

EAST INDIA (PROGRESS AND CONDITION).

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STATEMENT

EXHIBITING THE

MORAL AND MATERIAL PROGRESS AND CONDITION

OF

INDIA

DURING THE YEAR 1909-10.

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FORTY-SIXTH NUMBER.

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*(Presented pursuant to Act 21 & 22 Vict. c. 106, s. 53.)*

India Office,  
31 May 1911. }

RICHMOND RITCHIE,  
Under Secretary of State for India.

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P R E F A C E .

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THE Statement exhibiting the Moral and Material Progress and Condition of India is presented to Parliament in each year in accordance with the requirements of the 53rd section of the Act for the better Government of India (21 and 22 Vict., cap. 106), which provides as follows:—"The Secretary of State in Council shall, within the first fourteen days during which Parliament may be sitting next after the first day of May in every year, lay before both Houses of Parliament an account for the Financial Year preceding that last completed of the Annual Produce of the Revenues of India . . . and such account shall be accompanied by a Statement prepared from detailed reports from each Presidency and District in India, in such form as shall best exhibit the Moral and Material Progress and Condition of India in each such Presidency."

The Statement is prepared in the India Office from a large number of annual reports received from India. Many of these reports are compiled from information furnished by District and Political Officers, and are submitted to the Governments of the respective Provinces and to the Government of India for consideration and review before transmission to England; and some of them, which deal with the operations of important departments and require the careful consideration of the authorities in India, are not received at the India Office till about a year after the date of the period to which they refer. It is, therefore, seldom possible to present the Statement to Parliament earlier than the date mentioned in the Statute, *i.e.*, about thirteen and a half months after the close of the official year.

TABLE OF CONTENTS.

	PAGE		PAGE
<b>I. ADMINISTRATION AND LEGISLATION:</b>	1-4	<b>X. TRADE:</b>	61-65
Administration	1	Foreign Seaborne Trade	61
Legislation	1	Land Frontier Trade	64
		Coasting Trade	64
<b>II. JUSTICE AND POLICE:</b>	5-10	Shipping	64
Civil Justice	5	Freights	64
Crime and Police	6	Working of the Merchandise Marks Act	65
Criminal Justice	8	Joint Stock Companies	65
Jails	9		
<b>III. FINANCE:</b>	11-19	<b>XI. PUBLIC WORKS:</b>	66-77
Form of Accounts	11	General	66
Gross Revenue and Expenditure	11	Railways	67
Net " " "	12	Irrigation	71
Cash Balances	13	Buildings and Roads (Civil)	75
Provincial Finance	13		
Home Charges	14	<b>XII. POST OFFICE AND TELEGRAPHS:</b>	78-82
Capital Outlay on Public Works	15	Post Office	78
Debt	15	Telegraphs	80
Currency and Exchange	16	Indo-European Telegraph Department	81
Banks	18		
<b>IV. LAND REVENUE:</b>	20-27	<b>XIII. SCIENTIFIC DEPARTMENTS:</b>	83-90
Land Tenures	20	General	83
Land Legislation	21	Board of Scientific Advice	83
Revenue Surveys and Settlements and Land Records	22	Survey of India	83
Revenue Assessments and Incidence	23	Other Surveys	84
Collection of the Revenue	24	Meteorological Department	84
Wards' and other Estates	27	Agricultural Departments	85
		Civil Veterinary Department	88
<b>V. REVENUE FROM TAXATION AND OPIUM:</b>	28-39	Forest Research Institute	90
Salt	28	Archæological Department	90
Excise	31	Medical Research Institutes	90
Provincial Rates	35		
Stamps	35	<b>XIV. EDUCATION, LITERATURE AND THE PRESS:</b>	91-101
Customs	36	Press	91-101
Income Tax	37	Education	91
Registration	37	Literature and the Press	99
Opium	38		
<b>VI. AGRICULTURE:</b>	40-48	<b>XV. LOCAL SELF-GOVERNMENT:</b>	102-109
Season and Crop Reports	40	General	102
Agricultural Produce	42	Municipalities	102
Co-operative Credit Societies	46	District and Local Boards	106
		Port Trusts	108
<b>VII. FORESTS</b>	49-52		
<b>VIII. MINERAL PRODUCTION AND MINING:</b>	53-55	<b>XVI. CONDITION OF THE PEOPLE:</b>	110-120
Mineral Production	53	Vital Statistics	110
Mining Concessions	55	Plague	112
Inspection of Mines	55	Sanitation	113
Mining Education, &c.	55	Hospitals, Dispensaries, &c.	114
		Emigration and Migration	115
<b>IX. MANUFACTURES:</b>	56-60	Prices	117
Industrial Development	56	Wages	118
Large Industries	56	Famine or Scarcity	119
Factory Legislation	59	General Remarks	120
Inspection	59		
Patents and Designs	60	<b>XVII. ARMY AND MARINE:</b>	121-122
		Army	121
<b>X. TRADE:</b>		Military Works	122
Foreign Seaborne Trade		Marine	122
Land Frontier Trade			
Coasting Trade		<b>XVIII. FRONTIERS AND NATIVE STATES:</b>	123-133
Shipping		Frontier States	123
Freights		Native States	126
Working of the Merchandise Marks Act			
Joint Stock Companies		<b>APPENDIX—CENSUS OF 1911</b>	134-136
		<b>BIBLIOGRAPHY OF OFFICIAL REPORTS</b>	137-138

### INDIAN CURRENCY AND WEIGHTS AND MEASURES.

*Currency.*—The silver rupee (containing 165 grains of fine silver and 15 grains of alloy and weighing in all 180 grains troy or 1 tola) was the sole standard of value until the 26th June 1893, when the Indian mints were closed to the unrestricted coinage of silver into rupees and it was notified that gold coin and bullion would be received at the mints in exchange for Government rupees at the rate of 7·5334 grains of fine gold for one rupee, being equivalent to a rate of exchange of 15 rupees per £1. In 1899 British gold coins were made legal tender side by side with rupees at that rate.

The Indian denominations with their British equivalents are :—

Pie	=	$\frac{1}{4}$ penny.
Pice (3 pies)	=	1 farthing.
Anna (12 pies)	=	1 penny.
Rupce (16 annas)	=	1s. 4d.

A lakh (lac) is 100,000 rupees and a crore is 100 lakhs.

*Weights and Measures.*—The weights adopted in Government transactions and by the railway companies are as follows :—

1 tola	=	180 grains	=	11·66 grams.
1 chittak (5 tolas)	=	900 "	=	58·32 "
1 ser (16 chittaks)	=	$2\frac{1}{2}$ troy lb. (or $2\frac{2}{5}$ lb. avoird.)	=	933·10 "
1 maund (40 sers)	=	100 " " (or 82 $\frac{1}{2}$ " " )	=	37·32 kgms.

## CHAPTER I.

## ADMINISTRATION AND LEGISLATION.

## ADMINISTRATION.

The following were the holders of the most important appointments connected with the administration of India at the end of the year under review :—

*Secretary of State.*—The Right Hon. Viscount Morley of Blackburn, O.M.

*Permanent Under Secretary of State.*—Sir B. Ritchie, K.C.B.

*Parliamentary Under Secretary of State.*—The Hon. E. S. Montagu, M.P.

*Members of the Council of India.*—Sir J. L. Mackay, G.C.M.G., K.C.S.I., K.C.I.E.; Sir W. Lee-Warner, K.C.S.I.; Lieut.-Col. Sir D. W. K. Barr, K.C.S.I.; Sir H. S. Barnes, K.C.S.I., K.C.V.O.; Sir F. O. Schuster, Bart.; Sir T. Morison, K.C.I.E.; General Sir C. C. Egerton, G.C.B.; D.S.O.; Sir J. D. La Touche, K.C.S.I.; Krishna Gobinda Gupta, C.S.I.; Sir J. Thomson, K.C.S.I.; Sir S. W. Edgerley, K.C.V.O., C.I.E.; Sir T. Raleigh, K.C.S.I.

*Governor-General.*—The Right Hon. the Earl of Minto, P.C., G.M.S.I., G.C.M.G., G.M.I.E.

*Members of Council.*—General Sir O'Moore Creagh, V.C., G.C.B. (extraordinary), Commander-in-Chief; Sir H. Adamson, K.C.S.I.; J. O. Miller, C.S.I.; W. L. Harvey, C.I.E.; Sir G. Fleetwood Wilson, K.C.B.; Satyendra Prasanna Sinha.

*Lieutenant-Governors.*—Bengal, Sir E. N. Baker, K.C.S.I.; Eastern Bengal and Assam, Sir L. Hare, K.C.S.I.; C.I.E.; United Provinces of Agra and Oudh, Sir J. P. Hewett, K.C.S.I., C.I.E.; Punjab, Sir L. Dane, K.C.I.E., C.S.I.; Burma, Sir H. T. White, K.C.I.E.

*Chief Commissioners.*—Central Provinces, R. H. Craddock, C.S.I.; North-West Frontier Province, Lieut.-Col. Sir G. O. Roos-Keppel, K.C.I.E.

*Governor of Madras.*—Hon. Sir A. Lawley, G.C.I.E., K.C.M.G.

*Members of Council.*—M. Hammick, C.S.I., C.I.E.; Maharaja Sir Venkata Svetachalapati Ranga Rao, K.C.I.E., of Bobbili; J. N. Atkinson, C.S.I.

*Governor of Bombay.*—Sir G. S. Clarke, G.C.M.G., G.C.I.E.

*Members of Council.*—Sir J. W. P. Muir-Mackenzie, K.C.S.I.; J. L. Jenkins, C.S.I.; Mahadev Bhaskar Chaulal.

*Constitutional Reforms.*—The Indian Councils Act, 1909, the main provisions of which were summarised in last year's Statement, became law on the 25th May 1909.

*Decentralization.*—The Report of the Royal Commission on Decentralization, referred to in last year's Statement, was still under the consideration of the Government of India at the end of 1909-10.

*Indian Students.*—The Bureau of Information and the Advisory Committee which were established in 1909 for the benefit of Indian students in England were in full operation during the year under review. Further progress was made with the scheme for the establishment of a centre of social intercourse among Indian students and their friends and well-wishers in England.

A lamentable event of the year was the assassination of Lieutenant-Colonel Sir William Curzon Wyllie, K.C.I.E., C.V.O., Political Aide-de-Camp to the Secretary of State, at the Imperial Institute on the 2nd July 1909.

## LEGISLATION.

## I. In England.

*The Indian Railways Annuities (Sinking Funds) Act, 1909* (9 Edward 7. c. 22) enables the Trustees of the five Indian Railway Annuities to invest their Sinking Funds in their own "B" Annuities.

*The East India Loans (Railways and Irrigation) Act, 1910* (10 Edward 7. c. 5), vests the Secretary of State in Council of India with power to raise 25,000,000*l.* for constructing, extending and equipping railways in India, for constructing irrigation works, and for other purposes.

## II. In India.

Between the 1st April 1909 and the 31st March 1910 the following enactments received the assent of the Governor-General of India:—Fifteen Acts passed by the Council of the Governor-General for making laws and regulations, three by the Legislative Council of Madras, two by that of Bombay, four by that of Bengal, one by that of the Punjab, four by that of the United Provinces of Agra and Oudh, seven by that of Burma. Three regulations were passed by the Governor-General in Council on the recommendation of the local Governments of the provinces affected by them, in accordance with the provisions of 33 Vict. c. 33.

The following are the measures referred to:—

### ACTS OF THE GOVERNOR-GENERAL'S COUNCIL.

*The Indian Volunteers (Amendment) Act (No. VI. of 1909)* enacts that any member of the Territorial Force, who may be attached to a volunteer corps in India, shall be subject to the provisions of the Indian Volunteers Act during the period he is attached to such corps.

*The Anand Marriage Act (No. VII. of 1909)* is a validating enactment intended to set at rest doubts which might otherwise be raised as to the validity of the marriage rite of the Sikhs called "Anand."

*The Indian Press Act (No. I. of 1910)* provides for the more efficient control over publications in India, whether indigenous or imported, in regard to the dissemination of seditious or objectionable matter. The main divisions of the Act are as follows:—

(I) Control over presses and means of publication; (II) control over publishers; (III) control over the importation into British India and the transmission by the post of objectionable matter; (IV) the suppression of seditious or objectionable newspapers, books, or other documents wherever found.

I. The first of these objects is secured as follows:—

- (1) All proprietors of printing-presses making a declaration for the first time under section 4 of the Press and Registration of Books Act, 1867, are required to give security, which may, however, be dispensed with by the magistrate at his discretion. The proprietors of existing presses are required to give security only if and when they are guilty of printing objectionable matter of the description to which the Act applies;
- (2) Local Governments may declare such security forfeit where it appears to them that the press has been used for printing or publishing objectionable matter.

When the initial security so deposited has thus been forfeited, the deposit of further security in a larger sum is required before a fresh declaration can be made under section 4 of the Press and Registration of Books Act of 1867, and if thereafter the press is again used for printing or publishing objectionable matter the further security deposited and the press itself may be declared forfeit.

II. Control over publishers of newspapers, the second main object of the Act, is provided for in a similar manner. The keeping of a printing-press and the publishing of a newspaper without depositing security when required are punishable with the penalties prescribed for failure to make the declarations required by sections 4 and 5 of the Press and Registration of Books Act, 1867.

III. The more efficient control over the importation and transmission by post of objectionable matter of the kind described in the Act is given by empowering the customs and post-office authorities to detain and examine packages suspected of containing such matter, and to submit them for the orders of the local Government.

IV. The fourth object of the Act is attained by authorising the local Government to declare forfeit any newspaper, book, or other document which appears to it to contain matter of the prohibited description, and upon such a declaration the Act empowers the police to seize such articles and to search for the same.

*The Indian Paper Currency Act (No. II. of 1910)* is a consolidating enactment repealing and replacing Act III. of 1905. It declares currency notes of certain

denominational values to be legal tender, payable at any currency office, and takes power to make a similar declaration regarding currency notes of other denominations. It also makes certain changes in the system of circles of issue.

*The Indian Penal Code Amendment Act (No. III. of 1910)* amends section 75 of the Indian Penal Code so as to enable Courts in British India to recognise, for the purposes of that section, previous convictions by the various Courts or tribunals in the territories of Native States which exercise their jurisdiction under the general or special authority of the Government of India or of a local Government.

*The Indian Companies (Amendment) Act (No. IV. of 1910)* makes provision for the payment of interest out of capital by companies during the period of construction of works or buildings, and grants to joint stock companies the power to re-issue redeemed debentures in certain circumstances.

*The Dourine Act (No. V. of 1910)* empowers local Governments to take steps to prevent the spread of dourine in horse-breeding centres.

*The Indian Stamp (Amendment) Act (No. VI. of 1910)* amends the Indian Stamp Act of 1899 in order to increase the duties which are leviable on certain instruments under that Act. The class of documents selected for enhanced taxation are among those on which the previous rates of duty had fallen with comparative lightness.

*The Court Fees (Amendment) Act (No. VII. of 1910)* raises the duty payable on the probate of a will or letters of administration.

*The Indian Tariff (Amendment) Act (No. VIII. of 1910)* alters the Indian Tariff Act of 1894 by increasing, for fiscal purposes, the import duties on liquors, tobacco, silver, and petroleum.

*The Indian Electricity Act (No. IX. of 1910)* repeals and re-enacts, with modifications, the Act of 1903. It removes certain inconveniences attaching to the former system of granting licences for supply, and delegates to local Governments, subject to the control of the Governor-General in Council, the power to issue all licences.

*The Indian Museum Act (No. X. of 1910)* is a consolidating measure incorporating in one Act the provisions of the Museum Acts of 1876 and 1887. It also alters the constitution of the Board of Trustees of the Indian Museum in order to assign to the chief executive officers of the Museum a position on the Trust.

*The Central Provinces Courts (Amendment) Act (No. XI. of 1910)*, passed in amendment of the previous Act of 1904, enacts that the Court of the Judicial Commissioner shall consist of at least three judges, provides for the hearing of important cases in that Court by a bench of two or more judges, and extends the pecuniary jurisdiction of munsifs and subordinate judges.

*The Glanders and Farcy Law Amendment Act (No. XII. of 1910)* amends the Acts of 1899 and 1901.

*The Prisons (Amendment) Act (No. XIII. of 1910)* extends to Presidency magistrates the power, formerly restricted to magistrates of the first class, of trying prisoners for offences against prison discipline.

#### ACTS OF THE PROVINCIAL LEGISLATIVE COUNCILS.

Madras.—*The Madras District Municipalities (Amendment) Act (No. V. of 1909)* deals with the execution and control of municipal water and drainage works.

*The Arni Jagir Act (No. VI. of 1909)* restricts the Jagirdar's powers of alienation in respect of the Arni jagir.

*The Madras Steam-boilers and Prime-movers (Amendment) Act (No. VII. of 1909)* gives effect to the recommendations of an Expert Committee appointed to consider the practical working of the previous Act of 1893.

Bombay.—*The Prince of Wales Museum Act (No. III. of 1909)* provides for the erection, maintenance, and management of the Museum built to commemorate the visit paid to Bombay by His Majesty the King (then Prince of Wales) in 1905.

*The Bombay Repealing and Amending Act (No. I. of 1910)* supplies a number of modifications in various Acts affecting the Presidency, which it was not considered necessary to deal with by separate enactments.

Bengal.—*The Sambalpur (Delegation) Act (No. IV. of 1909)* empowers the Government of Bengal to delegate to the Board of Revenue certain of its functions under enactments in force in the district of Sambalpur.

*The Bengal Excise Act (No. V. of 1909)* consolidates and amends the Bengal Excise law, which was previously contained in two original and six amending Acts.

*The Calcutta Port (Amendment) Act (No. I. of 1910)* enables the Commissioners of the Port of Calcutta to make such pecuniary provision as may be advisable in the case of any of their officers or servants who may be injured or killed in the execution of their duty.

*The Bengal Municipal (Amendment and Validation) Act (No. II. of 1910)* makes clear the application of the Bengal Municipal Act of 1884 regarding the powers and duties of the Commissioners of certain municipalities.

Punjab.—*The Punjab Courts (Amendment) Act (No. I. of 1909)* invests the Chief Courts of the Punjab with the power, already possessed by the Chartered High Courts and the Lower Burma Chief Court, to revise the order of a single judge passed after a trial by jury.

United Provinces.—*The United Provinces Waterworks (Amendment) Act (No. I. of 1910)* makes two minor amendments in the Act of 1891.

*The Oudh Settled Estates (Amendment) Act (No. II. of 1910)* introduces into the Act of 1900 certain alterations rendered necessary by a Bill subsequently passed as *the Oudh Estates (Amendment) Act (No. III. of 1910)*, the object of which was to remove difficulties in the interpretation of the Oudh Estates Act of 1869.

*The United Provinces Excise Act (No. IV. of 1910)* provides for the development and improvement of excise administration in the United Provinces in such a way as to obviate the necessity of appealing to the Legislature in order to deal with every new situation that may arise.

Burma.—*The Burma Vaccination Law Amendment Act (No. I. of 1909)* extends the provisions for compulsory vaccination in the province.

*The Burma Municipal (Amendment) Act (No. II. of 1909)* makes two minor amendments in the Act of 1898.

*The Burma Boundaries Act (1880) Amendment Act (No. III. of 1909)* lays down that questions of title are ordinarily not to be decided by Demarcation and Boundary officers under the Act of 1880.

*The Burma Embankment Act (No. IV. of 1909)* deals mainly with the effective provision of labour for urgent work connected with the repair of embankments.

*The Burma Repealing Act (No. V. of 1909)* repeals certain obsolete municipal enactments; and *the Burma Fisheries (Amendment) Act (No. VI. of 1909)* extends the Act of 1905, with necessary alterations, to Upper Burma.

*The Burma Opium Law Amendment Act (No. VII. of 1909)* provides that persons earning their livelihood by methods connected with the illegal manufacture or sale of opium may be placed on security for good behaviour.

#### REGULATIONS.

*The Nugur, Albaka and Cherla Laws and Cesses Regulation (No. 1 of 1909)* provides for the continuity of revenue administration in those three taluqas, consequent upon their transfer from the Central Provinces to the Madras Presidency.

*The North-West Frontier Province Law and Justice (Amendment) Regulation (No. 2 of 1909)* simplifies the legislation relating to insolvency in the province.

*The Ajmer Courts (Amendment) Regulation (No. 1 of 1910)* makes a small amendment in the Regulation of 1877.



CHAPTER II.\*

JUSTICE AND POLICE.

CIVIL JUSTICE.  
CRIME AND POLICE.

CRIMINAL JUSTICE.  
JAILS.

(For further details see *Statistical Abstract for British India, Tables 24 to 42.*)

CIVIL JUSTICE.

*Bengal.*—In Bengal the number of civil suits instituted rose out of proportion to the number disposed of, so that there was a considerable increase in the number of cases pending at the end of the year. The decline noticeable in 1908 in the number of original suits instituted in the Subordinate Civil Courts was counterbalanced by an increase of 9,279 during the year under review. There was a slight increase in the average duration of contested cases.

*Eastern Bengal and Assam.*—The number of cases in the pending file in Eastern Bengal and Assam continued to rise in spite of a substantial decrease in the number of suits instituted during the year; the total number of cases for disposal, however, was somewhat in excess of that for 1908, owing to the volume of arrears remaining from the previous year. There was some improvement in the average duration of cases.

*North-Western Provinces.*—For legislative purposes the North-Western Provinces and Oudh are united, but inasmuch as Oudh is not subject to the High Court of the North-Western Provinces, the judicial statistics of the two are given separately.

There was a further increase in the number of suits instituted in the North-Western Provinces, the number of cases for disposal being about 11 per cent. more than in the preceding year; while the number disposed of increased in about the same ratio. The average duration of cases remained about the same.

*Oudh.*—In Oudh the number of suits showed an increase of 13 per cent. on that for 1908; the number of disposals also rose, and the pending file decreased. The average duration of cases fell slightly in contested cases.

*Central Provinces and Berar.*—Litigation showed an increase of 16 per cent. in the Central Provinces, and of 41·2 per cent. in Berar, the latter figure being attributable to commercial prosperity and the prospect of good crops. The pending file increased by over 3,000 cases, but it represents a slightly lower percentage of the total number of suits than in 1908. In the matter of duration of cases the Central Provinces returned worse results than in 1908, while Berar continued to show improvement.

*Punjab.*—The number of institutions of civil suits in the Punjab rose by over 21,000, but disposals by the courts increased in a higher ratio, and the pending file for the year under review was appreciably less than that for 1908.

*Bombay.*—There was a slight rise in the total number of civil suits decided during the year in Bombay, but the balance which remained pending was larger than at the end of 1908, and amounted to 23 per cent. of the total number for disposal. The average duration of contested suits fell from 167 to 157 days, that of uncontested suits remaining about the same.

*Madras.*—A fresh increase in litigation in the Madras Presidency led to the creation of two temporary Subordinate Judges' Courts at Guntur and Mangalore, and of three temporary District Munsifs' Courts. The increase affected all the courts in the Presidency, except the District Judges' Courts. It was especially marked in the village courts and the Revenue Courts, with the result that the latter, although the number of their disposals rose, contributed largely to the increase of the pending file. The increase in the number of cases tried before village bench courts was maintained.

\* The period covered by this chapter is the year ending 31st December 1909.

*Burma.*—In Burma the decrease in the number of suits instituted in the courts, which was marked in 1908, continued during the year under review, but the corresponding reduction of the pending file was not proportionate. The average duration of cases remained at the same high level.

*North-West Frontier Province.*—There was a marked increase of litigation during the year in the North-West Frontier Province, and all previous records were again passed, every district sharing in the increase, which is attributed to the general prosperity of the rural population. The increase in the number of disposals, however, shows that the courts proved equal to the increased burden thrown upon them. The average duration of cases remained about the same.

*Coorg.*—The number of civil suits instituted in Coorg again increased, and reached the highest figure attained since 1901. The total value rose by nearly 20 per cent. Owing to changes in the *personnel* of the Munsifs, a large increase occurred in the pending file.

#### CRIME AND POLICE.

*Madras.*—The season was generally unfavourable, and scarcity prevailed almost throughout the Madras Presidency. The prices of food grains, although they fell slightly in 1909, were still excessive; and, in consequence, the volume of crime showed no decrease. The total number of true cases of cognisable\* crime rose from 50,047 to 50,278. The number of murders was 620, the highest figure on record. Robberies and thefts increased by 70 and 1 respectively, but there was a slight falling off in the number of dakaities. Few riots of a serious nature occurred during the year under review. The results of detection show no check in the falling off noticeable during the two preceding years; but this must be attributed to the stage of transition through which the Police Department was still passing. The percentage of murders and dakaities detected fell to 19·9 and 17·8 respectively; the proportion of true cases detected from 30·9 to 29·7. The percentage of convictions to cases prosecuted by the police fell from 77 to 75·4. Property lost during the year was valued at £112,971, of which 23·5 per cent. was recovered.

The total sanctioned strength of the police was 32,090. The increase of 6,609 on the figure for the previous year was largely necessitated by the scheme for reorganisation sanctioned during the year. Difficulty in recruiting continued in some districts, and the quality of the recruits was not altogether satisfactory. The conduct of the force showed improvement, and an increased number of rewards were given. The number of casualties was 2,077, as against 1,930 in 1908. The proportion of illiterate constables was 11·2 per cent. The total cost increased by £27,580 to £494,025, mainly owing to the further progress made in reorganisation.

*Bombay.*—In Bombay the total number of cognisable cases reported during the year rose to 34,526, there being increases under all heads of offences, except dakaity and ordinary theft. Investigation was refused by the police in 1,066 cases. Adding the cases pending from the previous year, and deducting cases in which investigation was refused and cases which were pending at the close of the year, decisions were given in 33,708 cases, or 479 more than in 1908. The percentage of convictions to true cases disposed of showed a further regrettable falling off from 47·5 to 44·8. The value of property stolen during the year, in connection with cognisable crime, was estimated at £91,713, a large decrease on the figures for 1908; and there was considerable falling off in regard to the recovery of stolen property, 30·2 per cent., as against 45 per cent. in 1908, being recovered.

The total strength of the police force in the Presidency was 23,997, an increase of 1,199, and the total cost £413,658, an increase of £47,092, due chiefly to various measures of reorganisation. Considerably less difficulty was experienced in recruiting. The number of punishments rose from 2,480 to 3,094, an increase for which the large additions made to the force were mainly responsible; and that of rewards from 5,180 to 6,392. A percentage of 54·7, practically the same as in the preceding year, were able to read and write. Resignations numbered 1,048, as against 979 in 1908. The health of the force showed some improvement. The general situation at the end of the year under review appeared to be more satisfactory than in 1908; and the difficulties attendant upon reorganisation largely account for the disappointing results indicated by the statistics shown above.

\* Cognisable offences are those for which the police can arrest without a warrant.

*Bengal.*—In Bengal the police were again confronted with political crime displayed in bomb outrages and dakaities with violence, for which, in many cases, men belonging to the educated classes were responsible. The reluctance of the public to co-operate with the police continued, but showed some signs of abatement owing to the gradual recognition of the general good faith of the force in dealing with political cases. A number of professional gangs were broken up by the agency of the Criminal Investigation Department. With regard to ordinary crime, the number of cognisable offences showed a satisfactory decrease of 6 per cent. The decline was most marked in offences against property, and is attributable to better harvests and to greater activity in proceedings for "bad livelihood." The Police Training College continued to yield good results. Ninety-eight per cent. of the officers, and 35 per cent. of the men were able to read and write.

*United Provinces.*—It is satisfactory to notice that in the United Provinces a rapid recovery was made from the effects of the famine of the two preceding years, and that crime returned to its normal conditions in the year under review. The total volume of crime reported showed a decrease of 15·4 per cent., the fall being greatest in offences against property. The number of dakaities reported fell from 832 to 605, and that of true cases of murder from 555 to 455. A further increase (from 5,015 to 6,291) occurred in the number of cases reported by village headsmen.

With regard to the police, there was a regrettable increase in the number of punishments, for which it is hard to find a satisfactory reason. The percentage of literate members of the force rose from 25·5 to 26·2.

*Punjab.*—The year under review was marked in the Punjab by a decrease in every class of crime, owing partly to a serious epidemic of malaria affecting the activities of the criminal classes, and partly to an improvement in agricultural conditions. The total number of true cases of cognisable crime fell from 44,319 to 40,482. Murders decreased from 435 to 421, and burglaries from 13,700 to 12,604; while the number of dakaities fell from 74 to 36, the latter figure being below the provincial average for the seven years ending with 1908. The work of the Criminal Investigation Department was both important and successful, and there was cordial co-operation between the provincial force and the police of native states. Both the general conduct and the health of the force showed improvement; the proportion of educated men remained at slightly over 30 per cent.

*Eastern Bengal and Assam.*—In Eastern Bengal and Assam there was a slight decrease in the volume of cognisable crime; the percentage of convictions to trials showed some increase, but was not wholly satisfactory. The number of dakaities rose from 141 to 178, the increase being attributed to a growing preference on the part of criminals—stimulated to some extent by the methods of political agitation—of open violence to stealth. Forty of the dakaities reported occurred on rivers; the participation of young men of the well-to-do classes was again noticeable. Co-operation meetings were held in several places for the discussion of topics concerned with the police and public interests.

Although the number of casualties fell the strength of the force remained inadequate. The police and constables' training schools worked satisfactorily. The strength of the military police was slightly increased; their discipline and efficiency continued to be good.

*Central Provinces and Berar.*—Improved economic and social conditions in the Central Provinces and Berar were responsible for a decrease in crime, of which the comparative slightness must be attributed to greater efficiency in reporting and registering offences. Cognisable crime declined, the number of reported offences falling from 32,582 to 30,496. Murders decreased from 255 to 246, and dakaities from 171 to 125; of the latter, the greater part were committed in the early months of the year, and there is reason to believe that the improved patrolling arrangements adopted during the year will continue to have a good effect. The activity of the police in breaking up professional gangs was well maintained. A satisfactory feature of the year was the increased willingness of the public to co-operate with the police. The health of the force showed some improvement; 55 per cent. were recorded as able to read and write.

*Burma.*—In Burma the number of true cases of cognisable crime fell from 42,103 to 38,503, the decrease extending through nearly every class of offence. The statistics for murder, however, show a regrettable increase, and the nature of the dakaities committed was, on the whole, rather more serious than in the preceding year. There was no change in the measure of success achieved by the police in their work.

Village headmen continued to render valuable assistance in the detection of crime and the arrest of offenders. The force again worked under considerable pressure, the total shortage having increased from 864 to 1,041. The conduct of the men was normal; the percentage of those able to read and write remained at 85.

*North-West Frontier Province.*—In the North-West Frontier Province a further increase in crime was recorded, which is regrettable in view of the general improvement in prices, and cannot satisfactorily be attributed to increased activity on the border. The number of true cognisable cases rose from 3,958 to 4,231. Murders increased from 193 to 297, although the number committed by trans-border residents fell from 48 to 42; and the frequency of dakaities, particularly in Dera Ismail Khan, was as marked as it had been in 1908. The percentage of cases convicted to cases tried showed a further falling off from 76 to 71. The prospective efficiency of the force was, however, enhanced by the gratifying results of recruitment in the province; 24 per cent. of the officers and men were literate.

*Coorg.*—The number of cognisable offences reported in Coorg during the year rose slightly, and there was a falling off in the percentage of convictions. The number of punishments inflicted on members of the force showed a further decline. The proportion of literate constables was 91 per cent.

#### CRIMINAL JUSTICE.

*Madras.*—In Madras the total number of offences reported showed an increase, which was composed entirely of offences under the Indian Penal Code, there being a slight fall in those reported under special and local laws. The percentage of convictions improved slightly in both classes of cases. The High Court confirmed 35 out of the 72 sentences of death passed by Sessions Courts, and dismissed 88 per cent. of the total number of appeals sent up.

*Bombay.*—The number of offences reported and brought to trial in Bombay showed a slight increase as compared with the previous year; of the total number of offences returned as true, less than half fell under the Indian Penal Code. Fifty-two per cent. of the number of persons brought to trial were acquitted or discharged. Sentences of imprisonment, fine, and whipping exhibited a further decrease. Proceedings in appeal resulted in a reversal of the sentence in 19 per cent. of the cases.

*Bengal.*—There was a further increase in the work of criminal justice in Bengal. The number of persons under trial for offences against the State, however, declined from 57 to 50, of whom 25 were convicted, 23 acquitted or discharged, and 2 remained under trial at the end of the year. Two cases, involving 15 persons, were committed to the High Court for trial by Special Benches under Act XIV. of 1908; the duration of one from the date of commitment was 76 days, while the other had not been disposed of by the close of the year. The 3 persons remaining at the end of 1908 under trial in Midnapur under the Explosive Substances Act (VI. of 1908) were convicted. Three persons, 2 in Calcutta and 1 in Howrah, were prosecuted and convicted under the Newspapers (Incitements to Offences) Act (VII. of 1908), and proceedings, which resulted in one conviction, were instituted under section 108 of the Code of Criminal Procedure against 16 persons (15 in Nadia and 1 in Calcutta) for disseminating seditious matter.

*Eastern Bengal and Assam.*—In Eastern Bengal and Assam the number of offences against the State increased. Of 17 persons under trial for such offences, 10 were convicted, and 7 were acquitted or discharged. Seventeen persons, against 20 in 1908, were proceeded against under section 108 of the Code of Criminal Procedure for disseminating seditious matter. Generally, there was a small decrease in the total number of criminal cases. Three cases, involving 7 persons, were committed to the High Court for trial by Special Benches under Act XIV. of 1908. The average duration of the cases was 78 days.

*Punjab.*—There was a considerable decrease in the figures for reported crime in the Punjab. The percentage of convictions remained about the same. The capital sentence was confirmed by the Chief Court in 103, and commuted in 23, cases. A regrettable feature of the year was the prevalence of perjury on the part of witnesses.

*North-West Frontier Province.*—In the North-West Frontier Province the number of offences returned as true under the Indian Penal Code showed an increase which was not counterbalanced by a slight decrease in offences under local and special laws.

The death penalty was inflicted in 26 cases, as compared with 10 in 1908. The number of references to Councils of Elders rose from 182 to 220.

*United Provinces of Agra and Oudh.*—In the United Provinces there was a further diminution in the volume of crime, the decrease being most marked in offences against property, owing to the improved agricultural conditions of the year. A corresponding decrease appeared in the figures as to punishments; the number of death sentences declined from 161 to 124. The percentage of convictions fell slightly.

*Coorg.*—There was an increase in the number of criminal cases brought to trial in Coorg, while the percentage of convictions diminished. The proportion of successful appeals continued to be low.

*Central Provinces and Berar.*—In the Central Provinces the statistics are indicative of increased prosperity. There was a decrease in the total number of offences reported, and in particular of offences against property, while cases arising from disputes and from contempt of authority were more frequent. In two cases of offences against the State pleaders and editors of newspapers were convicted and sentenced to pay heavy fines. The percentage of whipping to the number of cases in which it might have been inflicted decreased from 38.9 to 24.6. There was a slight fall in the percentage of convictions.

*Burma.*—The number of offences dealt with by the Courts in Burma showed a slight decrease in comparison with the figures for 1908, and reverted approximately to the level shown in the statistics for 1907. The record for the year does not appear to call for special comment. Provision was made for the engagement of pleaders at Government expense on behalf of persons accused of murder and too poor to defend themselves.

JAILS.

