputana, besides being capricious and unseasonable; the lightness of the Kharif crops was, however, fully made up by the heavy yield of the rabi harvest. The general health was good, but for sporadic cholera in Oodeypore and parts of Jeypore; while Kishengurh, Kerowlee, Kotah, Tonk, and Boondee suffered more or less from small-pox and fever. An increase is noted under the head of dacoities (90 cases, with 10 persons killed and 5,800 L. of property stolen, against 70 cases, with one person killed and 3,000 L. of property stolen in 1880). This increase is partly accounted for by a higher per-centage of detection and cases reported. The relations between the police and the officials of the states were satisfactory, and the rules introduced last year to promote co-operation between Native States and the Railway Police have worked well, as has also the extradition treaty between Rajputana and the Punjab States. Very satisfactory progress has been made in boundary settlement, especially in the internal boundaries of Meywar. The numbers of the scholars in the Mayo College in Ajmere (the report of which is included in the Rajputana Administration Report) have risen from 45 to 62, a fact which testifies to the popularity of the institution, while the progress and conduct of the pupils bears witness to its efficiency. In regard to general education, the various reports note a uniform progress, which, when the results of the last 20 years are summarised, appears substantial and lasting. In 1863-4 the number of schools in all the States was about 120, and the aggregate attendance, nearly 3,000; the corresponding figures for the year under review are approximately 830 and 22,000. During the year nine schools, including one for girls, were opened in Ulwur. The daily average of prisoners was 2,787 (a decrease of 19 on the previous year), and the death-rate fell from 48 to 46 per thousand. The unhealthiest jails were those of Jhallawar, Oodeypore, and Dholpur, whose death-rate was respectively 104, 78, and 77 per mille. 242,746 L. were spent on public work throughout the province, a figure which is probably the largest ever recorded in Rajputana. Out of this sum, 40,182 L. was contributed by Meywar, and devoted principally to improvements at Chitore. As regards the individual states little need be added. The Maharana of Oodeypore displayed great energy in the settlement of the Bhil disturbances. The administration of Dholpur has been handed over to its young chief, a youth of much promise. During his minority the Council of Regency has done much to improve the condition of the state. The financial administration of Oodeypore, Jeypore, Bhurtpore, Kerowlee, Boondee, Kotah, and Jhallawar was satisfactory, but in the states of Jodhpore, Tonk, Ulwur, and Dholpur, the expenditure still exceeds the revenue.

GROUP, CHARGE, OR STATE.	Area.	Population.	Education : Schools under Inspection.	
			Number of Scholars 1880-1.	Number of Scholars 1881-2.
Gwalior - - - - -	29,067	3,115,857	2,524	2,767
Indore and Garhi - - - - -	8,402	1,055,217	4,589	4,942
Bhopal - - - - -	6,874	954,901	—	—
Dewas - - - - -	289	142,162	—	—
Nimar and Malwa - - - - -	8,882	987,279	—	—
Bundelkhand - - - - -	10,241	1,408,086	—	—
Baghelkhand - - - - -	11,324	1,512,505	—	—
	75,079	9,171,067	* 4,545	* 5,156

\* Daily average attendance.  
The per-centage of literate persons and scholars to population is '3

The Central India Agency has a population of about 9½ millions, with an area of 75,000 square miles, and is divided into 70 chiefships of greater or less importance, the ruling power being in four, Maratha; in 7, Moham-medan; in 17, Bundelar; in 33, Rajput and Bhilaka; and in 9, Brahmin and other clans. The country possesses enormous natural and geographical advantages, and civilization is at length breaking through the conservatism of the chiefs, so that a brilliant future must lie in store for the Provinces. Still there are many obstacles to overcome before this is assured, and none of these obstacles are more formidable than prescriptive abuses, sanctioned by tradition and supported by the authority of the Chiefs. Nothing, for example, can be more injurious to the welfare of the country than the system of transit dues still in force there, which the Chiefs, in spite of remonstrance, seem resolved to maintain, notwithstanding the generous example set them by the Bundelkhand and Baghelkhand States, who, have consented to the abolition of these dues at the expense of a considerable revenue. The following example will serve to show how vicious is the system which prevails. A cart carrying 18 maunds, and passing between Neemuch and Jhalrapatan, a distance of some 90 miles, has to pay to tolls which, if the cart is laden with sugar, amount to 1 l. 17 s. 4½ d.; if laden with English cloth, to 2 l. 8 s. 4½ d.; if laden with ghee, to 1 l. 11 s. 6 d. The Indore system is much less liberal than the system which prevails in Gwalior. An abuse, somewhat oriental in character, has been abolished during the year, viz., charging to native states the expenses of Political officers and their suites when on tour. The noteworthy features of the report are the discovery of excellent coal in Rewah, and the mismanagement of the Nowgong College for the education of young Chiefs in Bundelkhand. The Rewah coal fields are said to be practically exhaustless in extent, and the coal is of such excellent quality as will materially affect the working of the railways of Western and Northern India. It is proposed to construct a railway which will convey the yield of these mines to the railway market, viz., from Umaria and Sohag-pur to some such point on the East Indian railway as Katri. There are also iron mines which will benefit by the construction of such a line. With regard to the Nowgong College, the principle on which it was conducted appears to be entirely erroneous. No fees were taken; a State which had boys at the school paid no more than its monthly *quota*, and the great majority of scholars were sons of officials with good salaries, who paid nothing; in fact, it is a high class charity school in which well-to-do boys receive a training up to matriculation standard of the Calcutta University; while the young Chiefs, or the sons of Chiefs, who share with Government in supporting the institution, are neglected. It has been impressed upon the Principal that the education of Chiefs is to be the first, and not the subordinate, consideration, that it has hitherto been. The action of the Begum of Bhopal and the Maharajah of Gwalior, in granting free land for the Great Indian Peninsula extension of railway is highly satisfac-tory. The onturn of opium in 1882 was estimated at 52,000 chests, and the exports are estimated at 35,000 chests, but as the price has fallen so low that

CENTRAL INDIA  
AGENCY.  
Gwalior.

the drug cannot be sold with advantage, much opium land will probably be thrown out of cultivation.

The population is represented as about 3,000,000, but this is probably an under estimate. No administration report is submitted of the State, but it is evident that little is done for the good of the country and the improvement of the inhabitants. The Maharajah has, however, always evinced a desire to meet the wishes of the Imperial Government, and has in the way of railway and road construction done more than the majority of Central Indian Princes. His Highness paid a visit to his Malwa Districts during the year, which was productive of much good in remedying the abuses of the administration there. Gwalior possesses much mineral wealth and is especially rich in iron mines; the experiments mentioned in the previous number of this Report as conducted by a German Engineer for the development of these mines, are now, however, abandoned.

Indore.

The Indore Durbar has submitted the usual administration report. The population is estimated at 635,000, and the revenue at 707,440 l.; against 663,630 l. in 1880-1 and 576,700 l. in 1878-9. Of the revenue, at least 60 lacs is direct taxation including land, or taking the population at one million, 12 s. per head, *i.e.*, three times the incidence per head in British territory. The expenditure on works of public utility is small, and the rack rented cultivator receives little beyond bare subsistence and the expenses of cultivation. The administration of justice is ordinarily good, and is based on the imperial model, but where the interest of the court is involved it is uncertain. In one important case the interference of the Agency was necessary to secure justice. The terms of agreement for the abolition of duties on salt were revised and rendered more favourable to the state at the Maharajah's instance. This revision will necessitate a revision of the agreements with the other states, who receive salt instead of money. The Maharajah visited the Viceroy at Simla in September 1882.

Bhopal.

The Begum of Bhopal has thought fit to retire behind the "parda" since her second marriage, and the evils of her withdrawal are manifest in the weakening of the administration and the growth of abuses. Kudsia Begum, one of the most remarkable women in Indian history, and grandmother of the reigning princess, died during the year at the age of 81, and a few days after her decease the Prime Minister also died. His successor is Syed Muhammad Mabin Khan, for a long time a government servant in the North Western Provinces. The Begum has reduced the new assessment by five lacs of rupees.

Rewah.

Rewah is one of the most backward kingdoms in Hindustan, but some improvement may shortly be expected in its condition, as, owing to the death of the Maharajah and the succession of his infant son, the state has fallen under British management. The inhabitants are described as singularly simple and well disposed towards us. The four states dealt with above contain two-thirds of the population of Central India; of the other states it need only be observed, that Tehri, Parma, Charkari, Rutlam, and Dhar, are fairly well administered, while in Samthar and Ali-Rajpur there is great room for improvement.

*States under the Government of Bengal.*

GROUP, CHARGE, OR STATE.	Area in Square Miles.	Population in 1882.	Population previous Census 1872.	Education: Schools under Inspection.	
				Number of Scholars, 1880-1.	Number of Scholars, 1881-2.
Cooch Behar - - - - -	1,307	602,024	532,505	9,260	9,355
Hill Tipperah - - - - -	4,086	95,637	35,202	647	600
Tributary States:					
Orissa - - - - -	15,187	1,460,142	1,155,509	7,519	13,019
Chota Nagpore - - - - -	16,054	678,002	498,607	—	—
TOTAL Native States - - -	36,634	2,845,405	2,221,943	—	—



The statistics of the other agencies are not given separately from the figures for the districts. No educational figures are given for the Chota Nagpore States. The increase shewn under the head of the Orissa States is caused not by the opening of new schools but by the inclusion under the inspection of the Education Department of a number of indigenous pathshalas. Bengal.

The rainfall of Kuch Behar during the year was 117·47 inches compared with 130·8 in 1880-1. The yield of rice was fair, that of jute good, and the outturn of the mustard and tobacco crops below the average. Prices were kept down by overstocked markets, and were consequently advantageous to persons enjoying small fixed incomes, but the general condition of the population was likewise prosperous. The financial administration of the year was more favourable than was anticipated, the surplus being 15,696 *l.* instead of the expected surplus of 3,309 *l.*; the principal increase in receipts was derived from stamps. Land Revenue brought in 96,486 *l.* against 94,436 *l.* in 1880-1. An increase is noted in cognizable crime, the number of cases being 905 against 1,034 in 1880-1, and 1,577 in 1878-9; and a decrease in non-cognizable crime. The number of unaided schools decreased from 57 to 50, the total number of institutions 318 against 324, with 9,260 pupils against 9,355 in the previous year. The average attendance however improved. Kuch Behar.

The Hill Tracts of Chittagong suffered from two calamities during the year, viz., an incursion of rats and an outbreak of cholera. £. 5,000 were granted to relieve the necessities of the people arising from the first of these causes, and rice was distributed amongst them, small payments being taken for it where the natives were sufficiently solvent. The deaths from cholera are computed at more than 4,000, and the evil was aggravated by the want of proper medicines in the dispensaries. Chittagong Hill Tracts.

Of the Cuttack or Orissa Tributary Mehals 20 were directly or indirectly under the management of the superintendent. Of these 15 are administered by their chiefs; three are Government estates; and one, Baramba, was attached, owing to the death of its chief in 1881-2 and the minority of his successor. The total tribute demanded from these states was 3,325 *l.*, and a further sum of 1,017 *l.* was paid on account of tribute for 1882-3. During the last few years there has been a marked increase in the number of civil, revenue, and miscellaneous cases instituted in the mehals. In 1876-7 the number of cases instituted in the superintendent's office was 1,945, in 1879-80, 3,972; in 1881-2, 6,367. A considerable advance has been made in education, and measures of forest conservancy are under consideration. There was an abundant rainfall in the Chota Nagpore Mehal, but it was unevenly distributed; the general results were, however, satisfactory, and the condition of the poorer labourers who receive wages in kind was very good owing to the cheapness of rice. Education is backward and has not secured the interest of the people. The Sirgoojah State was under the direct management of the Commissioner during the year, but has, since its close, been made over to its chief; the amount accumulated during his minority is 7,599 *l.* Administration was successfully carried on throughout the States, with the single exception of Oodeypore where the chief gives much trouble. Cuttack and Chota Nagpore Mehals.

A number of the Hindoos of Hill Tipperah, amongst whom were the Maharajah and the Prime Minister, combined in an agitation to secure themselves a higher social position than that which other Hindoos were unwilling to accord them. The results of this movement was a considerable expenditure of money and a bitter caste feeling directed against the Maharajah and his partisans. The country has now experienced four good harvests in succession, though the rainfall in 1881-2 was seven inches below that of the previous year. The general health of the people was satisfactory, and all those who became embarrassed in the year of scarcity, 1878-9, have now freed themselves from their liabilities, but the Maharajah does not bear his share in the burden of administration and the finances of the State are not sound. A new dewan has been appointed who is reported as a man of capacity, but who is not endowed with the necessary authority to discharge satisfactorily the duties of his office. The revenue realized was 23,779 *l.* against 23,268 *l.* in 1880-1. The state of education is unsatisfactory, and the caste question has militated against its progress. Hill Tipperah.

N. W. PROVINCES.

*States under the Government of the North-Western Provinces.*

There is nothing which deserves notice in this chapter under the head of North-Western Provinces.

PUNJAB STATES.

*States under the Government of the Punjab.*

## Native Feudatory States in the Punjab.

GROUP, CHARGE, OR STATE.	Area.	Population in 1881.
1. Dujána - - - - -	114	23,416
2. Faridkot - - - - -	612	97,034
3. Jind - - - - -	1,232	249,862
4. Kalsia - - - - -	178	67,708
5. Kapurthala - - - - -	620	252,817
6. Loharu - - - - -	285	13,754
7. Máler Kotla - - - - -	164	71,051
8. Nábhá - - - - -	928	261,824
9. Pataudi - - - - -	48	17,847
10. Patiála - - - - -	5,887	1,467,433
<b>TOTAL Eastern Plains - - -</b>	<b>10,068</b>	<b>2,522,546</b>
11. Bahawalpur - - - - -	15,000	573,104
12. Baghal - - - - -	124	20,633
13. Baghát - - - - -	36	8,339
14. Balsan - - - - -	51	5,190
15. Bhajji - - - - -	96	12,106
16. Bashuhr - - - - -	3,320	64,345
17. Bija - - - - -	4	1,158
18. Bilaspur - - - - -	448	80,540
19. Chamba - - - - -	3,180	115,773
20. Dadri - - - - -	1	170
21. Dhami - - - - -	26	3,322
22. Darkoti - - - - -	5	590
23. Jubbal - - - - -	288	19,196
24. Keonthal - - - - -	110	31,154
25. Kumharsain - - - - -	90	9,516
26. Kunhiár - - - - -	8	1,923
27. Kuthar - - - - -	7	3,648
28. Mailog - - - - -	48	9,169
29. Mandi - - - - -	1,000	147,017
30. Mángal - - - - -	12	1,080
31. Nában - - - - -	1,077	112,371
32. Nalagarh - - - - -	252	53,373
33. Rawai - - - - -	3	752
34. Sungri - - - - -	16	2,593
35. Suket - - - - -	474	52,484
36. Tarhoch - - - - -	67	3,216
<b>TOTAL Hill States - - -</b>	<b>10,749</b>	<b>765,643</b>
<b>TOTAL Native States - - -</b>	<b>35,817</b>	<b>3,861,683</b>

Little or no educational information is available for these States, but the percentage of literate persons and scholars is given as 5.3.

Patiála, Jind, and Nabha.

The Native States under the Punjab Government are 36 in number. Of the three Phalkian States, Patiála still continues to be administered by a Council of Regency, under the presidency of Sir Deva Singh. The Maharajah and his mother are reported to be progressing in their studies. The Rajahs of Jind and Nabha are active in the administration of their States, and the former has resolved to introduce the system of sadar distilleries (*i.e.*, erecting distilleries in enclosures set apart for the purpose) into his territories. All the tahsils and pergunnahs came under revision of settlement at the commencement of the year. A remarkable decrease of serious crime due to fair

Kapurthala.

harvests

harvests is noted, but there was an extensive outbreak of cattle disease which necessitated the granting of advances for the purchase of plough cattle, and an epidemic of cholera, with 243 deaths out of 411 cases. With this exception the year was healthy. The revenue amounted to 186,600 *l.*, and the expenditure to 174,827. The condition of the Chamba State during the year was one of unusual prosperity; the new settlement was completed, and the revenue, 23,300 *l.*, was collected with ease, of which, more than 6,500 *l.* were spent on public works. Great progress was made in road construction, and in the culture of silkworms and bees. The demarcation of the Chamba forests, which have been leased to the Punjab Government, was completed. The schools continue to be well attended, and the dispensaries increase in popularity. The difficulties connected with the administration of Mandi have ceased, and the Raja exercises great authority in the administration of the State. The finances are improving, though the receipts from the salt mines are falling off.

PUNJAB STATES.