The variations of the jail population in the whole of India during the last five years are shown in the following table:—

	1909.	1908.	1907.	1906.	1905.
Jail population of all classes on 1st January	103,784	101,336	99,065	98,244	93,781
Admissions during the year	489,051	520,377	459,288	480,098	464,660
Aggregate Discharged during the year from all causes	592,835	621,713	558,353	578,342	558,441
	489,481	517,930	457,012	479,280	460,202
Jail population on 31st December	103,354	103,783	101,341	99,062	98,239
Convict population on 1st January	91,819	89,457	89,035	88,344	85,034
Admissions during the year	160,391	173,175	153,759	163,956	161,783
Aggregate Released during the year	252,210	262,632	242,794	252,300	246,817
	157,076	168,599	160,439	160,022	155,220
Casualties, &c.	3,528	3,629	2,893	3,246	3,245
Convict population on 31st December	91,606	90,404	89,462	89,032	88,352

A decrease in the number of prisoners admitted to jail in the course of the year occurred in all provinces except Burma, Eastern Bengal and Assam, and Bombay, and was most marked in Bengal. The daily average number of prisoners fell by about 2,000.

Over one half of the total number of convicts received in jails during the year came from the classes engaged in agriculture or cognate pursuits. More than 135,000 were illiterate. The number of previously convicted prisoners fell by about 3,500, and there was a decrease of more than 100 in the number of youthful offenders. The following statistics show, in round figures, the nature and length of the sentences imposed during the year:—Not exceeding one month, 45,000; above one month and not exceeding six months, 60,000; above six months and not exceeding one year, 29,000; above one year and not exceeding five years, 20,000. The remainder were major sentences, viz.:—2,377 for terms above five and not exceeding ten years; 193 for terms exceeding ten years; 1,761 to transportation beyond seas; and 626 to death.

Notwithstanding the decrease in the average daily strength, the number of offences committed by convicts rose slightly, and there was a remarkable increase of about 11,000 in serious offences dealt with by major punishments. The figures for the different provinces are given in the following table:—

Province.	1909.			1908.			1907.		
	Daily average Population.	Offences dealt with by Criminal Courts.	Offences dealt with by Superintendents.	Daily average Population.	Offences dealt with by Criminal Courts.	Offences dealt with by Superintendents.	Daily average Population.	Offences dealt with by Criminal Courts.	Offences dealt with by Superintendents.
Madras	10,797	27	13,715	10,517	122	13,038	10,043	24	11,915
Bombay	7,535	47	21,641	7,913	33	20,296	7,538	15	15,303
Bengal	15,066	17	32,478	14,462	37	28,715	13,632	26	25,707
United Provinces	23,944	4	35,058	25,363	14	37,265	21,710	10	39,549
Punjab	10,514	61	51,867	10,766	66	56,892	10,216	38	44,105
Burma	12,954	24	37,281	13,164	22	40,878	13,009	21	38,463
Eastern Bengal and Assam	6,868	33	6,576	6,884	44	6,954	7,173	41	7,247
Central Provinces and Berar	3,833	25	18,405	3,536	16	9,975	2,945	26	9,609
North-West Frontier Province	974	1	1,169	1,040	2	1,871	980	—	1,401
Coorg	74	2	60	81	—	17	80	2	50
	92,499	241	218,250	93,726	346	215,401	87,306	203	193,349

The total number of corporal punishments showed a decrease on the figures for the previous year. The total number of cases in which penal diet (with and without solitary confinement) was prescribed was 8,652 as compared with 6,842 in the preceding year.

Total expenditure fell from £579,075 to £559,918, and total cash earnings rose from £91,298 to £103,996; there was, consequently, a decrease of £32,168 in the net cost to Government. Excluding Coorg, the provinces in which the average cost of maintenance was highest were Eastern Bengal and Assam, Bengal, and Bombay.

The general improvement in the conditions influencing the public health was not on the whole reflected in the statistics for the health of prisoners during the year under review. It may be remembered, however, that the effects of returning prosperity take some little time to reach the classes from which convicts are chiefly recruited, and also that certain symptoms, such as the heavy fall in infant mortality that usually follows a year of depression, tend to lower the general death-rate, while they do not affect the prison population. The prison death-rate fell from 24·17 to 22·85, the decrease extending through every province except Burma, the Punjab, and the North-West Frontier Province. The number of cases of malaria showed a further decline. Cases of tubercle of the lungs increased markedly in those provinces which had suffered most from the epidemic of malaria in the preceding year. The former disease, with dysentery and pneumonia, was among the most common causes of death.

*Penal Settlement at Port Blair.*—The convict population of the Andamans at the end of the year 1909–10 was 12,547, being 758 less than at the end of the previous year; the decrease being due, among other causes, to a very considerable rise in the number of deaths, which is engaging the attention of the Government of India. The number of convicts received from India and Burma during the year was 767, as against 626 in 1908–9. There were 71 escapes, and 49 recaptures; the corresponding figures for the preceding year were 55 and 31. There was an increase in the percentage of offences, and the number of corporal punishments rose from 36 to 40. The net cost of the Settlement was £89,515, and the net cost of each convict about £7, against £116,379 and £8, respectively, in the previous year. The estimated value of jail manufactures rose from £32,876 to £32,901. The numbers of the police force during the year were 29 below sanctioned strength. Discipline was on the whole good. The percentage of illiterate men in the force was 55. There were seven schools in the Settlement during the year, the same number as in the previous year.

CHAPTER III.

FINANCE.

FORM OF ACCOUNTS.	HOME CHARGES.
GROSS REVENUE AND EXPENDITURE.	CAPITAL OUTLAY ON PUBLIC WORKS.
NET REVENUE AND EXPENDITURE.	DEBT.
CASH BALANCES.	CURRENCY AND EXCHANGE.
PROVINCIAL FINANCE.	BANKS.

(For further details, see Statistical Abstract for British India, Tables 44 to 89 and 97.)

FORM OF ACCOUNTS.

The accounts of the Government of India show the transactions in India in rupees : the totals of these transactions are then converted into pounds, at the rate of Rs. 15 = £1 : the sterling transactions in England are next stated : and the last two sets of figures are added together, so as to show in pounds the combined transactions in India and in England. The comparatively small sums which have to be brought to account owing to the facts that the remittances to defray the net expenditure in England are not effected at exactly sixteenpence to the rupee are included in a single line under the head of Exchange.

GROSS REVENUE AND EXPENDITURE.

The Gross Revenue and Expenditure of British India in 1908-9 and 1909-10 were as follows:—

	1908-9.	1909-10.
	£	₹
Revenue - - - - -	69,761,535	74,593,495
Expenditure - - - - -	73,499,245	73,986,854
	Deficit - £3,737,710	Surplus - ₹606,641

In these figures all receipts are included in the total of revenue and all outlay in the total of expenditure, with the one exception that the working expenses of railways are treated not as expenditure but as a deduction from Revenue. The financial position of the Government can, however, be much better appreciated by reference to the following table of Net Revenue and Expenditure, in which the interest charges as well as the working expenses of the Railways, the interest charges and working expenses of Irrigation Works, the cost of the cultivation and manufacture of Opium, and the charges against other revenue-earning departments (excluding cost of collection) are treated as deductions from revenue, and the receipts of spending departments are treated as deductions from expenditure.

## STATEMENT EXHIBITING THE MORAL AND MATERIAL

## NET REVENUE.

	1908-9.		1909-10.		Increase (+) or Decrease (-).
	£	£	£	£	
<b>Land Revenue, &amp;c. :</b>					
Land Revenue	19,005,088		20,554,980		+1,549,892
Forest	1,691,865		1,728,885		+ 37,020
Tributes from Native States	387,557		389,355		+ 1,798
		21,084,460		22,673,220	+1,588,760
<b>Opium : Net Receipts</b>		4,645,118		4,195,614	- 449,499
<b>Taxation :</b>					
Salt	3,008,703		3,054,647		+ 45,944
Stamps	4,293,955		4,496,267		+ 202,312
Excise	6,313,779		6,462,226		+ 148,447
Provincial Rates	532,976		538,300		+ 5,324
Customs	4,725,088		4,855,982		+ 130,894
Income Tax	1,544,576		1,546,206		+ 1,630
Registration	429,975		429,325		- 650
		20,849,047		21,382,953	+ 533,906
<b>Commercial Undertakings :</b>					
Post Office	71,133		553		+ 70,780
Telegraph	49,976		89,582		+ 39,606
Railways	1,242,250		824,923		+ 2,067,173
Irrigation	608,823		606,300		- 2,523
		754,530		1,341,287	+ 2,095,823
<b>Mint</b>		80,475		17,805	+ 71,670
<b>Exchange</b>		34,437		44,481	+ 78,918
<b>Total Net Revenue</b>		45,700,172		49,619,750	+ 3,919,578

## NET EXPENDITURE.

	1908-9.		1909-10.		Increase (+) or Decrease (-).
	£	£	£	£	
<b>Debt Services (excluding amounts charged under Railway Revenue Account and Irrigation).</b>		979,507		930,702	- 48,805
<b>Military Services :</b>					
Army	18,314,327		17,923,453		- 390,874
Marine	351,509		377,697		+ 26,188
Military Works and Special Defence Works.	937,152		811,173		- 125,979
		19,602,988		19,112,323	- 490,665
<b>Collection of Revenue</b>		6,026,572		6,021,503	- 5,069
<b>Civil Services :</b>					
Civil Departments	13,342,704		13,039,893		- 302,812
Miscellaneous Civil Charges	4,299,871		4,146,287		- 153,584
Civil Works (including Railways charged to Provincial or Local Revenues).	4,208,404		3,868,365		- 340,039
		21,850,979		21,054,545	- 796,434
<b>Famine Relief and Insurance</b>		1,645,179		1,000,000	- 645,179
<b>Provincial Adjustments :</b>					
1. Charge against Revenue of the year arising from increase of Provincial Balances.				894,036	+ 894,036
2. Diminution of the Charge against Revenue of the year, owing to Expenditure being met from Provincial Balances.		807,343			+ 667,343
<b>Total Net Expenditure charged against Revenue.</b>		49,437,982		49,013,109	- 424,773
<b>Surplus (+) or Deficit (-)</b>		- 3,737,710		+ 606,641	+ 4,344,351

Thus there was in 1909-10, as compared with 1908-9, an increase of net revenue of £3,919,578 and a decrease in net expenditure of £424,773. Detailed explanations of the figures of revenue and expenditure are annually laid before Parliament in the Financial Statement of the Government of India and in the Explanatory Memorandum by the Secretary of State. It will be sufficient here to refer only to the more important facts specially affecting the revenue and expenditure of 1909-10.



*Land Revenue.*—In 1908-9 the partial failure of the rainfall adversely affected the returns. The improved conditions in 1909-10 accelerated the collection of famine arrears in nearly all the provinces, while the revenue was also increased by purchases of proprietary right in the Chenab Canal Colony, and by the extension of cultivation and an excellent rice crop in Burma.

*Opium.*—In accordance with arrangements with the Chinese Authorities (*see* Parliamentary Paper, Cd. 3881 of 1908), the number of chests of opium exported from India has been limited by the Government of India since 1908. The precise conditions of the agreement in this respect are described in Chapter V. (*see* page 39). The decrease in the revenue was not, however, proportional to the decrease in the exports; for owing to the increased demand in China for the reduced supplies of Indian opium an average price of Rs. 1,612 per chest of Bengal opium was realised at the Calcutta auctions instead of Rs. 1,350, as estimated in the Budget, while the payments in respect of pass fees on Malwa opium also largely exceeded the estimate owing to the receipt of duty from traders anxious to secure priority in future shipments. As the result of these abnormal conditions the net opium revenue in 1909-10 exceeded the original forecast by £881,300.

*Railways.*—In 1908-9, owing to bad harvests, commercial depression, and other causes, the railway revenue account showed (for the first time since 1898-9) a net charge, amounting to £1,242,250. With a return to more normal conditions in 1909-10 a net receipt of £824,922 has been realised.

*Military Services.*—It will be observed that the net charges in 1909-10 were lower than those incurred in the previous year by £490,665. Substantial reductions occurred in respect of home stores and compensation for dearness of food and forage.

#### CASH BALANCES.

The following statement shows the amount of the cash balances, and the extent to which they were increased or reduced by the transactions of the year:—

	On 1st April			Increase or Decrease.	
	1908.	1909.	1910.	In 1908-9.	In 1909-10.
	£	£	£	£	£
In India - - - -	12,851,723	10,235,827	12,295,428	-2,615,896	+2,059,601
In England - - - -	5,738,489	8,453,715	15,809,618	+2,715,226	+7,355,903
Total - - - - £	18,590,212	18,689,542	28,105,046	+ 99,330	+9,415,504

#### PROVINCIAL FINANCE.

Under the system of decentralisation of finance, begun by Lord Mayo in 1870 and subsequently developed by successive stages, the Government of India assigns to the Provincial Governments a fixed share of the revenue collected by them under certain heads. From the revenue so assigned the Provincial Governments are required to meet the whole of the expenditure within their respective provinces under certain heads, and a portion of the expenditure under other heads. The revenue retained by the Government of India for its own purposes and for meeting the expenditure incurred by the Secretary of State in England is described in the accounts as Imperial, and that which is assigned to the Provincial Governments is described as Provincial. The expenditure is similarly classified. The Provincial Settlements, by which the classification into Imperial and Provincial of the various items of revenue and expenditure and the ratio of division of the divided heads are governed, have been placed on a quasi-permanent basis with the object of giving to the Provincial Governments as large an interest as possible in the careful collection of revenue and in economy of expenditure. The principal heads of revenue which are wholly Imperial are Opium, Salt, Customs, Post Office, Telegraph, Mint, Exchange, and Railways; the principal divided heads being Land Revenue, Irrigation, Stamps, Excise, Assessed Taxes, and Forests. On the expenditure side of the accounts the charge for Military Services, Debt Services, and the charges under certain minor heads (Territorial and Political Pensions, Ecclesiastical, &c.) are entirely Imperial; "General Administration" is divided; most other important heads of expenditure are provincial.

The net revenue of 1908-9 and 1909-10 and the expenditure charged against the revenue of those years were divided into Imperial and Provincial as follows:—

	1908-9.			1909-10.		
	Imperial.	Provincial.	Total.	Imperial.	Provincial.	Total.
Net Revenue -	£ 25,968,321	£ 19,731,851	£ 45,700,172	£ 29,218,939	£ 20,400,811	£ 49,619,750
Net Expenditure -	£ 29,706,081	£ 19,731,851	£ 49,437,882	£ 28,612,298	£ 20,400,811	£ 49,013,109

The equilibrium between Provincial Revenue and Provincial Expenditure, which is shown in these figures, is due to the fact that, if the Provincial Governments spend less than their income, the saving is added to their balances and treated in the general accounts prepared by the Government of India as though it had been spent, and that similarly excess expenditure by Provincial Governments, being met from their balances, is not charged in the accounts prepared by the Government of India against the revenues of the year. In 1908-9 the Provincial Governments spent £667,343 from their balances; in 1909-10 they added to their balances the sum of £894,036.

*Contribution by each Province towards Expenditure of the Central Government.*

The following table shows for each province separately the amount by which the total revenue collected therein (whether classified in the accounts as Imperial or Provincial) exceeds or falls short of the total expenditure incurred therein, and thus indicates the extent to which each province contributes towards the expenditure of the Government of India and the Secretary of State, or draws upon the general revenues:—

Provinces, &c.	1908-9.		1909-10.	
	Excess of Revenue.	Excess of Expenditure.	Excess of Revenue.	Excess of Expenditure.
Bengal -	£ 6,549,909	—	£ 7,111,235	—
Eastern Bengal and Assam -	1,093,947	—	957,801	—
United Provinces -	2,022,349	—	3,256,201	—
Punjab -	1,328,853	—	1,674,449	—
Burma -	2,193,780	—	2,238,439	—
Central Provinces and Berar -	191,749	—	325,362	—
Madras -	4,643,458	—	4,705,314	—
Bombay -	5,444,367	—	4,773,105	—
North-West Frontier Provinces -	—	323,253	—	309,456
India, General -	—	8,562,450	—	5,714,100
England -	—	18,323,419	—	18,411,709
Net result -	Deficit £3,757,710		Surplus £606,641	

HOME CHARGES.

The net expenditure in England chargeable to revenue, as shown in the preceding table, may be classified under the following principal heads:—

	1908-9.	1909-10.
Interest and management of debt, and payment of interest and annuities on account of railways and irrigation works.	£ 10,196,960	£ 10,647,088
Payments in connection with Civil Departments in India	158,556	125,644
India Office (excluding pensions)	209,284	201,860
Army and marine effective charges	1,096,688	979,536
Stores of all kinds charged against revenue	1,281,998	1,059,432
Furlough allowances	936,773	965,790
Non-effective charges (pensions and gratuities)	4,443,160	4,432,359
Total	£ 18,323,419	£ 18,411,709

CAPITAL OUTLAY ON PUBLIC WORKS.

The total capital outlay on railways and irrigation works, during the two years, was as follows:—

	1908-9.	1909-10.
Amount supplied by State borrowing or from the Cash Balances, without being charged against the Revenue of the year:—	£	£
State Railways - - - - -	5,209,621	3,862,191
Irrigation Works - - - - -	983,489	1,052,349
Amount met by Debenture Stock issued by Railway Companies - - -	4,278,547	2,459,426
Amount defrayed from Revenue:		
Provincial and local Railways - - - - -	415	1,245
Preliminary Railway expenditure not originally charged to construction	30,269	—
Protective Railways - - - - -	70	12,015
Protective Irrigation Works - - - - -	403,030	432,889
Other Irrigation Works* - - - - -	76,053	11,500
<b>Total Direct Outlay by the State - - -</b>	<b>10,981,494</b>	<b>7,831,615</b>
Outlay by companies guaranteed or subsidised by Government - - -	556,748	2,063,077
Branch lines not on firm guarantee - - - - -	5,864	54,905
<b>Total Capital Outlay on Railways and Irrigation - - - £</b>	<b>11,544,106</b>	<b>9,949,597</b>

\* Excluding capital outlay on the minor works, which is met from revenue.

DEBT.

Amount of Debt.—The total debt of India on the 1st April 1909 was:—

	£
In England - - - - -	166,973,369
In India, Rs. 1,34,56,60,505, equivalent at 1s. 4d. the rupee to - - - - -	89,710,700
<b>Total - - - - -</b>	<b>£256,684,069</b>

1909-10.—In England £1,000,000 Sterling Bills were issued in April 1909 for 12 months at an average price of £97 16s., and £2,500,000 in June, also for 12 months, at an average price of £96 18s., in replacement of bills falling due. A rupee loan of 2½ crores (£1,666,700) was issued in India in July 1909, at an average price of Rs. 93·94 per cent. In December £2,500,000 Sterling Bills were issued for 12 months at an average price of £96 16s. 2d. in replacement of a like amount of bills falling due. In January 1910 an issue of £7,500,000 India 3½ per cent. stock was made in England at a fixed price of £96 10s. per cent. to provide funds for railway construction in 1910-11, for granting advances to Indian railway companies, and for the discharge of certain debentures issued by the Bombay, Baroda and Central India and the Madras Railway Companies.

The total debt outstanding on 31st March 1910 was as follows:—

	£
In England - - - - -	176,105,911
In India, Rs. 1,36,84,33,105, equivalent at 1s. 4d. the rupee to - - - - -	91,228,874
<b>Total - - - - -</b>	<b>£267,334,785</b>

Classification of the Debt.—The total debt is classified in the accounts as (1) Public Works Debt (2) Ordinary Debt. The amount entered as belonging to the former category is the equivalent of the total capital expenditure which has been incurred by the State on public works, together with the amount advanced to railway companies for capital expenditure; the "Ordinary Debt" consists of the remainder of the debt. In any year in which, owing to the use of surplus revenue

or deposits for the construction of public works, the capital expenditure of the year exceeds the amount of debt incurred in the year, the effect of this system of classification is to cause a decrease to be shown in the amount of the Ordinary Debt.

The classification of the debt outstanding on the 31st March 1909 and the 31st March 1910 was as follows:—

	1909.	1910.
	£	£
(a) Permanent debt:—		
Debt for railways - - - -	182,213,141	186,517,746
Debt for irrigation works - - - -	30,738,991	32,256,945
	<hr/>	<hr/>
Total of public works debt - - - -	212,952,132	218,774,691
Balance being ordinary debt - - - -	37,731,937	42,560,094
	<hr/>	<hr/>
Total permanent debt on 31st March -	250,684,069	261,334,785
 (b) Temporary debt incurred on security of India bills:—		
Debt for railways - - - -	1,500,000	1,500,000
Debt for general purposes - - - -	4,500,000	4,500,000
Total debt (permanent and temporary) on 31st March - - - -	<hr/> £256,684,069	<hr/> £267,334,785

Under the East India Loans (Railways and Irrigation) Act, 1910, the Secretary of State in Council was empowered to borrow in the United Kingdom, as and when necessary, up to £25,000,000 for the purposes of Indian public works. The grant of fresh borrowing powers was required owing to the fact that the powers granted by previous East India Loans Acts were becoming exhausted.

#### CURRENCY AND EXCHANGE.

*Currency Legislation.*—Up to 1893 the standard of value in India was silver, the rupee (180 grains of silver, eleven-twelfths fine) and the half rupee being full legal tender for the payment of debts, and the mints being open to the receipt from the public of silver for coinage without limit. From 1871 to 1893 the exchange value of the rupee (*i.e.*, the sterling rate at which bills of exchange payable in India were sold) fell almost continuously, the fall being due to the decline in the price of silver, by which the value of the rupee was necessarily governed. Apart from its effect on trade the continual fall in the rupee caused serious difficulties to the Government, because, its revenue being collected in rupees, it is compelled to provide for the greater part of its sterling payments by the sale in London for sterling of bills of exchange and telegraphic transfers payable in rupees in India, and the number of rupees required for defraying any given amount of sterling expenditure increased with each fall in the sterling rate at which bills were sold. In the period from 1871 to 1893 the rate fell from about 2*s.* the rupee (ten rupees to the £) to about 1*s.* 3*d.* the rupee (sixteen rupees to the £). In view of the embarrassment arising from this depreciation in the standard of value it was decided in 1893, in accordance with the recommendation of Lord Herschell's Committee, that silver should no longer be coined on presentation by the public, but the right was given to the public to demand from Government rupees in exchange for gold at the rate of 15 rupees for £1 without limit of amount. Silver thus ceased to be the standard of value in India (though it is still used as before as the chief material of currency); and the exchange value of the rupee ceased to coincide with the price of silver. In 1898 a committee was appointed, under the chairmanship of the late Lord Wolverhampton, then Sir Henry Fowler, to consider certain proposals made by the Government of India for the completion of the policy adopted in 1893. Sir Henry Fowler's Committee reported in 1899, and recommended that the decisions reached on the recommendations of Lord Herschell's Committee in 1893 should be maintained, and that the English sovereign should be declared legal tender in India at the rate of one sovereign to fifteen rupees (*i.e.*, 1*s.* 4*d.* to the rupee). These recommendations were accepted by the Government. Since 1898-9 the exchange value of the rupee has remained steady at about 1*s.* 4*d.*

*Gold Standard Reserve.*—In accordance with a recommendation made by Sir Henry Fowler's Committee it was decided that, with effect from the 1st April 1900, the net profit from the coinage of rupees should not be treated as revenue, but should be held as a special reserve, and sent to England for investment in sterling securities. Up to 1906 practically the whole amount was remitted to England and applied to the purchase of British Government securities, the interest realised being added to the fund and invested, but in that year it was decided that a portion of the reserve should in future be held in silver in India. In 1907-8 and 1908-9 in consequence of a further decision half the profits on coinage were applied to capital expenditure on railways.

The annual amount of the profits on coinage, in each year from 1900-1 to 1908-9 credited to the reserve under the arrangements above described, is shown in the marginal table.

No coinage was undertaken from purchased silver in 1909-10, but during the year the sum of £25,190, being arrears of profit on the coinage of previous years, was credited to the fund.

The constitution of the reserve on the 31st March 1910 was as follows:—

	£
Sterling securities (at cost price)	13,219,217
Silver (coined rupees in India)	2,534,302
Cash in England (placed by the Secretary of State in Council at short notice)	3,010,528
Total	£18,764,047

*Exchange and Remittance.*—During the years 1908-9 and 1909-10 the sale by the Secretary of State of bills and telegraphic transfers on India was as follows:—

1907-8	£15,307,061	at an average rate of	1s. 4·029d.	per rupee.
1908-9	£14,144,545	"	"	1s. 3·93d.
1909-10	£27,444,609	"	"	1s. 4·041d.

The regular demand for the bills and telegraphic transfers sold by the Secretary of State is due to the fact that they enable merchants and bankers to make the payments in India which are required mainly in consequence of the normal excess of India's exports over her imports. In 1907-8 and 1908-9 the demand for the Secretary of State's bills and transfers was unusually small, being affected by several causes, amongst which may be mentioned the exceptionally large imports, the check to the growth of exports due to the partial failure of the autumn monsoon, the reduced price of jute (a very important article of export), and the stringency which prevailed during a part of this period in the London money market. The normal commercial demand for remittances to India practically ceased for a time, and special facilities for remittance in the opposite direction were required in order to enable the balance of trade to be adjusted. In the special circumstances the Secretary of State authorised the Government of India to invite applications in India for sterling bills on London at a fixed rate of 1s. 3 $\frac{2}{3}$ d. the rupee. Bills were sold from week to week during the period between 25th March and 11th September 1908, the total amount sold being £8,058,000. The bills were met in London by the Secretary of State from the proceeds of the realization of a portion of the securities held on behalf of the Gold Standard Reserve, the par value in rupees received in India for the bills being at the same time paid to the silver portion of the reserve held in that country.

In November 1908 trade resumed its normal course, and since that time the weekly sale of bills and telegraphic transfers has not been interrupted. The improvement in exchange enabled the Secretary of State to begin, towards the close of 1908-9, the process of replacing the securities held on account of the Gold Standard Reserve in England, the nominal value of which had, under the operations described above, been reduced from £14,893,000 in February 1908 to £5,857,000 in November 1908. The process of replacing the securities was continued during 1909-10, and has now been completed. In March 1911 the nominal value of these securities was £16,405,013. The increase in the invested portion of the fund has been attended by a corresponding reduction in the value of the rupees held in India in the silver branch of the reserve, which had been abnormally swollen by the transactions of 1908.

*Coinage.*—The silver coinage at the Indian Mints was :—

	1908-9. Number Coined.	1909-10. Number Coined.
Rupees - - - - -	25,130,598	20,771,397
Half-rupees - - - - -	1,576,498	1,568,586
Quarter-rupees - - - - -	7,083,812	—
Eighth-rupees - - - - -	6,786,912	1,603,811
British Dollars (for export to Hong Koung) - - - - -	6,870,741	5,954,218

The rupee coinage of 1908-9 and 1909-10 represented almost entirely the recoinage of old rupees and uncurrent coin.

The value of the copper, bronze, and nickel coinage during the two years was as follows :—

	1908-9. £	1909-10. £
Copper - - - - -	9,022	2,333
Bronze - - - - -	73,597	39,915
Nickel - - - - -	93,900	103,333

*Paper Currency.*—Under the Indian Paper Currency Act, 1910 (II. of 1910), which consolidated and amended the law relating to Paper Currency, Notes of the following denominations, viz., Rs. 5, Rs. 10, Rs. 50, Rs. 100, Rs. 500, Rs. 1,000, and Rs. 10,000 are issued to the public. The issue of 20-rupee notes has been discontinued.

There are seven currency circles having their headquarters at Calcutta, Cawnpore, Lahore, Bombay, Karachi, Madras, and Rangoon respectively.

Prior to the passing of the Paper Currency Act of 1910 the 5-rupee note alone was legal tender throughout India and payable at any office of issue in the country; notes of higher value were legal tender only within the currency circles from which they were issued. The Act of 1910 "universalised" notes of a denominational value of 10 and 50 rupees, and thus marks an important stage in the development of the paper currency system of India. The Act requires that a reserve shall be held against the notes equal to their full value; securities of the Government of India and of the British Government may be held as part of the reserve up to a limit of £8,000,000, of which the British Government securities may not exceed £1,333,000 (Rs. 2,00,00,000); the remainder of the reserve must be held in gold or silver coin or bullion. On the 31st March 1910 the value of notes in circulation was £36,272,300, being more by £5,947,000 than on the corresponding date in 1909. The constitution of the paper currency reserve was as follows :—

Gold - - - - -	£ 8,701,716
Silver coin - - - - -	19,556,439
Silver bullion - - - - -	52,465
Securities of the Government of India - - - - -	6,667,000
Securities of the British Government - - - - -	1,333,000
	<hr/>
	36,310,620
Deduct amount due on bills drawn by one circle on another - - - - -	38,300
	<hr/>
	£36,272,320

#### BANKS.

*The Presidency Banks.*—The three Presidency Banks of Bengal, Madras, and Bombay are bodies corporate, constituted under the Presidency Banks Act of 1876. This Act has been modified by a succession of other Acts, of which the most recent was passed in 1907. It regulates the constitution and management of the banks and prescribes the kind of business that they may undertake. The most important statutory restrictions are that they may not borrow out of India, nor draw, discount, buy, or sell bills of exchange, or other negotiable securities payable outside India or Ceylon, except that, when they receive interest, or the proceeds of the sale of securities, on behalf of their principals, they may draw bills of exchange or grant letters of credit, payable out of India, for the purpose of remitting such interest or proceeds at the risk of the principals. The effect of these restrictions is to prevent the Presidency Banks from dealing in foreign exchanges or otherwise employing their capital out of India.

The Presidency Banks in accordance with the provisions of agreements into which the Government of India has entered with them, act as bankers for the Government of India, paying and receiving money on its behalf and managing the public debt; they receive in return a fixed annual payment, and a commission on the amount of the public debt which they manage. The Government also undertake to keep a minimum balance at each bank, or, failing this, to pay interest on the deficiency.

The following table shows the extent of the business of the Presidency Banks at the end of December 1910:—

	Bank of Bengal.	Bank of Madraá.	Bank of Bombay.
	£	£	£
Paid-up capital	1,333,333	400,000	666,667
Reserve	1,153,333	320,000	700,000
Public deposits	1,175,281	484,936	1,016,580
Other deposits	10,545,970	3,781,408	7,042,515

*Banks registered under the Indian Companies Act.*—The number of joint stock companies registered as engaged in banking or loan operations in India, on 31st March 1910, was 452. The majority of these companies consist of societies with a relatively small capital.

## CHAPTER IV.

## LAND REVENUE.

LAND TENURES. LAND LEGISLATION. REVENUE SURVEYS, SETTLEMENTS, &C.		REVENUE ASSESSMENTS, &C. COLLECTION OF THE REVENUE. WARDS' AND OTHER ESTATES.
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(For further details see *Statistical Abstract of British India, Tables 45 to 49 and 122.*)

The present chapter deals with Land Revenue (including revenue from Capitation Tax, Fisheries, &c.) and with subjects appertaining thereto. From time immemorial a share of the produce of the land has been the chief source of public revenue in India. Land revenue is still the mainstay of the Government, constituting about 41 per cent. of the total net revenue that accrues to the Indian Exchequer,

## LAND TENURES.

Owing to its far-reaching social and political effects the proper administration of the land revenue has always been one of the chief problems of the Indian Government, and during the early years of British rule the best methods of assessment were keenly debated. In 1793 Lord Cornwallis introduced into Bengal a permanent settlement, by which the demand of the State was fixed and made for ever unalterable. Other systems were gradually evolved, and at length over the greater part of India a system of periodical settlements was established, under which the State demand is revised at recurring periods of 20 to 30 years, the latter period prevailing in all the larger provinces except the Punjab and the Central Provinces, where settlements are usually made for 20 years, and in Burma, where the ordinary term will in future be 20 years. At these settlements careful surveys are made of all holdings and records of rights in the land. The policy of long term settlements is being extended. Under the system of periodical revisions of the land assessment the State secures a share in the increased rental value arising from the general progress of the community. Of late years measures have been taken to exempt improvements from assessment, and generally to make the enforcement of the rights of the State as little burdensome as is possible to the revenue-payer. Periodical revision also affords the opportunity of reducing the assessment in villages or tracts which have declined in prosperity, and of correcting inequalities arising from any cause.

When the revenue is assessed by the State, permanently or temporarily, on an individual or community owning an estate, and occupying a position identical with, or analogous to, that of a landlord, the assessment is known as *zamindari*; where the revenue is imposed on individuals who are, or who represent, the actual occupants of holdings, the assessment is known as *ryotwari*. Under either system there may be rent-paying sub-tenants. In southern India, where most of the land is held by petty occupiers direct from the State, the occupiers have the right to retain their holdings so long as they pay the revenue due from them. In both the permanently and temporarily settled districts of northern India laws have been passed to safeguard tenant rights. The permanently settled districts, in which all holdings are *zamindari*, cover most of Bengal and Eastern Bengal, and parts of Madras and the United Provinces. As regards temporarily settled districts, *zamindari* estates, held by proprietary groups or large individual proprietors, are chiefly found in the Punjab, the United Provinces, the Central Provinces, and Orissa (Bengal), while in Bombay and Sind, Burma, Assam, Berar, and most of Madras the system of *ryotwari*, or peasant proprietors, prevails.

The appended table gives the acreage of the surveyed areas in which the various tenures prevailed during 1909-10 (in thousands of acres). The figures include waste and uncultivated areas as well as cultivated lands, and merely indicate the extent to which the two systems respectively prevail.



Province.	Ryotwari (Peasant Proprietors).	Zamindari (Individual Proprietors or Village Communities).		Total.
		Permanently settled.	Temporarily settled.	
	000 acres.	000 acres.	000 acres.	000 acres.
Burma	114,000	—	—	114,000
Assam	25,865	3,931	1,502	31,298
Eastern Bengal	—	21,712	7,004	28,716
Bengal	—	59,242	14,850	74,092
United Provinces of Agra and Oudh	—	7,841	60,575	68,416
Punjab	—	—	62,215	62,215
North-West Frontier Province	—	—	8,438	8,438
Bombay	44,850	—	3,771	48,621
Siud	30,252	—	—	30,252
Central Provinces	1,773	—	40,606	42,379
Berar	11,327	—	—	11,327
Mudras	61,577	29,179	—	90,756
Minor Administrations (Ajmere, Coorg, Manpur)	1,043	959	735	2,787
<b>Total</b>	<b>290,687</b>	<b>122,864</b>	<b>199,696</b>	<b>613,247</b>

It will thus be seen that about 47 per cent. of the total area is held by peasant proprietors, while 20 per cent. is held by permanently settled, and 33 per cent. by temporarily settled, zamindari proprietors.

LAND LEGISLATION.

*Bengal.*—Throughout the major part of the province the relations between landlord and tenant are governed by the Bengal Tenancy Act, which continued to work satisfactorily. The withholding of rent receipts and the levy of illegal exactions have by no means ceased, but the tenants are gradually learning to know their rights and to resist illegal demands. Settlement operations have taught tenants their rights and privileges, and the general spread of education tends to the same result. The Chota Nagpur Tenancy Act of 1908, passed to amend and codify the existing laws, was extended to the Manbhum district in December 1909. A special Tenancy Bill has been framed for Orissa.

*Eastern Bengal and Assam.*—The Bengal Tenancy Act is in force in all the Eastern Bengal districts, except the Chittagong Hill Tracts. Both landlords and tenants are said to have become better acquainted with its provisions, chiefly owing to survey and settlement proceedings, the records of which are being more freely used. Tenants, however, from ignorance of their own rights and of their landlords' legal powers, still suffer in many districts from exactions and from illegal methods employed by landlords and their agents to extort enhancements of rents and consent to inequitable leases.

*United Provinces.*—Owing to the protection afforded by the Agra Tenancy Act there has been a growth in the area occupied by tenants of 12 years' standing. Out of 20½ million acres held by ordinary tenants over 13¾ million acres are now protected, that is, the landlords are debarred from arbitrary ejection. The area protected increased by 108,781 acres in 1908-9.

The Bundelkhand Alienation of Land Act, 1903, which is framed on the lines of the Punjab Land Alienation Act, continues to work satisfactorily. Its object is to place restrictions on the sale or other permanent alienation of land by the agricultural castes to the non-agricultural classes. In the year under review 71 per cent. of the transactions affecting land in the districts to which the Act applies were between agriculturists. As regards agricultural credit, larger loans may be more difficult to obtain than formerly, though smaller ones can be got readily. The Act has not injuriously affected credit. Attempts to evade the Act were few.

*Punjab.*—The Punjab Land Alienation Act of 1900, designed to protect hereditary land-owning tribes from expropriation by money-lenders, has been extended to those tribes who, though numerically weak, are really agriculturists and require protection. This is a distinct innovation. The effect of the Act for some years was to prevent further loss of land by the tribes, but now the old land-owning tribes are recovering part of what passed out of their hands before 1901. The anxiety of all classes to be notified under it disposes of the allegation that credit has been impaired. Very few evasions of the Act have been reported.

*North-West Frontier Province.*—The Punjab Alienation of Land Act, 1900, as modified by the North-West Frontier Province Regulation No. I. of 1904, and as amended in 1908, has now been operative for five years in three districts. The Act is appreciated by the zamindars and its operations appear to be beneficial. Gifts and exchanges have not been used as a means of evading the Act.

*Madras.*—The Madras Land Encroachment Act of 1905 worked smoothly, except in Salem, where the faultiness of the re-survey gave rise to trouble. The difficulties in the working of the important measure for defining and regulating the position of tenants in the *zamindari* areas, known as the Madras Estates Land Act of 1908, are gradually settling down as suits are decided by the Law Courts. Landlords and tenants resorted to the provisions of the Act more largely than in 1908-9, but it is still insufficiently known. In some places relations are strained owing to the ryots' eagerness to substitute money for grain rents, and payments of rents are being withheld pending decisions of suits. No glaring defect needing immediate rectification has been noted in the working of the Act.

*Bombay.*—The extension of the Deccan Agriculturists' Relief Act from four selected districts to other parts of the presidency, though of recent date, has induced the cultivator to adopt sounder methods. Its working has been fortified by the restrictions imposed in certain parts, under the conditions of the new tenure, on the alienation of lands, by the operations of the co-operative credit societies, and above all by the widespread system of Government advances. Although it has restricted credit by checking unnecessary borrowing, it has not hampered agricultural operations by crippling the finances of the ryot. Moreover, it has tended to lower the money-lender's rate of interest.

#### REVENUE SURVEYS AND SETTLEMENTS AND LAND RECORDS.

For the purpose of land revenue assessment revenue surveys are necessary. Cadastral maps showing the holdings are prepared, and corresponding field registers are made showing from whom the revenue assessment is to be realised, and also the amount of such assessment. The record also usually exhibits the existing rights in, and encumbrances on, the land. As the revenue records are carefully revised at short intervals a very extensive and complete system of registration by public entry is being built up, and transfers of land are easily attested. Settlements (or re-settlements) in new or in temporarily settled areas are always in progress. In consequence of improved methods the period occupied in the process is much shorter than formerly, and involves comparatively little harassment of the people.

*Bengal.*—In January 1909 the control of cadastral surveys was transferred from the Surveyor General of India to the Bengal Settlement Department, whose work now also includes traverse surveys, special surveys, and mapping. Survey and settlement work during the agricultural year to September 1910 extended over 17 districts. The main work of the Survey Department consisted of traverse surveys, which covered 3,635 square miles, or 270 more than in 1908-9. The area cadastrally surveyed was 3,474 square miles, as against 3,378 square miles in 1908-9. The total area for which a record of rights has now been completed in Bengal is 51,392 out of 115,819 square miles. Rents were settled for 163,195 tenants, as compared with 201,459 tenants in 1908-9. The revision of the survey and record of rights in the temporarily settled districts of Orissa was continued, the total area now covered by the operations being 5,173 square miles. The settlement of rents in the temporarily settled and Government estates in Midnapore and in the permanently settled estates of the Sonthal Parganas was completed.

*United Provinces.*—Settlement operations were completed in three districts, and in one only was any settlement work remaining. The new assessment in Moradabad produced an increase of over 24 per cent. in the demand, while in Banda there was a decrease of under 1 per cent. The reorganised Land Records Department has made progress in all directions. Village records were submitted with much greater punctuality and their testing was satisfactory. The village maps have been brought up to date. A revised Land Records Manual has been prepared.

*Punjab.*—Settlement operations were completed in Gurgaon district, and made good progress in six other districts. The assessments sanctioned in 1908-9 in the province gave an aggregate increased land revenue of £49,000. In order to save trouble to the people and cost to the Government settlement operations have been shortened by curtailing the time spent on measurement work and revision of records. The agriculturist element in the *patwari* staff was further strengthened.

*North-West Frontier Province.*—Settlement operations in the Frontier Province were completed during 1906-7 after six years' work. But owing to complaints of unduly heavy enhancements of revenue imposed in the settlements an inquiry was undertaken, and it was shown that, although defensible from a purely revenue standpoint, the enhancements were too high and sudden, while insufficient consideration had been paid to the poor communications and to the insecurity of life and property inseparable from a border tract. Remissions of revenue were made in villages in three districts where the existing demand was found too heavy, and detailed inquiry has been instituted to decide what further relief is required. In the Department of Land Records the number of mutations attested during 1908-9 was 128,434.

*Burma.*—In future revision surveys of areas changed in natural features or by cultivation and extension surveys of new tracts outside the cadastral area are to be more generally undertaken by the regular district staffs, instead of by special itinerant staffs. Owing chiefly to financial stringency little survey work was done in 1909-10. Of the 37 districts of the province six are unsettled and 27 are wholly settled, while in four temporary settlements are in force. The six unsettled districts are hilly and sparsely populated, and it has been decided that settlement is not at present necessary. In five districts second settlements have been made. In one a third settlement is in progress. It has been decided to extend the normal period of settlement from 15 to 20 years and to graduate the increases of rates imposed in revision settlements. The rates fixed in the first settlements were very low and early revision was desirable, but now that in most districts of Lower Burma normal rates have been fixed, the need of frequent revision and considerable increases in revenue rates has largely disappeared. It has also been decided to devote at least two years to the examination on revision of any area proposed for re-settlement. During 1909-10 settlement operations were in progress in six districts. The average cost of the operations was 7*d.* per acre. Second settlements were notified in Thaton and Minbu districts, and new (intermediate) rates were notified on a cultivated area of 687,071 acres, the aggregate revenue demand being increased by 18,090*l.*, or 21·6 per cent. The reorganisation of the superior Land Records staff was completed.

*Central Provinces and Berar.*—During the year settlement operations were carried on in nine districts. The Mandla settlement was practically completed, and good progress was made in Jubbulpore and Raipur. In the Land Records Department the scales of pay have been found insufficient to attract recruits, owing to continued high prices.

*Eastern Bengal and Assam.*—In 1908-9 the survey work of the province was separated from that of Bengal and an independent Survey Department was constituted. A survey and record of rights for the entire settled area of the province are being prepared, and afterwards the village maps and records will be kept up to date. The record of rights is increasingly utilised by executive and judicial officers. Good progress was made with major settlement operations in the Jalpaiguri and Mymensingh districts of Eastern Bengal and the Lakhimpur district of Assam.

*Madras.*—Six survey parties were at work during 1909-10 in five districts. They dealt with 2,376 square miles, but were again unable to work up to the forecast. Five settlement parties continued their operations. The aggregate land revenue demand of the districts either newly settled or re-settled is £3,579,660, an increase of 28·2 per cent. on the demand prior to re-settlement. The cost of the re-settlement operations up to the end of 1908-9 has been £1,128,119. The Land Records Department was, as in previous years, mainly confined to measures preliminary to maintenance.

*Bombay.*—The survey and settlement officers were engaged in demarcation, measurement, classification, and other work of a routine character. Survey parties continued operations in all divisions of the Presidency. The record of rights is now almost completely established in the Presidency proper, while considerable progress has been made in Sind. A course of survey instruction was conducted at numerous centres for Circle Inspectors and Village Accountants.

#### REVENUE ASSESSMENTS AND INCIDENCE.

Land revenue is realised in the form of an annual payment for cash, the assessment rates being subject to no alteration during a prescribed term of years, though the amount leviable in any year may vary according to the area actually cultivated or to the condition of the harvest. Except in Bombay (where the assessment is not fixed in

terms of produce), the land revenue is assessed so as to represent a share, not of the gross, but of the *net* produce (or net assets). In the zamindari, or landlord settlements, that widely prevail in Northern India, the cultivating tenant pays rent to a landlord. Of this rent the Government usually takes rather less than 50 per cent. as land revenue.

The incidence of land revenue on the fully assessed cultivated area is under 1s. 1d. per acre in the permanently settled area of Bengal, and represents, on an average, less than 25 per cent. of the rental. In the permanently settled tracts of Eastern Bengal it falls to about 11d. per acre, while in those of the United Provinces it rises to 1s. 4d. in Oudh and 1s. 10d. in Agra. In the temporarily settled tracts the incidence per acre is approximately 1s. 11d. in Upper Burma, 3s. 8d. in Lower Burma, 3s. 4d. in Sind, 3s. 3d. in Madras, 2s. 4d. in Agra, 2s. 6d. in Oudh, 2s. 4d. in Eastern Bengal, 1s. 11d. in Bombay, 1s. 7d. in Berar, 1s. 6d. in the Punjab, and 8d. to 9d. in the Central Provinces. Rates of revenue vary greatly with the productive power of the soil, advantages of climate and irrigation, and facilities for marketing produce. The land revenue rates for Sind and Madras given above include charges for State irrigation; elsewhere the land revenue rates exclude these charges. In Madras and Bombay the revenue demand is not enhanced on account of increased productiveness due to private improvements, while in Northern India such improvements are not taken into account in assessing the revenue until a period varying from 20 to 45 years has elapsed. It may be added that the burden of the land revenue per head of the population of British India was under 1s. 8d. in 1909-10.

It has been calculated that in the Central Provinces the share of the gross produce represented by the land revenue is less than 4 per cent. of the average annual value; in Berar, the Deccan, and the greater part of the Punjab, about 7 per cent.; and in Gujarat, 20 per cent. It is certain that the Government now takes a very much smaller share of the gross produce than was customary in the days before British rule, while the assessments are lower than those that prevail generally in the Native States.

The Government makes liberal reductions of assessments in cases of local deterioration, where such reductions cannot be claimed under the terms of settlement.

#### COLLECTION OF THE REVENUE.

The fluctuations in the gross land revenue receipts (exclusive of those credited to irrigation) in past years may be seen from the following table:—

Year.	Land Revenue Receipts (excluding those due to Irrigation).	Variation (Average of Five Years, 1881-5 = 100).
	£	
1881-5 (five years' average)	14,748,000	100·0
1886-90 " " (annexation of Upper Burma)	15,445,000	104·7
1891-5 " " "	16,522,000	112·0
1896-1900 " " (includes two famines)	17,217,000	116·7
1900-5 " " "	18,483,000	125·3
1905-6 (single year)	18,836,000	127·7
1906-7 " " "	19,794,000	134·2
1907-8 " " (widespread shortage of crops)	18,719,000	126·8
1908-9 " " "	19,759,000	134·0
1909-10 " " "	21,332,000	144·6

The general increase in land revenue is attributable to a variety of causes—to the inclusion of new territory (as Upper Burma); to the bringing of new land under cultivation as in Lower Burma, the Central Provinces, Sind, and the Punjab; to the inclusion of Berar since 1st October 1902; and to the progress of settlements and re-settlements, which, owing to the generally enhanced values of land, usually result in additions to the land revenue. Irrigation canals have enabled the cultivable area to be greatly extended, especially in Sind and the Punjab. The land revenue is usually paid punctually, and it is seldom necessary to have recourse to imprisonment, sales of land, or other processes for the recovery of arrears.

In 1907-8 the yield of land revenue was much reduced through the widespread shortage of crops. The receipts for 1908-9 were also adversely affected by the failure of the winter rains in Bombay and other provinces, and the partial drought in Upper Burma, though in the United Provinces and the Central Provinces there were large collections of arrears of land revenue suspended during the famine. The improved agricultural conditions in 1909-10 enabled a large part of the heavy arrears

of the two previous years to be paid up. This recovery of arrears, the extension of cultivation in Burma, the introduction of re-settlement rates in certain Madras districts, and larger sales of proprietary rights in the Punjab canal colonies swelled the revenue in 1909-10.

The land revenue receipts in 1908-9 and 1909-10 were made up as follows:—

	1908-9.	1909-10.
Ordinary land revenue	£18,864,010	£20,238,630
Assessment of alienated lands, less quit-rents*	633,533	659,766
Sale of proprietary right of Government in land†	21,670	81,875
Capitation tax, or house tax levied in lieu thereof‡	660,074	657,667
Sale of waste lands and redemption of land revenue	50,365	72,804
Recovery of survey and settlement charges§	39,090	70,107
Fisheries and other receipts	581,362	668,680
	£20,850,104	£22,449,529
<i>Deduct</i> portion of land revenue due to irrigation	1,091,044	1,117,388
<b>Total land revenue</b>	<b>£19,759,060</b>	<b>£21,332,141</b>

The charges in 1909-10 included £1,578,386 for district administration, £462,602 for survey and settlement charges, £936,474 for land records, and £672,048 for collection of the revenue. The total charges were £3,650,079.

The total advances made by Government to cultivators during 1909-10 amounted to £766,500, and the total amount of advances outstanding at the close of the year was £3,067,000. The advances were chiefly for the relief of agriculturists, but partly for the improvement of land and for loans to co-operative credit societies.

The progress of the land revenue will now be reviewed province by province. The figures are taken from the land revenue reports relating to the agricultural year, while those given above are from the corrected Accounts of the Government of India, and relate to the financial year.

*Bengal.*—The land revenue of Bengal remains fairly constant, as most of the province is under permanent settlement. The revenue demand for 1909-10, excluding arrears, amounted to £1,928,963, including £1,525,392 from 115,005 permanently settled estates, £215,032 from 10,661 temporarily settled estates, and £188,539 from 961 estates under the direct management of Government. As a result of the good harvests, following three bad years, the percentage of current collections on current demand rose to 98·2 per cent. Remissions were trifling. The number of estates, &c. which became liable to sale for non-payment of Government revenue fell to 12,998, but only 675, or 5·1 per cent., were actually sold. Under the Public Demands Recovery Act, 62,082 certificates were filed for recovery of arrears of revenue (exclusive of cess), compared with 56,930 in 1908-9; payment was generally secured on issue of notices or on attachment of property, but actual sale was necessary in 2,048 cases, and warrants were issued in 784 cases, 37 defaulters being imprisoned. Advances under the Loans Acts amounted to £148,969.

*United Provinces.*—In the United Provinces there was a substantial recovery after a year of famine, though normal conditions were not wholly restored in all districts, and the land revenue demand for 1908-9 was much swollen by the suspensions of 1907-8. The fixed land revenue demand in 1908-9 was £4,320,321. About £303,800 was remitted or suspended, and the collections were short of the demand by only £5,800. Other sources of revenue, not strictly classed as land revenue, are the occupiers' rate (receipts, £568,536) and the owners' rate (receipts, £11,659), which constitute payments for irrigation, besides cesses, &c. The collections on account of canal rates fell with a decrease in the area irrigated. There was, in spite of recovery from famine, a large demand for advances under the Land Improvement Loans Act and the Agriculturists' Loans Act, the total amounting to the large sum of £209,600. The loans were chiefly for the purchase of seed and plough cattle and for the repair or construction of wells. Over £820,000 was repaid of loans made in 1907-8. The number of coercive processes nearly doubled, partly because the year was difficult for revenue collections, partly because the irregular use of single citations and warrants for several defaulters at once has been checked. For the same reasons the number of warrants for arrest (8,694) showed the large increase of 4,005. Attachments of

\* Mostly from Bombay.

† Mostly from Punjab.

‡ Mostly from Burma.

§ From Bengal and Eastern Bengal and Assam.

moveable property were not abnormal, and only in 121 cases was the attached property sold. There was only one sale of immovable property.

*Punjab.*—The year 1908–9 was one of abundant rainfall. The autumn harvest was much above normal, and the spring harvest was about normal. The fixed land revenue demand for the year amounted to £1,369,800, or about £7,000 less than in 1907–8. About 97 per cent. was collected. The “fluctuating” revenue amounted to £355,075, or 20 per cent. of the total land revenue demand. There was an increase in the area under the “fluctuating” system, in which the demand varies with the crop; it is applied for the most part to canal-irrigated and riverain tracts. Miscellaneous revenue, mostly derived from sales of Government estates, amounted to £130,100. A large portion was derived from the sale of Government estates in the Chenab Colony districts. Agricultural advances amounted to £48,500.

*North-West Frontier Province.*—In 1908–9 the harvests were good. Of the total demand of £129,572 on account of fixed land revenue, 99·4 per cent. was collected. Fluctuating and miscellaneous land revenue contributed £26,771, compared with £23,052 in 1907–8. The system of fluctuating assessments is generally appreciated. Coercive processes rose from 1,789 to 2,223. The increases were chiefly in the Hazara and Dera Ismail Khan districts. In only one case was imprisonment necessary. The agricultural advances made during the year amounted to £8,400.

*Burma.*—The agricultural year to 30th June 1910 was generally favourable in Lower Burma and excellent in Upper Burma. The revenue demand (exclusive of arrears) under the various heads for each of

	1908-9.	1909-10.
	£	£
Land Revenue -	1,719,288	1,743,160
Capitation tax -	357,987	365,578
Household tax -	273,556	279,043
Fisheries -	186,353	197,711
Other sources -	202,140	230,899
<b>TOTAL</b> -	<b>2,739,324</b>	<b>2,816,391</b>

The current land revenue demand amounted to £1,743,160, of which over 99 per cent. was collected. Under each head there were increased receipts, but the proportionate increase in land revenue was somewhat less than in recent years. The number assessed for capitation tax increased to 1,343,639, a growth of 29,144. There was a rise of 20,247 to a total of 780,886 in the number of households assessed to the household tax,

or *thathameda*. There was a satisfactory increase, amounting to £11,358, in receipts from the river and other fisheries. The heading “other sources” includes fees, rents, and royalties on petroleum, rubies, &c., which amounted to £196,400. Remissions, due chiefly to floods, amounted to £23,939. As regards coercive processes for the recovery of revenue, the number of defaulters committed to jail was only 37. Capitation tax and *thathameda*, which are levied in Lower and in Upper Burma respectively, are harder to collect without process than land revenue. Coercive processes are mostly issued not on account of contumacy, but because the assesses are not readily found. The amount of agricultural advances rose to £53,481.

*Central Provinces and Berar.*—In the Central Provinces the year to 30th September 1909 was one of partial recovery after the failure of 1907–8, and prosperity increased among the agricultural classes. The land revenue demand (excluding cesses) was £592,555. Remissions and suspensions were small. Collections were good. Coercive processes showed some increase. The number of defaulters arrested was 149, but only one was imprisoned; attachments and sales of property numbered 614 and 33 respectively. Agricultural advances to the amount of £65,184 were made, chiefly for the purchase of seed and cattle.

In Berar during the year to 31st July 1909 indifferent crops followed on the very poor season 1907–8. The land revenue demand, including cesses, amounted to £596,666, a small increase over that of 1907–8, and almost the whole was collected during the year. There was an increase in the number of coercive processes, but attachment was effected in only 335 cases and actual sale in only 19 cases. In Berar agricultural advances amounted to £13,167.

*Eastern Bengal and Assam.*—While the year 1908–9 was marked by a general shortage and uneven distribution of rainfall in most parts, the year 1909–10 had on the whole a well-distributed rainfall, and the rice crop was the best for some years. The total current land revenue demand for the Plains districts was £1,285,374, as against £1,268,334 in 1908–9, while the collections were respectively 96·5 as against 96 per cent. Of the total revenue 51 per cent. was contributed by

permanently settled estates, 37 per cent. by temporarily settled estates, and 12 per cent. by estates under direct Government management. Miscellaneous land revenue amounted to £41,431 in 1909-10. The land revenue was collected with great ease, and only 496 estates (mostly petty estates, in the Chittagong district) were actually sold in Eastern Bengal. The amount of revenue for which it was necessary to sell up property in Assam was very small. The amount of agricultural loans granted, £12,560, was smaller than in 1908-9. The revenue demand (ordinary and miscellaneous) for the Assam Hill districts was £17,298 in 1909-10, as against £16,631 in 1908-9.

*Madras.*—The south-west monsoon in 1909-10 was on the whole good and well-distributed, but the north-east monsoon was generally deficient. Both the dry and hot weather rains were below the average. The total crop area fell below the normal by 298,000 acres, while the outturn was in no case above normal. The total current demand in 1909-10 for land revenue, including charges for irrigation and miscellaneous receipts, was £4,300,590 (in addition to £433,196 for various cesses), of which nearly 98 per cent. was collected. Of the above demand, £332,775 represents revenue from permanently settled estates, and £50,342 quit-rents from villages held under special tenures, these sums being fairly constant; the remainder comes mainly from peasant proprietors. Remissions were small. As the result of orders which were passed in 1904 to restrict the issue of demand notices to cases of real necessity, there has been a decline in the number from 6,212,162 in 1903-4 to 1,538,087 in 1909-10, while the number of sales has fallen from 9,479 to 3,564. Advances under the Loans Acts amounted to £43,800.

*Bombay and Sind.*—During the year to 31st July 1909 the season, though better than in 1907-8, was unsatisfactory in the greater part of Bombay, but was favourable on the whole in Sind, except in the Karachi district. The total land revenue demand amounted to £2,771,796. A large sum was under suspension, especially in the Central Division. The collections were 89 per cent. of the demand in Bombay and 94 per cent. in Sind. The agricultural advances made in Bombay and Sind amounted to £137,623.

#### WARDS' AND OTHER ESTATES.

*Wards' Estates.*—Courts of Wards have been established in most of the larger provinces. Primarily intended for the protection of the Government revenue, they are also beneficial to the interests of the owners, and recent changes in the law have been largely made in the owners' interests. Before 1899, the Courts had power to assume the management of estates of minors, of persons physically or mentally incompetent to manage their own property, or of persons declared by the local Government, at their own request, to be disqualified for its management. Since that year, various amending Acts have been passed in the several provinces, their general effect being to increase the powers of the Court of Wards with regard to the management of the properties under its charge and the discharge of encumbrances, and to prevent disqualified proprietors from creating new charges without the knowledge of the Court. The duty of the Courts is to manage the estates under their charge in the interests of both proprietors and tenants; to support the family of the proprietor, and to educate young wards; to pay off debts due by the estates; and to spend the surplus income on the improvement of the property in the best attainable way.

At the end of the last agricultural year for which complete figures were available there were 615 estates under management in the eight provinces that have Courts of Wards. The gross income of the estates was about £2,472,000.

*Other Estates.*—In Bengal there were 961 Government estates under direct management, with a current revenue demand of £188,539. The number has been reduced from 1,530 in 1908-9 chiefly by amalgamation. In Eastern Bengal and Assam there were 1,590 Government estates under direct management, paying an annual revenue of £156,921, at the close of 1909-10. In the United Provinces the number of Government estates fell from 624 to 611, most of them being properties bought in under the Bundelkhand Encumbered Estates Act. In Bombay proper there were 302 estates under the management of the Talukdari Settlement Officer and 302 encumbered estates under a special manager in Sind.

## CHAPTER V.

## REVENUE FROM TAXATION AND OPIUM.

SALT.	CUSTOMS.
EXCISE.	INCOME TAX.
PROVINCIAL RATES.	REGISTRATION.
STAMPS.	OPIUM.

(For further details see *Statistical Abstract for British India*, Tables 43, 45 to 47, 50 to 58, and 61 to 66.)

Of the eight heads of revenue dealt with in this chapter, seven comprise the tax revenue of India, and furnish about 43 per cent. of the total net revenue of the Indian Government. To this the chief contribution is made by excise, the yield of which has increased in recent years, mainly on account of higher rates of duty and stricter supervision. Next come customs and stamps, both of which have benefited by the great progress in trade and industry. The salt revenue has diminished, owing to reductions, amounting to 60 per cent., in the rate of duty since March 1903. Receipts from income tax and registration, though small, are increasing.

## SALT.

*General.*—From time immemorial a tax on salt has been a source of revenue in India. The salt revenue is now raised by a duty on all salt imported into, or manufactured in, India. The rate of duty has in past times ranged from 3 annas (in Burma) to 3½ rupees (in Bengal) per maund of 82½ lbs. In 1882 a general duty of Rs. 2 per maund was introduced (except in Burma), and this was raised in 1888 to Rs. 2½. In 1903 the rate of Rs. 2 was reverted to, and in March 1905 the tax was further reduced to Re. 1½ per maund. A further reduction to one rupee (or 1s. 4d.) per maund was effected in March 1907. In Burma the rate has remained since 1888 at one rupee per maund on imported salt, and a system has been introduced by which the greater part of the salt which is locally produced pays a duty of 8 annas per maund. The Indian salt duty is now more uniform, and lower on the average, than at any former time. The reduced duty and increased facilities for transport have made salt cheaper than ever before. The successive reductions of duty have led to a

Year.	Issues of Salt in 100,000's of Maunds.	Duty per Maund.	Gross Revenue.
Average :		Rs.	000 £
1898-9 to 1902-3 -	360	2½	6,002
1903-4 and 1904-5	385	2	5,302
1905-6 and 1906-7	419	1½	4,370
Year 1907-8 - -	444	} 1 {	3,339
" 1908-9 - -	454		3,276
" 1909-10 - -	458		3,320

large increase in consumption throughout India, as will appear from the table in the margin, the increase in the five years since the reductions began being about 20 per cent. Although, however, consumption has grown, the sacrifice of annual revenue cannot be made good by enhanced consumption within any period worth considering. The gross revenue from salt (including excise and customs receipts, proceeds of sales of Government salt, &c.) during recent years is shown in the table. In 1908 an Act was passed permitting the payment of the duty on a system of limited credit instead of in cash, and the reduction in revenue in the last two years is partly due to this cause. The revenue in 1909-10 increased to £3,319,518, of which nearly 30 per cent. was derived from imported salt. The charges amounted to £330,743, exclusive of £251,768 paid under treaties in the form of compensation, principally to Native chiefs who have assigned their salt sources to the Government of India. In some provinces the salt and excise administrations have recently been united.

The principal sources of salt supply are the sea coast, especially in Madras and Bombay, where salt is manufactured by the evaporation of sea water; the salt lakes and pits of Rajputana; the salt mines of the Punjab and North-West Frontier Province; and importations from abroad, which supply most of Bengal, Eastern Bengal and Assam, and Burma. The duty is levied on salt at the place of manufacture, or at the port of importation, before it passes into consumption. Some of the salt sources belong to, or are worked under the direct control of, the various Local Governments; others are owned or leased by private individuals. The salt supply of India is not, therefore, a Government monopoly, and the importation of salt is unrestricted. Manufacture is not allowed where the circumstances are such as to render proper collection of the duty impracticable, as, for instance, on the coast of Bengal.



*Northern India.*—The salt sources under the control of the Northern India Salt Department comprise: (1) the Rajputana sources, including the Sambhar Lake and the brine springs at Pachbadra and Didwana in the Jodhpur State; and (2) the Punjab sources, including the Mayo, Warcha, and Kalabagh mines, the Kohat mines, the Mandi mines, and the brine springs at Sultanpur. The most important sources are the Sambhar Lake and the Mayo mine. Since 1870, when the lake was leased by the Government of India, over 148 million maunds of salt have been taken from it, and the financial results show a total credit balance of nearly £290,000. Owing to fears that the Sambhar salt was becoming exhausted, a long trench for obtaining subterranean brine has been excavated through the bed of the lake, while combined storage and evaporating reservoirs have been constructed. In spite of plague and shortage of labour there was a record outturn of 8,009,050 maunds in 1909-10. The Sambhar salt is sold at a uniform price of 4 annas per maund, with a charge of 3 pies for clearance; the sales in 1909-10 amounted to 4,800,112 maunds. The price of Didwana salt was 9 pies until 4th October 1909, when it was raised to 2 annas owing to a heavy run due to the opening of the railway; and the price of Pachbadra salt 1½ annas, with a charge of 3 pies for clearance. The sales from the Mayo and other Punjab mines amounted to 3,304,384 maunds. The Mayo salt is sold for 9 pies per maund, or, at the Khewrah depôt, for one anna. Kohat salt, on the average, costs about 9 pies. The gross revenue of the Northern India Salt Department in 1909-10 was £731,814, or £25,489 less than in 1908-9, while the total charges amounted to £78,243. The total quantity issued by the Department for consumption was 10,019,980 maunds, as compared with 9,523,039 maunds in 1908-9. The following table shows the provinces and states mainly supplied by the Department, with the salt consumption in 1909-10 and the average retail price of salt in each in 1909-10, compared with that in 1908-9:—

Province or State.	Total Consumption.	Average Retail Price per Maund.		Average Consumption per Head.†
		1908-9.*	1909-10.	
	Maunds.	Rs. A. P.	Rs. A. P.	Lbs.
North-West Frontier Province	182,880	1 9 1	1 8 8	7·08
Punjab	2,695,238	1 9 11	1 9 9	8·96
Kashmir and Jammu State	371,739	—	—	11·42
United Provinces	5,417,873	2 1 4	2 0 3	9·19
Bohar (Bengal)	3,544,040	2 1 7	1 15 4	12·03
Central Provinces and Berar	2,457,660	2 6 1	2 5 8	13·83
Rajputana and Central India	2,539,781	1 14 8	1 14 11	11·09

\* Corrected figures.

† No allowance has been made for increase in population since the census of 1901.

The average retail prices were lower in all the British provinces enumerated. The annual figures of consumption represent the difference between the estimated supply (including imports into) and the exports from each territory, and are liable to be vitiated by the existence of stocks.

The Department issued 48,266 licences for the manufacture of saltpetre and other saline substances in 1909-10. The refineries produced 480,150 maunds of refined saltpetre.

The number of persons arrested for offences against the salt law was 416, of whom 246 were released. Of 151 persons convicted 19 were imprisoned.

*Bengal.*—The salt consumed in Bengal is imported from abroad or from other parts of India. In the littoral districts salt production is prohibited, owing to the difficulty of preventing illicit manufacture. The area under preventive operations was reduced during the year. The quantity of salt imported in 1909-10 was 11,678,319 maunds, a decrease of 16 per cent. upon 1908-9, ascribed to the existence of heavy stocks. About 1,130,600 maunds of Madras salt were imported into Orissa by rail. The average wholesale price of salt, including duty, at the chief marts of Bengal was about Re. 1.15.3 per maund, having decreased by about 2 annas as compared with 1908-9. The average retail prices in the saliferous tracts fell to 9½ pies a seer. The net amount of salt consumed in the province rose to 8,172,823 maunds, as against 8,506,450 maunds in 1908-9. The number of persons convicted of offences against the salt law was 95, a considerable decrease. Salt issued for use in curing fish was exempted from duty from December 1909. Detailed instructions were published for the issue of salt on the credit system on deposit of security.

*Eastern Bengal and Assam.*—This province, like Bengal, depends on imported salt. The total consumption in 1909-10 was 3,014,945 maunds, being an average per head of over 7½ lbs. The average wholesale selling price per maund, including duty, was Rs. 2.0.8, against Rs. 2.2.5 in 1908-9. There were no offences against the salt law, this being ascribed to the cheapening of salt by the reduction of the duty and to the vigilance of the preventive staff.

*Madras.*—Originally there was a Government monopoly of salt manufacture in the Madras Presidency, but in 1882 an attempt was made to substitute private manufacture and abolish all Government factories. This, however, did not answer, and in 1888 a certain number of Government factories were established as a check on the prices and quality of the privately manufactured (or "excise") salt. The system thus instituted still exists. Of the 64 factories worked during 1909-10, 45 were under private and 19 under Government management. The outturn of salt declined, owing to heavy rain during the manufacturing season, from 11,844,846 to 8,427,467 maunds, of which 5,806,020 maunds were "excise" salt. The imports from Bombay and Goa, mostly to West Coast ports, amounted to 1,565,836 maunds. Excluding the salt sold for fish-curing and to the French Government, or exported, the total of salt for consumption was 10,875,887 maunds. The average consumption per head was 20.2 lbs. in the whole Presidency, including Coorg and Mysore, and other Native States (except Travancore and Cochin), as compared with 19.0 lbs. in 1908-9. The average wholesale price of "excise" salt fell from 3 annas 4 pies to 3 annas 2 pies per maund. Government salt is usually sold at a fixed rate of 3 annas per maund. The retail prices, including duty, varied from Re. 1.6.1 to Rs. 2.10.4 per maund, against Re. 1.6.3 to Rs. 2.8.3 in 1908-9. There was a further decline in offences against the salt laws, ascribed chiefly to the lower price of salt and to heavy rain in saliferous districts.

At the end of 1909-10 133 bonded yards were open for curing fish under special regulations, whereby cheap salt is sold to fish-curers. The quantity of fish brought to be cured declined to 1,305,802 maunds, the season being less favourable for fishing, and 711,696 maunds of cured fish left the yards fit for consumption.

*Bombay.*—The salt supply of Bombay comes from the Pritchard salt brine works, owned by the Government (Baragra salt), from sea-salt works on the coast, and from abroad, chiefly from Goa. The 435 sea-salt works, excepting one, at Dharasna, worked by the Government, are owned by, or leased to, private individuals. The bulk of the Baragra salt is exported to the United Provinces, the Central Provinces, and Central India; while the Madras Presidency and its States, Hyderabad, Mysore, Calcutta, and the Central Provinces, take large amounts of sea salt. The conditions of the year were favourable. The marginal table shows the issues of salt from each source in 1909-10. The consumption per head

	Total Issues.	For Local Consumption.
	Maunds.	Maunds.
Baragra salt -	2,740,514	560,606
Sea salt -	9,190,486	2,253,293
Imported salt	418,027	287,952
Total -	12,349,027	3,101,851

was 12.17 lbs., as against 12.18 lbs. in 1908-9.

There was but little change in the average market price per maund in most districts. There was a further diminution, from 264 to 170, in offences against the salt laws, ascribed to the reduction of duty.

Thirty fish-curing-yards were open at the end of the year. The quantity of fish brought to be cured in bond fell from 248,778 to 247,717 maunds, and the quantity of cheap salt issued to fish-curers from 73,639 to 70,031 maunds.

*Sind.*—The Sind salt supply is derived chiefly from the sea-salt works at Maurypur, and in smaller quantities from salt deposits at Saran and Dilyar on the edge of the desert, and from importation. The quantity consumed during the year was 403,681 maunds. The consumption per head rose from 10.12 lbs. in 1908-9 to 10.35 lbs. in 1909-10. The average wholesale price of Maurypur salt was Re. 1.14.8, and the average retail price Rs. 2.3.4, except in the Sukkur district, where it was Rs. 2.4.9. Only one fish-curing yard was worked. Salt offences rose from 53 to 55.

*Burma.*—One rupee per maund is levied on salt imported into Burma. All salt locally manufactured formerly paid an excise duty levied by a composition rate on vessels used for boiling brine; but a system of levying duty on actual output has now been introduced into all districts where any large quantity is produced, and has proved

financially successful. As the result of an inquiry into the salt industry, it has been decided to suppress the manufacture where it is of slight proportions, to concentrate it wherever it is continued, to enhance the excise duty by 25 per cent., and to combine the Salt with the Excise Department. Duty was paid in 1909 on 1,635,703 maunds of imported salt, on which Burma mainly depends, and on 671,932 maunds manufactured under the system of direct taxation. The total estimated output of local salt was 706,171 maunds. The estimated consumption was 2,382,317 maunds, of which about 32 per cent. was Burma salt. The prices of both foreign and local salt vary greatly in different districts. The average retail price rose from Rs. 2.13.3 per maund in 1908 to Rs. 2.15.6 in 1909. The statistics relating to local production of salt are untrustworthy, but the returns show that it tends to increase. The imports of foreign salt have largely increased. There was a decrease to 258,621 maunds in imports of salted fish, on which a duty of 6 annas per maund is levied.