Chamba.

Mandi.

The revision of the land revenue settlement in Suket has been completed, and in five out of 16 circles the people have applied for revision. In 1878 arrangements were made by the Commissioner to pay the debts of the Nawab of Loharu at the rate of 700 *l.* a year; it has now been determined to pay off these debts with a 5 per cent. loan from Government, repayable by instalments in 11 years. The Nawab has temporarily left the management of his State in the hands of his son.

Suket.

Loharu.

No information is forthcoming in regard to Kashmir for the year under review.

Kashmir.

*States under the Government of the Central Provinces.*

CENTRAL PROVINCES STATES.

GROUP, CHARGE, OR STATE.	Area in Square Miles.	Population in 1881.	Previous Census.
Bastar	13,062	196,248	78,856
Makrai	215	16,764	13,048
Chhuikhadán	174	32,979	29,590
Kánkér	639	68,610	43,542
Khairágarh	940	166,138	122,264
Nandgaon	905	164,389	148,454
Kawardá	887	86,362	75,402
Sakti	115	22,819	8,304
Káláhándi	3,745	224,548	133,483
Ráigarh	1,486	128,943	63,394
Sárangarh	540	71,274	37,091
Patná	2,399	257,959	98,636
Sonpur	908	178,701	130,713
Rairákhól	833	17,750	12,680
Bámra	1,988	81,266	33,613
<b>TOTAL for Native States</b>	<b>28,834</b>	<b>1,709,720</b>	<b>1,049,710</b>

The statistics of education are too scanty to tabulate.

Of the 15 feudatory estates attached to the Central Provinces, four states, Patna, Sárangarh, Khairágarh, and Sakti, were under Government management; and at the close of the year Káláhándi was added to this list. The Raja of Káláhándi died in 1881, and it was arranged that the senior widow should conduct the administration during the minority of the young chief. The Khoonds, however, began a series of complaints against the Kultas, foreign cultivators, to whom they alleged their land had been given by the late Raja; with claims of this nature they coupled those of the unsuccessful candidate for the gadee, Ram Chandra Sai. The agitation culminated in the Khoond rising, and the looting of the Kultas. In December 1882 a special officer was sent to restore tranquillity to the country, the loot was given up, and all was apparently settled satisfactorily. The history of the subsequent rising of the Khoonds belongs to the succeeding year. In the spring of 1882 Káláhándi was placed under the management of a British officer. Patna has been under attachment 11 years; Sárangarh, four years; Khairágarh, 13 years; and Sakti, seven years. The accounts of all these States are fairly satisfactory, but maladministration exists in several of the unattached states, though interference is as yet deemed unnecessary.

*States under the Government of Madras.*MADRAS STATES.  
Travancore.

GROUP, CHARGE, OR STATE.	Area in Square Miles.	Population in 1881.	Population in 1872.	Education Schools under Inspection.	
				Number of Scholars. 1880-1.	Number of Scholars. 1881-2. *
Travancore - - - - -	6,730	2,401,158	2,308,891*	864	37,721
Cochin - - - - -	1,361	600,278	601,114*	-	1,047
Pudukota - - - - -	1,101	302,127	316,695	-	-
<b>TOTAL Native States - - -</b>	<b>9,192</b>	<b>3,303,563</b>	<b>3,226,700</b>		

The population and area of the Ganjam, Vizagapatam and Godavari agencies are not shewn separately.

The financial condition of Travancore is highly satisfactory though the revenue shews a falling off of 27,888 *l.* on the previous year (592,496 *l.* against 620,384 *l.*). On the other hand the expenditure has decreased in spite of heavy charges on the Maharajah's account and a large outlay on Public Works. The great measure of reform during the year was the reorganization of the Judicial and Police Establishments, and it is in contemplation also to revise the Revenue establishments. The total export trade aggregated 759,022 *l.* and the imports 543,121 *l.*, 95 per cent. of the whole trade was with British India and Ceylon. The principal articles of commerce were copra, or cocoa-nut oil (exports), and tobacco (imports).

Cochin.

The Cochin State appears to be in a very satisfactory condition, financially and otherwise. The revenue was 147,883 *l.* against 144,928 *l.* in 1880-1, the expenditure 141,029 *l.*, and there was a balance of 32-lacs. 25,613 *l.* were spent on public works, and great progress is shewn in the advancement of education, the administration of justice, and the extension of forest conservancy.

Godavari,  
Vizagapatam, and  
Ganjam Agencies.

Nothing of special interest occurred in the Godavari, Vizagapatam, and Ganjam agencies.

Pudukota  
(July 1880 to July  
1881).

The year opened badly, but the season ultimately resulted in a very good general harvest owing to which prices fell unprecedentedly and caused so much distress amongst the ryots that it was thought advisable not to press for payment of land revenue, more than a quarter of which remained unrealized at the end of the year. The Sirkele proposes to obtain money for the creation of a village Police Agency (by the appointment of village headmen and taliaries) from the enfranchisement of Inam lands held by the militia and other *quasi* military tenures. This is a very delicate task. There was a steady improvement in the working of the different courts and the introduction of the Court Fees Act has had a beneficial effect. The abolition of the amani system (sharing of produce) and the substitution of a money assessment for a grain rent is nearly completed.

Banganapalle, and  
Sandur.

The condition of Banganapalle and Sandur was favourable but calls for no special mention.

States under the Government of Bombay.

BOMBAY STATES.

GROUP, CHARGE, OR STATE.	Area.	Population.		Education Schools under Inspection.	
		1872.	1881.	Number of Scholars 1880-1.	Number of Scholars 1881-2.
Cutch - - - - -	6,500	488,507	512,084	5,216	5,342
Palanpur - - - - -	8,000	508,525	576,478	1,514	1,770
Mahi Kantha - - - - -	11,049	447,056	517,485	3,097	3,255
Kathiawar - - - - -	20,559	2,318,042	2,543,890	33,001	36,818
Rewa Kantha - - - - -	4,792	505,732	543,452	3,894	4,703
Cambay - - - - -	350	83,494	80,074	291	365
Narukot - - - - -	143	6,897	6,440	-	66
Surat - - - - -	1,220	123,849	151,192	1,049	1,436
<b>TOTAL Gujarat Group - -</b>	<b>52,613</b>	<b>4,482,643</b>	<b>4,737,044</b>	<b>48,142</b>	<b>53,785</b>
Jawhar - - - - -	534	97,406	48,536	250	287
Janjira - - - - -	325	71,906	76,361	755	1,221
Savantvadi - - - - -	900	190,814	174,143	2,252	2,608
<b>TOTAL Konkan Group - -</b>	<b>1,759</b>	<b>300,216</b>	<b>299,360</b>	<b>3,266</b>	<b>4,114</b>
The Dangs - - - - -	3,840	39,111	60,270	-	-
Sotara Jaghirs - - - - -	3,314	336,227	318,687	2,473	3,027
Akalkot - - - - -	498	81,068	58,040	600	750
Kolhapur - - - - -	2,816	804,103	800,189	8,447	9,547
St. Mahratta Jaghirs - - - - -	2,734	610,434	523,753	6,202	7,352
Savanur - - - - -	70	17,288	14,763	364	384
<b>TOTAL Deccan Group - -</b>	<b>13,272</b>	<b>1,888,231</b>	<b>1,775,702</b>	<b>18,176</b>	<b>21,060</b>
Khairpur - - - - -	6,109	130,350	129,153	2,562	3,098
<b>TOTAL Foundatory States - -</b>	<b>73,753</b>	<b>6,801,440</b>	<b>6,941,259</b>	<b>72,140</b>	<b>82,003</b>

The per-centage of scholars and literate persons is given as D-7.

Cutch is administered by a Council of Regency during the minority of the Rao, whose character and attainments, however, bear so high a repute that he has at the early age of 16 been introduced into the Council. The financial results of the year's administration were most favorable, and shew a surplus of 23,227 l., notwithstanding an expenditure on public works of 32,110 l. The introduction of fixed cash payments, vice payments in kind, for the realisation of the land revenue, has not answered, but the experiment is to be continued. The relations of the Durbar with the Bhayad (kinsmen of the Rao) were satisfactory; the latter body, however, shewed great apathy in regard to education. The disputes with Morvi as to jurisdiction, boundaries, &c., shew no signs of abatement. 10,400 acres of waste land were brought under cultivation, and the results were successful. The Durbar exercised its rights with regard to dharmadaga or attached estates, but these attachments are repellant to the Rajpoots, though they strengthen the hold of Government on the people. The postal system of the Gujarat Native States has been introduced into Cutch, and is a measure of great convenience to the inhabitants, but involves a slightly increased cost.

Heavy rainfall followed by drought destroyed the Kharif or spring crops, but the rabi harvest was a fairly good one, and moderate prices prevailed. There was a considerable increase of crime in the district, for which no reason is assigned; 1,583 offences were reported, against 1,337 in the previous year. The number of persons brought up for trial was 2,059, of whom 1,098 were acquitted or discharged. There is a large accumulation of arrears. This unsatisfactory state of affairs is said to be due to the non-appearance of complainants and witnesses, the excessive duties of the thanadars, and the inefficiency of the police. Measures have been taken to mitigate these evils. It is satisfactory to observe the progress of education, in which the Nawab of Radhanpur takes great interest. The British gaol superintendency system has

BOMBAY STATES.

been introduced with marked success. The Varahi state is under attachment, owing to the death of the chief and the minority of his successor; its finances are much encumbered.

Mahi Kanta.

Of the 63 states in the Mahi Kanta Agency, Idar, which contains half the total population, is the only state of importance. After a period of attachment lasting for 13 years this state was handed over on 7 July 1882 to the chief, who had for the year under review been associated with the Assistant Political Agent. A very encouraging estimate is formed of his character and abilities. The results of the long administration of the state do not appear to be altogether satisfactory. Whereas in 1868 the State was practically clear, it is now encumbered with a debt of nearly a lac of rupees, for which there are no substantial results to shew, and the ryots are represented as being in debt and behindhand with the payment of their dues. As, however, the results of the administration of the year under review shew progress, it would appear probable that the failure of the management occurred during the earlier years of the period of attachment. The Maharajah has been advised to repeal the transit dues, which exercise an injurious influence on the internal trade of the country. The administration of the states still under attachment has been generally satisfactory, and a system of budgets has been introduced. Varsoda has been added to this list under attachment. Of the states under the direct control of their own chiefs, little that is favorable can be said. Ghorasar and Katosan are, however, exceptions. The season was good throughout the agency, and the harvest abundant. The new opium arrangements are working well, and fair progress has been made in regard to education. A brief description of the outbreak of the Bhils who, with the Kolis, form the chief part of the population, will be found under the head of Rajputana. Owing to these disturbances, no progress was made in the settlement of boundary disputes. The number of crimes of violence increased; 36 murders were committed, and there were 17 dacoities and robberies. The police were quite unequal to the emergency. The arrears in criminal and civil cases shew considerable reduction.

Kathiawar.

The condition of the province of Kathiawar is eminently satisfactory, and the 186 states of which it is composed share, with few exceptions, in the general prosperity. The increase in the returns from trade is remarkable, and exceeds the figure attained in 1880-1 by more than 66 lakhs of rupees (in 1880-1 the exports were 2,212,380 L., and the imports 2,062,482 L., while in 1881-2 the corresponding figures are 2,788,682 L., and 2,150,206 L.). The exports of cotton rose from 147 to 177 lakhs of rupees. Steady progress was made in education; the Rajkumar College maintained its reputation, and a Girassia school has been opened at an expense of 2,500 L. The latter undertaking is an important one, and its success will influence a most influential section of the community. Inclusive of railways, 493,938 L. were spent on public works of utility, a fact which indicates the existence of a high degree of co-operation and public spirit amongst the chiefs. In the larger states of Rajputana in 1880-1 only 77,380 L. were spent on public works. Bhaunagar alone contributed 261,098 L. The success of the Bhaunagar-Gondal Railway has been marked, and the net profit on the year's working amounted to 31,475 L., or nearly 4 per cent. on the capital outlay. The Junagad state proposed to spend 31 lakhs of rupees on a line to connect the Veraval Port with the Bhaunagar-Gondal line. The total number of criminal cases has fallen from 11,975 in 1880-1 to 10,563. The Rajasthanik Court has so far met with the approval of the chiefs that they solicited the prolongation of its existence till the close of 1881. The President remarks an improvement in the relations between the Durbars and their vassals. The opium arrangements, by which a drawback of one-third of the pass duty is allowed to states who draw their supplies from Government stores, have been completed. The three most flourishing states in the agency are Bhaunagar, Junagad, and Morvi, and striking evidences of advance are to be found in the administration of Bantva, Lathi, Jhinjhuvada, Gondal, and Chuda. The latter state has been just handed over to its chief. In 1877 its debts reached 12,975 L., while its revenue amounts to 8,000 L. per annum. These are now paid off, and several works of utility have been constructed. The condition of Navanagar is improving, and the state will, it is estimated, be freed from its liabilities by the end of 1886.

Akalkot.

The young Rajah receives a good report. The state is under British management.

Kolhapur.

Kolhapur and its feudatories comprise an area of 3,184 square miles, with a population

population of 800,189. This is a slight decrease from the numbers in 1872, but the state is rapidly recovering from the effects of the famine of 1876-7 and the subsequent epidemics. In 1881-2 the health of the people was good, despite an outbreak of cholera. The rainfall was scanty, and the harvests below the average, but prices ruled low, and food-stuffs were plentiful. The principal crops were rice, jowari, grain, wheat, sugar-cane, and tobacco. A remarkable increase was shewn in the area under wheat, and in the amount of waste land brought under cultivation. Forest conservancy is now beginning to receive the attention its importance demands. The financial condition of the state is very satisfactory. The estimated revenue for 1881-2 was 174,043 *l.*, and the expenditure 211,664 *l.*, including 101,500 *l.* on public works; the deficit is to be met from the balances. The actual figures for 1880-1 were, revenue 159,440 *l.*, expenditure 140,204 *l.* The communications throughout the state are excellent, the police have been reorganised, and though there is an increase of offences, there is little serious crime. There was an accumulation of suits undisposed of in the civil courts, but it is hoped the arrears will be soon worked off. The educational and the minor departments are working satisfactorily. Owing to the confirmed insanity of the chief, the administration was entrusted to the chief of Kagal as Regent, assisted by a council consisting of three members, the Dewan, the chief judge, and the chief revenue officer. Of the principal feudatories, Kagal, Bavda, Vishhalgad, and Inchalkaranji, the latter state is the most satisfactory. Bavda was restored to its chief during the year. The minor states, Kapsi and Torgal, are in an unsatisfactory condition, and the chief of the former has been remonstrated with on account of his conduct.

BOMBAY STATES.

Of the nine jaghires constituting this agency, five, viz., Mudhol, Mhysal, Miraj (senior), Miraj (junior), and Ramdurg, are under Government, and the remaining four, Sangli, Kurundvad (senior), Kurundvad (junior), and Jamkhandi, under native management. The Mudhol chief has, however, since the commencement of the current year attained his majority, and the administration has been handed over to the chief, who is described as being gratified to undertake the responsibility. The effect of the 20 years attachment of Mudhol has been to raise it to a very high degree of prosperity. The revenue has increased from 12,545 *l.* to 18,496 *l.*, and the cash balance from 33,002 *l.* to 83,460 *l.*, while the state has done more in the way of public works than any other of the jaghires. The states in the hands of native chiefs have been well and carefully managed, with the exception of Kurundvad (senior). This state is in debt to the amount of 7,630 *l.*, the total revenue being 11,000 *l.*, and the total expenditure only 1,600 *l.* It is presumed that the balance is dissipated by the chief, who is very unpopular with his long-suffering subjects. These figures are not, however, very trustworthy. The Sangli chief cordially co-operated with the joint administrator of his state, but again exceeded the limit assigned for his personal expenditure. Kurundvad (junior) only had a balance of 8*l.* 12*s.* at the close of year. The amount spent on public works throughout the jaghires (Mudhol excepted) is insufficient, and the police do not exercise sufficient caution in making arrests. There is a startling decrease in the population of Sangli of 31,993, and in the other states altogether of 86,681.

Southern  
Maharatta States.