#### EXCISE.

*General.*—The excise revenue is derived from the manufacture and sale of intoxicating liquors, opium, and hemp drugs. There is no excise duty on tobacco or betel. Opium, which is a common household drug, is usually taken in the form of pills or is dissolved in water and drunk. Opium smoking is not extensively practised. The excise revenue from opium is chiefly composed of duty and vend fees, and the rate of duty varies with local conditions, being highest where smuggling is most difficult. The right of retail vend is usually sold by auction. With regard to hemp drugs, cultivation is restricted and controlled, a duty is paid before issue, and retail sale takes place under licences, which are usually sold by auction.

The considerable growth of the excise revenue in recent years is due mainly to higher rates of duty and stricter excise control, and does not indicate a corresponding increase in consumption, although some increase has occurred through the expansion of population and the greater prosperity of certain classes. There has been a large and continuous reduction in the number of country spirit shops in the chief provinces. The Government consider that shops should not be so few as to give each a monopoly over a wide area, lest prices should be unduly raised and illicit practices encouraged. Measures are being taken both to redistribute and to reduce the number of existing shops, as well as to improve the quality of the liquors sold.

In 1905 the Government of India convened a Committee to inquire into excise administration in respect of intoxicating liquors, and to propose reforms. In a Resolution, dated September 1905, they declared, in appointing the Committee, that they had no desire to interfere with those who use alcohol in moderation; but their settled policy was to minimise temptation for those who do not drink, and to discourage excess amongst those who do. The most effective way of forwarding this policy was to make the tax upon liquor as high as possible without stimulating illicit sale and production, and without driving people to substitute deleterious drugs for alcohol, or a more for a less baneful form of liquor. The Committee's report, dated 4th July 1906, was published as a Parliamentary Paper [Cd. 3327]. The orders passed thereon by the Government of India were also published as House of Commons Papers (142 and 209 of 1907 and Cd. 3816). As a result of the Committee's recommendations, an extensive programme of reform has been adopted, which is gradually being carried into effect. Some of the principal features of the Indian excise systems, with reference to the Government of India's recent orders, were outlined in the Moral and Material Progress Report for 1907-8.

The normal excise system for liquors, which will eventually prevail over the greater part of British India, is based on the grant by contract of the right of wholesale supply and the sale by auction of the right of retail vend. By these means the dangers of unrestricted competition for the supply of liquor and the attendant difficulty of proper supervision are avoided, while the largest possible part of the monopoly profits arising from these restrictions is secured to Government.

During 1909-10 many classes of excise duties were raised in the various provinces, in some cases on account of an increase in customs duties. But the increase in receipts anticipated from better economic conditions and stricter control was imperfectly realised. Continued high prices of food grains probably curtailed expenditure on exciseable articles. The following table shows the excise revenue for 1909-10 and 1908-9 under the different heads, as given in the Finance and Revenue Accounts :—

Year.	Licence and Distillery Fees and Duties.					Duty, &c. on Indian Consumption of		Fines, Confiscations, Miscellaneous.	Total Revenue.	Charges.	Net Revenue.
	Foreign Liquors, &c.	Country Spirits.	Toddy.	Opium and its Preparations.	Other Drugs.	Opium, &c.	Ganja.				
1909-10 -	£ 355,881	£ 3,416,128	£ 1,090,181	£ 254,014	£ 399,315	£ 738,020	£ 257,639	£ 26,676	£ 6,537,854	£ 897,913	£ 6,139,941
1908-9 -	£ 351,407	£ 3,373,062	£ 1,027,493	£ 255,370	£ 392,280	£ 734,848	£ 284,172	£ 20,996	£ 6,389,628	£ 390,562	£ 5,999,076

A sum of £697,275 was yielded by customs duties on excisable liquors imported into India during the year. The revenue from liquors and drugs (*i.e.*, total excise revenue less charges, plus Customs duties on excisable liquors) for 1893-4, 1903-4, and the last four years is given in the margin. In 1909-10 it amounted to rather less than sevenpence per head of the population affected.

The number of retail shops and the excise receipts, as compared with the population, are shown in the following table, province by province:—

PROVINCE.	Population of Excise Area by Census of 1901.	Number of Persons per Retail Shop licensed in 1909-10 for the Sale of				Net Excise Receipts per 10,000 of Population in Rupees.	
		Country Spirit.	Country Fermented Liquor.	Opium and its Preparations.	Narcotic or Intoxicating Drugs, other than Opium.	In 1908-9.	In 1909-10.
Bengal - - - - -	50,722,000	17,240	4,087	37,350	16,543	3,191	3,135
United Provinces - - - -	47,671,000	9,623	15,625	41,025	13,125	1,708	1,733
Punjab - - - - -	20,407,000	23,484	497,737	22,279	34,012	2,273	2,063
North-West Frontier Province -	2,120,000	57,308	—	25,547	24,096	1,310	1,412
Burma - - - - -	9,188,000	—	8,088	74,100	—	7,280	7,164
Central Provinces and Berar -	11,800,000	2,789	21,854	11,113	10,641	5,322	5,553
Eastern Bengal and Assam -	30,296,000	44,553	3,685	39,042	24,752	2,225	2,314
Madras - - - - -	38,248,000	3,797	2,267	35,813	59,118	6,154	6,561
Bombay - - - - -	15,525,000	6,940	1,544	19,310	27,237	8,885	9,374
Sind - - - - -	3,211,000	12,071	1,070,303	12,026	6,308	5,275	5,451

\* For distillery spirits, 199,747; for outstill spirits, 164,076.

**Bengal.**—In Bengal the total excise revenue for the last two years, according to the departmental returns, has been as shown in the margin. The decreases in 1909-10

Gross Receipts from	1908-9.	1909-10.
	£	£
Country spirits - - - -	599,036	576,374
Foreign liquors and rum -	31,222	31,065
Fermented local liquors, toddy, and rice-beer.	123,757	131,419
Opium - - - - -	181,303	171,401
Hemp drugs - - - - -	196,544	207,668
Miscellaneous - - - - -	1,524	1,634
<b>Total - - - - -</b>	<b>1,133,386</b>	<b>1,119,561</b>

under country spirits and opium were only partially compensated by increases under fermented liquors and hemp drugs. The excise revenue per head is about fivepence. Among various reforms adopted during the year may be mentioned:—(1) An enhancement in the duty on foreign liquor, imported or locally made; (2) a further extension of the contract distillery system by the abolition of outstills; (3) an increase of the rate of duty on country spirit in four districts or parts of districts; (4) the restriction of supply of opium to shops in Calcutta and the adjoining districts of the 24 Parganas, Howrah, and Hooghly; (5) an enhancement in the duty on *bharg* in 15 districts. Measures were also taken to restrict the home brewing of *pachwai* and to regulate its sale. It has been ordered that a condition prohibiting sale on credit shall be inserted in all licences for the retail sale of country spirit, except in Calcutta, where consumers might be diverted to cheap foreign spirit. Calcutta again contributed more than one-third of the total revenue from country spirit. In 28 large towns local committees, largely composed of non-official members, were appointed to advise collectors as to the number and sites of liquor shops to be licensed for the ensuing year. In deference to local opinion country spirit and *tari* shops were abolished or removed to other sites in 20 districts. In Bhagalpur town *tari* shops were reduced by 73. The Bengal Excise Act of 1909 came into force on 1st December 1909.

The consumption of opium decreased. The smuggling of opium into Burma continues to be practised on a large scale. The supply of opium from the Treasury

to licensed shops in Calcutta and the vicinity has therefore been restricted, but supplies are obtained from more distant districts. The importation and sale of cocaine have been limited to qualified and duly licensed persons; 272 licences were issued during the year. The illicit traffic in the drug again increased. Restrictions have also been imposed on eucaine, &c. An increased consumption of *ganja* is ascribed to a fall in the wholesale price. To check the unlicensed possession and sale of *ganja*, the limit of retail possession and sale has been reduced to 5 tolas, as in other provinces, from 1st April 1911.

There was a large increase—from 299 to 690—in the number of convictions for illicit distillation of country spirits, while 296 persons, of whom 258 were in Calcutta, were convicted for the illicit sale and possession of cocaine.

*United Provinces.*—In the United Provinces, after a decline in receipts from 1904-5 to 1908-9, there was a small rise in 1909-10. The gross excise revenue for the last two years has been as shown in the margin. The excise revenue per head is about three pence. There was only a slight increase in the consumption of country spirits, the recent famine and the consequent high prices of food grains and of the raw material of distillation, the increase in the still-head duty and restrictions on the trade being among the adverse factors of a year of transition. The chief feature of the year was the introduction of the contract supply system into 15 districts of the province. On

Gross Receipts from	1908-9.	1909-10.
	£	£
Country spirits - - -	335,856	346,548
Foreign liquors and rum - -	22,929	22,464
Fermented liquors - - -	18,988	19,021
Opium - - - - -	56,989	62,316
Other drugs - - - - -	124,562	122,635
Miscellaneous - - - - -	185	486
Total - - - - -	559,509	573,470

the whole it has worked well, enabling a greater control to be exercised over the trade. The policy of reducing the distilling areas has been continued. Local committees in towns of over 20,000 inhabitants advised upon the number and location of liquor shops, which were further reduced. The number of shops for the retail sale of country spirit was reduced by 216, and of *tari* shops by 40. The abolition of the official vend of opium and an enhancement of the issue price resulted in an increase of receipts. The receipts from hemp and other drugs showed little variation.

There was an increase in prosecutions, which was most marked in cases of illicit distillation. There was a number of cases of illicit trading in opium and cocaine.

A new Excise Act was passed in February 1910.

*Punjab.*—The gross excise revenue in the Punjab for the last two years has been as shown in the marginal table. In 1909-10, after a steady growth during the previous decade, there was a marked decrease in receipts, due to more stringent control over both distillers and vendors of liquor and to difficulties attending changes in rules. All outstills have been abolished and the still-head duty raised. The sales of country spirits were smaller. A taste for beer in lieu of spirit is said to be growing among the natives. Local committees have been formed in the large towns to advise as to the number and location of liquor shops. During 1909-10

Gross Receipts from	1908-9.	1909-10.
	£	£
Imported liquors - - -	14,229	10,901
Malt liquors - - - -	15,091	14,087
Country spirits - - -	187,142	163,636
Opium - - - - -	59,249	58,237
Other drugs, &c. - - -	41,394	41,922
Total - - - - -	317,105	288,783

the number of retail licences for country spirit was reduced by 44. The new Excise Bill was circulated for opinion.

There was a further decrease of 42 in the number of licensed opium shops. The importation of Malwa opium has been prohibited and the rates of duty on Afghan and other imported opium enhanced, while poppy cultivation has been rigorously restricted. The number of shops for the retail sale of hemp drugs was considerably reduced. The consumption of both *charas* and *bhanga* increased. The smuggling of opium and cocaine claimed serious attention.

*North-West Frontier Province.*—The gross excise receipts amounted in 1909-10 to £21,239, as against £19,103 in 1908-9, the increase of 10 per cent. being mainly in opium. The gross receipts were: imported liquors, £2,757; country spirits, £5,872; opium, £7,708; other drugs, &c., £4,902. The duties on spirit and opium were enhanced. Extensive reforms were instituted in pursuance of the recommendations of the Excise Committee. The preventive system was reorganised.

*Burma.*—The gross excise revenue during the last two years was as shown in the marginal table. A further decline in opium revenue was due mainly to the policy of

Gross Receipts from	1908-9.	1909-10.
	£	£
Imported liquors, &c. - -	95,997	98,227
Country spirit - - -	14,192	13,441
Fermented liquors - - -	152,973	157,498
Opium - - - - -	281,034	264,672
Fines, &c. - - - -	3,491	5,334
Total - - - - -	547,687	539,172

restricting sales to the ascertained actual consumption of buyers, who must use particular shops. The number of registered Burman opium consumers at the close of 1909-10 was 16,674, a decline of 1,429. There was no abatement in the smuggling of opium from India into Burma, and seizures were again large. The Burma Opium Law Amendment Act for preventing illicit dealing came into force in December 1909. The problem of preventing the increasing smuggling of cocaine engaged attention, the growing consumption being regarded with concern. Large seizures were made. Keener competition and a redistribution of shops caused an increase in the revenue from fermented liquors. There was a rise in the licence fees for the vend of *tari*. The excise committees appointed in 10 towns to advise on the number of licences and location of liquor shops have drawn up maximum and minimum scales of licences for each town. Rules have been framed to secure the supply of pure liquor of guaranteed strength and quality, to improve the arrangements for the vend of liquor, and to prevent its sale to unsuitable persons. Opinions differ as to whether there is an increasing consumption of liquor among Burmans, but the habit appears to be spreading among the wealthier classes. The contract distillery system is being further extended. Convictions for excise offences were somewhat fewer than in 1908-9. A new Excise Bill has been drafted.

*Central Provinces and Berar.*—The excise receipts for 1909-10, as compared with those for 1908-9, were as shown in the margin. Agricultural conditions were adverse

Gross Receipts from	1908-9.	1909-10.
	£	£
Country spirits and toddy	314,355	324,344
Opium - - - - -	120,818	126,138
Hemp drugs - - - -	29,545	33,100
Miscellaneous, including foreign liquors.	5,182	5,314
Total - - - - -	470,200	488,896

at the time of the annual auctions, while high prices and temperance movements kept consumption down, especially in the early part of the year. The number of out-stills was reduced by 200, and the number of liquor shops from 4,569 to 4,230. The rise in the price of liquor is causing *ganja* to be used instead of it.

The contract supply system has been further extended, as also, temporarily, the Sadar distillery system in certain tracts.

The duty on country spirit was raised. Opium and *ganja* smuggling continues to cause much trouble, and proposals for reorganising the preventive staff have been framed. The number of convictions for excise and opium offences was larger. The Excise Act has not yet been revised.

*Eastern Bengal and Assam.*—The excise revenue for the last two years has been as shown in the margin. There was again an increased consumption of *ganja*, due to

Gross Receipts from	1908-9.	1909-10.
	£	£
Imported liquors - - -	9,483	9,639
Country spirits - - -	144,898	147,794
Opium - - - - -	188,964	189,589
Hemp drugs - - - -	120,196	134,722
Miscellaneous, including toddy, &c.	5,394	5,262
Total - - - - -	468,935	487,006

the abundant crop, low prices, and agricultural prosperity. The number of country spirit shops was further reduced by 55, of *ganja* shops by 67, and of opium shops by 95. Rules for ascertaining public opinion on the licensing of shops have been put in force. During the year under report the contract distillery system was extended to the Rajshahi Division. The system, where in force, has led to an improvement in the quality of the liquor and to a diminution of drunkenness, though it has led to a great increase in illicit

distillation. A new Excise Act was passed.

The treasury price of opium was raised in the Assam Valley districts, where the bulk of the opium consumption is. In 1909-10 there was again a slight decrease in the consumption, which had been increasing for some years prior to 1907-8. There was an inquiry into the smuggling of opium into Burma. Excise and opium offences were more numerous than in 1908-9.

**Madras.**—The gross excise revenue during the last two years was as shown in the margin. The contract distillery supply system is in force over the greater part of

Gross Receipts from	1908-9.	1909-10.
	£	£
Country spirits - - -	765,194	783,806
Toddy - - - - -	770,201	827,406
Imported liquors - - -	32,987	40,201
Opium - - - - -	68,522	84,899
Other intoxicating drugs -	34,718	38,346
Miscellaneous, including beer, &c.	17,741	19,040
<b>Total - - -</b>	<b>1,689,363</b>	<b>1,793,698</b>

Madras, but in some small tracts non-distillery systems are in force. Over nearly the whole of the Presidency a tree tax is imposed on all palm trees tapped for fermented toddy, while shops for the retail sale of toddy are separately sold by auction. The increase in 1909-10 under country spirits and imported liquor was mainly due to increased duties, that under toddy to increased rentals and larger collections under the tree tax, and that under opium to enhanced rentals. Local committees were formed in municipal areas, while in non-municipal areas a variety

of authorities was consulted. The number and location of liquor shops were revised, and large reductions were made in the number of country spirit and arrack shops. The duty on country spirits was raised from Rs. 5 to Rs. 5.10.0 per gallon in 13 districts, and the tree tax was increased in 10 districts.

The use of opium is almost restricted to the districts in the north-east of the Presidency, and to the Madras Town Circle. The quantity consumed, excluding that issued to Native States, was 44,926 seers, compared with 47,073 seers in 1908-9.

**Bombay.**—The excise revenue from Bombay (including Sind and Aden) during the

Gross Receipts from	1908-9.	1909-10.
	£	£
Country spirits - - -	820,855	867,112
Toddy - - - - -	121,106	120,200
Foreign and Indo-European liquors.	23,021	24,808
Opium - - - - -	85,891	80,649
Other intoxicating drugs -	66,515	72,922
Miscellaneous items - - -	6,728	6,932
<b>Total - - -</b>	<b>1,124,116</b>	<b>1,172,623</b>

last two years was as shown in the margin. Many reforms were introduced in 1909-10, and the rates of still-head duty were raised. In Sind and Bombay City there is a growing taste for foreign liquors among the well-to-do classes. The number of shops for the sale of liquors (except toddy) and drugs has been reduced by 196, of which 60 were closed on the recommendation of the local committees. The increased receipts from opium and intoxicating drugs are ascribed to better administration. Measures for further checking the illicit

traffic in cocaine are under consideration.

**PROVINCIAL RATES.**

Since 1904-5 many cesses levied under the head of Provincial Rates have been abolished. In 1907-8 a further reform was adopted by the exclusion from the imperial accounts of the transactions of District Boards and of certain other local funds, which are raised locally, mainly for local purposes, and chiefly managed by local bodies. Where the revenues are under the orders of Government, the accounts have been absorbed in the Imperial or Provincial accounts. Where the income and expenditure are clearly under local control, the fund has been excluded, except in the case of funds specially created for local purposes and administered by Government officers in an *ex-officio* capacity. The revenue from Provincial Rates amounted in 1909-10 to £539,223, made up chiefly of the cess on lands levied in Bengal and Eastern Bengal and Assam for roads, schools, &c., and of the appropriation by the United Provinces from local rates for the payment of rural police in the Agra province.

**STAMPS.**

The stamp revenue is derived from two great classes of stamps. Judicial or court fee stamps are provided for by the Court Fees Act (VII. of 1870), which imposes

	1908-9.	1909-10.
	£	£
Sale of court fees and stamps	2,906,004	3,108,275
Sale of commercial and other stamps.	1,381,740	1,385,737
Fines and miscellaneous	56,412	54,292
<b>Total - - -</b>	<b>4,344,156</b>	<b>4,548,304</b>

fees on plaints, petitions, and other documents, with specified exceptions, filed before civil, criminal, or revenue courts; non-judicial stamps by the Stamp Act (II. of 1899), which imposes duties on commercial transactions recorded in writing, such as conveyances, bonds, cheques, bills of exchange, receipts, and the like. The revenue from the former class increases with the growth of litigation, and that from the latter class with the development

of trade and industry. The marginal table gives the gross stamp receipts for 1908-9 and 1909-10. About one-fourth of the revenue is derived from Bengal. The increase in 1909-10 was due to more litigation and greater commercial activity. Towards the close of the year the stamp duties were raised on the issue of debentures, share warrants to bearer, transfers of shares and debentures, agreements for sale of shares and securities, bills of exchange, and probate.

#### CUSTOMS.

Special import duties are levied on malt liquors, wines, spirits, arms and ammunition, salt and salted fish, opium, tobacco, and silver. The duties levied on alcoholic liquors were raised by the Indian Tariff (Amendment) Act of 4th March 1910 (No. VIII). They are now : ale, beer, &c., 3 annas per gallon ; liqueurs, perfumed spirits, &c., Rs. 13 per gallon ; spirit used in drugs, medicines, or chemicals, Rs. 7 : 13 : 0 per gallon ; other spirit, Rs. 9 6 : 0 ; sparkling wines, Rs. 3 : 12 : 0 ; and other wines, Rs. 1 : 8 : 0 per gallon. Tobacco is dutiable at various rates, salt at Rs. 1 per maund, and silver at 4d. per ounce. Petroleum pays 1½ annas per gallon, and iron and steel generally one per cent. *ad valorem*. General import duties, which had been abolished in 1882, and were re-imposed in 1894, are levied at the rate of 5 per cent. *ad valorem*. For as many articles as practicable tariff valuations are fixed, and these are revised from time to time, a general revision being made in December of each year. The chief articles on the free list are railway materials, machinery which is worked by power other than manual or animal labour, grain and pulse, living animals, coal, jute, raw cotton, raw wool, books, gold and unset precious stones. On the revival of general duties in 1894 cotton goods were at first exempted, but in December 1894 a 5 per cent. *ad valorem* duty was imposed on imported cotton goods and yarns, while an excise duty of equal amount was imposed on all yarns of counts above 20 spun at power mills in British India. In February 1896 the cotton duties were revised ; all cotton yarns and thread, whether imported or manufactured in India, were freed from duty, while a uniform duty of 3½ per cent. *ad valorem* was imposed on all woven cotton goods imported from abroad or manufactured in India at power mills, the products of handlooms being exempted. A duty is levied on exported rice and rice-flour at the rate of 3 annas per maund of 82½ lbs. of unhusked rice (about 4d. per cwt.). Since the Brussels Convention took effect, sugar produced in any of the countries adhering to the Convention has been subject only to the ordinary tariff rate. Sugar entering India from the Argentine Republic and Denmark remains subject to countervailing duties.

The appended table shows the amount of the customs receipts in 1894-5 and 1895-6, when the changes above-mentioned took effect, and also those for the four most recent years.

	1894-5.	1895-6.	1906-7.	1907-8.	1908-9.	1909-10.
Sea Customs, import duty :	£	£	£	£	£	£
Arms, ammunition, &c. -	10,126	11,403	10,996	13,811	10,744	10,604
Liquors -	406,355	440,669	561,401	666,721	692,767	697,275
Petroleum -	213,118	270,782	246,120	294,548	351,499	308,371
Cotton manufactures -	256,631	776,483	850,479	998,582	778,376	816,679
Silver bullion and coin -	230,557	231,859	260,637	341,658	417,121	353,800
Other metals -	135,078	168,641	226,776	299,580	309,877	301,888
Sugar -			284,936	295,431	340,051	367,485
Other articles -	630,450	686,725	870,143	1,040,381	1,008,780	1,005,397
Export duty on rice -	594,017	609,581	681,816	664,772	535,960	680,098
Miscellaneous -	6,694	1,770	24,871	23,612	19,581	22,972
<b>TOTAL Sea Customs -</b>	<b>2,483,026</b>	<b>3,197,913</b>	<b>4,018,175</b>	<b>4,639,096</b>	<b>4,464,756</b>	<b>4,564,569</b>
Land Customs -	15,884	13,397	20,351	28,113	26,932	25,988
Excise duty on cotton manufactures	6,897	40,632	190,947	223,730	233,232	264,068
Miscellaneous -	10,773	18,672	17,290	19,087	14,124	16,321
<b>TOTAL NET CUSTOMS REVENUE</b>	<b>2,516,580</b>	<b>3,270,614</b>	<b>4,246,763</b>	<b>4,910,026</b>	<b>4,739,044</b>	<b>4,870,946</b>



The receipts from import duties in 1909-10 showed an increase, chiefly owing to larger imports of cotton manufactures and sugar, but silver and petroleum produced less revenue; the yield of the export duty on rice was much greater. The growing receipts from the excise duty on cotton goods made in power mills are noteworthy. Excluding revenue from salt, which is not credited to customs, about two-thirds of the revenue from imports is derived from five heads—cotton manufactures, liquors, silver, sugar, and petroleum.

INCOME TAX.

The Income Tax Act (II. of 1886), applicable to the whole of India, took the place of local Acts under which various licences were required for the exercise of trades or industries. Its principal provisions are that all incomes from salaries and pensions or from interest on securities, if amounting to Rs. 2,000 per annum, shall pay 5 pies in the rupee (equal to 6½d. in the £); that incomes less than Rs. 2,000 shall pay 4 pies (5d. in the £); that companies shall pay 5 pies in the rupee on their net profits; and that incomes under Rs. 2,000 derived from other sources shall pay according to a graded scale from Rs. 20 on an income of Rs. 1,000 to Rs. 42 on Rs. 1,999, and 5 pies in the rupee on incomes of Rs. 2,000 and upwards. All incomes of less than Rs. 1,000 (£66½) a year were exempted by an amending Act (XI. of 1903), which substituted that taxable minimum for the former limit of Rs. 500. The tax is not levied on incomes from land or agriculture. Military salaries of less than Rs. 500 a month (£400 a year) are exempt.

The gross revenue from income tax in 1909-10 was £1,558,964, as compared with £1,553,419 in 1908-9. The proportion of revenue derived from the different sources (shown in the margin) varies but little. The number of persons assessed to income tax is only a small fraction of the population, the total in 1908-9 being 267,619. A large proportion of the revenue is collected in Calcutta and Bombay. Income tax receipts have increased with the increase in profits and salaries resulting from commercial and industrial activity, as well as through improved administration.

	1909-10.
	£
Ordinary collections	1,200,970
Government salaries and pensions	287,749
Interest on Government securities	59,336
Other items	10,909
	<hr/>
	£1,558,964

REGISTRATION.

*General.*—The revised Registration Act (XVI. of 1908), which contained no new provisions, came into force on 1st January 1909 throughout British India, excepting Upper Burma (for which Regulation II. of 1897 still provides a less complete procedure) and certain other tracts. Offices exist in every district for the registration of documents, and for keeping copies thereof. *Ad valorem* fees are charged for registration, and a small fixed fee for searching the records. For registration purposes, documents are divided into (a) those the registration of which is compulsory, or necessary to the validity of the deed, and (b) those which are registrable or not at the option of the holder, though liable, if unregistered, to be superseded by registered documents, subject to the equitable doctrine of notice. In the former class are instruments of gift of immovable property, or other non-testamentary documents which affect rights in such property of a value of Rs. 100 and upwards, and, with certain exceptions, annual or longer leases. Optionally registrable documents include those relating to immovable property not comprised in the above-mentioned classes, deeds affecting movable property, wills, and other documents. As regards transfers of immovable property, however, the situation is affected, except in the Punjab and Upper Burma, by the Transfer of Property Act (IV. of 1882), as amended by Acts of 1885 and 1904. Under the provisions of the Act of 1904 the registration of mortgages of immovable property of a lower value than Rs. 100, previously optional, was made compulsory. Practically all deeds transferring immovable property have now, therefore, to be registered. Mortgages form the largest class of instruments registered. Documents relating to the sale, mortgage or lease of immovable property, compulsorily registrable, comprise the great majority of all registrations. The number of optional registrations has steadily declined, partly owing to the operation of the amending Act of 1904.

The gross registration receipts in 1909-10 were £430,377 as compared with £430,936 in 1908-9; and the cost of the registration offices was £235,716, leaving a surplus of £194,661, against £199,127 in 1908-9. Fluctuations in the work of registration, especially of mortgages and sales, may be due on the one hand to bad

harvests, plague (which affects wills and deeds of gift), high prices, and declining credit, or on the other to settlement operations, the development of new lands, the growth of towns, the expansion of trade, and the general effects of economic progress. The following particulars are taken from the provincial reports for 1909.

*Bengal.*—There was a decrease of 2·6 per cent. in the number of deeds registered. This is ascribed to satisfactory harvests, owing to which mortgages and sales fell off, and to settlement operations, which increased the number of leases. In some districts the effects of scarcity and high prices persisted, causing more registrations under mortgages and sales. In the Chota Nagpur Division leases and sales decreased.

*Eastern Bengal and Assam.*—There was an increase of under 1 per cent. in the number of deeds registered. The small number of sales was an indication of the improved condition of the people. In the Rajshahi Division, however, a partial failure of crops led to an increase in mortgages.

*United Provinces.*—There was a growth of 10·22 per cent. in the number of registrations. Loan transactions for repayment of *takavi* advances, renewals of leases, the stringency caused by continued high prices, and growing trade activity are among the varied causes adduced for this growth.

*Punjab.*—There was again a large increase in the number and value of compulsory registrations, no comprehensive explanation of which is possible. The normal decline in optional registrations, which had been interrupted in 1908, was continued.

*North West Frontier Province.*—The registrations increased in number and value. Sales were numerous in the Dera Ismail Khan district owing to the great demand for land in the vicinity of the new Paharpur Canal. More than two-thirds of the mortgages were in the Peshawar district.

*Burma.*—The compulsory registrations affecting immovable property showed a falling-off of 3 per cent. in number and 21 per cent. in value. The value of instruments relating to moveables increased. The variations were chiefly due to smaller investments in land in Rangoon and Mandalay, and to fluctuations in land investments in Minbu, Magwe, and Shwebo.

*Central Provinces and Berar.*—The number and value of registrations again markedly increased, the percentage increase in number being 23 in the Central Provinces and 19 in Berar. Good and bad crops are equally assigned as causes, but the development of the country and the spread of a knowledge of legal requirements are important factors. Leases are rapidly increasing in the Central Provinces.

*Madras.*—In Madras the number of registrations, which has been steadily advancing for some years, rose by 2·2 per cent. to 1,271,404 in 1909, the increase being chiefly under leases (other than perpetual leases), sales, and mortgages.

*Bombay.*—The number of registrations increased by of 10 per cent., owing chiefly to a good season and to borrowings for Hindu marriages. There was a considerable growth in compulsory registrations, while optional registrations declined.

#### OPIMUM.

*General.*—The opium revenue is raised partly by a monopoly of the production of the drug in Bengal and the United Provinces, and partly by the levy of a duty on all opium exported from Native States. Poppy cultivation in British territory, excepting in certain small areas, is permitted only in parts of Bengal and of the United Provinces, where the crop is grown under the control of Government, which determines the total area to be cultivated each year. The cultivator of opium (known as Bengal opium) in these monopoly districts must receive a licence and is granted advances to enable him to prepare the land for the crop. He is required to deliver the whole of his outturn of crude opium at the fixed price of Rs. 6 per seer to Government agents, by whom it is despatched to the Government factories at Patna and Ghazipur. The relatively small supply of prepared opium required for consumption in India, "excise opium," is made over to the Excise Department, and Rs. 8½ per seer is credited to opium revenue for the amount thus consumed. The chests of "provision" opium, for export, are sold by auction at monthly sales in Calcutta; and, in order to prevent speculation and to steady prices, the quantity to be offered at each sale during each year is notified in the previous year. The chests become the property of the purchasers immediately after sale, but must be shipped under passes granted by the Board of Revenue and subject to conditions which prevent the opium from being consumed in India. The price obtained at the Calcutta sales, less the cost of production, is the revenue from Bengal "provision" opium. Opium (known as Malwa opium) is grown in Baroda and in some of the Native States of Rajputana and

Central India, chiefly Indore, Gwalior, Bhopal, and Mewar. The Government of India interfere in no way with its production or local consumption; but Malwa opium may not pass into British territory, whether for export by sea or for consumption, without a pass, which is granted only on payment of a heavy duty. The duty on Malwa opium intended for export was fixed at Rs. 600 per chest with effect from May 1904, and remained at that figure during the year under report.

Towards the end of 1906 edicts were issued by the Chinese Government ordering that within 10 years the growth and the consumption of opium in China should be suppressed. Proposals were made that the Government of India should co-operate in this object by gradually restricting the amount of opium exported from India to China. By an arrangement which took effect from January 1908 the quantity of opium (including Malwa opium) exported from India was limited to 61,900 chests in 1908, 56,800 chests in 1909, and 51,700 chests in 1910. Papers relating to the progress of the opium reforms in China, have been presented to Parliament (Cd. 4967). A report on the proceedings of the Shanghai International Opium Commission of 1909 has also been presented (Cd. 4898). Under a new agreement, signed on 8th May 1911, the cessation of the trade will be accelerated if the native production of opium in China is suppressed before the expiry of the 10 years' period.

The opium revenue and expenditure during recent years have been as follows:—

	1903-4.	1904-5.	1905-6.	1906-7.	1907-8.	1908-9.	1909-10.
Opium Receipts:*							
Sales of Bengal opium	4,678,371	5,079,541	4,703,574	4,895,505	4,401,988	4,284,444	4,546,147
Duty on Malwa opium	871,383	749,125	569,400	553,788	620,480	1,398,780	734,140
Excise opium, and miscellaneous	186,291	192,838	195,806	211,235	222,516	251,564	264,396
Total	5,736,045	6,021,499	5,468,780	5,660,528	5,244,986	5,884,788	5,534,683
Opium expenditure (chiefly in Bengal)	2,225,744	1,967,085	1,892,441	1,913,292	1,669,441	1,236,086	1,110,155
Net Opium Revenue	£ 3,510,301	4,054,414	3,576,339	3,747,236	3,575,545	4,648,700	4,424,528

\* Exclusive of the licence fees and duty on opium consumed in India, amounting in 1909-10 to £992,034, included under Excise.

Notwithstanding a reduction in the number of chests of Bengal opium sold for export (*see* below), the receipts in 1909-10 were higher than in 1908-9 and 1907-8, owing to the higher prices realised at the auction sales. Scarcity of opium in China, and speculative buying caused this upward movement, and during 1910-11 opium has reached the unprecedented average price of Rs. 2,925 per chest. The large excess in the net opium revenue of 1909-10 over that in the years 1903-4 to 1907-8 was chiefly due to decreased expenditure. In 1908, when the agreement with China took effect, the Indian Government had a large reserve stock. This has been extensively drawn upon and the manufacture of new opium has been correspondingly curtailed.

*Bengal.*—The net area cultivated with the poppy in the Ganges Valley in recent

Year.	Acres.	No. of Chests Produced.	No. of Chests Sold for Export.	Average Price in Rs.
1905-6	613,996	48,750	49,200	1,436
1906-7	564,585	38,126	52,800	1,391
1907-8	488,548	40,001	48,900	1,351
1908-9	361,832	28,125	45,900	1,384
1909-10			42,300	1,612

\* Figures not available.

*Bombay.*—The number of chests of Malwa opium passed at the scales in 1909-10 was 13,917. The quantity imported and lodged in the Bombay opium warehouses was 8,848 chests, as against 29,047 chests in 1908-9; while 1,088 chests were sold for consumption in the Presidency, including Native States. The exports of Malwa opium to China in recent years are stated in the margin. The decrease in 1909-10 was due to the limitation imposed by Government on the opium exports for the calendar year. The average prices for opium in the Bombay market during the year under report, including export duty, were Rs. 1,346 per chest for one-year old, and Rs. 1,646 per chest for two-year old opium, against Rs. 1,186 and Rs. 1,305 respectively in 1908-9. The rise in prices was due to restrictions on exportation, and merchants made large profits.

## CHAPTER VI.

## AGRICULTURE.

SEASON AND CROP REPORTS.		AGRICULTURAL PRODUCE.
CO-OPERATIVE CREDIT SOCIETIES.		

The present chapter gives an account of the conditions prevailing in each province during the agricultural year 1909-10, together with some information regarding the outturn of agricultural produce and the progress of co-operative credit societies.

## SEASON AND CROP REPORTS.

*Bengal.*—In Orissa and Chota Nagpur conditions were generally favourable for the autumn crops, but in parts of Lower Bengal the crops suffered from floods. The weather was very favourable for winter crops throughout the province, although excessive rain, a cyclone, and insect pests caused damage in some parts. The spring season was on the whole favourable. The outturns of food crops in all three harvests were satisfactory, being 86, 110, and 90 per cent. of the normal respectively. The food stocks were consequently sufficient in most districts. The winter paddy crop was 110 per cent. and the sugar-cane crop 80 per cent. of the normal. The irregular, and sometimes excessive, rainfall damaged the jute crop, the outturn of which was 84 per cent. of the normal. The area cropped in 1909-10 was about 43 million acres. About 85 per cent. of the normal cropped area is under food crops. The three rice crops of the year covered over 26 million acres, exceeding the normal by about 700,000 acres. There was some decrease in the area under jute. The condition of the cattle was generally satisfactory. Agricultural improvements are being undertaken in certain districts containing water-logged lands or lands subject to inundation by sea-water. The year as a whole was distinctly satisfactory.

*United Provinces.*—The rainy season was on the whole favourable, though the rains were too copious at the beginning, and the autumn crop, though good, did not quite answer early expectations. The cold season was favourable everywhere, and the spring-crop a bumper one, except in some parts of the hill districts. The area under spring crops went up by 2½ million acres. In Agra conditions were much better than in Oudh. The total cultivated area, nearly 36 million acres, was rather above the normal. All the autumn crops, except maize, turned out satisfactorily. The outturn of the spring crops was much better in most districts than in 1909. The year was unfavourable for cattle in regard to disease.

*Punjab.*—The monsoon of 1909 reached the province in good time, and was one of the best of recent years as regards both total rainfall and distribution. The area, however, placed under autumn crops was slightly below normal. Outturns were generally very satisfactory, in spite of pests. The early winter was dry, but good rains succeeded. The *rabi* was one of the best for years, the unirrigated crop being particularly excellent. The total area sown was about 29½ million acres, or about 9 per cent. above normal. The proportion of the autumn to the spring harvest was as 41 to 59. Larger areas were placed under rice, sugar-cane, oilseeds, wheat, and gram, but smaller areas under jowar, bajra, cotton, and barley. The high price of gram caused very extensive sowings of that crop in the *rabi*. The outturn of gram and oilseeds was specially satisfactory. Failures were abnormally low in both harvests. The total area of crops sown on irrigated land was about 10½ million acres, including nearly 6½ million acres served by Government canals. The area irrigated included nearly 3 million acres irrigated by 243,235 masonry wells and 30,750 non-masonry wells. Several canal villages suffered from water-logging. Cattle were a good deal affected by disease.

*Punjab Canal Colonies.*—The year was very favourable, though the monsoon rains were rather heavy. The crops, especially the spring crop, were excellent, and prices continued high. The great prosperity of these tracts is shown by the prices paid for market sites on new railway lines. In an auction at Jaranwala, waste land, having a prospective value for urban purposes, realised over £3,000 per acre.

The colonists readily adopt agricultural improvements. Administrative control of the Chenab Colony was made over during the year to the Commissioners of the divisions in which it is included. The complete charge of certain Jhang villages was transferred to the Deputy Commissioner of the district. The Jhelum Colony promises to be a valuable source for the supply of remounts and mules to the army. Special conditions are imposed in the grants in this colony with regard to horse-breeding operations, which have been a marked success, due chiefly to the peasant grantees. The Chunian colony benefited greatly by high prices for its crops, and the Jhang colony had a fair year.

*North-West Frontier Province.*—The monsoon rainfall was generally above normal, and, except in Dera Ismail Khan, where heavy floods did great damage, the autumn harvest was on the whole fairly good. The spring harvest was also good. Hail caused damage in three districts. The total area sown was nearly 2,823,667 acres, while the area harvested was 2,346,329 acres. Wheat, the most important crop, occupied 1,028,161 acres, and the area was 11 per cent. above normal. The outturn of wheat was 21 per cent. above normal. Fodder was generally sufficient, but the deaths of cattle from contagious diseases increased.

*Central Provinces and Berar.*—The monsoon was, on the whole, favourable and the rainfall well distributed. The cropped area increased by a million acres, and, while both wheat and cotton crops over large areas gave bumper yields, no crop gave much less than an average outturn. There was exceptionally great mortality among cattle.

*Eastern Bengal and Assam.*—The spring rains were somewhat in defect, while the autumn rainfall was ill-distributed. The total cropped area was 31½ million acres, including 17½ million under rice. The jute area was 2,201,000 acres, or less than in 1908-9, owing partly to unfavourable weather for sowing and partly to low prices of jute. There is a steady expansion of cultivation in Assam, where the population is sparse, and where waste land is abundant and can be brought under cultivation at low rates of revenue. The outturn of rice was 38 per cent. more than in the previous year, while the jute crop was about 82 per cent. of the normal.

*Burma.*—The agricultural year 1909-10 was, on the whole, very prosperous, especially in the dry zone districts of Upper Burma. Excessive rain in November somewhat injured the rice crop in Lower Burma, thus impairing the outturn. The heavy rains, however, favoured pulses and other winter dry crops, and the spring rice crop. There was an increase in the area cropped, but the area on which crops failed to mature was larger than in 1908-9. The area under crops rose to over 13½ million acres. The area under rice, the principal crop, was 10 million acres. The outturn of rice in Lower Burma was 91 per cent. of the normal. The areas devoted to winter rice and sesamum were larger, and to millets and ground-nuts smaller. The area under rubber was 11,622 acres. The tank irrigation systems in the dry zone proved very valuable. The year was a fair one for cattle owners.

*Madras.*—The south-west monsoon was good and fairly distributed, but the rainfall of the north-east monsoon was below normal. The total crop area was over 36½ million acres, which was rather under the normal. The rice crop was above normal, and covered over 10½ million acres; other food-grains were grown on 18½ million acres. The area under cotton was more than 2 million acres. The area under ground-nuts again showed a large increase, due to the commercial importance of the crop. Tobacco also increased. Castor-seed, gingelly, cholam, ragi, and indigo fell away. The outturn of crops was generally below normal. There was a decline in the mortality of cattle from disease.

*Bombay.*—Although the monsoon conditions were rather late in being established, the autumn rains were generally equal to the average, but the spring rains were in defect. The total area cropped, 29 million acres, was the largest for 14 years, most of the increase on 1908-9 (675,000 acres) being under cotton and food crops. The area under cotton increased by 18 per cent., and was 26 per cent. above the average. Moreover, the crop thrived everywhere and the yield per acre was 30 per cent. above that of 1908-9, while prices rose to a high level. The estimated outturn of food-grains shows an advance on 1908-9 of 31 per cent. In Sind there was a general shortage of rain and low and short inundation in the desert and hilly tracts, which curtailed the area sown and affected the outturn. The area in Sind under crops declined, but the estimated outturn of food-grains was better. The year was comparatively free from cattle disease.

## AGRICULTURAL PRODUCE.

(For further details see *Statistical Abstract for British India, Tables 119 to 123.*)

The following table shows the area under the principal crops, in British India, and their territorial distribution, for 1909-10. The crop area is always greater than the area of cultivated land, owing to double cropping. The figures represent thousands of acres (omitting 000).

Administrations.	Rice.	Wheat.	Millets (Jawar, Bajra and Ragi).	Gram (Pulse).	Other Food-Grains and Pulses.	Total Food-Grains and Pulses.	Oilseeds.	Sugar.	Cotton.	Jute and other Fibres.	Total area cropped.	Net Area cropped, (after deducting areas cropped more than once).
Bengal	26,134	1,419	1,234	1,011	7,733	37,531	1,979	377	68	600	43,207	36,574
Eastern Bengal and Assam.	17,316	72	11	62	1,368	18,729	1,945	173	48	2,238	26,000	21,069
United Provinces - Punjab	6,120	6,578	5,452	4,902	15,018	38,160	1,029	1,038	1,224	132	44,095	36,595
North West Frontier Province.	799	8,676	4,135	4,745	4,504	22,859	1,578	417	1,277	55	29,648	25,593
Burma	41	1,028	328	206	908	2,511	107	31	33	1	2,824	2,397
Central Provinces and Berar.	10,080	38	879	63	748	11,808	1,277	140	202	1	14,259	13,858
Madras	4,838	3,064	5,055	1,170	5,907	19,134	2,399	21	4,083	168	26,473	24,886
Bombay and Sind - Minor Areas -	10,359	19	11,308	132	6,930	28,748	2,529	182	2,029	224	36,388	32,217
	2,961	1,830	14,157	715	4,016	23,679	1,735	63	4,167	163	30,307	29,168
	83	46	92	57	227	505	47	—	41	—	660	565
Total 1909-10 -	78,731	22,770	42,651	13,153	46,359	203,664	14,625	2,442	13,172	3,582	253,920	222,912
" 1908-9 -	72,800	21,199	45,252	11,264	46,321	196,836	14,105	2,408	12,959	3,558	246,189	218,040

\* This total represents the area sown, but details of each crop are conventional harvested areas of normal productiveness, the sum of which falls short of this total.

Among "other food grains and pulses" may be mentioned barley, 8,105,000 acres, of which 5,203,000 are in the United Provinces, 1,094,000 in the Punjab, and 1,419,000 in Bengal, and maize, 6,858,000 acres, of which 2,475,000 acres are in the United Provinces, 1,248,000 in the Punjab, and 1,878,000 in Bengal. Out of 526,000 acres under tea, 438,000 are in Eastern Bengal and Assam, and 53,000 in Bengal, while out of 1,013,000 acres under tobacco, 303,000 are in Eastern Bengal and Assam, 144,000 in Bengal, and 201,000 in Madras.

Particulars for 1909-10 regarding some of the more important staples of Indian agriculture are given below. The figures are derived from returns of crop forecasts and they include Native States as well as British India.

*Rice.*—Nearly one-third of the cropped area in British India is under rice. The provinces for which statistics are given in the table below ordinarily include 78 per cent. of the Indian rice crop. The figures are in thousands (omitting 000). Other provinces, notably the United Provinces, the Central Provinces, and Bombay and Sind, produce a large quantity of rice. In 1909-10 there was a large increase in the acreage under winter rice in Bengal (which produces about one-third of the total of Indian rice), and the outturn was very large despite damage in some districts by heavy rain and floods, cyclones, and insect pests.

Province.	Area in Acres.			Yield in Tons of Cleaned Rice.		
	Average of five years to 1907-8.	1908-9.	1909-10.	Average of five years to 1907-8.	1908-9.	1909-10.
Bengal - -	24,434	22,450	26,117	9,965	8,242	14,650
Eastern Bengal and Assam.	16,162	15,708	16,693	6,306	5,889	7,667
Madras - -	8,421	7,362	7,965	2,957	2,185	2,439
Burma - -	6,922	7,569	7,475	3,081	3,233	3,168
Total - -	53,939	53,089	58,250	22,309	19,549	27,924

rose in 1909-10 to 1,960,000 tons, valued at £12,161,000. About 75 per cent. of the total was shipped from Burma. The price of white rice in Burma, which had steadily risen in recent years, fell considerably in 1908-9 and again in 1909-10. The salient features of the Burma trade were a phenomenal crop and large shipments from Burma to foreign countries. The coastwise shipments amounted to the extremely high figure of 1,038,000 tons, most of it being sent to Bengal, Eastern Bengal and Assam, Bombay, and Madras.

**Wheat.**—Wheat occupies usually about 10 per cent. of the whole cultivated area.

Province.	Average of five years to 1907-8.		1908-9.		1909-10.	
	Area.	Yield.	Area.	Yield.	Area.	Yield.
Punjab	9,152	3,345	9,002	3,062	9,206	3,455
United Provinces	6,685	2,279	5,695	2,124	6,514	2,985
Central Provinces and Berar.	3,349	777	2,773	704	3,065	956
Bombay and Sind	2,396	538	2,294	517	2,102	546
Central India	2,032	461	2,023	393	2,283	508
Bengal	1,245	395	1,255	320	1,428	541
North-West Frontier Province.	1,005	274	1,020	213	1,008	235
Hyderabad	1,034	82	1,098	72	1,097	68
Rajputana	852	150	807	174	987	237
Elsewhere	152	44	78	15	76	26
Total	27,902	8,345	26,045	7,594	27,766	9,557

The bulk of it is sown in autumn and reaped in April and May. The area under wheat has greatly expanded with the extension of irrigation. More than half of it is in the Punjab and the United Provinces, and the greater part in each of these provinces is irrigated. The marginal table shows the area and yield of wheat, the figures being in thousands (omitting 000). The year was favourable in the important wheat-growing provinces, and especially in the Punjab. In other provinces some local damage was done by rats and by strong winds. Both area and yield were above normal.

The exports of wheat and wheat-flour are subject to great fluctuations, as the

	Wheat.	Flour.
	Tons.	Tons.
1900-1	2,500	24,800
1-2	366,100	26,500
2-3	514,600	35,900
3-4	1,295,600	40,500
4-5	2,150,000	51,700
5-6	937,500	44,950
6-7	801,400	40,900
7-8	880,500	37,200
8-9	109,750	30,100
9-10	1,050,600	35,100

marginal figures show. The export demand for wheat has led to an extension of cultivation. This is very beneficial to India, partly because the crop is a profitable one, and partly because in years of scarcity the rise in prices renders the grain available for home consumption. In a famine year, like 1900-1, the export falls to a trifling quantity. The quality of grain shipped has recently improved through a reduction in the proportion of dirt, seeds, &c. intermixed with the grain. The wheat exported in one financial year is drawn mainly from the crop of the previous year, and the heaviest shipments are from May to August. Exports of flour show no tendency to increase to any considerable extent.

**Sugar.**—The area under sugar was reported to be 2,127,000-acres in 1909-10, and the yield was estimated at 2,125,300 cwt. The area was somewhat smaller than in 1908-9, but the yield larger owing to the favourable season. Of the total area, 1,037,600 acres were in the United Provinces, where the acreage decreased. Bengal contained 351,600 and the Punjab 411,700 acres. These figures, however, are not very reliable, as in many large sugar-growing areas no accurate records are available, and sugar-cane is often grown in small and irregular clumps whose extent is not easily

Countries.	1907-8.	1908-9.	1909-10.
	Tons.	Tons.	Tons.
Java	357,750	358,035	437,503
Mauritius	151,965	139,818	136,650
Austria-Hungary	84,759	93,904	38,276
Other Countries	14,514	12,155	18,044
Total	558,988	603,912	630,473

estimated. To the sugar-cane cultivated in British India must be added the extensive crops grown in Native States. In estimating the total output of sugar account must also be taken of the large production of palm sugar, chiefly in Bengal, Madras, and Burma. By no means all of the sugar produced is converted into "refined" sugar; a considerable quantity both of cane in the raw state and of the unrefined sugar or *gur* is consumed as food. For

this sugar high prices can be secured in spite of the increasing competition of cheap sugar imported from abroad. The imports of sugar, including confectionery and molasses, during recent years are given in the margin, the figures representing for the most part refined sugar. The imports from Austria-Hungary are of beet sugar, and those from Mauritius and Java, of cane sugar. The large increase in the imports from Java is remarkable. The countervailing duties imposed in 1899 and subsequent years have not been levied since 1903 on the produce of countries which adhered to the Brussels Sugar Convention and abolished sugar bounties.

*Tea.*—The marginal table furnishes an estimate of the cultivation and the production of tea in India during the years 1907 to 1909; for Southern India and

Province.	Area in thousands of Acres.			Production in thousands of Lbs.		
	1907.	1908.	1909.	1907.	1908.	1909.
Eastern Bengal and Assam.	428	433	438	210,907	211,435	227,095.
Bengal - - -	54	54	53	13,503	14,994	13,166
Madras - - -	11	15	16	3,471	4,436	5,326
United Provinces	8	8	8	2,295	2,010	2,206
Punjab - - -	9	9	9	1,238	1,438	1,414
Travancore and Cochin.	26	27	29	12,749	12,594	13,354
Burma - - -	2	2	2	506	458	246
Total - - -	538	548	555	244,669	247,365	262,807

Travancore the figures are not reliable. Since 1885 the area under cultivation has increased by 95 per cent., and the production by 267 per cent. The production of green tea was 2,678,000 lbs. in 1909, as against 3,027,000 lbs. in 1908. During 1908 the tea gardens employed 515,950 persons permanently and 81,126 temporarily. The capital invested by joint stock companies in tea production is returned at £16,675,000, and, in addition, a large but unknown

quantity of private capital is invested. The prices of the principal grades of tea showed a substantial increase in 1909. Consignments of tea to London on optional bills of lading tend to be more and more replaced by direct shipments. A marked

Countries.	1907.	1908.	1909.
	Millions of Lbs.	Millions of Lbs.	Millions of Lbs.
To United Kingdom - -	173.9	173.2	187.1
" Russia - - -	15.4	18.1	10.3
" Australia - - -	10.4	8.3	7.0
" Canada - - -	5.4	6.9	6.0
" Ceylon - - -	9.3	5.0	13.9
" China, Hong Kong	1.0	1.0	1.6
" China, Treaty Ports	6.6	5.8	5.8
" Germany - - -	0.9	1.3	2.8
" Persia - - -	1.8	0.9	0.5
" Turkey in Asia - -	3.7	3.3	2.8
" United States - - -	2.2	2.1	2.1
" other Countries - -	2.8	3.6	3.1
Total - - -	233.4	229.5	243.0

feature of the Indian tea trade in recent years has been the large increase in sales to Russia, which took, in 1909, 10 million lbs. direct, 6½ million lbs. *via* the United Kingdom, and a large but unknown quantity *via* China. The direct exports of Indian tea by sea during the last three years are returned as shown in the margin.

The growing appreciation of the superior richness and strength of Indian tea is shown by the increased imports into this country. In 1875 the United Kingdom drew 86 per cent. of its supplies from China, and 13 per cent. from India, while in 1909 only 5 per cent. came from China and 54 per cent. from India. If the quantities retained for home consumption be taken, the pro-

portion of India in 1909 was over 56 per cent., and of China less than 3 per cent.

*Jute.*—India has a virtual monopoly of the production of jute, which is chiefly grown in Northern and Central Bengal and the eastern districts of Eastern Bengal.

Year.	Acres.	Outturn in Bales (of 400 lbs. each).
1908	2,856,700	6,399,000
1909	2,876,600	7,206,600
1910	2,937,800	7,932,000

There was an increase in the cultivated area in 1910. The estimated acreage and outturn in recent years are as shown in the margin. These figures do not include statistics for Nepal, Madras, and Upper India, the outturn of which was reported to be 81,300 bales. The harvests of 1908 and 1909 were much under-estimated. The total crop in 1909, according to the Bengal Chamber of Commerce, amounted to 8,864,800 bales. The year 1909-10 was not very prosperous. For the five years ended 1908-9, the average

price per bale at Calcutta was Rs. 45.0.1, the price in 1906-7 being as high as Rs. 60.4.4 per bale. In 1909-10 the average price fell to Rs. 32.1.4.



The total Indian consumption of raw jute in 1909-10 was estimated at 4,392,900 bales (of 400 lbs.). The exports were 18 per cent. smaller in quantity than in 1908-9, while the value declined by 24 per cent. In addition there was a large export of jute manufactures, as the marginal table shows (figures in thousands omitting 000). Of the raw jute exports in 1909-10, nearly 41 per cent. went to the United Kingdom, over 22 per cent. to Germany, under 10 per cent. to the United States, and over 11 per cent. to France. The fluctuations in exports of raw jute are more

Year.	Raw Jute.		Jute Manufactures.	Total Exports.
	Quantity.	Value.	Value.	Value.
1907-8	Cwts. 14,192	£ 11,982	£ 12,198	£ 24,180
1908-9	17,880	13,223	10,491	23,714
1909-10	14,608	10,059	11,398	21,457

marked than those in exports of jute manufactures.

**Cotton.**—One of the most important crops for the grower, the Indian manufacturer, and the exporter, is cotton. The estimated area and yield of cotton in India are returned as shown in the table below for the last three years. The figures are in thousands (omitting 000). The season was favourable. While the area was about 1 per cent. greater in 1909-10, the total estimated yield was no less than 22 per cent. greater. The crop was larger than any recorded, except that of 1906-7. Doubt, however, is thrown on forecasts of yield by comparing them with a computation based on the total of the net exports and the Indian consumption of cotton, which for the year to 30th September 1909, was 4,484,000 bales.

Province.	1907-8.		1908-9.		1909-10.	
	Area (Acres).	Yield in Bales (of 400 lbs. each).	Area (Acres).	Yield in Bales (of 400 lbs. each).	Area (Acres).	Yield in Bales (of 400 lbs. each).
Madras -	1,855	198	1,576	162	1,636	176
Bombay, with Native States, Sind, and Baroda.	7,360	1,174	6,500	1,383	6,269	1,695
United Provinces	1,461	268	1,392	426	1,241	384
Punjab and North-West Frontier Province.	1,522	365	1,616	336	1,467	406
Central Provinces and Berar	4,432	595	4,176	766	4,229	1,014
Hyderabad	3,100	293	2,902	307	3,401	380
Burma	195	29	204	41	196	32
Central India	993	55	978	144	1,057	220
Rajputana	438	91	389	79	446	142
Bengal	70	14	64	14	67	17
Eastern Bengal and Assam	79	24	97	21	98	17
Mysore	84	6	65	3	81	6
Ajmere-Merwara	41	10	40	9	39	13
Total	21,630	3,122	19,999	3,691	20,227	4,502

The exports of raw cotton from India in recent years have been as shown in the margin. The exports of 1909-10 were mainly furnished from the crop of 1908-9, when the season was very unfavourable. Prices were considerably higher than in the preceding year.

The bulk of the Indian cotton exported goes to Japan and Western Europe. Very little goes to England, as Lancashire requires a finer class of cotton than India can as yet readily supply.

**Oil seeds.**—The area under, and the yield of, the main oil-seed crops of India are given approximately in the margin. The figures are in thousands (omitting 000). The rape and mustard-seed crop is grown chiefly in the United Provinces, the Punjab, Eastern Bengal and Assam, and Bengal; linseed in the United Provinces, the Central Provinces, Bengal, and Hyderabad; sesamum

Seed.	Average of five years to 1907-8.		1908-9.		1909-10.	
	Area.	Yield.	Area.	Yield.	Area.	Yield.
Rape and mustard.	Acres. 5,955	Tons. 941	6,029	988	6,418	1,223
Sesamum	4,907	432	4,988	464	5,088	516
Linseed	3,553	371	2,997	298	3,195	428
Groundnut	582	289	1,091	485	940	414

given approximately in the margin. The figures are in thousands (omitting 000). The rape and mustard-seed crop is grown chiefly in the United Provinces, the Punjab, Eastern Bengal and Assam, and Bengal; linseed in the United Provinces, the Central Provinces, Bengal, and Hyderabad; sesamum

(til or jinjili) in the United Provinces, the Central Provinces, Bombay, Madras, and Hyderabad; while the groundnut area lies chiefly in Madras, Bombay, and Burma. The general seasonal conditions were on the whole favourable, except in Bengal.

Exports of seeds have been as shown in the margin for the last three years (in 000 cwts.). The quantity and value exported in 1909-10 exceeded those of 1908-9 (a bad year) by 67 and 60 per cent. respectively. The value, £12,484,000, was a record. About 52 per cent. of the seeds were shipped from Bombay, 19 per cent. from Sind, and 16 per cent. from Bengal. The principal markets for Indian oil seeds are France, Germany, the United Kingdom, Belgium, Italy, and Austria-Hungary. In linseed India suffers from the competition of Argentina and Russia. The trade in Indian cotton seed, which has now attained large dimensions, is of comparatively recent growth.

Seed.	1907-8.	1908-9.	1909-10.
	Cwts.	Cwts.	Cwts.
Linseed -	6,198	3,210	4,677
Rape -	5,343	2,766	6,629
Cotton -	4,250	3,683	5,650
Sesamum -	1,553	1,657	2,984
Groundnuts -	1,524	1,782	3,243
Castor -	1,994	1,650	1,901
Poppy -	1,257	790	853
Other sorts -	1,066	705	1,210
Total -	23,185	16,243	27,147

#### CO-OPERATIVE CREDIT SOCIETIES.

(For further details see *Statistical Abstract for British India, Table 117.*)

These societies (formed under the Co-operative Credit Societies Act of 1904) have been started by Government as an experiment, in order that the poorer classes, and more particularly the cultivators, may be enabled to borrow money at reasonable rates, and may at the same time learn self-help and self-dependence. The registrars are Government officials, and Government aid is given in various ways, but aid is also enlisted from educated non-official gentlemen with local influence.

The societies are divided into central, rural, and urban societies. A Central Society is an institution the members of which are representatives of a number of small affiliated societies standing to it in the same relation as individual members stand to their own society. It lends only to other societies. It is empowered to raise loans or accept deposits, as may be advisable in the interest of the affiliated societies, the profits being credited to a reserve fund upon which each society has a claim in the case of bad debts caused not by mismanagement but by misfortune or calamity. A Central Society is in a position to deal with capitalists or with joint stock banks, and to raise money on more favourable terms than is possible for the smaller societies. There are three Central Societies in the United Provinces, three in Madras, six in Bombay, four in Bengal, seven in the Punjab, one in Burma, one in Ajmere-Merwara, and four in the Central Provinces and Berar, all with limited liability, besides one in the last province, and one in Bombay with unlimited liability. No fewer than 16 of these were formed in 1909-10. District Banks, which are of the nature of joint-stock lending societies, exist as a regular part of the system in the United Provinces and Punjab. In the Punjab they are central societies, while in the United Provinces there are three classed as central societies and 15 as urban societies. Of the latter, three deal with their own shareholders and with independent societies, while the remainder, formed to deal with shareholders and with affiliated societies, are gradually being replaced by groups of independent societies. They financed altogether 439 rural and 59 urban societies. Of the other societies, a large majority are rural, but the urban societies have a much larger average membership. The general rule of rural credit societies is to work with unlimited liability and without share capital; the majority of urban societies, on the other hand, have limited liability. The Indian Act does not permit rural societies to pay dividends. The principle of unlimited liability, when it is understood, has no terror for the ryot; he has been long accustomed to it in his family relationships, while the principle of limited liability is relatively unfamiliar. But the former system must naturally be accompanied by the power to exclude all in whom the majority have no confidence. Except in the Central Provinces, where all loans have been issued for productive purposes, loans are granted without restriction on their employment. In Bengal, Madras, and Eastern Bengal and Assam a considerable part of the loans was for repayment of old debts bearing exorbitant rates of interest, but an increasing number was for productive purposes, such as cultivation and purchase of cattle. There are some societies of clerks; while others have been formed among weavers and other

artisans. In Bombay special attention has been given to societies for weavers and leather-workers.

There is a considerable variety in the rates of interest charged in different provinces, but the rates are in nearly all cases considerably lower than those charged

Province.	Rate per Cent. charged on Loans to Members.	Rate per Cent. paid on Members' Deposits.
Madras - - -	6½ to 12½	5 to 7½
Bombay - - -	9½	6½
Central Provinces and Berar.	9½ to 12	7
Bengal - - -	15½ to 18½	8
Eastern Bengal and Assam.	9 to 12½	6½
Punjab - - -	9 to 12½	5
United Provinces -	12½	6 to 7½
Burma - - -	15	9

by local moneylenders. The rates usually charged are shown in the marginal table. In Madras the moneylenders are said to have reduced their rates considerably in some districts on the opening of societies, while in others the reduction has been gradual. In villages in Eastern Bengal and Assam the moneylenders' rates usually vary between 24 and 37½ per cent., but 150 per cent. is sometimes charged. In many cases the moneylenders have not unnaturally disliked the movement. In some cases they have given active help, and in the Punjab have even deposited money in the village banks.

In Burma moneylenders boycott members of co-operative societies, one result being a check to gambling. At present the societies derive their resources from members' deposits, Government loans, loans from other co-operative societies, and loans from non-members.

The table in the margin shows the main statistics of the societies for the year 1909-10 and for the preceding year. It will be seen that membership and capital both largely increased. The great advance which has been made becomes evident when it is remembered that in March 1905 there were altogether only 35 rural and 6 urban societies. The movement has almost everywhere passed out of the experimental stage; a large number of the societies are firmly established on a self-supporting basis,

No. of Societies.	1908-9.	1909-10.
Central - - - - -	15	31
Urban - - - - -	210	291
Rural - - - - -	1,738	3,106
	1,963	3,428
No. of Members - - - -	180,338	224,397
<i>Capital.</i>	£	£
Loans from private persons } " other societies }	272,029	432,488
Share capital - - - -	91,407	143,309
Deposits by members - -	107,016	166,201
Loans from Government - -	45,700	48,029
Reserve - - - - -	12,729	22,041
Total - - - - -	528,881	812,068
<i>Expenditure.</i>	£	£
Loans repaid to private persons -	91,098	102,671
Loans issued to members - - -	384,793	506,574
Purchase of raw material and stores	35,257	40,707
Profits - - - - -	21,321	30,763
Total - - - - -	532,469	680,715

and they are winning more and more the appreciation and confidence of the people. Loans are well and punctually repaid. It is noteworthy that in spite of the large increase in working capital the amount lent by the State is but little larger than in the previous year.

In Bengal the movement is essentially a rural one, and much success has been achieved with small and humble societies of the Raiffeisen type. Indifferent societies are being weeded out. Many new rural societies were formed in 1909-10, chiefly in old centres, and the policy has been continued of grouping these societies with the object of gradually combining them into unions for the purpose of mutual control and financial assistance. Four such unions have been formed. Local capital has greatly increased in Bengal; the deposits of members are much larger, and money is obtained with facility from outside sources. Urban societies are chiefly used by Government and mercantile clerks. Evidence of popular interest is rather

lacking and the number of non-official workers is small. In Eastern Bengal and Assam progress was substantial in 1909-10, and there was an increase in public confidence in the co-operative system, as shown by the increasing readiness of the public to invest their money with the societies. The societies, however, have outgrown the power of supervision by the existing staff, and progress is retarded from want of a supervising agency. A new feature of the year was the formation of a co-operative union. In the United Provinces there was a steady growth of

N.B.—Figures for Mysore have been excluded.

working capital, the chief need of the movement. Small urban societies of artisans, tradespeople, and menial servants with unlimited liability rapidly increased. The number of independent rural societies nearly doubled, and the policy has been deliberately adopted of substituting such societies for those affiliated to the central banks and entirely dependent on them. This substitution of small, compact, and really co-operative societies for the larger and more unwieldy model has been a success, and the business of the banks has not suffered. The financial condition of the societies is good. In the Punjab the movement extends to 18 districts, though it is mainly confined to seven districts. The societies, though working well on the whole, still need careful supervision and frequent inspection. During 1909-10 the progress of the movement was greater than in any previous year, and the number of societies doubled. Of the societies 98 per cent. are rural. Deposits by non-members largely increased. In the Chenab Colony, societies have bought agricultural machinery and traded in wood and cattle. Bank committees in many places act as standing panchayats. Five more district banks were established. A union has been started on the Bengal model. In the Central Provinces co-operative credit made an important advance in 1909-10. In two districts it has become a power and has acquired a firm footing in several others. In Burma there was steady expansion, and deposits more than doubled. The average membership is small. The Luzzatti type of society, which enables members to deposit savings, is ousting societies of the Raiffeisen and Schulze types, which, however, still number five and 184 respectively, as against 63 Luzzatti societies. Interest in, and knowledge of, co-operation has increased. Local capital is being more freely invested by the Burmese, and the movement is now independent of Government financial aid. With progress in organisation, the societies can be left more to themselves, and weak and ineffective ones discouraged. The Central Union Bank at Pakokku has been reconstituted. Eight unions of societies have been formed, which inspect, control, and guarantee their members. They comprise 92 societies. In Madras the number of societies more than doubled, the increase being mainly in rural societies. Of the members 56 per cent. are wholly and 24 per cent. are partly agriculturists. The Madras Central Bank prospered and issued additional shares. The tendency for the older societies to convert voluntarily from a limited to an unlimited liability basis continued. In Bombay, where rural societies are relatively few, the movement is steadily progressing, and in nine months the total membership increased by 35 per cent. The average membership was also larger. The percentage of outside capital increased. Societies are becoming more highly organised. A scheme, undertaken by leading local capitalists, for starting a Bombay Central Bank with a Government guarantee of interest on debentures has been sanctioned.

In most provinces the question of financing the societies is in the way of being solved, but the best methods of providing audit, inspection, and control are not yet settled, though experience points to the organisation of societies into local unions as the best solution. Experience has also shown, among other things, the necessity for great care in selecting members; the need of obtaining sufficient capital to supply the wants of members; the necessity of considering current local rates of interest in fixing the rates at which members should borrow from the society; and the need of closer supervision of small societies and improved methods of financing them.

Several provincial conferences took place during the year, and the Fifth Annual Conference of Registrars of Co-operative Credit Societies was held in November 1910. Reports showed that there is an extraordinary diversity in the lines of development followed in different parts of India.

A Bill to amend the law relating to Co-operative Societies was introduced in the Legislative Council in March 1911 in conformity with suggestions made by the Fourth Conference of Registrars. The new measure applies not only to co-operative credit societies, but to all co-operative societies, including those for production and distribution. Societies are to be classified as societies with limited and with unlimited liability respectively, and not as rural and urban, though the principle is retained that agricultural credit societies must generally be with unlimited liability. Unlimited liability societies are to be allowed, with the Local Government's sanction, to distribute profits. The formation of co-operative credit societies of which the members shall be other co-operative credit societies is to be legalised. Numerous minor changes are proposed.

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## CHAPTER VII.

## FORESTS.

(For further details see *Statistical Abstract of British India*, Tables 59, 60, and 125.)

*General.*—Systematic conservancy of the Indian forests is based on the Forest Act of 1878, which gave the Government powers of dealing with private rights in the forests of which the chief proprietary right is vested in the State. Special forest laws have also been enacted for each province, and a staff of trained forest officers has been organised. Forest administration is based upon the principle that State forests should be administered for the public benefit; they are worked, therefore, with a view to combining all reasonable facilities for their use by the public with the protection necessary for their preservation as sources of fuel and timber and as retainers of moisture in the soil. The forests are classified as "reserved," "protected," or "unclassed." In the reserved areas the control of the Forest Department is more complete than in the protected or unclassed forests. In the latter, the area of which cannot be precisely stated, are included large tracts of uncultivated land, especially in Burma, much of which will probably become agricultural land.—Among the most important measures of conservancy are the prevention, so far as possible, of the fires which are liable to devastate the forests, the plantation and reproduction of timber and firewood, the maintenance of a supply of seed-bearing trees, and the regular reproduction of timber of the more valuable kinds. At present the reserved (including leased) forests cover an area of about 92,000 square miles; and there is scope for further reservation in Madras and Burma. Outside the reserves there are about 157,000 square miles of State forests, including 16,000 square miles of protected forests. Some part of this area will eventually be brought within the "reserve" area, and all of it is, with more or less completeness, managed and worked for the benefit of the people, of their cattle, and of the public revenue. The forests dealt with in this chapter are, almost exclusively, State forests. The limited areas of private forest, except where they have been leased to the Government, are being gradually exhausted; and few private communal or village forests have been successfully brought under conservancy. In every province a very few of the most valuable timber trees are declared to be reserved trees, and can only be felled under special licence. Outside the reserves, the country folk are generally allowed to obtain from the State forests timber, bamboos, firewood, and grass for their own use without charge; inside the reserves, persons specially licensed are allowed to extract timber or other produce, on payment of fees, though all rights recognised by the forest settlements are preserved to the public. Offences against the forest laws consist chiefly of illicit grazing and unauthorised felling or removal of produce. Forest revenue is raised by royalties on, or by the sale of, timber or other produce and by the issue at specified fees of permits to graze cattle, or to extract for sale timber, firewood, charcoal, bamboos, canes, and minor forest produce. The gross revenue derived from forests in 1909-10 was £1,735,400, including £463,000 and £1,165,200 received for timber and other produce removed from the forests by Government agency and by consumers (or purchasers) respectively. The charges amounted to £1,006,700, leaving a net revenue of £728,700. Some of the Native States, such as Kashmir, Mysore, Travancore and Baroda, have also organised a systematic forest administration, from which they derive a considerable revenue. The following paragraphs treat of forest administration in each province.