The Rewa Kanta Agency consists of 56 states, inhabited for the most part by Bhils, Mewasses, and other turbulent tribes; of these states the more important are Rajpipla (the only state whose chief possesses first class jurisdiction, i.e., the power to try for capital offences any persons except British subjects), Chhota Udepur, Bariya, Lunavada, Sunth, and Vadasinore. The attention of the Political Agent was called to the mal-administration and oppression exercised by the Rajpipla chief. The Bombay Government intervened, and required from him the immediate execution of certain reforms. The financial condition of Chhota Udepur is not satisfactory, but the chief, whose misrule was the cause of this state of affairs, is dead, and the young chief who has succeeded has been associated with a native gentleman in the administration, a measure which has already borne good fruit. The Raja of Lunavada has succeeded by economical policy in placing the finances of his state on a satisfactory footing. The Raja of Bariya sustained a great loss in the death of his heir; he has reduced the transit duties, and liberated his state from debt. The season was good, though rain destroyed the maize and bajri crops in July. The people are recovering from the effects of famine, and there has been an astonishing fall in the price of food grains. The

Rewa Kanta.



- BOMBAY STATES.** Court has disposed of 101 out of 106 disputes pending between Meywar and Rewa Kanta. The judicial returns are by no means uniformly good; 1,441 offences were committed, against 1,139 in the previous year, and culpable homicide has increased 78 per cent.; 5,176 *l.* of property was stolen during the year, of which only 1,188 *l.* were recovered; the corresponding figures in the previous year were 26,641 *l.*, and 905 *l.* 2,730 vaccination operations were performed in excess of the previous year. The educational statistics are satisfactory.
- Jawhar.** The financial condition of the state has considerably improved. The revenue was 19,248 *l.* and the expenditure 15,120 *l.*, against 9,571 *l.* and 13,534 *l.* in the previous year. The excess expenditure is accounted for by disbursements on account of abkari compensation. The startling difference in the revenue figures is accounted for by the rise of abkari receipts from 381 *l.* to 4,800 *l.*, and in the income derived from forests from 3,906 *l.* to 8,290 *l.* These latter figures give rise to a grave suspicion that the drain on forests is too severe. A duly-qualified officer has been appointed to report on the matter. The survey operations have not progressed satisfactorily. Three new schools were established during the year under review.
- Janjira.** The young Nawab has married the sister of the chief of Savanur, and will be associated with the Assistant Political Agent in the administration of his year during the current year; he is well reported of. An application has been made to the Indian Government for a loan of 5,800 *l.* to meet the cost of the introduction of the revenue survey. The land revenue being paid in kind is subject to fluctuation, and the low prices of grain are responsible for its decline from 33,311 *l.* to 28,039 *l.* The good season led to a diminution of crime. The value of property stolen was 936 *l.*, more than double that of the previous year, but the per-centage of recoveries rose from 28.5 to 86. 375 deaths resulted from an outbreak of epidemic of cholera, and 1,388 patients were treated at the dispensaries, as compared with 1,281 in the previous year. The progress of education, especially in the Mahomedan community, is highly satisfactory; besides the state schools, 46 private schools, with 356 pupils, are in existence.
- Savantvadi.** A severe loss has been sustained in the death of the Karbhari Rao Bahadur Wanranrao Chitnis. No improvement is observed in the financial condition of the state; the expenditure exceeded the collections by 7,000 *l.* The survey will be completed during the current year. The per-centage of convictions to trials decreased from 60 to 49. The abkari receipts rose from 1,937 *l.* to 2,557 *l.*; liquor smuggling is, however, prevalent, and difficult to detect, but with the graduated tax now introduced this smuggling need not occur. Three new vernacular schools have been opened, and an attempt has been made to popularise education by a reduction of fees payable by sons of actual cultivators.
- Dang States.** There is little to be said about these states, which still remain in a primitive and uncivilised condition; the crime of witch-murder is so common as to have received notice in a special circular addressed to the chiefs. The Chipat Raja of Garvi has been sentenced to seven years' rigorous imprisonment, and the Luxmon Raja to six months' imprisonment.
- Satara Jaghires.** The expenditure on public works in Bhor is very small, 867 *l.* out of a revenue of 53,127 *l.*, and 70 per cent. of the persons arrested by the police were acquitted or discharged. Jath, which has been under British management since 1874 is declared perfectly solvent. The chief of Phaltan has applied to be relieved of the administration of his state in order that his debts may be discharged. The only expenditure on public works in Aundh, which has a revenue of 37,614 *l.*, is derived from a special local cess. Three additional schools have been opened in this state.
- Cambay.** The condition of Cambay appears to be progressive, but the relations of the Nawab with his relatives are not harmonious.
- Narukot.** The petty state of Narukot, under British management, exhibits gradual improvement. The forest revenue has doubled, and the objectionable transit dues have diminished. The ratio of crime to population has steadily decreased since 1878, and now stands at 4.03 per mille.
- Surat.** This agency consists of the three states Bansda, Sachin, and Dharampor, of which the two former are under British management. The serious feature of the annual report on Bansda is the relinquishment of land, (11,750 acres) by cultivators, which is ascribed to the simultaneous introduction of the surveys rates and the abkari arrangements. The number of vaccinations has

has steadily diminished from 1,457 in 1879-80, to 1,175 in the following, and 997 in the present year. The financial condition of Sachin is satisfactory, but there is a deficit of 4,500 *l.* on the year's administration, chiefly caused by an allotment of 9,923 *l.* for necessary public works. BOMBAY STATES.

The finances of this state are deplorably insolvent. The revenue amounted to 13,101 *l.*, against 10,532 *l.* in the previous year. The expenditure amounted to 75,794 *l.*; the advances recoverable, amounted to 3,460 *l.*, of which it is remarkable that only 816 *l.* are actually capable of being realized. There is an actual balance of 300 *l.* The double marriage of the Nawab to his cousin, and of the Nawab's sister to the chief of Janjira, is mainly responsible for this state of affairs. The police are highly inefficient. Savanur.

An outbreak occurred in the gaol at Ahmedabad in Sind, and an attempt was made to assassinate the Mir. The figures given are altogether untrustworthy, and no reform in the administration can be expected during the lifetime of the Mir. Mir Ali Murad has, however, agreed to abolish the manufacture of salt in his territory, and receive his supply from us; also to abolish the import and export of opium, to manufacture enough for his own territory only, and to assimilate his duty price to that of the Indian Government. Khuirpur, Sind.

## XIV.

## FRONTIER RELATIONS.

**PUNJAB BORDER.** THERE was an absence of disturbance on the North-West Frontier, and beyond the assaults made by a gang of Afridis on the Peshawar and Kohat cantonments and a few cattle raids, the year has been devoid of incident. In the Khyber Pass the Afridi Maliks modified the independent and sometimes haughty attitude assumed by them, and freely communicated with British officers, but in the Upper Khyber the influence of the Khan of Lalpura did not appear sufficiently powerful to ensure continued tranquillity or permanent security to traders. Owing to the death of the Bangash Nawab the arrangements for the security of the Kohat Pass were transferred to the Deputy Commissioner shortly after the close of the year. The border tribes on the whole behaved well, but despite the punitive expedition made into their country in 1880 the Kabul Khel Wazirs raided the Khattak district several times. The summary settlement of Teri was under contemplation. The efficiency of the border police manifested itself during the year, but the frontier villages have become self-reliant, and along the Yusufzai Frontier it has become possible to dispense with the system of border police. The Mahsud Waziri expedition of 1881 has been alluded to in the previous number of this Report. The tribes in the Dera Ghazi Khan Frontier have maintained the friendly attitude which is now habitual with them, and General Wilkinon's expedition through the Bozdar country was accomplished without difficulty and with the aid of the chief. This expedition was undertaken with the object of settling inter-tribal disputes, which frequently result in retaliation and bloodshed.

**Bengal Frontier.** The relations between the Government and the frontier tribes remained undisturbed during the year, despite the conduct of the Shindoos and the Howlungs. In January 1882 a combination of tribes attacked and raided a village belonging to Lal Seva, the son of a British ally, but the village was not on British territory, and there was no cause to interfere. Again, during and after February, the accounts of the frontier gave cause of alarm, but no occasion arose for the employment of a military force.