*Bengal.*—At the end of 1909-10 the areas of reserved and protected forests were respectively 4,248 and 3,713 square miles, representing over 6 per cent. of the area of the province. Owing to the depleted state of the village forest reserves rules were gazetted declaring all forest and waste lands in the Sambalpur district to be protected forests, the area affected being about 342 square miles. Working plans have been, or are being, provided for 5,904 square miles. With regard to fire protection, the year was unfavourable, and 33,053 acres were burnt. The cultivation of rubber (*ficus*

*elastica*) and of cinchona is being extended in the Tista division. The yield of timber was about 4½ million cubic feet, a decrease on that of 1908-9, while the out-turn of fuel, 30½ million cubic feet, was also smaller. The number of bamboos taken from the forests was over 11 millions. Only a small part of the total out-turn is exploited by departmental agency. From a commercial standpoint the year's working was less satisfactory than that of 1908-9, the surplus revenue being £35,013 as against £41,363. The cyclone of 1909 in the Sunderbans division caused great havoc, damaging millions of trees. The number of recorded offences, 2,181, was below the average. There was an increase from 103 to 106 in the number of workmen killed by man-eating tigers in the Sunderbans forests. A committee, appointed on the initiative of the Secretary of State to inquire into the condition of the forests of Chota Nagpur, Orissa, and the Feudatory States, has issued its report and framed a draft Bill with the object of conserving private forests.

*United Provinces.*—The areas of reserved and protected forests at the end of 1909-10 were 3,947 and 9,099 square miles respectively, in addition to 156 square miles of leased forests and 42 square miles of unclassed forests. Much valuable work was done during the year in examining and demarcating the more important forests and ascertaining their capabilities. Natural reproduction was generally good, especially in the case of *sal*. Working plans have yet to be compiled for 95 square miles. Fire protection was very successful. The yield of the forests was 7½ million cubic feet of timber, 11½ million cubic feet of fuel, and 12½ million bamboos, besides minor produce. The removal of forest produce is almost entirely carried on by outside agency. The manufacture of catechu was carried on as usual. The resin and turpentine industry in the Naini Tal and Jaunsar divisions gave good results, partly due to a rise in prices. The financial results were better owing to a revival of the timber trade, and the surplus revenue for the year was £70,000. Breaches of the forest rules were considerably above the average. Plans are being formulated for restocking areas affected by the great drought.

*Punjab.*—The reserved forest area at the end of 1909-10 comprised 1,955 square miles, including 110 square miles under military or other control. The protected forests aggregated 5,223 square miles, while there are 1,332 square miles of unclassed forest and 369 square miles of leased forests. The area was reduced during the year, mainly by the exclusion of 244 square miles of village forests in the Rawalpindi division. For various reasons little progress was made with working plans, which are still required for 3,959 square miles. The year was less favourable as regards forest fires. The policy of exploiting the forests through non-departmental agency has been still further extended. The out-turn of timber was about 4½ million cubic feet, a large increase upon 1908-9, while the fuel out-turn was nearly 23½ million cubic feet. The surplus of the year amounted to £19,800. About 82 per cent. of the forest area was open to cattle for grazing. The difficulty of protecting forests from damage by excessive grazing has become greater as cattle and pastoral animals have largely increased and waste lands have been curtailed through irrigation. The continued increase in the number of forest offences is disquieting. This is mainly due to cases of illicit grazing. Schemes for the production of wood-pulp and resin are in preparation.

*North-West Frontier Province.*—At the end of 1909-10 the reserved forest area was 250 square miles, besides 121 square miles of civil protected forests. Working plans have now been framed for 236 square miles. There was an increase in the out-turn of produce, the quantities being 586,000 cubic feet of timber and 287,000 cubic feet of fuel. The net revenue was £3,358, or considerably less than in recent years. There was a marked increase in the number of forest offences. The protection from fire was not so good as in 1908-9.

*Burma.*—The reserved forest area in Burma was increased during 1909-10 by 2,110 square miles to 25,691 square miles; the unclassed forests, much of which will ultimately be brought under cultivation, covered 113,007 square miles, an increase of 2,139 square miles. Satisfactory progress was made in the settlement of tracts to be maintained as reserves. Endeavours are being made to check the evils arising from the practice of shifting cultivation. Working plans for 2,048 square miles were in preparation or awaiting sanction. The area of reserved forests not under working plans at the end of the year was 16,396 square miles. The majority of the teak-bearing forests are now being managed under working-plans or girdling schemes. The area in which fire protection was attempted covered 7,727 square miles, and the results were very successful. Rubber, teak, and other plantations were maintained, and further experiments were made with the cultivation of rubber, which is said to be

growing very successfully in the Bhamo division. The rubber plantation at Mergui was sold after the close of the year. There was a decrease in the number of trees girdled. The number of teak trees girdled was 112,600 and the quantity of teak extracted was 284,600 cubic tons, including 234,600 by purchase contractors, an increase of 14,500 cubic tons, due to a favourable floating season. Of other timbers, 302,300 cubic tons were extracted, besides 325,600 cubic tons of fuel. The area under teak worked by the Department is being strictly curtailed in favour of the system of extraction by firms under purchase contracts. The surplus revenue amounted to £364,000. There was a decrease in the number of forest offences.

*Central Provinces and Berar.*—The total area of forests at the end of 1909-10 was 21,436 square miles, including permanent reserves of 20,620 square miles and unclassed forests 816 square miles. The forest area shows a decrease of 485 square miles, due to the transfer to Madras of forests in the Cherla Range. The total length of forest boundaries is nearly 37,000 miles, of which 92 per cent. has been artificially marked. Special attention has been given to the making of roads which will facilitate the utilisation of forest resources. Further working plans were sanctioned or in progress; new plans are still required for 5,935 square miles. In future a revenue officer is to be deputed to consult with the working-plans officer with the view of securing due attention to agricultural interests. The fire season was very unfavourable. The area under fire protection was 11,795 square miles. The number of forest offences increased by 13 per cent. There was a large decline in the out-turn of forest produce. The amount of timber removed from the forests during the year, chiefly by private persons, was about 4½ million cubic feet, that of fuel about 17½ million cubic feet. The surplus revenue was £34,400, an increase of £7,400 on 1908-9. As usual, a large part (43 per cent.) of the revenue was yielded by grazing and fodder-grass, while 27 per cent. was derived from timber, and 30 per cent. from fuel and minor produce.

*Eastern Bengal and Assam.*—The forest area at the end of 1909-10 included 6,483 (an increase of 166) square miles of reserved and 4 miles of protected forests, or about 6½ per cent. of the total area of the province, and 22,752 square miles of unclassed forests. The unclassed forests consist largely of grass or treeless waste in Assam; they are all open to grazing, and part of their area is more or less regularly under cultivation. Progress was made in bringing the reserved forests under systematic management. Working plans are still required for 4,656 square miles. Special fire protective measures extended over 1,569 square miles, and fires did much less damage than in 1908-9. On the other hand, there was a large increase in the number of forest offences, which consist chiefly of unauthorised fellings. The Charduar and Kulsī plantations of rubber (*ficus elastica*) produced distinctly satisfactory results. Successful efforts are being made to introduce rubber cultivation in the Lushai Hills and elsewhere. The gross yield of the forests amounted to 5½ million cubic feet of timber and 12¼ million cubic feet of fuel, besides 34 million bamboos and minor produce. The surplus revenue amounted to £35,888. It is found more profitable to sell standing timber to contractors than to exploit it by Government agency. Nine new forest villages were established during the year.

*Madras.*—The total area of forests on 30th June 1910 was 19,612 square miles, of which 18,769 square miles were classed as reserved forests. The settled and systematically protected forests cover nearly one-seventh of the area of the Presidency. Detailed working plans were sanctioned or in preparation for 847 square miles, bringing up the total area for which regular working plans have been prepared to 7,893 square miles. Protection from fire was satisfactorily undertaken over 9,254 square miles. There were 25,277 forest offences, of which 17,251 were compounded. Natural reproduction was, on the whole, good. The area of reserves open to cattle for grazing was about 88 per cent. of the total. The yield of the forests was about 3½ million cubic feet of timber and 21½ million cubic feet of fuel, besides 39 millions of bamboos and minor produce. The out-turn was larger than in 1908-9, but the surplus revenue, amounting to about £53,285, was smaller. Departmental depôts for supplying the people with fuel and bamboos worked satisfactorily.

*Bombay.*—The area of the reserved forests was 13,769 square miles at the end of 1909-10, while that of the protected forests was 1,348 square miles. The area for which working plans have been sanctioned is about 45 per cent. of the total area. Satisfactory progress was made with the cultivation of rubber in the South Thana division. Forest offences were about the same in number as last year. As regards

fire protection, there was wilful firing of forest areas in Sind, owing to the dearth of grass consequent on the low inundation. The yield of timber was  $4\frac{1}{2}$  million cubic feet, of fuel 39 million cubic feet, and of bamboos 8,700,000. The surplus revenue amounted to £104,760.

*Coorg.*—The area of reserved forests at the end of 1909–10 was 520 square miles. The season was very favourable as regards fire protection. Of the reserves, 65 per cent. were open to grazing. Sandal trees affected with “spike” disease were uprooted. The out-turn of the forests was 417,638 cubic feet of timber and fuel. The surplus revenue was £8,804.

*Andamans.*—The area of reserved forests in the Andamans is 161 square miles, while the area of unclassified State forests and waste lands is 1,791 square miles. Of the total area, 1,952 square miles, working plans for 317 square miles have been sanctioned. Attention was paid to the reproduction of padouk trees, both naturally and artificially. The padouk timber trade, owing to competition, received an impetus during the year. The out-turn of timber was 503,000 cubic feet (of which 222,000 cubic feet were exported), of fuel 1,103,000 cubic feet, and of bamboos 1,193,000. The surplus revenue was £7,682.



CHAPTER VIII.

MINERAL PRODUCTION AND MINING.

(For further details see *Statistical Abstract for British India, Table 216*; "*Quinquennial Review of the Mineral Production of India during the years 1904 to 1908*" in *Records of Geological Survey, Vol. XXXIX., 1910*; and "*The Mineral Production of India during 1909*" in *Vol. XL., 1910.*)

MINERAL PRODUCTION.

*General.*—During recent years much has been done to develop the mineral resources of India. The minerals that have been chiefly worked are those which can be consumed by direct process on the spot, or which, owing to their abundance and cheapness, are suitable for export in the raw state. The output of minerals in India (including Native States) has shown a marked increase in the last 11 years, the estimated value of that for the quinquennium 1898-1903 being £4,330,000, for the quinquennium 1904-1908 £6,716,000, and for the year 1909 £7,499,000. In 1909 there was a decrease of 4.6 per cent. as compared with the total, £7,862,000, of 1908, due almost wholly to a smaller production of coal. By far the most important minerals are coal and gold, the production of which in 1909 was valued at £2,780,000 and £2,205,000 respectively, followed by petroleum, £910,000, salt, £454,000, and manganese ore, £508,000. These estimates of values relate to all production for which returns are available, but as they represent in some cases spot values, in others values at the sea-ports, they cannot serve for comparison with the production of other countries, but only for the comparison of one year with another in India itself.

*Coal.*—Coal is the most valuable mineral product worked, and is by far the largest supporter of labour. The production, which had risen without a break since 1882 to 12½ million tons in 1908, declined in 1909 to 11,870,000 tons. The marginal table shows the average output for the quinquennium 1904 to 1908 and for the year 1909, and also brings out the territorial distribution of the mines. The areas not enumerated include the Punjab, Baluchistan, and Bikanir, in which production has hitherto been fluctuating and not very progressive. The decreased production in 1909 was mainly in the Bengal fields, and was due to bad trade conditions generally, and to a reaction after two years of speculation in Bengal coal mines.

Province or State.	Average, 5 years, 1904 to 1908.	1909.
	000 Tons.	000 Tons.
Bengal - - - -	8,894	10,661
Hyderabad - - -	440	443
Eastern Bengal and Assam	280	306
Central Provinces - -	145	238
Central India - - -	169	121
Other provinces or states -	139	101
Total - - - -	10,067	11,870

Bengal produces about 90 per cent. of the coal won in India, the Jherria coal-field (opened in 1893) providing in 1909 5,833,000 tons, nearly half the total output, the Raniganj 4,035,000 tons, and the Giridih 705,000 tons. In the Central Provinces the output of the Pench Valley Collieries, opened in 1905, fell to 92,000 tons.

The exports of Indian coal, 564,000 tons, were smaller than in 1908. Ceylon and the Straits Settlements are the two principal markets. About 95 per cent. of the Indian production was consumed at home, 31 per cent. of the output (3,689,000 tons) being absorbed by the railways, whose coal consumption is now Indian to the extent of nearly 98 per cent. It is roughly estimated that 1,500,000 tons were used for bunker coal for ocean-going and inland steamers, 1,100,000 tons for colliery consumption and wastage, and 2,100,000 tons for jute and cotton mills and iron and brass foundries.

Prices in 1908 were the highest so far recorded. The average estimated wholesale price of coal at the pit's mouth, which had been as low as 3s. 4d. per ton in 1905 and rose to 5s. 3d. in 1908, fell to 4s. 8d. in 1909. The coal now being worked is near the surface, and labour is cheap; as a consequence Indian coal has a lower value at the pit's mouth than that of any other country. The amount of capital invested in coal mines cannot be given, but most of the Bengal output comes from mines owned by joint-stock companies.

The average number of persons daily employed in coal mines during 1909 fell to 119,500, two-thirds of whom were men. As the result of improved mining methods, the output per head has grown from 89 tons in 1904 to 99 tons in 1909,

but even this is a somewhat low degree of efficiency if tested by European standards. The labourers include chiefly landless day labourers. In some old established centres a mining caste is being evolved, and allotments of land are made to miners.

**Gold.**—The production of gold amounted to 574,816 ounces, valued at £2,204,866, in 1909, compared with 567,630 ounces, valued at £2,177,247, in 1908. By far the greatest part of the gold (545,309 ounces) came from the Mysore gold-fields. The Hutti mine in Hyderabad produced 15,241 ounces in 1909.

**Petroleum.**—Since the introduction of European drills the production of petroleum has rapidly risen. Increased activity in the Twingon Reserves of the Yenangyaung oil-field, where rich oil-sands were struck at greater depths, led to a further large rise in the output during 1909. The total production of crude petroleum rose to the record figure of 234 million gallons, as compared with 177 million gallons in 1908, and an average of 146½ million gallons during the quinquennium 1903 to 1907. About 3¼ million gallons of oil were extracted in Eastern Bengal and Assam; and the rest of the product, except a trifling amount from the Punjab, came from Burma, the principal oil-fields being at Yenangyaung, the oldest field, in Magwe district, and at Singu, in Myingyan district. The former of these yielded 187 and the latter 37 million gallons. The increase during 1909 in the Yenangyaung field was 63 million gallons, all other fields showing a reduction. Oil refineries have been erected, and the various constituents of the crude oil are put on the market in the form of kerosene, petrol, lubricating oil, batching oil, fuel oil, candles, and paraffin wax. The production and export of paraffin wax have steadily and largely increased. There was a decline from 80 to 70 million gallons in the imports of kerosene into India.

**Manganese.**—Manganese ore is now chiefly obtained from extensive deposits in the Central Provinces, Madras, Bengal, and Mysore. Owing to slacker demand and to foreign competition, production again declined in 1909, the quantity being only 642,675 tons as against 674,315 tons in 1908, and the record figure of 899,055 tons in 1907. The decline, as compared with 1908, was mainly in the Central Provinces (50,000 tons) and Mysore, Bengal and Madras showing an increase. The ores worked are for the most part exceedingly rich, as the high cost of transport renders the working of the lower-grade ores unprofitable, and India is now probably the chief producer of high-grade ore. There is no smelting plant in the chief producing centres, and the ore is shipped in bulk exactly as mined, to be smelted in the United Kingdom, Germany, or the United States. The exports in 1909 were 467,300 tons.

**Salt.**—The production of salt in India (excluding Aden) in 1909 was 1,189,063 tons, as compared with 1,279,937 tons in 1908. About 62 per cent. is evaporated from sea-water, chiefly in Bombay and Madras. About 27 per cent. is derived from sub-soil water and lakes, and only 11 per cent. is obtained by mining and quarrying. Most of the rock-salt, amounting to 146,700 tons, came from the Punjab Salt Range.

**Saltpetre.**—The value of the saltpetre industry is gauged most uniformly by the figures for exports, which increased to 404,946 cwt. in 1909, valued at £206,838, a slight advance on 1908. Behar is the principal seat of this industry.

**Mica.**—India has for many years been the leading producer of mica, turning out more than half the world's supply. The returns of the mica output showed a large decline in 1909, the total being 32,903 cwt., as against an average of 41,219 cwt. for the five years to 1908. Small mica, which formerly was thrown away, is now saved, the result being that a greater output is produced by a smaller number of workers. The mines are situated in Bengal, Madras, and Rajputana.

**Rubies.**—The ruby industry in Burma has been productive during recent years. In 1909 the reported production of rubies, including small quantities of sapphire and spinel, amounted to 258,304 carats, valued at £58,649, in 1909, compared with 281,014 carats, valued at £83,505, in 1908. This output was wholly derived from the Mogok mines of the Burma Ruby Mines Company. Rubies are also obtained by native miners working under licence from the Company.

Province or State.	Average, 1904 to 1908.	1909.
	Tons.	Tons.
Central Provinces	316,905	381,285
Madras	102,769	138,454
Mysore	45,649	39,895
Central India	28,189	10,324
Bombay	10,842	17,657
Bengal	4,789	55,060
Total	509,143	642,675

*Other Minerals.*—Among minerals not above referred to is jadeite, which was exported in 1908-9 to the value of £84,450 from the Myitkyina district of Burma. The output of iron ore, though larger than in 1908, was only 83,456 tons. In 1907 the Tata Iron and Steel Company was formed with a large capital to exploit iron ore lands in Orissa and the Central Provinces, and large developments in production are anticipated. There is a small output of tin, graphite, and chromite.

#### \* MINING CONCESSIONS.

Since Rules were issued in 1899 to govern the grant of exploring and prospecting licences and of mining leases, the number of concessions in lands in which the mineral rights have been retained by Government (exclusive of Native States) has rapidly increased, mainly owing to the enhanced interest in manganese in Bombay and the Central Provinces. The concessions granted in Government lands amounted in 1899 to 60 only, but in 1908 the number had risen to 816. In 1909 the total number of concessions fell to 693, though mining leases increased from 71 to 156. Prospecting licences numbered 394, and exploring licences 143. In some areas, including nearly all the coal-bearing land in Bengal, mineral rights have been conceded permanently with the surface ownership.

By the Rules exploring licences can be obtained for one year, but they give no exclusive or preferential rights, and there is no prohibition against free exploration in unoccupied and unreserved land. Prospecting licences are granted over restricted areas for a period of one year, renewable with the consent of the Local Government for a second and third term. Such licences carry an indefeasible claim for a subsequent mining lease for any mineral other than precious stones over the same or a restricted area. The Rules are undergoing revision.

In practically all Native States the mineral rights belong to the respective rulers, and concessions are granted for mining and prospecting under rules that involve a certain amount of supervision by the Government of India.

#### INSPECTION OF MINES.

The Indian Mines Act, 1901, applies to the whole of British India, and regulates all mineral workings which are either true mines worked underground, or open pits, quarries, or excavations more than 20 feet deep and any part of which extends beneath the superjacent ground.

The number of mines of all kinds coming under the Act in 1909 was 785, of which 511 were coal mines, including 465 in Bengal, 172 mica mines, including 101 in Bengal, and 37 manganese mines. There was a considerable reduction in the number of manganese and mica mines worked. The mines gave employment to an average daily number of 140,710 persons (a decrease of 14 per cent. in the year), of whom 88,885 were men, 47,487 women, and 4,338 children under twelve years old; 90,495 persons worked underground. The labour material is very unformed, possesses little skill, and requires constant supervision.

There were 126 fatal accidents, causing 152 deaths, during the year 1909, a decrease of 42 in the deaths as compared with 1908. Of the deaths from accidents, 119 occurred in coal mines. Greater discipline would substantially lessen this loss of life. Accidents in coal mining would probably be more numerous (1.08 per 1,000 workers) but for the fact that the workings are generally free from gas, very shallow, and not elaborate. Dangers must increase as the works become deeper. One prosecution was instituted in 1909, and the defendant was convicted.

#### MINING EDUCATION, &c.

Progress in mining education is being maintained, and the need for it is still urgent. The number of students taking the Mining Course at Sibpur College during the session 1909-10 was 18, of whom six gained diplomas. The demand for passed students exceeds the supply. The new practical mining laboratory, designed specially with a view to coal mining, is now in working order. Lectures were delivered at four centres in the Bengal coal-fields in 1909-10, and 230 students were registered. These peripatetic courses, designed to improve mining knowledge and enable mine officials to qualify for certificates of competency as mine managers, have been held for five years, and have been very successful. The only Mining Board at work during 1909 under the Mines Act of 1901 was that for Lower Bengal, which is by far the most important mining centre in India. The Mining and Geological Institute of India, which was inaugurated at the end of 1905, made good progress during the year.

## CHAPTER IX.

## MANUFACTURES.

INDUSTRIAL DEVELOPMENT.  
LARGE INDUSTRIES.  
FACTORY LEGISLATION.

FACTORY INSPECTION.  
PATENTS AND DESIGNS.

(For further details see *Statistical Abstract for British India*, Tables 212 to 215.)

## INDUSTRIAL DEVELOPMENT.

In recent years there has been much discussion in India regarding the advantages of encouraging manufactures for the purpose of securing greater diversity of occupation in a country that so largely depends on agriculture. The movement for promoting home industries, known as the *swadeshi* movement, has, in its legitimate forms, received official support. There are standing orders that stores required by Government shall, as far as practicable, be purchased in India. In March 1909 it was ordered that purchasing officers shall in all cases give preference to articles manufactured in India from Indian materials (or from imported materials), provided that the quality is sufficiently good and the price not unfavourable. Detailed information regarding the kinds of articles required has recently been issued. From time to time monographs are published dealing with the position in each province of some leading industry. Thus monographs have recently appeared on paper-making, the manufacture of wire and tinsel, the preservation and curing of fish in Madras, the salt-boiling industry in Burma, and the hand-loom industry in Bombay. In some provinces the local governments have instituted special inquiries to ascertain the prevailing industrial conditions, with a view to promoting those industries that appear, when properly organised, to give promise of success. A "Review of the Industrial Position and Prospects in Bengal in 1908" has been prepared by Mr. J. G. Cuming, I.C.S., a "Survey of the Industries and Resources of Eastern Bengal and Assam" by Mr. G. N. Gupta, I.C.S., and "Notes on the Industries of the United Provinces" by Mr. A. C. Chatterjee, I.C.S. Industrial conferences and exhibitions have been held, and a knowledge of Indian manufactures has become more widely diffused. The annual Indian Industrial Conference, held in connection with the National Congress, took place at Lahore in December 1909. An Industrial and Agricultural Exhibition was also held at Lahore in the same month with the support of the Punjab Government. Endeavours are being made in all provinces to improve the important and widespread domestic cotton industry by introducing better types of hand-looms and superior methods of manufacture, in order that their products may compete more successfully with goods manufactured by power looms in India or imported from abroad. In Bombay the Government employed an expert to undertake a survey of the leather industry. He recommended inquiries regarding tanning materials and the instruction of children in leather-working. He also suggested that co-operative societies should be organised to help leather-workers. In Bengal improved methods are taught at the Serampur Weaving School and at outlying centres. In the United Provinces schools have been established at weaving centres under Government auspices to popularise the use of improved looms and simple warping processes. Scholarships for the higher commercial and technical training of Indians abroad are offered by the Government and by private associations.

## LARGE INDUSTRIES.

In this chapter attention must be mainly confined to the larger industries, concerning which alone statistical information is available. By far the most important of these are the cotton and jute manufacturing industries, which have made rapid progress in recent years, as the following figures show:—

Year.	Cotton Mills.*				Jute Mills.			
	No.	Paid-up Capital.	Looms.	Spindles.	No.	Paid-up Capital.	Looms.	Spindles.
		£				£		
1883-4	71	5,428,000	15,412	1,842,184	23	2,124,000	6,139	112,650
1888-9	98	6,166,000	19,288	2,504,666	25	2,599,000	7,419	151,207
1893-4	125	7,504,000	26,876	3,338,229	27	2,701,000	9,180	191,228
1898-9	158	10,070,000	34,775	4,261,520	33	3,821,000	13,421	279,482
1903-4	187	10,428,000	41,997	4,900,106	38	4,954,000	18,400	376,718
1906-7	197	11,513,000	55,291	5,230,020	44	6,330,000	25,284	520,504
1907-8	207	12,031,000	62,251	5,437,198	54	7,019,000	27,244	562,274
1908-9	211	12,754,000	69,283	5,602,134	56	7,413,000	29,525	607,458
1909-10	215	12,648,000	74,585	5,773,824	60	7,674,000	31,418	645,862

\* The figures in this table now relate to British India only (Native States and Pondicherry being excluded).

**Cotton Mills.**—The 215 cotton mills at work in British India in 1909-10 included 95 exclusively spinning, 16 exclusively weaving, and 104 both spinning and weaving mills. The majority of the mills, viz., 162, were in the Bombay Presidency, and they contained 74 per cent. of the spindles and 84 per cent. of the looms. Bombay City contained 83 mills and Ahmedabad 53. The industry is to a large extent in the hands of Indians. In spite of some unfavourable years, the industry, as the above table shows, has continued steadily to develop.

The outturn of yarn in recent years in British India is shown in the margin. The mills of the Bombay Presidency produced nearly 74 per cent. of the total, Bengal

Year.	Counts Nos. 1 to 25.	Above No. 25.	Total.
Average :	Million Lbs.	Million Lbs.	Million Lbs.
1896-7 to 1900-1	423.9	20.1	444.0
1901-2 to 1905-6	537.4	39.9	577.3
Year 1906-7	581.4	49.2	630.6
" 1907-8	556.6	57.2	613.8
" 1908-9	572.0	57.9	629.9
" 1909-10	542.9	50.5	593.2

6 per cent., Madras 7 per cent., the United Provinces 7 per cent., and the Central Provinces and Berar 5 per cent. It will be observed that yarns of counts above No. 25, constitute nearly 9 per cent. of the total production. They are chiefly spun in the Bombay mills. Imports of yarn amount to only about 6 per cent. of the Indian production, but a very small proportion is of counts under 25. The phenomenal activity of the cotton industry in 1905-6 was followed by a decline in prosperity during 1906-7, which became

accentuated in 1907-8. In 1908-9 the Indian market was depressed owing to shortage of crops, high prices of food, and the fewness of marriages, but the situation was relieved by a timely demand from China, which is the principal market for Indian yarn. In 1909-10 trade was at first brisk owing to an active China demand and to numerous marriages, but an unprecedented rise in the price of raw material left manufacturers but little profit. About 36 per cent. of the yarn produced was exported.

Owing to the vicissitudes of the spinning business increased attention has been devoted to weaving, which has greatly extended. The production in 1909-10 furnished a record. But this movement

Year.	Grey and Bleached.	Other kinds.	Total.
Average :	Million Lbs.	Million Lbs.	Million Lbs.
1896-7 to 1900-1	80.6	11.3	91.9
1901-2 to 1905-6	109.9	25.0	134.9
Year 1906-7	129.6	29.4	159.0
" 1907-8	147.6	33.7	181.3
" 1908-9	147.2	37.0	184.2
" 1909-10	167.2	48.2	215.4

appears to have been overdone, though goods of finer quality are being produced. The production of woven goods in recent years in British India only is given in the margin. Weaving is concentrated to an even greater degree than spinning in the Bombay mills, which in 1909-10 produced about 84 per cent. of the total output of cloth; the United Provinces and Central Provinces each contributed about 5 per cent.; and Madras about 4 per cent. These fabrics are mainly

grey and bleached piece-goods. As the marginal table shows, however, there is a decided tendency to increase the output of other and finer fabrics, this tendency being specially marked in Madras. About 10 per cent. of the cotton piece-goods produced was exported.

**Jute Mills.**—While the cotton mills are largely owned by Indians and are mainly situated in Western India, jute mills are nearly all concentrated in Bengal in the vicinity of Calcutta, and are mostly in the hands of English firms. As will be seen from the statistical table above, the jute industry is of smaller dimensions than the cotton industry, but it has enjoyed almost uninterrupted and increasingly rapid progress, the number of looms and spindles having nearly doubled in the last decade. The number of jute mills in 1909-10 was 60, containing 31,418 looms and 645,862 spindles, and employing a daily average of 204,104 persons. The paid-up capital employed by 56 of these mills was £9,726,000, including debentures; of this total about £3,280,000 was sterling capital. In 1909-10 the number of spindles increased by 6 per cent., and the number of looms by 6 per cent. Hessian looms are now more numerous than sacking looms. In 1909-10 there was depression in the industry, and for some months the mills worked short-time.

**Woollen Mills.**—There were four woollen mills at work at the end of 1909, containing 763 looms and 28,853 spindles, and producing goods valued at about £267,000 for the year. The industry shows little sign of expansion. The fabrics consist chiefly of cloth for the army and the police. The produce of Indian mills represents only a small share of the total trade in woollen goods, for, although the demand for woollen goods in India is not very large, certain varieties can be produced much more easily and cheaply by European mills. There are many small hand-loom factories for weaving carpets and rugs, whose production is in the aggregate extensive.

**Paper Mills.**—There were eight paper mills at work at the end of 1909, producing during the year about 55 million lbs. of paper, valued at £517,000. Most of the official foolscap, blotting paper, notepaper, and envelopes is now obtained locally; but the development of paper-making in India has been checked by the competition of cheap wood-pulp paper from Europe, imports of which have increased much faster than the home production.

**Breweries.**—At the end of 1909 there were 24 breweries, which produced during the year 4,824,000 gallons of beer. The largest brewery is at Murree in the Punjab Himalayas, and its output was 758,000 gallons. About 37 per cent. of the whole Indian production was brewed in the Punjab. The quantity of beer imported in 1909 was 4,287,000 gallons.

**General Remarks.**—The total number of factories worked by mechanical (including electrical) power, owned by companies or private persons in British India and in Native States, was 2,418 in 1909. In these the average daily

	No. of Works.	No. of Operatives.
Cotton presses	1,074	89,217
Cotton mills	225	218,321
Jute presses	146	28,666
Jute mills	59	203,286
Silk filatures	10	1,656
Rice mills	207	18,726
Flour mills	34	2,942
Sugar factories	22	4,559
Saw mills	101	8,835
Iron and brass foundries	82	22,932
Indigo factories	51	18,787
Tile factories	25	3,542
Oil mills	21	1,907
Printing presses	68	13,383
Dockyards	15	11,971
Railway workshops, &c.	58	71,172

number of operatives was 776,662. A classified list of the more important is given in the margin. There were also 538 factories not worked by mechanical power, employing 79,954 persons. Of the 1,074 factories for the ginning, cleaning and pressing of cotton there were 376 in the Central Provinces and Berar, 358 in Bombay, 134 in the Punjab, and 132 in the United Provinces. In Bombay about 190,000 operatives are employed in different branches of the cotton industry. In Madras and the Central Provinces and Berar, as in Bombay, cotton weaving and spinning are the principal industries. In Bengal and Eastern Bengal and Assam there is an increasing number of jute presses. Silk filatures and indigo factories are found chiefly in Bengal. Flour mills are most numerous in the Punjab and sugar factories in Bengal. Rice mills and saw mills are most numerous in Burma, rice and teak being the two principal products of the province. They are mainly in European hands and are the only large industries in Burma organised and worked by western methods. Printing presses are numerous in Bombay, Bengal, and Madras. Iron and brass foundries (including engineering workshops) number 28 in Bengal and 20 in Bombay. Only one company manufactures iron on European lines in Bengal, and its production is confined to pig-iron. Another firm is erecting blast furnaces and steel rolling mills in the Singhbhum district. There were 117 factories belonging to the State and to local bodies and employing 65,505 persons. Among these were 19 printing presses, 23 railway workshops, 11 canal foundries and engineering workshops, and 18 military arsenals and factories.

**FACTORY LEGISLATION.**

The law at present in force respecting factories in India is Act XV. of 1881, as amended by Act XI. of 1891. The changes introduced by the latter were, briefly: (1) The law could be applied to establishments employing 20 hands or over, instead of only to those with 50 hands, or over, factories of the latter description being brought in all cases under the Act; (2) the minimum age for child labourers was raised from seven to nine years, and the maximum age from 12 to 14 years; (3) the maximum hours for child labour in any one day were reduced from nine hours to seven hours, and night-work was forbidden; (4) the hours of actual labour for women workers, which were unrestricted under the Act of 1881, were limited to 11 hours a day, with intervals amounting to 1½ hours; (5) a rest period during work was prescribed for all labourers.

Owing to complaints regarding the long hours worked in many mills, the Government of India appointed a small Committee, with Commander Sir H. P. Freer-Smith, R.N., late Superintending Inspector for Dangerous Trades in England, as chairman, to conduct a preliminary inquiry into the conditions of labour in textile factories. The Committee recommended that the working hours of adult males should be limited to 12 hours a day; that before children or adults are allowed to work in factories certificates of age and physical fitness should be required; that night-work of women should be prohibited; and that Medical Inspectors should be appointed. The Committee's report was presented to Parliament in 1907 (Cd. 3617).

The conclusions of this Committee formed the basis of an investigation by a representative Commission, whose report was presented to Parliament in 1908 (Cd. 4292). This report disclosed the existence of abuses, particularly in connection with the employment of children, and the excessive hours worked by operatives generally in textile factories. The majority of the Commission deprecated a statutory limitation of the working hours of male adults. But they recommended the formation of a class of "young persons," between 14 and 17 years of age, whose hours should be limited to 12, and considered that this would indirectly secure a 12 hours' day for male adults. They also recommended that the hours of work for children should be reduced from 7 to 6 hours and that the hours for women should be assimilated to those for "young persons," night-work being prohibited for both classes. They recommended that children should be certified as to age and physical fitness.

The recommendations of the Committee and of the Commission having been considered by the Government of India and the Local Governments, a bill was introduced in July 1909 to amend and consolidate the law relating to factories. The measure, which was passed in March 1911 (Act No. XII.), provides, subject to certain exceptions, that in textile factories: (1) No person shall be actually employed for more than 12 hours, no woman for more than 11 hours, and no child for more than 6 hours in any one day; (2) no person shall be employed before 5.30 in the morning or after 7 in the evening; (3) the period for which mechanical or electrical power is used shall not in any one day exceed 12 hours. In other than textile factories the working hours of children remain at 7. Further provision is made for securing the health and safety of the operatives and for making inspection more effective. The new Act will come into force on 1st July 1912.

**FACTORY INSPECTION.**

The statistics of the factories inspected during 1909 are as follows:—

PROVINCE.	Number of Factories working, and liable to be inspected.	Average Number of Hands employed daily.				Number of Factories.				Number of Persons convicted of breach of Act.	Number of Accidents reported.			
		Men.	Women.	Children.	Total.	With Sunday Holiday.	With other Weekly Holiday.	Exempted or worked otherwise.	Fatal.		Serious.	Minor.	Total.	
Bengal	359	239,994	40,034	29,682	309,680	301	3	45	4	52	366	581	928	
Eastern Bengal and Assam	127	21,929	1,207	609	23,745	50	4	78	—	3	2	21	26	
United Provinces	173	42,635	5,619	2,343	50,617	129	30	4	3	6	48	83	136	
Punjab	259	23,648	3,885	1,151	28,679	140	68	9	3	2	32	250	291	
North West Frontier Provinces	5	87	66	—	153	2	1	—	—	—	—	—	—	
Burma	267	42,511	894	593	43,998	221	35	11	9	13	125	234	362	
Central Provinces and Berar	386	24,258	14,345	1,650	40,253	154	165	1	6	4	68	100	172	
Madras	150	40,244	5,259	4,801	50,314	140	31	12	6	5	50	331	374	
Madhya Pradesh	640	173,000	42,898	11,481	227,359	358	159	3	21	20	178	1,395	1,602	
Bombay	7	10,584	247	170	11,001	5	2	—	—	2	28	54	84	
Ajmer-Merwara	—	—	—	—	—	—	—	—	—	—	—	—	—	
Total, 1909	2,204	619,015	114,455	23,440	756,910	1,410	608	163	58	123	897	3,016	4,085	
Total, 1908	1,921	606,296	107,799	22,145	736,140	1,348	441	135	60	126	891	2,680	3,699	

In 1909 the number of factories increased by 33 in Bengal, 31 in Eastern Bengal and Assam, 28 in Madras, and 24 in the United Provinces. The law was generally well observed as regards sanitation and water supply and fencing of machinery. Accidents are largely due to the carelessness of operatives. In the Punjab and Eastern Bengal and Assam, however, constant attention had to be paid to the condition of the latrine accommodation in some of the factories. The inspectors are unable to report satisfactory progress in Bombay to secure better ventilation in factories. In the Punjab it is suspected that breaches of the weekly holiday and midday stoppage rules occur. The latter specially affects women and children. In the United Provinces, too, women and children were found to be illegally employed and the Sunday holiday rule violated in cotton mills in Cawnpore. There were five convictions in Rangoon for not reporting accidents. In the Bengal jute mills there were general efforts to improve ventilation and to provide well-built houses for operatives, and septic tanks were installed in many of the mills. There were six convictions in Berar for illegally employing children. Out of 172 accidents in the Central Provinces 62 occurred in the Gun Carriage Factory at Jubbulpore, mainly ascribed to carelessness. The question of strengthening the inspection staff throughout India is under consideration.

#### PATENTS AND DESIGNS.

The laws for granting exclusive privileges to inventors and for protecting patents and designs were amended and consolidated by the passing of the Inventions and Designs Act (V. of 1888).

The total number of applications for leave to file a specification under the Act in 1909 was 695, or 144 more than in 1908, and 503 were filed. Of these, 43 were refused or abandoned, and 146 were undecided at the end of the year. Only 74 of the applications were made by natives of India, 164 were made by Europeans and other residents in India, while 457 came from outside India, of which 253 were from the United Kingdom. The range of inventions for which protection was sought was, as usual, very wide, and, as in previous years, those relating to railways and textile industries predominated. Exclusive privileges were kept alive by payment of prescribed fees in 678 cases, while 449 ceased. Applications for the registration of designs numbered 51, of which 37 were allowed.

In view of the growing volume of patent work a new Patent and Designs Act, assimilating the Indian law more closely to that of the United Kingdom, was passed in March 1911. It provides a simpler, more direct, and more effective procedure in regard to the grant of patents and to their subsequent existence and operation. It encourages the inventor while giving better protection to him and to the public.



CHAPTER X

TRADE.

(Detailed information regarding the Trade of British India is annually furnished in three Parliamentary Bluebooks: Tables of the Trade of British India; Review of the Trade of India, and Statistical Abstract for British India, Tables 136 to 176.)

FOREIGN SEABORNE TRADE.

This section deals only with the trade of British Indian ports, and excludes the trade of certain native States on the west coast, the trade of French and Portuguese possessions, and precious stones and pearls re-exported by post.

The foreign seaborne trade of India has greatly increased during the last 30 years, as the marginal figures relating to private

Year.	Imports.	Exports of Indian Merchandise.
Average—	000£	000£
1880-1 to 1884-5	33,754	52,964
1885-6 " 1889-90	40,798	59,168
1890-1 " 1894-5	45,647	67,623
1895-6 " 1899-1900	46,956	69,100
1900-1 " 1904-5	55,745	87,336
1905-6 " 1909-10	77,281	111,874

merchandise show (values in thousands of pounds at 15 rupees to the pound). It will be observed that the percentage growth has been greater in imports, though the absolute increase has been larger in exports.

The foreign seaborne trade of British India during the five years to 31st March 1910 was as follows:—

	1905-6.	1906-7.	1907-8.	1908-9.	1909-10.
<b>Imports:</b>					
Private Merchandise	68,722,713	72,205,055	86,596,729	80,843,818	78,038,365
Government Stores	6,019,781	5,956,410	4,428,635	5,008,301	5,797,235
<b>Total Merchandise</b>	<b>74,742,494</b>	<b>78,161,465</b>	<b>91,025,364</b>	<b>85,852,119</b>	<b>83,835,600</b>
Treasure, Private	13,947,526	18,133,990	21,880,286	15,087,902	24,950,716
Government	7,153,150	11,585,884	6,309,379	74,876	64,933
<b>Total Treasure</b>	<b>21,100,676</b>	<b>29,719,874</b>	<b>28,189,665</b>	<b>15,162,778</b>	<b>25,015,649</b>
<b>Total Imports</b>	<b>95,843,170</b>	<b>107,881,339</b>	<b>119,215,029</b>	<b>101,014,897</b>	<b>108,851,249</b>
<b>Exports:</b>					
Private Merchandise:					
Indian Produce and Manufactures	105,459,482	115,625,135	115,727,127	99,904,843	122,891,479
Foreign ditto	2,352,540	2,322,693	2,511,557	2,119,820	2,259,090
Government Stores: Indian	78,392	71,940	84,921	76,800	55,428
<b>Total Merchandise</b>	<b>107,890,414</b>	<b>118,019,768</b>	<b>118,323,605</b>	<b>102,095,463</b>	<b>125,205,997</b>
Treasure, Private	4,299,838	3,808,672	5,630,819	3,971,116	4,262,221
Government	6,013,499	3,497	1,514	242,382	8,807
<b>Total Treasure</b>	<b>10,313,337</b>	<b>3,812,169</b>	<b>3,632,333</b>	<b>4,213,498</b>	<b>4,271,028</b>
<b>Total Exports</b>	<b>118,203,751</b>	<b>121,831,937</b>	<b>121,955,938</b>	<b>106,308,961</b>	<b>129,477,024</b>
<b>Total Seaborne Trade</b>	<b>214,046,921</b>	<b>229,713,276</b>	<b>241,170,967</b>	<b>207,323,858</b>	<b>238,328,273</b>
<b>Net Exports of Merchandise</b>	<b>33,147,990</b>	<b>39,858,303</b>	<b>27,298,241</b>	<b>16,243,544</b>	<b>43,440,407</b>
<b>Net Imports of Treasure</b>	<b>10,787,339</b>	<b>25,907,705</b>	<b>24,567,392</b>	<b>10,949,280</b>	<b>20,749,622</b>
<b>Net excess of Exports (balance of trade)</b>	<b>22,360,651</b>	<b>13,950,598</b>	<b>2,740,909</b>	<b>5,294,264</b>	<b>22,690,785</b>

After a set-back due to poor harvests in India and world-wide bad trade during 1908-9, there was a marked recovery, affecting mainly exports, in 1909-10, as the result of abundant crops, which realised high prices. The import trade did not revive till the latter part of the year. Imports of treasure were considerable.

*Principal Imports and Exports.*—The following table shows the values of the chief articles of merchandise imported and exported during the last three years (in thousands of pounds):—

Principal Imports.				Principal Exports (Indian Merchandise).			
Articles.	1907-8.	1908-9.	1909-10.	Articles.	1907-8.	1908-9.	1909-10.
	000£	000£	000£		000£	000£	000£
Cotton manufactures -	29,566	22,911	24,034	Cotton, raw -	17,135	13,179	20,851
"    yarn -	2,462	2,433	2,213	Seeds -	11,210	7,785	12,484
Metals -	8,794	8,669	8,511	Rice -	13,559	10,592	12,163
Sugar -	6,151	7,271	7,681	Jute manufactures -	12,198	10,491	11,398
Railway material -	4,801	4,947	3,627	Jute, raw -	11,982	13,223	10,059
Machinery and millwork -	4,390	4,411	3,374	Hides and skins -	7,301	8,312	9,080
Mineral oils -	2,129	2,606	2,097	Wheat and wheat-flour -	6,097	1,241	8,869
Provisions -	1,827	1,875	1,933	Tea -	6,867	6,929	7,805
Hardware and cutlery -	2,110	1,951	1,844	Cotton yarn -	5,982	6,454	6,473
Woollen goods -	1,845	1,941	1,387	Opium -	5,782	6,233	6,209
Apparel -	1,722	1,612	1,588	Wool, raw -	1,402	1,389	1,905
Silk manufactures -	1,423	1,521	1,511	Lac -	2,722	1,863	1,818
Liquors -	1,387	1,323	1,277	Cotton manufactures-	1,196	1,238	1,471
Spices -	1,041	916	858	Coffee -	743	927	731

*Imports of Merchandise.*—There was a slow revival in the trade in cotton manufactures after the heavy slump in 1908-9, but prices were low and unremunerative to importers. Another increase occurred in imports of sugar, which is mostly cane sugar from Java and Mauritius. Java, which obtained a footing in the Indian markets when the imposition of countervailing duties restricted supplies of beet sugar, provided in 1909-10 about 69 per cent. of the imports of refined sugar, besides sending large quantities of molasses and unrefined sugar. The falling-off in imports of metals and of machinery and millwork was due to slackened activity in indigenous mining and manufacturing enterprise. Imports of woollen goods greatly declined. Among articles the imports of which point to the growing prosperity of the people may be mentioned silk goods, sugar, mineral oils, hardware and cutlery, provisions, cigarettes, and glass and glassware. As regards railway stores, the Government imports of railway material should be added to the figures given above, thus bringing the total value of railway material imported to £5,594,000, a large decrease as compared with 1908-9. Railway material constitutes more than one half of the Government imports of stores.

*Exports of Indian Merchandise.*—The table brings out clearly the immense preponderance amongst Indian exports of raw agricultural produce, and the figures fluctuate widely according to the character of the season. The favourable season of 1908-9 caused a large increase in the exports during 1909-10 of raw cotton, rice, seeds, and wheat. Owing to the crop shortage in America the plentiful crop of Indian raw cotton was in wide demand at good prices. Wheat and flour exports were on an unusually large scale, while an abundant rice harvest in Burma and a smaller demand in India enabled large exports to be made. The exports of oilseeds were exceptionally heavy. The exports of raw jute were smaller in quantity and value. Hides and skins rose in quantity and value. The tea trade was again active, and high prices were realised. The trade in lac was not very prosperous.

Further details with regard to the trade in some of the principal agricultural products are given in Chapter V.

*Re-exports.*—The value of foreign merchandise re-exported from India is relatively small, and the trade is not progressive. Of the total in 1909-10, £2,259,090, cotton goods shipped to the Persian Gulf, Arabia, East Africa, &c. formed about 36 per cent.

*Trade by Countries.*—In comparing the magnitude of the trade of different countries with India great care is necessary. In the returns imports are classified according to the countries whence they were shipped direct to India, and not according to the countries of production, while exports are ordinarily credited to the countries containing the ports at which the goods are discharged, whether destined for those countries or not. Much of the trade shown as to or from Belgium is really trade with Germany, and Switzerland does a considerable trade with India through other countries. The figures as they stand show that the share of the United Kingdom

in the total trade in private merchandise in 1908-9 was 40·2 per cent.; while that of Germany was 7·2; of China, 6·8; of the United States, 5·9; of Japan, 4·9; of Belgium, 4·8; and of France, 4·5 per cent. Taking imports and exports separately, about 63 per cent. of the import trade (exclusive of Government stores) and 26 per cent. of the export trade was conducted with the United Kingdom. In consequence, however, of the re-exports of Indian produce, the proportion retained in England is considerably lower. The proportion of the trade assignable to other parts of the British Empire cannot be stated accurately, since the large transactions with Ceylon, the Straits Settlements, and Hong Kong, which are chiefly distributing centres, are really for the most part trade with foreign countries. As regards the self-governing colonies, the largest trade was done with Australia (£2,454,000).

The value of India's trade in private merchandise with the chief countries, for the last three years, has been as follows (in thousands of pounds):—

Countries.	Imports from			Exports (Indian Merchandise) to		
	1907-8.	1908-9.	1909-10.	1907-8.	1908-9.	1909-10.
	000£	000£	000£	000£	000£	000£
United Kingdom	57,758	50,613	48,799	29,962	24,058	32,448
Germany	3,443	3,286	2,776	13,494	10,199	11,929
China (including Hong Kong)	1,466	1,549	1,504	9,989	11,975	12,301
United States	2,158	2,175	2,450	9,057	8,816	9,538
Belgium	3,538	3,448	3,043	6,096	4,116	6,782
France	1,355	1,207	1,159	7,668	6,408	7,955
Japan	1,445	1,411	1,657	5,914	4,782	8,357
Straits Settlements	2,097	2,334	1,973	4,547	3,505	4,008
Austria-Hungary	1,770	2,578	1,817	4,235	3,220	4,310
Ceylon	630	473	451	4,167	3,877	4,584
Italy	795	757	752	3,695	3,357	3,988
Mauritius	1,643	1,715	1,678	735	787	722
Turkey	408	464	377	1,330	1,183	1,375
Russia	268	186	99	648	678	554

A return has been prepared showing imports according to countries of consignment and exports according to countries of final destination in 1908-9. It appears from this return that the distribution of trade as given in the above table for that year is substantially accurate, except in the case of Germany and Belgium, imports from which were £4,875,525 and £1,548,061, and exports thereto £10,301,060 and £4,006,997 respectively.

The trade with China consists mainly in the exportation thereto of opium, cotton yarn, raw cotton, and jute goods, while silk and silk goods are imported. Germany sends chiefly woollen goods, cotton goods, apparel, musical instruments, liquors, glassware, paper, steel, iron, copper and other metals, hardware and cutlery, machinery, dyes, toys, umbrella fittings, salt, &c. in exchange for raw cotton and jute, raw hides and skins, rice, lac, oils, oilcake, rice-bran, coir, oilseeds, &c. She buys far more than she sells to India. Belgium takes raw cotton, oilseeds, manures, manganese ore, hemp, jute and jute goods, rice, &c. in exchange for iron, steel, dyes, glass, hardware and cutlery, cotton goods, &c. France buys large quantities of raw jute and cotton, lac, coffee, raw silk, hides and skins, and oilseeds, and sells apparel, silk goods, and liquors. The United States buys large quantities of tea, manganese ore, saltpetre, jute, raw and manufactured, hides and skins, and lac, and sells hardware, machinery, mineral oil, tobacco, cotton goods, and iron and steel.

*Trade of Chief Ports.*—The table in the margin shows the proportionate share of the six chief ports in the private trade with foreign countries in merchandise only.

Port.	1908-9.	1909-10.
	Per Cent.	Per Cent.
Calcutta	40·3	38·2
Bombay	30·1	31·2
Karachi	7·3	10·5
Rangoon	8·1	7·4
Madras	5·6	4·5
Chittagong	1·9	1·6

The value of the exports from Calcutta was greater through an increase in the trade in jute manufactures, grain, tea, oilseeds, &c., while raw jute declined; imports were higher, owing mainly to larger imports of cotton goods and sugar. The increase in exports from Bombay was due to the larger shipments of seeds, wheat, cotton, &c., while imports declined chiefly because of diminished purchases of railway material, machinery, &c., though imports of cotton goods were heavier. Exports of wheat, seeds, and raw cotton from Karachi were exceptionally large.

*Treasure.*—The net import of gold, which had been small in 1908-9, rose from £5,022,000 in that year to £16,620,000 in 1909-10. The net import of silver, which had been £8,046,000 in 1908-9, fell in 1909-10 to £6,296,000.

*Balance of Trade.*—The balance of trade rose from the low amount of £5,294,000 in 1908-9 to the high figure of £22,691,000 in 1909-10.

#### LAND FRONTIER TRADE.

The statistics of land frontier trade shown in the margin include a great deal of trade that is not strictly foreign. Owing to difficulties of registration accurate returns are impossible, but there is a large and increasing trade with

Year.	Imports.	Exports.	Total.
	000£	000£	000£
1907-8-	5,670	4,643	10,313
1908-9-	5,526	4,640	10,166
1909-10	5,638	4,545	10,183

Afghanistan, Nepal, Western China, and Siam. The principal exports from India are cotton yarn and manufactures (chiefly foreign), sugar, metals, salt, spices, and fish; and the chief imports into India, rice and other grains, provisions, wood, fruits, living animals, wool, hides and skins, oilseeds,

drugs, and raw silk.

#### COASTING TRADE.

The trade in merchandise carried by coasting vessels amounted to £38,780,000 in 1909-10, or about 1 per cent. more than in 1908-9. This amount is arrived at by adding to the value of the imports into British ports from other British ports the sum of the imports and exports in the trade between British and non-British ports in India. There was a decrease in rice, but mineral oil shipments from Burma to India were larger. Bombay sent larger quantities of cotton piece goods to Indian ports.

#### SHIPPING.

During 1909-10 the number of steamers and sailing vessels with cargoes and in ballast which entered from and cleared to all countries was 8,042, with a tonnage of 14,597,091, an increase of 7.7 per cent. as compared with 1908-9. Of the total, 98.6 per cent. was steam tonnage. Tonnage under the British flag represented about 80 per cent. of the whole. The number of German and Austro-Hungarian vessels has increased.

The number of vessels under the principal flags is given below:—

Nationality.	1905-6.	1906-7.	1907-8.	1908-9.	1909-10.
British	5,796	5,657	5,659	4,949	5,495
German	387	371	375	437	455
Austro-Hungarian	162	159	157	156	220
Norwegian	174	195	188	106	95
Italian	85	77	79	76	81
Dutch	21	84	50	43	75
Japanese	2	83	123	79	63
French	105	67	61	65	56

#### FREIGHTS.

The freight market was dull in the first half of 1909-10, but displayed great activity in the second half. The following statement gives minimum quotations for typical rates of freight from the chief Indian ports to London in March of each of the last five years:—

	1906.	1907.	1908.	1909.	1910.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Calcutta—Rice	0 15 0	0 17 6	0 15 0	0 15 0	1 0 0
Wheat	0 15 0	0 17 6	0 15 0	0 15 0	1 1 3
Jute	0 17 6	1 0 0	0 17 6	0 17 6	—
Linseed	0 17 6	1 0 0	0 17 6	0 17 6	1 0 0
Tea	1 13 9	1 15 0	1 12 6	1 12 6	—
Bombay—Wheat	0 13 6	0 15 0	0 13 0	0 12 0	0 14 6
Cotton (to Liverpool)	0 14 6	0 15 0	0 12 0	0 11 0	0 16 6
Karachi—Wheat (to Liverpool)	0 14 0	0 15 0	0 10 0	0 13 0	0 14 6

WORKING OF THE MERCHANDISE MARKS ACT.

(For further details, see *Statistical Abstract for British India*, Table 179.)

The Indian Merchandise Marks Act (IV. of 1889) was passed to prevent the fraudulent sale of goods bearing false trade marks or false trade descriptions (as of origin, quality, weight, or quantity). The Act also requires that all piece-goods must be stamped with their length in yards. Out of 2,084 detentions under the Act in 1909-10, 483 were on account of counterfeit trade marks or false trade descriptions, 1,329 (an exceptionally large number) for non-description or false description of origin, and 272 for unstamped or insufficiently stamped piece-goods. Detention is rarely followed by confiscation. Goods were released with a fine in 1,079, and without a fine in 1,000, cases. A new edition of the "Merchandise Marks Manual" was published in 1910.

JOINT STOCK COMPANIES.

(For further details, see *Statistical Abstract for British India*, Tables 210, 211.)

During the year 1909-10, 214 new companies were registered in India under the Companies Act (VI. of 1882), with a paid-up capital of about £240,500, while 148, with a capital of £707,000, ceased to work. The aggregate paid-up capital of 763 companies was increased by £3,446,000, while 68 companies reduced their paid-up capital by £100,000. The net result was that at the end of the year there were in operation 2,162 companies, with a paid-up capital of £40,789,000. There has been an increase of 70 per cent. in the total paid-up capital in the last 10 years. The companies are most numerous and important in the provinces of Bengal and Bombay, which possess 41 and 37 per cent. respectively of all the paid-up capital, while the share of Madras, which comes next, was less than 8 per cent. of the whole. The average of paid-up capital is highest in Bengal, where it amounts to £31,100, while in Bombay it is £27,500. In Madras the average is low, as 278 money-lenders, mostly carrying on a small business, are registered under the Companies Act. The distribution of paid-up capital among registered companies of the different classes was as follows:—

	£		£
Banking loan and insurance	5,324,000	Mills and presses	17,531,000
Trading and shipping	- 7,839,000	Tea and planting	- 2,503,000
Mining and quarrying	- 5,654,000	Other industries	- 1,938,000

(The capital stated above represents in all cases share capital only; the total value of the debentures issued amounted to £4,890,000.)

As will be seen, the largest aggregate paid-up capital, £17,531,000, constituting nearly half the total, was invested in cotton, jute, and other mills and presses; and about 51 per cent. of the capital of such undertakings was invested (mostly in cotton mills and presses) in Bombay Presidency. Nearly a third of the capital of trading companies is invested in railways and tramways. The capital invested in coal companies (more than 97 per cent. of which is in Bengal) has quadrupled in the last 10 years.

There are, so far as is known, 311 companies which carry on work with sterling capital exclusively; or almost exclusively, in India, but which are registered elsewhere, and their paid-up capital amounts to £69,910,173, besides £42,930,022 debentures. The railways and tramways represent £36,301,076 paid-up capital and £37,833,848 debentures. Of the rest the sterling capital (including debentures) invested in the tea industry is £15,605,000, in jute mills £2,880,000, in cotton mills £400,000, and in rice mills £1,730,000. Thus, while the railway and tea concerns are mainly financed from abroad, the great bulk of the mill and press companies are registered in India.

## CHAPTER XI.

## PUBLIC WORKS.

GENERAL.  
RAILWAYS.IRRIGATION.  
BUILDINGS AND ROADS (CIVIL).

## GENERAL.

The operations included under the head of "Public Works" are of three kinds, viz., Railways, Irrigation, and Buildings and Roads. The Railway Department is an Imperial service under the control of the Government of India, or of the Railway Board, in so far as the powers of the Government of India have been delegated to it. The establishment employed on irrigation and on buildings and roads is subdivided into different Provincial services, controlled by the local administrations subordinate to the Supreme Government. Under the head of "Buildings and Roads" are included many miscellaneous works, such as improvements in towns, paving, water supply and drainage, harbours, lighthouses, &c.

The annual expenditure on public works is met partly from money raised by loan and partly from the ordinary revenues of the year. The class of works on which borrowed money is expended comprises the railways and large irrigation works, which are expected to yield sufficient net revenue to cover the interest on the capital expended on them. For the railways and more important irrigation systems, distinct capital and revenue accounts are kept, but for the smaller works of irrigation and most of the works included in the class of buildings and roads, such accounts are not kept, though a distinction is made in the accounts between expenditure on new works and expenditure on repairs to existing works.

The following statement of the total receipts and expenditure under the head of "Public Works" for 1909-10 is compiled from the Finance and Revenue Accounts:—

	Receipts.	Expenditure.		
			Charged to Revenue.	Not charged to Revenue.
	£		£	£
Railways - - - -	28,982,179	Construction - - - -	1,245	6,321,617
		On Revenue Account - - - -	28,157,257	—
Irrigation - - - -	3,660,156	Construction - - - -	—	1,052,349
		" from Famine Relief Grant	432,889	—
		On Revenue Account - - - -	3,053,857	—
Buildings and roads - - - -	268,786	Civil Works - - - -	4,135,906	—
<b>TOTAL</b> - - - -	<b>32,911,121</b>		<b>35,781,154</b>	<b>7,373,966</b>

The expenditure charged against revenue includes the following items of "Interest on Debt":—Railways, £5,653,551; Irrigation, £1,058,711.

Of the permanent public debt on the 31st of March 1909, £186,517,746 is classed as incurred for railways and £32,256,945 for irrigation.

The amount paid under the head of "Annuities in purchase of railways," which is included in the Railway Revenue Account, is £3,357,708.

The engineer establishments of the Department are divided into (a) the Public Works Department and (b) the Public Works Department (Railway Branch). These establishments, including those of Bombay and Madras, but excluding that of the now separate Military Works Department, were increased during the year. The upper subordinate engineering staff is largely composed of Indians.

The following statement shows the strength of the superior engineer and upper subordinate establishments as they stood on the 30th June in 1910 and 1909:—

	Public Works Department.			Public Works Department (Railway Branch).	Total.
	India.	Madras.	Bombay.		
Civil Engineers (including Military Officers) -	1910 515	92	102	173	882
	1909 509	87	99	176	871
Upper Subordinates -	1910 577	182	230	68	1,057
	1909 573	177	221	71	1,042

RAILWAYS.

(For further details see Statistical Abstract for British India, Tables 44 to 47, 68-9, 71, 74 to 78, 126 to 134.)

Financial Results to the State.—In the financial year 1909-10 there was a net gain of £824,922. The table below is taken from the Finance and Revenue Accounts of the Government of India for 1909-10.

	Imperial.	Provincial.	England. (Sterling converted at £1 = Rs. 15.)	TOTAL.
<b>REVENUE.</b>				
Railways—	£	£	£	£
State railways—(Gross traffic receipts) -	28,917,308	6,393	230	28,923,931
Guaranteed companies—(Net traffic receipts) -	— 48	—	—	— 48
Subsidised companies—(Repayment of advances of interest).	14,709	—	43,587	58,296
<b>TOTAL</b> - - - -	£ 28,931,969	6,393	43,817	28,982,179
<b>EXPENDITURE.</b>				
Railway Revenue Account—				
State Railways—				
Working expenses - - - -	16,207,905	6,412	—	16,214,317
Share of surplus profits, &c. - - -	322,483	—	—	322,483
Interest on debt - - - -	2,564,490	—	3,089,062	5,653,552
Annuities in the purchase of railways -	—	—	3,357,708	3,357,708
Sinking funds - - - -	—	—	165,206	165,206
Interest chargeable against companies on advances.	254,428	—	219,212	473,640
Interest on capital deposited by companies -	144,541	—	1,749,775	1,894,316
Guaranteed companies—				
Surplus profits, land and supervision -	— 1,764	—	—	— 1,764
Subsidised companies—				
Land, &c. - - - -	39,188	1,224	—	40,412
Miscellaneous railway expenditure - - -	36,013	1,374	—	37,387
<b>TOTAL</b> - - - -	£ 19,567,284	9,010	8,580,963	28,157,257
		Net gain - - - -	£	824,922

In the figures of expenditure are included all charges falling on the Government for the management and working expenses of railways, for interest on capital outlay, as well as for the gradual redemption (by charge to the revenue account) of the commuted capital of the East Indian, Eastern Bengal, Sind, Punjab, and Delhi, Great Indian Peninsula and Madras railways, through the agency of sinking funds and annuities, and of that portion of the Oudh and Rohilkhand railway debt incurred in excess of the money raised through the agency of the "Discount" Sinking Fund. The figures also include charges for control, for land required by the companies, and for miscellaneous items, such as headquarters establishment and surveys.

Statistical Result of Working.—The statistical results of working the various classes of railways during 1910 are given in the following table. The aggregate net earnings of all Indian railways, including steamboat service and suspense items,

but excluding indirect charges, produced a return of 5·38 per cent. on the total capital outlay on open lines, against 4·81 per cent. in the previous year:—

Class.	Length of Line open on the 31st December 1910.	Total Capital Outlay on Open Lines to the 31st December 1910, including Steamboat and Suspense.	Total Number of Passengers carried.	Total Weight of Goods carried.	Gross Earnings, including Steamboat Service.	Working Expenses, including Steamboat Service.	Net Earnings, including Steamboat Service.	Percentage of Net Earnings on Capital Outlay on Open Lines.
	Miles.	£	No.	Tons.	£	£	£	
<i>All Gauges:</i>								
State lines worked by the State	6,675·73	77,239,732	98,941,400	16,974,000	8,007,000	4,927,200	3,079,800	—
State lines worked by companies*	17,920·57	184,040,200	217,027,700	48,493,000	22,204,867	11,394,667	10,810,200	—
Companies' lines guaranteed under modern contracts.	32·04	199,133	848,000	81,000	27,267	13,687	13,600	—
District Boards' lines	155·16	466,800	3,030,000	216,000	70,133	89,200	30,933	—
Assisted companies' lines †	3,418·50	15,358,133	42,923,200	5,900,000	1,769,934	830,465	939,469	—
Unassisted companies' lines	35·27	78,667	604,200	50,000	8,333	5,167	2,866	—
Lines owned by Native States and worked by companies.	3,000·86	9,881,400	14,932,800	2,511,000	916,300	434,400	482,400	—
Lines owned by Native States and worked by State railway agency.	234·15	942,800	3,978,800	735,000	168,467	83,000	75,467	—
Lines owned and worked by Native States.	1,562·84	3,593,800	6,674,400	940,000	517,933	228,400	289,533	—
Lines in foreign territory	73·60	1,259,067	1,041,000	490,000	67,733	39,667	28,066	—
<b>TOTAL OF ALL RAILWAYS, 1910</b>	<b>32,103·72</b>	<b>293,057,733</b>	<b>384,501,500</b>	<b>71,420,000</b>	<b>33,748,467</b>	<b>17,966,133</b>	<b>15,752,334</b>	<b>5·38</b>
Ditto 1909†	31,483·74	286,554,667	329,379,600	60,902,000	31,375,867	17,589,967	13,786,000	4·81

\* The Birur-Shimoga, Hindupur, and Mysore-Nanjangud railways are included with the Mysore State railway under this classification, as separate figures for these lines are not available.

† As corrected from later information.

It will be observed that, with an increase of 619·98 miles, or 1·97 per cent. in the open mileage, as compared with 1909, the gross earnings increased by £2,372,600, or 7·56 per cent., and the working expenses by £406,266, or 2·31 per cent., resulting in an improvement of £1,966,334 in the net earnings.

*Mileage opened and under construction.*—The total railway mileage opened, under construction, and sanctioned for construction during the year was as follows:—

Gauge.	Miles opened.	Miles sanctioned for construction.	Total Mileage under construction or sanctioned at the close of the Year.
5' 6" gauge	374·78	49·61	1,078·16
3' 3" "	157·85	189·91	871·39
2' 6" "	47·46	66·23	726·39
2' 0" "	20·00	—	
<b>Total</b>	<b>600·09</b>	<b>305·75</b>	<b>2,675·94</b>
Add correction of mileage	19·89		
<b>Net total addition to open mileage</b>	<b>619·98</b>		

Among the lines opened during the year were the Sutlej Valley branch of the Southern Punjab railway, 210 miles in length, from Kasur to Lodhran, extensions of the Oudh and Rohilkund State railway from Balamau to Sitapur and Rosa to Sitapur, 37·28 and 49 miles respectively, and the Thanesar-Kaithal branch of the Delhi-Umballa-Kalka railway, 29·77 miles, all on the standard gauge; a section of the Degana-Hissar railway from Sujangarh to Churu, 55·17 miles, extensions of the Bhavnagar-Gondal-Junagad-Porbandar railway from Shahpur to Bantva and Sihor to Palitana, 19·31 and 16·81 miles respectively, and the Chupra-Mushrak extension of the Bengal and North-Western railway, 26·32 miles, on the metre gauge; and a section of the Gondia Chanda railway from Nagbhir to Rajoli, 30·84 miles, on the 2' 6" gauge.

The most important lines sanctioned for construction during the year were the Gajroula-Chandpur extension of the Oudh and Rohilkund State railway, 22·15 miles, on the standard gauge; the Mirpur-Khas-Khadro railway, 49·5 miles, the Thawe-Captainganj branch of the Bengal and North-Western railway, 59·75 miles, and the Bhairab Bazar-Tangi extension of the Assam-Bengal railway, 39·46 miles, on the metre gauge; and the Dabhoi-Jarod and Jessore Jhenidah railways, 24·78 and 36·8 miles respectively, on the 2' 6" gauge.



*Important Works completed and in progress.*—Full particulars in regard to the works completed and in progress during 1910, and projects for new lines under consideration during the year, will be given in the Administration Report on Indian Railways for 1910, which will be published as a Parliamentary Paper. A few details of the more important works of the year are, however, given below.

Important works in progress during the year included the Harsi Nagpur Railway with branches, 246·86 miles; the Allahabad-Rae Bareli-Cawnpore extension of the Oudh and Rohilkund railway, 153·31 miles; the Barharwa-Azimganj-Katwa extension of the East Indian railway, 102·7 miles; the Nagpur Chindwara railway with branches, 98·46 miles; the Kalabagh Bannu railway, 94·21 miles; the Hooghly-Katwa extension, East Indian railway, 65·2 miles; the Dharmapuri Hosur railway, 60·5 miles; and many other lines. Doubling of the line between Shegaon and Nagpur, 180 miles, was commenced in view of the opening of the Harsi Nagpur railway. The preliminary works for the Sara bridge over the Lower Ganges were practically completed, and a large quantity of English stores collected. The Beas and Sutlej bridges on the North-Western railway were completed; other bridges in course of construction were the Ganges bridge at Allahabad, the Tapti bridge on the Great Indian Peninsula railway, the Mahi river bridge at Yasad on the Bombay Baroda and Central India railway, and the Junna bridge on the North-Western railway. Arrangements for the Indo-Ceylon connection have been finally approved and the construction of certain of the works commenced. An aerial ropeway designed to carry grain from the Kalka-Simla Railway goods terminus to the Ganj at Simla, a distance of 900 feet and at a height of 180 feet, was erected and brought into operation. The conversion of the Cooch Behar railway from the 2' 6" gauge to the metre gauge was completed. A commencement was made with the construction of the Southern Shan States railway, 100 miles in length, from Thazi on the Burina railways to Yawnghwe in the Southern Shan States.

*Projects for new Lines.*—Among the projects for new lines which were under consideration during the year, the most important were an extension of the Ahmedabad-Dholka railway from Dholka to Dholera *via* Gamph, which is still under investigation, extensions of the Southern Punjab Railway from Ferozepore to Kartarpur or Jullundur and from Lohian to Phillour, District Board lines in the Madras Presidency from Tinnevely to Tiruchendur, Salem to Attur, Tiruturaipundi to Vedaraniem, which are awaiting a settlement of the terms on which the South Indian Railway Company will be prepared to construct and work them, a line from Guntur to Repalle proposed by the District Board of Guntur, and extensions of the Darjeeling-Himalayan railway from Siliguri to Kissengunge, Siliguri to Teesta bridge, Darjeeling to Lebong, and Ghum to Tukdak. The negotiations commenced in 1909 with private promoters for the construction of the Murtajapur-Pisgaon railway fell through, but a concession has since been granted to other private promoters for the construction of lines from Murtajapur to Ellichpur and Murtajapur to Yeotmal. Proposals from private promoters for the construction of lines from Broach to Jambusar (Bombay) and from Agra to Hathras were rejected by the Government of India; others in regard to the Mandra-Chakwal-Bhon railway, the Koregaon-Satara City railway, the Bodeli-Chota Udepur railway, the Dabhora-Ambaji Mata railway, and the Nadiad Kapadvanj railway are still under consideration. A scheme has been submitted to the Kashmir Durbar by a private syndicate for the construction of a ropeway from Jammu to Srinagar, a distance of about 200 miles, and the matter is under the consideration of the Durbar.

*Fares and Rates.*—Enhanced rates for passenger traffic (1st and 2nd class) on the Bombay, Baroda and Central India, Great Indian Peninsula, Madras and Southern Mahratta, and Oudh and Rohilkund railways were introduced during the year. On the Nilgiri railway second-class accommodation was abolished and first-class fares reduced; the maximum and minimum goods rates on the line were also revised. A new system of omnibus trains on the Darjeeling-Himalayan railway was introduced on 1st April 1910.

*Rolling-Stock and Safety Appliances.*—For the year 1910-11 a provision of Rs. 466 lakhs was made for additional rolling-stock for open lines. This provision is Rs. 184 lakhs less than that for 1909-10. The distribution of the total allotment under the head "Rolling-stock" was made in accordance with the demands submitted by railways, and the decrease in the demand indicates that the supplies of rolling-stock have become more adequate to the needs of the various railways.