**Assam Frontier.** The frontier history of Assam was of a more eventful character. In the spring of 1881 it was reported that some of the Abor frontier villagers intended crossing the Dibong river, and settling close to a Mishini village on our territory; such a proceeding would, it was thought, eventuate in a collision between the Abors and the Mishimis, and the advanced posts of Bomjur and Nizamghat were occupied, by which means the Abor immigration was prevented. Our troops were involved in no open hostilities, and every effort is being made to cultivate more friendly relations with the Abors. The boundary between Manipur and Burmah was settled by a Commission under the Political Agent of Manipur, though the Court at Manda'ay refused to co-operate. A plague of rats, attracted by the food provided by the seeding of bamboos, caused a famine among the Lushais, who flocked into Cachar in large numbers, to the great dismay of the Coolies and tea planters, but as the immigrants did not come with hostile intentions they were provided with the means of living, and after the time of the greatest distress was tided over, they returned to their country. Permission was not accorded to them to settle on British territory, but the Maharajah of Manipur gave them a cordial invitation to make their home in his dominions, and it is thought that this policy may result in frontier disturbances. A fanatical rising in North Cachar was led by Sambhudan, who set up to be a "deo," or god, with the power of making "deos" of his adherents. Having taken up his abode at Maibong, the ancient capital of the Cacharis, and established himself at free quarters on his neighbours, he collided with some of the natives while forcibly appropriating their goods, and penetrated to Gaujong, the capital of North Cachar. His followers were easily dispersed by the police in January 1883, though not without the loss of Major Boyd, who ultimately died from a wound received on the occasion. Sambhudan, however, escaped till

the 1st January 1883, when he was killed in conflict with the police. The Naga Hills were free from political disturbance, and only one of the familiar and murderous Naga raids was made during the year. On this occasion the ringleader was secured, the first instance in Naga history of the capture of the actual offender without the barbarous and indiscriminate process of burning the whole village, which practice the Chief Commissioner considers is only justified under special circumstances, and as a last resource. The building of Kohima is being rapidly carried on, and Nagas have volunteered for road-making, but the carrying of loads is said to be their special aversion. The general feeling was one of acquiescence in British rule, and of satisfaction in peace and security.

The Viceroy was constrained to remonstrate strongly with the Mandalay Government in January 1882 on the extension of the royal monopolies, and by the end of February they were abolished. Negotiations for a treaty with Mandalay were carried on at Simla by a Burmese envoy, who, though he commenced with somewhat lofty pretensions, ultimately granted the concessions desired by the Indian Government, and left Simla in August with a draft treaty embodying those concessions in his pocket. The period for signing the treaty however lapsed without any further communication from the Ava Government.

The continuance of violent crimes on the Siamese border is hardly satisfactory, but the relations of Government with the various frontier tribes continue to be friendly.

## XV.

## MILITARY\*.

THE total established strength of the army in India during 1881-2 consisted of 191,937 officers, non-commissioned officers, and men. Of these 64,420 were British, and 127,537 native troops. The military expenditure (including 13,003 *l.* on account of military operations in Afghanistan) was 18,861,142 *l.*

HEALTH OF  
BRITISH TROOPS.

"The health of the European Army in India during 1881 was more favorable than in either of the three preceding years. The average strength of the army during the year was 58,728; the admissions into hospital were in the ratio of 1,604 per 1,000, the daily sick 69 per 1,000, and the death-rate 16.86 per 1,000. The proportions in which the respective armies contributed to these results are shown in the following table:—

PRESIDENCY.	Average Strength.	Ratio per 1,000.		
		Admissions into Hospital.	Daily Sick.	Deaths.
Bengal† - - - - -	35,901	1,729	72	17.05
Madras - - - - -	10,391	1,160	60	10.97
Bombay† - - - - -	9,895	1,784	72	13.44
South Afghanistan - - - - -	2,541	968	72	51.55
Army of India - - - - -	58,728	1,604	60	16.86

† Excluding troops in Afghanistan.

Compared with the average of the 10 years 1870-79 the admissions and mean daily sick in 1881 were higher, but the deaths were  $2\frac{1}{2}$  per 1,000 lower. Under all headings there was a decrease as compared with 1880, especially in the death-rate, which fell from 24.85 per 1,000 of average strength to 16.86.

Malarial fever as usual was the chief cause of sickness among the British troops, and enteric fever and cholera were the principal causes of mortality, the death-rates being 2.64 and 2.33 per 1,000 respectively.

Concerning the troops stationed in Bengal, which comprised nearly two-thirds of the entire army of India, the admission-rate, excluding troops serving in Afghanistan, fell from 1,813 per 1,000 in 1880 to 1,729, the daily sick from 75 to 72, and the mortality from 27.73 to 17.05. The death-rate also compares favorably with the two preceding decennial periods, for in the decennium 1860-69 the average death-rate was 29.98 per 1,000, or nearly 13 per 1,000 higher than in 1881, and in the decennium 1870-79 the death-rate was 21 or just 4 per 1,000 in excess of 1881. Dr. Cunningham remarks: "These data show that a very considerable reduction has been effected in the mortality of European soldiers in the Bengal Presidency during the last 22 years." This decrease in mortality manifested itself throughout Bengal, and was most marked in the Gangetic Provinces and Oudh group of stations, where the mortality

\* Extracted, with omissions, from the Parliamentary Return of Sanitary Measures in 1881-2.

mortality decreased from 29·32 per 1,000 in 1880 to 15·94. Of the six groups of stations into which Bengal is divided the Punjab group had the highest death-rate, namely, 23·44; this was also the case in the previous year when it stood as high as 36·41.

Out of the 50 stations included in the six groups of stations, Delhi and Amritsar furnished the highest rates of sickness, the admissions in each station being over 3,000 per 1,000, Peshawar following with 2,966: in each of these three stations over 2,000 of the admission-rate was due to fever. As regards mortality, four stations, all of the Punjab, had death-rates of over 40 per 1,000, Jullundur 40·60, Amritsar and Govindgarh 46·61, Meean Meer 84·08, and the adjoining fortress of Lahore 137·93 per 1,000. This deplorable mortality was mainly due to cholera, as no less than 53·37 and 112·07 of the total death-rates of the two last stations were due to this disease. Of the total 80 deaths from cholera which occurred in the Punjab, all but one were recorded in the above four stations. Among the stations with low death-rates were Saugor 2·69, Jhansi 2·80, Fort William 4·32, and Chakrata 4·74. Fort William continues among the healthiest stations of Bengal, as is shown by the fact that its mortality for the year was less than one-half of what it was in 1878, viz., 9·36.

In all respects the European army of Madras was healthier than either that of Bengal or Bombay, although there was a slight increase in mortality compared with the previous year. The admission-rate declined from 1,368 in 1880 to 1,160 per 1,000 of average strength, the daily sick from 64 to 60, and the death-rate rose from 10·18 to 10·97 per 1,000. In both years, however, the mortality was six per 1,000 less than the average of the preceding 10 years. The most unhealthy station in the Madras command was Kamptee, which recorded a death-rate of 26·58 per 1,000, more than half being due to cholera. In the previous year the mortality at this station equalled 20·73 per 1,000, but there were no cases of cholera. The stations of Cannanore and Bangalore, and Tounghoo in British Burma, furnished the most favorable mortality returns. At the two former stations the death-rate was a little over 5 per 1,000, and in the latter 4·44.

There was a great improvement in the health of the European troops in the cantonments of the Bombay Presidency, the admission-rate having decreased from 2,150 in 1880 to 1,784 per 1,000 in 1881, the daily sick from 78 to 72, and the mortality from 30·90 to 13·44. The average death-rate of the decennium 1878-9 was 15·27. The statistics of individual stations shows that Aden was the most healthy. There the admissions were 805, the daily sick 32, and the death-rate only 3·96 per 1,000 against 20·35 in 1880. The stations which returned the highest death-rates were Nusseerabad, Baroda, Ahmedabad, Karachi and Ghizree, and Ahmednagar, these ranging from 18·84 to 27·21 per 1,000.

The force on service in Afghanistan was composed of troops partly from Bengal and partly from Bombay, and, as shown in the statement at the beginning of this section, that portion of the European army in India furnished the most unfavorable returns. The admission-rate (968 per 1,000) was low, but the daily sick-rate (72) was high, as was also the death-rate (51·55 per 1,000).

Cholera was the cause of 137 deaths, equal to 2·33 per 1,000 of strength against 2·81 in 1880. The disease was chiefly confined to the Bengal Army, and resulted in a mortality of 116 or 3·22 per 1,000. It prevailed as an epidemic at Meean Meer from June to August, during which time exactly one-half of the 116 deaths which occurred in Bengal took place. About the same period there were 13 deaths at Fort Lahore; and later in the season there were 17 deaths at Lucknow. In the Madras Army there were 18 cholera deaths or 1·73 per 1,000 of strength, and in Bombay only three deaths. The troops in Afghanistan were entirely exempt from the disease. "The practical result of the history of cholera at stations of European troops is," the Army Sanitary Commission remark, "that in the course of improvements at these stations a great reduction in the death-rate from cholera has taken place, but that the disease shows a tendency to periodical outbreaks at certain well-known stations. It is at these that special sanitary precautions should be taken, and if there are no known means of reducing the recurring mortality, the probability will be that the causes are topographical, and that there are such causes is well known in

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the history of cholera. The remedy in such cases is also well known, and this is simply leaving the locality."

Fevers as usual caused the greatest amount of sickness in the three armies, the admissions per 1,000 of strength, excluding troops in Afghanistan, being 770 in Bengal, 280 in Madras, and 845 in Bombay. The most prevalent form was the intermittent, but enteric fever the most fatal. The admissions in the entire army on account of this fever numbered 328 against 470 in 1880, and the deaths 155 or 2·64 per 1,000 against 217 or 3·63. In Bengal the death-rate due to enteric fever was 2·62 against 3·69 in the previous year. Although the disease had been very widely distributed in Bengal, its prevalence was most marked at the stations of Lucknow, Rawalpindi, Bareilly, Meer Meer, Dum-Dum, and the hill station of Ranikhet, among which there were 109 admissions and 33 deaths, being a little over one-third of the total (94) deaths. In Madras the enteric fever death-rate was 0·58 per 1,000 against 1·36 in 1880, and in Bombay the mortality was less by over one-half, the ratio having fallen from 5·76 in 1880 to 2·83. Among the troops employed in Southern Afghanistan, the death-rate on account of enteric fever was 10·62 per 1,000.

The influence of age on mortality by enteric fever is again shown by the fact that 108 of the 155 deaths occurred among men under 25 years of age, being in the proportion of 4·56 per 1,000 of the strength at that age, while 1·57 were from 25 to 29, and 0·79 from 30 to 34 years of age. According to length of residence in India the mortality from this fever was distributed as follows: 2 years and under, 4·55 per 1,000, 3 to 6 years, 2·07, 7 to 10 years, 0·56, 10 years and upwards 0·40.

"There can be no doubt," the Army Sanitary Commission state, "that, whatever may be the influence of local and climatic causes in predisposing to enteric fever, the subject, the young soldier, is the main death cause, and that to obtain the highest enteric fever death-rate, it is only necessary to send him to India and bring him back under the short-service system. . . . The amount of fever and of fever liability will no doubt vary in some years, but with the present terms of army service this fatal fever will form an important item in the Indian Army death-rate. This is the result of long past as well as of present experience, and all that can be done of a practical character is to try to diminish liability in young soldiers first landing in India, by having drill completed before landing in India, by exercising great care over the habits of these young men until they are accustomed to the climate, by placing as many of them as possible at hill stations, and by rigid attention to every local sanitary precaution. The need for this last recommendation appears to be shown by the fact that there are stations scattered all over India in all varieties of Indian climates and temperatures at which the amount of enteric fever is much greater than at others."

Veneral diseases.

Next to fevers, venereal diseases caused the greatest amount of sickness. The experience of the year respecting these complaints, Dr. Cunningham observes, again proves the failure of the lock hospital system: "Taking the statistics of the last 12 years, during which the returns of the army of the three Presidencies have been tabulated on the same plan, and during which period also the lock hospital system has been very generally adopted, it is found that the admissions into hospital from venereal diseases are as great as ever." For the entire army the admission-rate for 1881 was 260 per 1,000, just 10 per 1,000 higher than that of the previous year, and 57 per 1,000 in excess of the mean of the 10 years 1870-9. Excluding troops in Afghanistan, the admissions in Bengal were 276 per 1,000, the same as in 1880, and 67 per 1,000 higher than the average of the preceding decennium; in Madras the admissions declined from 275 per 1,000 in 1880 to 258; and in Bombay from 269 to 261.

There was a considerable increase of primary syphilis in Bengal, but a decrease in Madras and Bombay; the fact, however, that there has been no diminution in the proportion of secondary syphilis supports the opinion that lock hospitals have been of little help in rendering the type of the disease less virulent. These unfavourable results, Dr. Cunningham states, "may in some measure be accounted for by the increased youth of the army, and by the smaller proportion of married men; but making every allowance for these factors, the failure of the lock hospital system is still most decided."

Invaliding.

The invaliding statistics show that 2,241 men, equal to 38·36 per 1,000 of strength,



strength, were invalided during the year, of whom 778 were recommended for discharge from the service, and 1,463 for change. No satisfactory comparison can be made with the results of 1880, owing to the non-receipt of the returns of several corps in that year. Compared, however, with the average of the 10 years 1870-9 (43·04), the ratio for 1881 stood about  $4\frac{1}{2}$  per 1,000 lower. The invaliding rate was highest in Bombay, 53·35, Bengal following with 36·92, while Madras returned 27·91. The chief causes of invaliding were debility, hepatitis, dysentery, diarrhoea, and phthisis. According to age 33·74 per cent. of the total number invalided were under 25 years of age, and 34·58 per cent. from 25 to 29 years of age. As regards residence, 14 per cent. of the total invalided had been less than two years in India, and 30·20 per cent. had served there from two to five years.

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Dr Cuninghame in his report gives a table shewing the unfavorable influence of the climate of India on newly-arrived regiments as compared with the health of the army generally, and from this it appears that the admission-rate of new regiments was over 200 per 1,000 higher than that of the army as a whole, the daily sick 5 per 1,000, and the death-rate over  $6\frac{1}{2}$  per 1,000 higher. From enteric fever the death-rate was 8 per 1,000 higher.

In the health of the Native troops there was a very material improvement in 1881, the mortality having been little more than one-half of what it was in the previous year, and there having been also a marked diminution of sickness. Of an average present strength of 114,612, the admissions into hospital were 1,305 per 1,000, against 1,545 in 1880; the daily sick 46, or 10 per 1,000 less; and the death-rate 19·24 against 39·22; including men absent from their corps, the mortality equalled 32·22 against 41·12 per 1,000. The ratios for 1881 were also considerably lower than the means of the quinquennium ending with that year. Of the chief causes of sickness and mortality, nearly one-half of the admissions was due to paroxysmal fevers, and one-third of the deaths was occasioned by respiratory diseases. Cholera deaths numbered 111, or 1·94 per 1,000, against 67, or 0·97 in 1880.

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The sickness and mortality of the various portions of the Native army are shown in the following table:—

	Average Strength.	Ratio per 1,000.		
		Admissions.	Daily Sick.	Deaths.
Bengal Native Army - - - -	38,721	1,494	52	23·84
Ditto - - excluding Afghanistan -	36,896	1,495	51	19·76
Madras Native Army - - - -	28,533	997	41	12·02
Bombay Native Army - - - -	24,945	1,471	50	25·68
Ditto - - excluding Afghanistan -	18,349	1,666	41	14·01
Central India Regiments - - -	5,039	815	20	12·11
Punjab Frontier Field Force - -	10,307	1,718	53	17·95
Hyderabad Contingent - - - -	7,063	673	24	7·78
Native Army of India - - - -	114,612	1,305	46	19·24

It will be seen from the above that about one-third of the men composing the Native army of India belonged to the Bengal command, and that of these nearly 2,000 were on service in Southern Afghanistan. The statistics of the Bengal troops in cantonments for 1881 compare very favorably with those of 1880, the admissions per 1,000 of average strength having fallen from 1,609 to 1,495, the daily sick from 65 to 51, and the mortality from 33·85 to 19·76. Under nearly every heading of disease there was a diminution in mortality, the decrease being most marked under respiratory diseases, the death-rate having decreased from 7·21 in 1880 to 6·59 per 1,000 in 1881; fevers also declined

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from 9·19 to 3·12, bowel complaints from 6·13 to 2·74, and cholera from 1·52 per 1,000 to 0·92.

The following table shows the sickness and mortality of the five groups of cantonments in which the regular Native troops in Bengal were stationed in 1881:—

	Ratio per 1,000.		
	Admissions.	Daily Sick.	Deaths.
Bengal Proper and Assam - - - -	1,772	63	22·53
Gangetic Provinces - - - - -	1,260	46	15·78
Rohilkund and Meerut - - - - -	1,378	60	15·67
Agra and Central India - - - - -	1,380	41	9·35
Punjab - - - - -	1,521	48	22·86

In every group there was a great decrease in mortality, and was most marked in the Agra and Central India group, in which the death-rate fell from 28·52 per 1,000 in 1880 to 9·35. The Punjab group also shows a satisfactory improvement in this respect, the death-rate being 15·16 per 1,000 less than that of the previous year, and in the Bengal and Assam group the mortality although high was but little more than half the ratio of 1880. Fevers, as usual, were the chief causes of sickness in all the groups, and were more prevalent in Bengal and Assam than in any other group. In this group also the admissions from bowel complaints were more numerous than in any other, while respiratory diseases and all the other forms of sickness in which malaria plays a prominent part were very prevalent. As a proof of the malarial character of the diseases in the Bengal and Assam group it may be stated that one-half of the total death-rate (22·53) was due to fevers, bowel complaints, and respiratory diseases. The same may be said of the Punjab group, where three-fourths of the total mortality (22·86) were recorded under these headings.

The statistics of individual stations show that sickness was most prevalent at Dharmasala where the admission rate reached 2,752, of which no less than 2,142 were ascribed to fevers. Delhi comes next with 2,732, over 2,000 of which were due to fevers. Four other stations, Meean Meer, Alipore, Barrackpore, and Dinapore, recorded admission-rates of over 2,000. The greatest mortality was registered at the station of Nowshera, 53·18, Fyzabad following with 50·82. In the previous year the death-rate at the latter station was 96·67 or nearly twice as high. The greatest number of deaths occurred at Peshawar and its outposts, where out of a total of 90, as many as 55 were due to respiratory diseases.

Among the Bengal Native troops in Southern Afghanistan the admission-rate, 1,475 per 1,000 of average strength, was by no means great, but the death-rate, 106·30 per 1,000, was more than five times the average of the Bengal troops in cantonments. The total deaths numbered 194, of which 55 were due to respiratory diseases, and 57 to bowel complaints, while paroxysmal fevers gave rise to 24 deaths, and anemia and debility 11, so that under these four headings 147 of the total deaths were due, more or less directly, to malarious influences. Neither cholera nor enteric fever attacked this force.

In the Punjab Frontier Force there was a diminution of sickness and also of mortality. Excluding troops in Afghanistan the admissions decreased from 1,874 per 1,000 in 1880 to 1,718, and the mortality from 24·03 to 17·95. Out of 185 deaths, 88, or nearly one-half, were attributed to respiratory diseases, and 24 to fevers, 5 of which were recorded as enteric. There was no case of cholera in this force.

The rates of sickness and mortality in the Central India regiments and the  
Hyderabad

Hyderabad Contingent also shows a satisfactory decrease. The admission-rate of the former was 815 per 1,000 against 1,131 in 1880, and the death-rate 12·11, less than half what it was in the two previous years. Nearly one-half of the total 61 deaths in this force was due to respiratory diseases, and 12 to fevers, while cholera was absent. But of all Native corps the Hyderabad Contingent was the most healthy, the mortality being only 7·78 per 1,000, which is almost identical with the two previous years, and the admission-rate was as low as 673 per 1,000 against 1,030 in 1880. In this Contingent there were 12 cases of cholera, four of which proved fatal.

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In the health of the Native troops of Madras, there was a considerable improvement. The admission-rate (997) was 400 per 1,000 lower than in 1880; the daily sick (41) 13, while the death-rate decreased from 15·57 to 12·02 per 1,000, or, including absent deaths, from 19·54 to 16·75. From nearly every cause of disease there was a decrease in mortality excepting cholera, and from this disease the deaths rose from 3 in 1880 to 39. Of this number, 18 occurred at the station of Kamptee, and 14 at Trichinopoly. Of the total 343 deaths, 51 were attributed to fevers, 42 to bowel complaints, 33 to atrophy and anemia, and 45 to respiratory diseases. Dropsy was the cause of 29 deaths, but of these 20 were due to beri-beri, a disease which prevailed more or less generally throughout the year. Among the larger stations of the Madras Presidency, five returned death-rates exceeding 20 per 1,000, the highest 32·66 per 1,000 having been recorded at Rangoon, Vizianagram coming next with 23·65, Kamptee with 21·82, Trichinopoly and Vizagapatam following with 21·65 and 20·93 respectively.

Madras Native  
Army.

Over one-fourth of the Bombay Native Army was on service in Southern Afghanistan during the year; but for the unhealthiness of this portion, the returns would have shown much more favourable results. As regards the troops serving in cantonments, the admissions fell from 1,283 per 1,000 in 1880 to 1,186 in 1881, the daily sick from 45 to 41, but the death-rate, that is, of men present with their regiments, rose from 10·44 to 14·01; including absent deaths, the mortality of 1881 stands at 25·93 per 1,000 of total strength, less than half what it was in 1880, namely, 56·93. It must not be forgotten, however, that the mortality of 1880 includes the casualties which occurred at Maiwand and Deh Kohja in Afghanistan. Judged, however, according to mortality, the most unhealthy station was Surat, which recorded a death-rate of 40·76, nearly half of which was due to cholera. Only at two other stations did the mortality exceed 20 per 1,000, and these were Karachi with a death-rate of 24·56, and Ahmedabad with 20·54. The chief causes of mortality among the troops in cantonments were respiratory diseases, fevers, and bowel complaints, and under these three headings more than half the total 257 deaths were returned. From cholera there were 34 deaths.

Bombay Native  
Army.

Out of an average strength of 6,596 men composing the Bombay Native troops on service in Afghanistan during 1881, the daily sick was 76 per 1,000, the admissions 2,317, and the mortality 57·76, all of which it will be seen were greatly in excess of the returns of troops in cantonments. Respiratory diseases were very fatal in this force, causing no less than 218 of the total 381 deaths, and the ratio of admissions on account of these diseases was 301·2 per 1,000 as compared with 65·9 in cantonments. To dysentery and diarrhoea 49 deaths were attributed, and to fevers 34. Cholera was absent from this force."

The sum of 626,243 l. was spent on military works in the Bengal Presidency, of which sum a large portion was devoted to sanitary works for the benefit of the army, such as the extension of accommodation and general improvement of cantonments. At Allahabad the question of an improved water supply was taken in hand, and, at Lucknow, the drainage of cantonments. At Naini Tal progress was made with the drainage, water supply and protective works, and two-thirds of the undertaking, involving an outlay of 4,000 l., was executed. At Amballa satisfactory advance was made with the important water-supply project, 8,459 l. having been expended on it during the year, and the distribution works were continued. The British and Native Infantry bazar reservoirs in connexion with this work were completed, and the actual yield of water was about 210,000 gallons a day. Another important work in water-supply was also in execution at Peshawar. The filter-beds and service reservoirs were finished at a cost of 9,862 l.: the distribution was completed at the close of the year through about

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half the length of the station. At Cherat the water supply was begun and nearly carried out, and storage room was provided for 21,874 gallons, the daily average supply from the springs being about 13,000 gallons. At Quetta the drainage scheme was commenced, some of the channels being newly aligned, widened, and properly sloped.

## Madras.

In the Madras Presidency various improvements were effected in connexion with the barracks of European troops, and at the several stations the usual amount of conservancy and other minor sanitary work was carried out. Among the more important sanitary works in progress or undertaken during the year was a system of drainage at Secunderabad, which was being constructed to carry off the foul water from the Royal Artillery married quarters, an improvement greatly needed. From all stations favourable reports were received as to the quality and quantity of the water supply, while every care was taken to prevent pollution, and filters were in use. No pains were spared, it is stated, to amuse the men and to make time pass as pleasantly as possible, special recreation and reading-rooms having been provided, out-of-door games and gymnastics encouraged, and soldiers' gardens and other means of recreation fostered.

## Bombay.

The actual outlay on military sanitary works in the Bombay Presidency during 1881 was 42,210 *l.*, of which amount 24,310 *l.* were expended on the new water supply of Nasirabad. The drainage of the bazar at Nasirabad was also being further improved at the expense of the Cantonment Fund. At Poona the drainage of the Ghorpuri lines was improved, as was also the ventilation of the barracks by wire-gauze doors to break the inflowing currents on the men at night. At Hyderabad steps were being taken to modify the overflow from the Indus river in the vicinity of the cantonment, and a scheme for improving the drainage of the military buildings was approved. The insanitary condition of the station of Neemuch was still engaging the attention of the authorities, and medical officers were requested to submit reports as to the probable causes of sickness peculiar to the station. At several other stations improvements in surface drainage were carried out, extra accommodation was being provided, and attention given to minor sanitary matters. Healthful exercise was promoted as much as possible; the men are encouraged in various ways to occupy themselves with handicrafts and gardening; and at most of the stations recreation and reading-rooms are provided.

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India Office.

LIONEL TENNYSON.

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