The additions made during the year 1910 to the rolling-stock of the Indian railways consisted of 170 engines, 630 coaching vehicles, and 4,904 goods vehicles, the number under supply at the end of the year being 200 engines, 1,553 coaching

vehicles, and 5,863 goods vehicles. Good progress continues to be made in the provision of automatic brakes, communication gear between passengers and the train staff, bars and fastenings to windows and doors, electric and gas lighting of carriages, and the removal of continuous foot-boards and horizontal hand-rails.

*Accidents.*—Accidents occurred on the Bombay, Baroda and Central India railway, resulting in the death of two persons; on the Nizam's Guaranteed State railway, when four persons were killed; on the North-Western railway, when four persons were killed and seven injured; and on the Rohilkund and Kumaon railway, when six persons were killed. The damage to rolling-stock and permanent way was considerable.

*Damages by Floods and Rainfall.*—Owing to heavy rains throughout the year breaches occurred on the Bengal-Nagpur railway between Sambalpur and Raipur, causing a suspension of traffic for 14 days; on a section of the Tapti Valley railway, where through communication was interrupted for nine days; on the Gauhati section of the Eastern Bengal State railway, where through communication was interrupted for nearly two months; on the Katpadi-Gudur section of the Madras and Southern Mahratta railway, the Kotri-Karachi section of the North-Western railway, and on various places on the Burma railways, causing serious interruptions to traffic. In July 1910 the Sagauli-Raxaul, Samastipur-Darbhangra, and Sakri-Jainagar sections of the Bengal and North-Western railway were closed to traffic for several weeks, and serious breaches occurred on the Eastern extension of the Bengal-Dooars railway. Breaches by the sea occurred in several places on the South Indian railway between Rameswaram and Daniskodi, involving stoppages of traffic aggregating 14 days.

*Amalgamation of the Civil and the Public Works Department Accounts Branches.*—With a view to securing more efficient financial control and, possibly, economy in working, the general administrative control of the audit of Public Works Accounts has been transferred to the Finance Department of the Government of India.

The post of Railway Accounts Officer under the Railway Board has been abolished and a new post, that of Accountant-General, Railways, has been created, the occupant of which has the status, as regards the Railway Board, of an Accountant-General, Civil Department, in relation to a Local Government, *i.e.*, he advises the Board on financial questions, but is not subject to their control.

*Amendment of the Indian Tramways Act.*—The sanction of the Secretary of State to the amendment of the Indian Tramways Act, XI. of 1886, to make it applicable to mono-railways and to electric tramways was received in 1910, and the Bill to amend the Act, with the views of the Local Governments and Administrations thereon, has been referred to a Select Committee.

*Branch Line Terms.*—As the terms promulgated by the Resolution of 1896 had practically failed to attract capital to investment in branch lines, revised terms were sanctioned in 1910. These terms provide, amongst other concessions, for an increase in the rate of guarantee from 3 to 3½ per cent. and of rebate from 3½ to 5 per cent., with equal division of surplus profits in both cases. They also give the State the right to purchase before the full contract period in certain eventualities.

*Taxation of Railway Companies by Municipalities.*—The general question of taxation of railway companies by municipalities has been engaging the attention of the Railway Board for some time, but a final decision has not yet been arrived at.

*General classification of Goods.*—The general classification of goods, as finally revised, was adopted from 1st July 1910, both in local and through booking.

*Grain Elevators.*—The question of the possibility of introducing the use of grain elevators on the North-Western State railway for the wheat export traffic was investigated by an informal committee during 1909. After careful consideration of their report the Government of India decided that this was a question in which the initiative could more suitably be taken by the Karachi Port Trust and by the traders concerned, than by the State railway serving the port. The Railway Board, however, agreed in the event of the Punjab Government deciding to erect a trial elevator on the North-Western State railway, to assist them by providing the necessary sidings and an experimental train fitted for carrying grain in bulk.

*Use of Local Manufactures for Railway Purposes.*—Purchases of wagon frames and bodies built by local firms continued to be made during 1910 for State-worked railways. The issue by the Government of India of the revised rules for the purchase of stores has been followed by the conclusion of arrangements whereby the services of the Superintendents of Local Manufactures under the Railway Board have been made available for the inspection of work for other Government Departments.

*Future working of Railways in Kathiawar.*—The Thakor Sahib of Morvi, having protested against the inclusion of the Morvi railway in the "coalition" of railways in Kathiawar, an arrangement has been made whereby each State shall, under certain conditions, be allowed to work its own line separately with effect from 1st January 1911.

*Terminal Arrangements for working Goods Traffic at Bombay.*—The proposals which were formulated in 1909 in this connection, reconciling the various issues and arranging for arbitration in case of any further minor difficulties arising, have received the confirmation of the Boards of the Great Indian Peninsula and Bombay, Baroda and Central India railways, and have been accepted by the Port Trust.

*St. John's Ambulance Institution.*—Attention continues to be devoted to the instruction of railway servants in giving first-aid to the injured.

*Extinction of the Indian Midland Railway Company.*—The contract, dated 2nd October 1885, between the Secretary of State and the Indian Midland Railway Company terminated on the 31st December 1910, and the Company ceased to exist; but the system continues to be worked by the Great Indian Peninsula Railway Company under the terms of their contract, dated the 21st December 1900, with the Secretary of State.

*Dwara-Therria Light Railway.*—The company formed for the construction of this line, 19·50 miles, which was sanctioned in 1902, having gone into liquidation, the Local Government, at the instance of the liquidator of the company, has sanctioned the transfer of the property and rights vested in the Dwara-Therria Railway Company under the Dwara-Therria Steam Tramway Order No. 44, dated the 14th August 1902, to Messrs. H. V. Low and Co., of Calcutta, subject to the stipulation that all dues outstanding to Government are paid in full before any formal transfer is effected.

#### IRRIGATION.

(For further details see *Statistical Abstract for British India, Tables 44 to 47, 68-9, 71, 74 to 76, 119, 121, and 135.*)

The class of works dealt with by the Public Works Department under the head of Irrigation may be roughly divided into canals and tanks, though these two kinds of works are frequently used in combination. The works under the former head take off, in most cases, from the larger rivers, which, drawing their water from lofty mountain ranges, can, even in times of drought, be depended upon for an unfailing supply. They have been utilised on the largest scale and with the most successful results in the United Provinces, the Punjab and Sind, and the deltas of the large rivers in the Madras Presidency. In tank irrigation, on the other hand, the supply of water is more or less dependent on the local rainfall, either directly or through the medium of the smaller rivers, which dry up in hot seasons. This is the common system of irrigation in Southern India, where irrigation is largely dependent on storage works. In the Madras Presidency alone there are some 60,000 tanks. These works are for the most part of native origin; but much has been done under the British Government in improving old tanks, and in constructing new works in Madras, the Bombay Deccan, Ajmere-Merwara, and the Central Provinces. In parts of Baluchistan, where the rainfall is scanty and very capricious, a method is practised of drawing the water from underground springs by means of tunnels driven into the hill sides. There remains the method of irrigation more extensively used in India than any other, viz., that by wells, which, however, does not come directly within the scope of operations of the Public Works Department.

Financially considered, the irrigation works are classed as "major" or "minor." The former class includes all the works which have been undertaken from loan funds, in the expectation that they would be sufficiently productive to cover the interest charges on the sums spent on their construction. It also includes the works classed as famine protective, which are constructed not from borrowed funds, but out of the annual grant from revenue for famine relief and insurance. For the first time, in the Budget for 1911-12 the amount available for the construction of protective works from the grant for famine relief and insurance has been supplemented by a further grant from revenue under the head of "Minor Works and Navigation." The cost of constructing the "minor" works, as well as the sums annually required for their working and maintenance, are met from ordinary revenues, and for the greater part of this class of works distinct capital and revenue accounts are not kept.

Speaking generally, the "major" class includes the works of the greatest engineering importance, which have been constructed, or, as in a few cases of old Native works, almost entirely reconstructed by British officers.

## STATEMENT EXHIBITING THE MORAL AND MATERIAL

The following statement gives a general view of results obtained from working the canals for which full accounts are kept for 1907-8, 1908-9, and 1909-10:—

	Capital Outlay (Direct and Indirect) to End of Year.	Gross Receipts.	Working Expenses.	Net Receipts.	Percentage of Net Receipts on Capital Outlay.	Area irrigated.
	£	£	£	£		Acres.
Major Works - - - - -	33,709,544	3,465,033	1,201,303	2,263,640	6.71	14,225,000
Minor Works - - - - -	4,069,076	317,979	117,229	200,750	4.93	1,889,788
Total for 1909-10 - - - - -	37,778,620	3,783,012	1,318,522	2,464,390	6.52	16,114,788
Total for 1908-9 - - - - -	36,171,572	3,692,483	1,257,618	2,434,865	6.73	16,435,527
Total for 1907-8 - - - - -	34,543,031	3,565,722	1,235,577	2,330,145	6.74	16,076,888

There are great differences in the financial success of the irrigation works in the various provinces. These are due to the various physical conditions of the country in regard to surface, soil, climate, and the absence or presence of large rivers with a permanent supply of water, as well as to the differences in the character and habits of the people in different districts. There are also considerable differences in the manner in which the irrigation revenue is assessed and collected, which have an important bearing on the financial success of the works. In Madras the bulk of the irrigation revenue is collected with, and on most of the works is consolidated with, the land revenue. In Bengal and Bombay the irrigation receipts consist largely of "occupiers'" rates, and are not supplemented by "owners'" rates, as in the United Provinces, nor, with a few exceptions, by a share of the land revenue. In Sind the revenue of the canals consists almost entirely of the share of the land revenue allotted to irrigation. Cultivation in Sind is dependent on the artificial supply of water, and the consolidated revenue from the irrigated lands is divided in the proportion of 90 per cent. to irrigation and 10 per cent. to land. In the United Provinces and in the Punjab, the direct water rates are assessed partly on the occupier and partly on the owner of the land, the bulk of the rates falling on the former, and the irrigation receipts are further increased by a not unimportant contribution from the land revenue. The contribution from the land revenue is the amount considered due to irrigation when an enhancement of land revenue is levied at the periodical revision of the land settlement. Like the owners' rate, which is directly levied, it falls upon the owner of the land.

The immense systems of artificial water channels with which some parts of India are covered would appear at first sight to offer unrivalled opportunities for water carriage. But though efforts have been made to organise navigation services on some of the larger irrigation canals, it cannot be said that, on the whole, they have met with success. In many cases the traffic receipts have failed to cover the working expenses. It is, indeed, obvious that the canals, being designed primarily for irrigation purposes, must often be unsuitable from their alignment and level for navigation:

The following more detailed account of the irrigation operations of the year is given under the heads of the different provinces in which the works are situated.

*Bengal.*—The general results for 1909-10 of working all the irrigation and navigation systems for which full accounts are kept are compared with the results of the three previous years in the following statement:—

Year.	Capital Outlay to End of Year.	Receipts.	Expenditure.	Net Receipts.	Percentage of Net Receipts on Capital Outlay.	Area irrigated.
	£	£	£	£		Acres.
1906-7 - - -	5,432,579	188,927	124,472	64,455	1.19	904,087
1907-8 - - -	5,456,751	194,066	141,297	52,769	0.97	1,013,290
1908-9 - - -	5,596,502	207,410	127,600	79,810	1.42	1,015,325
1909-10 - - -	5,718,313	212,294	136,509	75,785	1.32	951,524

During the year under review there were in Bengal six major irrigation works, two of which were classed as protective. Of the productive works, three combine irrigation with navigation, and the fourth (Hijili tidal canal) is purely a navigation

work. The two protective works, the Dhaka and the Tribeni canals, were sanctioned in 1900-1, and are still in course of construction, the capital expenditure to the end of the year amounting to £36,346 and £317,748 respectively.

The financial results obtained from the working of the major and minor works, excluding the Tribeni canal, during 1909-10 are shown in the following statement:—

Canal.		Capital Outlay to End of Year.	Net Receipts.	Percentage of Net Receipts on Capital Outlay.	Area irrigated.
		£	£		Acres.
Major Works	Orissa Canals	1,784,815	3,059	0.17	282,052
	Midnapur	566,360	2,078	—	70,438
	Sone Canals	1,782,402	75,212	4.22	593,407
	Hijili Tidal Canal	174,343	387	0.22	—
	Dhaka Canal	36,346	1,692	—	5,627
Total Major Works		4,344,266	74,888	1.72	951,524
Minor Works	Calcutta and Eastern Canals	571,006	9,554	1.67	—
	Orissa Coast Canal	298,605	2,917	—	—
	Saran Project	47,654	874	—	—
	Madaripur Bheel Route	139,034	1,529	1.10	—
Total Minor Works		1,056,299	7,792	0.73	—

Besides the minor works mentioned above, there are four works of this class for which capital accounts are not kept, viz., the Nadia river system, the Gaighatta and Buxi Khals, and the Eden and Madhuban Canals. The first-named, comprising about 497 miles of channel, is used for navigation purposes only.

*United Provinces of Agra and Oudh.*—In the United Provinces the capital outlay on canals during 1909-10 amounted to £137,703, devoted mainly to protective works on the Betwa, Ken, and Dassan canals. Schemes for the Sarda Feeder canal, a canal from the Ramganga, the Ghaggar and Gorai canals, permanent headworks for the Ganges canal, and four large tanks in Bundelkhand were the principal features of the year's work in the extension of irrigation in the province. The gross receipts for all classes of works amounted to £739,462, or £22,559 less than in 1908-9. Working expenses amounted to £270,549 and the net revenue to £468,913, equivalent to a return of 6.28 per cent. on the capital outlay. The area irrigated was 2,512,865 acres, or about 10 per cent. less than in the previous year, due to the timely and well-distributed rainfall. The estimated value of the crops raised by canal water was £8,655,963.

*Punjab.*—The general results for 1909-10 of working all the irrigation systems in operation, for which full accounts are kept, are shown in the following statement, as compared with the results for the previous year:—

Canals.	Length of		Capital Outlay to End of the Year.	Net Earnings.	Percentage of Net Revenue on Capital Outlay.	Area irrigated.	
	Main and Branch Channels.	Distributaries.					
	Miles.	Miles.	£	£		Acres.	
Major Works	Western Jumna (including Sirsa Branch).	301	1,536	1,158,182	69,107	5.97	490,994
	Upper Bari Doab	354	1,580	1,386,078	163,957	11.83	982,773
	Sirhind (British portion)	319	1,763	1,668,756	81,038	4.86	511,491
	Lower Chenab	427	2,289	1,899,184	514,881	27.11	2,212,699
	Upper Sutlej	326	393	116,649	18,261	15.65	336,961
	Sidhnai	68	131	87,789	24,526	27.94	272,571
	Lower Jhelum	150	1,094	1,076,598	110,345	10.25	731,465
	Indus Inundation	443	313	161,349	16,733	—	229,077
	Shahpur (Imperial)	66	72	14,394	3,318	23.05	39,600
	Ghaggar (Imperial)	44	24	22,888	1,643	—	19,723
Total for 1909-10		2,498	9,195	7,591,867	967,057	12.73	5,827,354
Total for 1908-9		2,720	9,174	7,557,436	922,452	12.20	5,595,068

The increase in the net profit for the year was due to the favourable river supply generally. The decrease in the areas irrigated by the Western Jumna, Sirhind, and

Upper Bari Doab canals was due to the favourable rainfall in the districts served by these canals, enabling cultivators to dispense largely with canal water. Considerable damage was done to the Indus Inundation canals by a disastrous flood which swept the southern portion of the Dera Ghazi Khan district.

Excellent progress was made during the year with the construction work on the Upper Jhelum, Upper Chenab, and Lower Bari Doab canals, the total expenditure on these schemes alone amounting to approximately £720,000.

*Burma.*—In Lower Burma there are no large irrigation works. The expenditure recorded under the head of "Irrigation and Navigation" has reference to the river embankment and drainage works and navigation canals.

In Upper Burma major irrigation works had a good year; there was a normal rise in the receipts from the Mandalay canal, and the increase in the area irrigated gives promise that the original expectations in this respect may be reached. The area irrigated by the Shwebo canal fell owing to a deficiency in supply, but the revenue increased in consequence of a falling-off of remissions granted; there was a net revenue of over £13,300, and a return of over 6 per cent. on the capital outlay. The construction of the Mōn and Ye-u canals was pushed on vigorously. Minor irrigation works showed an increase in revenue; the rainfall in the districts served by these works was good and uniform, and led to considerable increases in the small areas irrigated. Inundations from the two rivers in the Kyaukaè district destroyed some 40,000 acres of crops during the year.

*Central Provinces and Berar.*—Irrigation from works constructed by the State is a novelty to the people of the Central Provinces and Berar, and it is still necessary to offer its benefits on the most liberal terms in order to encourage their acceptance. The monsoon of 1909-10 was distinctly below the average, and the total area irrigated, 37,635 acres, exceeded by 278 acres the previous highest on record, viz., that of 1907-8, a scarcity year. A deficiency of 1,617 acres under the area irrigated by major works was more than made good by the extra area served from the larger number of minor works now in operation, and there is every prospect of a continuous rise in the area irrigated each year. On protective irrigation works the expenditure during the year amounted to £109,568, and on minor works to £32,659. The investigation of projects continued in 1909-10. Sufficient progress had been made by the end of the year to indicate that the Jamunia tank, the Wainganga canal, and the Mahanadi canal would prove to be productive works. A start was made on the construction of the Tendula canal and Asola Mendha tank.

*Madras.*—From an irrigation point of view the Madras Presidency is distinguished by the variety and extent of its works, ranging from the great deltaic systems of the Godaveri, Kistna, and Cauvery to the small tanks and channels maintained by the Revenue Department. The number of tanks directly or indirectly dependent on the local rainfall is very large, and, speaking generally, the success of the irrigation operations is more affected by local climatic conditions than in Northern India, where the irrigation works draw their supply from large rivers fed by the melting of the snow on distant mountain ranges.

The total outlay on irrigation works during the year 1909-10 amounted to £441,733, against £433,900 in the previous year. The area irrigated by all classes of works, including first and second crops, was 6,742,000 acres, exclusive of that under certain small works in the Chingleput district. The total revenue realised was £1,633,306, a decrease of £32,427 as compared with 1908-9.

The expenditure under capital account on major productive works was £60,106, incurred chiefly on the Nagavalli river project, the Kistna delta, the Divi pumping project, the Periyar system, the Shatiatope anicut, and the Cauvery delta systems. The area irrigated by works of this class was 3,312,888 acres, against 3,341,707 acres in the previous year. Gross receipts decreased by £8,070, and working expenses increased by £2,556. The profit after paying interest charges gave a return of 6·04 per cent. on the capital outlay; excluding the Kurnool-Cuddapah canal, this return amounted to 9·52 per cent. Under major protective works, the loss during the year was £6,947 against £7,455 in the previous year.

The capital outlay on the 40 minor works and navigation, for which capital and revenue accounts are kept, amounted to £14,503. The area irrigated and the net revenue derived were 343,693 acres and £31,892.

Up to the end of the year about 44·87 per cent. of the area to be investigated under the Tank Restoration scheme had been examined, and the expenditure during

the year amounted to £39,130. Two large projects—the Kistna and Cauvery reservoir projects—were being reinvestigated during the year.

*Bombay, including Sind.*—In the Bombay Presidency, excluding Sind, the water system does not as a rule admit of the construction of large irrigation works. The rivers or streams are mostly small and more or less dependent on the rainfall, and a constant supply cannot be obtained from them without the aid of large reservoirs or tanks. In Sind the success of the irrigation operations is dependent on the regular rise of the River Indus.

During the year the total expenditure upon irrigation works amounted to £485,000, as compared with £435,000 in 1908-9. Of this total, £177,300 was spent on works, £192,000 on repairs, and nearly £103,330 on establishment. The expenditure was divided between the Presidency and Sind in the proportion of £235,000 to £250,000. There was no famine relief outlay on irrigation works.

The total area irrigated from the Deccan and Gujerat works for which capital and revenue accounts are kept was 145,155 acres, against 142,928 acres in the previous year. The gross assessed revenue rose from £73,268 to £74,861.

In Bombay the season was on the whole a good one. In the northern division the Hathmati and Khari Cut canals irrigated record areas; in the central division there was an increase of 14,205 acres in the area irrigated, and of nearly £9,400 in the gross assessed revenue, compared with the average for the last 10 years. In the southern division there was a decrease of 790 acres in the total area irrigated by first-class works; the revenue, however, was practically the same owing to the demand for water for high-rated crops. The area irrigated under second-class tanks decreased by 580 acres; the revenue amounted to £14,340. On the Girna river the Chankapur storage works were approaching completion, and the Girna Left Bank canal was completed and opened for rabi irrigation. Satisfactory progress was made with the Godavari canal project, despite the difficulty of obtaining labour. This work is estimated to cost £636,700, and to command an area of 239,698 acres.

In Sind the existence of cultivation depends upon irrigation, and there is constant demand for water from the canals. This fact, and the comparatively inexpensive nature of inundation canals, account for the favourable results generally obtained from the working of irrigation canals in the province. In the year 1909-10 the inundation was on the whole good, though not so favourable as that of the preceding year. The area irrigated by all classes of works was 2,936,523 acres, against 3,354,738 acres in the previous year. The gross assessed revenue amounted to £512,987, the corresponding figure for 1908-9 being £550,281.

*North-West Frontier Province.*—At the end of 1909-10 three major works were in operation in the North-West Frontier Province. A fourth—the Upper Swat River canal—is in course of construction, the capital outlay to the end of the year amounting to £220,284. The results of working of the three canals in operation were as follows:—

Canal.	Capital Outlay to End of Year.	Gross Receipts.	Working Expenses.	Net Revenue.	Percentage of Net Revenue on Capital Outlay.	Area irrigated.
	£	£	£	£		Acres.
Lower Swat river	283,637	41,203	10,189	31,014	10.93	166,098
Kabul river	70,306	11,278	5,067	6,211	8.83	43,370
Paharpur	62,032	2,679	3,423	-744	—	14,185
Total	415,975	55,160	18,679	36,481	8.77	223,653

*Baluchistan.*—The two chief irrigation works in the province are the Shebo canal and the Khushdil Khan reservoir, the working of which resulted in a gain for the year of £55 and £29 respectively. A third work, the Anambar Flood channel, is in working order, but as no colonists have so far settled near the canal, cultivation has not yet been begun. A new project, the Nar Nullah reservoir, is nearing completion.

*Coorg.*—During the year the investigation of the Harangi irrigation project in Coorg was still in progress. An irrigation channel was constructed in connection with the Balaji river, and improvements were carried out to other channels.

#### BUILDINGS AND ROADS (CIVIL).

The Buildings and Roads branch of the Public Works Department embraces all the operations of the Department which are not classed under the special heads of

Railways and Irrigation. It includes the extension and maintenance of the road system, the construction and repair of all the buildings required for the proper discharge of the functions of government in all its branches, and a large miscellaneous class of works of public improvement, including lighthouses, harbours, embankments, boat bridges, and ferries, and the water supply and sanitation of towns.

The operations of this branch of the Department are classed primarily under the head of Civil Works, the expenditure on which is chiefly met from provincial resources. The classification of this expenditure for 1909-10 under the various heads is shown in the following table :—

	Central Provinces and Berar.	Burma.	Eastern Bengal and Assam.	Bengal.	United Provinces of Agra and Oudh.	Punjab.	North-West Frontier Province.	Madras.	Bombay.	India General.	Total.
Imperial	£ 2,747	£ 14,361	£ 12,096	£ 72,593	£ 29,409	£ 29,692	£ 136,290	£ 13,904	£ 68,462	£ 175,554	£ 555,108
Provincial*	401,829	448,229	432,265	441,820	414,738	834,972	—	493,171	516,179	—	3,183,208
Total	404,576	462,590	444,361	514,413	444,147	864,664	136,290	507,075	584,641	175,554	4,038,311

  

* Includes expenditure by the Civil Department in addition to that by the Public Works Department.	Expenditure by Civil Officers from Imperial Funds	£ 19,017
	Expenditure in England	£ 78,548
	Grand Total	£ 4,135,906

The extension of local government in India has thrown a large portion of the smaller class of public works into the hands of the local boards. Speaking generally, the boards maintain their own establishments, but in the case of any works of unusual difficulty they have recourse to the professional skill of the Public Works officers.

The following short account of Civil Works for the year under review is given under the heads of the different provinces in which the expenditure was incurred :—

*Bengal.*—The principal buildings in course of construction for the Imperial Government were the new Commerce and Industry Secretariat, and some new offices and vaults for the Paper Currency Office in Calcutta.

Of those undertaken from Provincial funds, the two most important buildings finished were the Presidency Jail, Alipur, and the Agricultural College, Sabaur. Considerable additions and alterations were made to the premises of the old Duff College, Calcutta, to fit them for the headquarters of the northern police division; a boarding-house for the Calcutta Madrasah, hostels and staff quarters at Patna College, small-pox wards at the Campbell Hospital, Sealdah, and a new hospital and dispensary at Kurseong were completed. The new high level Tista Valley Road in the Darjeeling District was also finished.

*Burma.*—Imperial expenditure on Civil works decreased as schemes in progress were completed. About £7,000 was spent on a post office in Rangoon, quarters for postal signallers in Yenangyaung, alterations in wireless telegraphy stations at Victoria Point and Elephant Point, and the rebuilding of the Currency Office.

Under Provincial works a number of costly buildings and roads were under construction, but no new projects were commenced during the year. More attention was devoted to repairs, which rose by £10,000. The General Hospital and the Chief Court in Rangoon, the Police Training School and the Agricultural College in Mandalay, and the Veterinary School in Insein were equipped with necessary minor additions, and improvements were effected in 10 other hospitals and in accommodation for the Military Police in various hill stations. A few minor roads were completed, and progress was made with improvements to existing roads in the Delta and to the three important roads which give access to the Southern Shan States, the Yenangyaung oil-fields, and the ruby mines.

*United Provinces.*—In the United Provinces the Agricultural College at Cawnpore and the museum at Sarnath were under construction during the year. Other buildings in progress included the Lucknow School of Design, industrial schools at Gorakhpur and Lucknow, a carpentry school at Bareilly, a weaving school at Benares, and a high school at Meerut. A new first-class police station at Lucknow was finished, and the construction of the Medical College there was begun, whilst the Canning College in the same city made rapid progress. One hundred and twenty-seven miles of new metalled roads were constructed during the year, and 85 miles of new avenues were planted.



*Punjab.*—Imperial works in progress during the year included a new post office and telegraph office at Rawalpindi, a new telegraph office at Jhelum, a combined post and telegraph office at Dharmsala, and buildings for the Army Remount Department at Sarghoda. The Sophia Villa Estate at Simla was purchased for £5,000 as a part of the scheme for the provision of quarters for clerks of the Government of India Secretariats.

Under Provincial civil works, the following buildings, among others, were completed or in progress, viz., District Court buildings at Dharmsala, extensions and improvements to Barnes Court, Simla, Government House, Lahore, and the Agricultural College at Lyallpur, police stations at various centres, and a court and residence for the Assistant Commissioner at Fazilka.

A change of policy was adopted with regard to the construction and maintenance of feeder roads, all old and new completed roads being transferred to the local boards for future maintenance, the funds available for such purposes being made over to Commissioners for distribution.

*Central Provinces and Berar.*—Less than half the total expenditure during the year was on original works. Over £202,000 was spent on buildings, the most important new works being the new Secretariat buildings, the High Courts and Record Room at Nagpur, and certain houses at Pachmarhi and Nagpur required for the accommodation of officers. The sum of £186,700 was spent on communications, of which about half was devoted to original works.

*Eastern Bengal and Assam.*—Many important projects were dealt with during the year by the Public Works Department. Considerable progress was made with the construction of the new Government Houses at Dacca and Chittagong. In various parts of the Province many new residences, offices, circuit-houses, dak and inspection bungalows, barrack and other buildings were completed or under construction, and repairs were carried out to the mosque at Kusumba and to temples at Jaysagar and Kamrup.

Under the head of communications, good progress was made in the construction of new roads. Dredging and silt experiments were carried out on some rivers.

*Madras.*—There were no Imperial works of importance in progress, and the year's expenditure came almost entirely under the heads of Provincial and Local civil works.

The number of buildings completed or in progress was 301. The Agricultural College at Coimbatore was practically finished, and was opened during the year. The work on the Kolab bridge was abandoned and arrangements were made to bridge the Indravati river instead. Good progress was also made with the Bezwada and Salem waterworks. An estimate for dredging and for a marine survey for the port of Tuticorin was sanctioned, and a scheme to improve the port of Calicut was decided upon.

Under the head of Communications a few important roads are in the hands of the Provincial Public Works Department. Existing roads were improved or maintained in good order.

*Bombay.*—Under Imperial works, the important scheme for the location of the Coast Guard Fleet at Sivri was nearly completed. The new General Post Office at Bombay was also nearing completion; the Consulate buildings at Bander Abbas were finished, and a residence for His Highness the ex-King Thebaw of Burma was in progress at Ratnagiri. Under Provincial works, £48,890 were expended on police buildings, £45,000 on medical buildings, £42,670 on land revenue buildings, and £45,000 on educational colleges and schools. A total sum of £116,000 was spent on communications, the principal new work in progress being the construction of a bridge over the creek at Kalyan. No famine relief works were carried out during the year.

*Coorg.*—The expenditure on Public works amounted to over £17,000, including the cost of maintenance of existing communications. The chief original work completed was the construction of an iron bridge over the Harangi river at Kudige. Some 230 miles of roads were maintained, and two small bridges were constructed.

*North-West Frontier Province.*—No works of any great importance were carried out during the year, but a large number of buildings of considerable local utility were completed, notably the new district court and offices at Peshawar. A large amount of work was done in connection with the construction and improvement of roads and bridges throughout the province.

## CHAPTER XII.

## POST OFFICE AND TELEGRAPHS.

(For further details, see Statistical Abstract for British India, Tables 45 to 47, 90 to 96, and 98 to 100.)

## POST OFFICE.

*Financial Results.*—The receipts and charges of the Post Office for the last three years, as shown in the Finance and Revenue Accounts, have been as follows:—

YEAR.	Receipts.	Expenditure.	Net Revenue (+) or Deficit (—).
	£	£	£
1907-8	1,823,999	1,772,720	+ 51,279
1908-9	1,825,620	1,896,753	- 71,133
1909-10	1,927,229	1,927,582	- 353

*Extent of Postal Operations.*—The extent of the operations of the Post Office, and their development during the last three years, are shown in the following tables:—

YEAR.	Post Offices.	Letter Boxes.	Village Postmen.	Length of Postal Lines.*
	No.	No.	No.	Miles.
1907-8	17,777	41,648	8,335	154,338
1908-9	18,399	43,577	8,299	156,422
1909-10	18,642	45,753	8,378	156,761
Increase or decrease in 1909-10 as compared with 1908-9	+ 243	+ 2,176	+ 79	+ 339

\* Including the Bombay-Aden line.

The general correspondence returns, of which a summary is given below, show an increase exceeding 44 millions of articles (excluding money orders) for 1909-10, as compared with the figures for 1908-9. Of the additional articles 19 millions were postcards.

YEAR.	Letters and Postcards.	Newspapers.	Book and Pattern Packets.	Parcels.	TOTAL.
	No.	No.	No.	No.	No.
1907-8	723,519,579	48,294,479	48,941,096	5,884,169	826,639,323
1908-9	767,922,728	50,107,799	51,084,486	6,140,819	875,255,832
1909-10	809,308,372	51,395,989	52,407,534	6,412,232	919,524,127
Increase in 1909-10 over 1908-9	41,385,644	1,288,190	1,323,048	271,413	44,268,295

*Alterations in Postal Arrangements during 1909-10.*—During the year there were few changes in the inland postal arrangements which directly affected the public. As regards foreign post, the rates of postage on parcels for France, Italy, Egypt, Canada, and certain other countries were reduced. Some extensions of the parcel post and foreign money order system were made. Arrangements were made for the payment under certain conditions of compensation (not exceeding Rs. 15) in the event of loss of, damage to, or abstraction from, uninsured parcels exchanged between India on the one hand, and Gibraltar, Hong Kong, Mauritius, the Seychelles, and New Zealand on the other.

*Amount of Postal Matter dealt with.*—The total number of articles received for delivery, including money orders, was nearly 944 millions, of which, it is estimated, 99.67 per cent. were actually delivered or paid, as compared with 99.69 per cent.

The work of the dead-letter offices increased slightly, the increase being much less than that recorded for 1908-9. In 1909-10 the receipts of postal articles (excluding money orders) at the dead-letter offices were 9,215,748; of this number, 6,252,095 articles were either delivered to addressees or returned to senders, and 2,963,653 could not for various reasons, such as the absence of an address, be similarly treated. This last figure is only 32 per cent. of the total number of articles given out for delivery.

The following table gives an estimate of the amount of postal matter exchanged with the United Kingdom and with other countries in 1908-9 and 1909-10:—

Correspondence exchanged.	With United Kingdom.			With other Countries.			Total.		
	1908-9.	1909-10.	Increase.	1908-9.	1909-10.	Increase.	1908-9.	1909-10.	Increase.
Letters and Postcards	20,338,000	22,250,000	1,917,000	9,000,000	11,833,000	2,833,000	29,338,000	34,083,000	4,745,000
Newspapers, Book packets, and Samples.	13,000,000	13,000,000	Nil	7,000,000	7,500,000	500,000	20,000,000	20,500,000	500,000
Total	33,338,000	35,250,000	1,917,000	16,000,000	19,333,000	3,333,000	49,338,000	54,583,000	5,245,000

*Insurance, Value Payable Post, Money Orders, Savings Bank, &c.*—Information regarding these branches of the work of the Post Office can be most conveniently given in a tabular form:—

	1908-9.	1909-10.	Increase or Decrease.
<b>INSURANCE OF LETTERS AND PARCELS:—</b>			
Number of articles insured	956,189	1,044,957	88,768
Number of claims admitted	53	59	6
Not payment in respect of claims	£529	£178	—£351
Receipts from Insurance Fees	£20,670	£22,240	£1,570
<b>VALUE PAYABLE POST:—</b>			
Number of articles sent	6,393,575	6,870,979	477,404
Value specified for recovery	£4,666,700	£5,333,300	£666,600
<b>MONEY ORDERS:—</b>			
Value of Ordinary Inland Orders issued in India	£24,270,266	£24,745,953	£475,687
"    Telegraphic Money Orders	£1,858,141	£1,899,036	£40,895
Average value of an Inland Money Order	Rs. 16 a. 15 p. 1	Rs. 16 a. 11 p. 8	—3 annas 5 pies.
"    "    "    a Telegraphic Money Order	Rs. 91 a. 6 p. 11	Rs. 85 a. 7 p. 2	—Rs. 5 a. 15 p. 9
Value of Foreign Orders issued in India	£587,468	£561,937	—£25,531
"    "    "    paid	£1,465,932	£1,499,429	£33,497
<b>SAVINGS BANK:—</b>			
Number of Post Offices transacting Savings Bank business at end of year.	8,501	8,767	266
Number of accounts in Post Office Savings Banks	1,318,632	1,378,916	60,284
Amount of Deposits at beginning of year	£10,120,956	£10,156,101	£35,145
"    New Deposits during year	£3,487,732	£3,702,887	£215,155
"    Interest credited	£289,399	£298,493	£9,094
"    Withdrawals	£3,741,985	£3,579,362	—£162,623
Amount of Deposits at end of year	£10,156,101	£10,578,119	£422,018
Securities held on behalf of Depositors at end of year	£383,950	£429,930	£45,980
Number of Accounts classified according to class of Depositor—			
I. Professional	425,376	441,565	16,189
II. Domestic	222,925	233,876	10,951
III. Commercial	53,785	57,047	3,262
IV. Agricultural	29,262	30,747	1,485
V. Industrial	49,110	52,228	3,118
VI. Indefinite (including persons whose incomes are derived from others).	538,174	563,453	25,279
<b>LIFE INSURANCE AND ANNUITIES:—</b>			
Number of policies in existence at end of year	17,621	19,249	1,628
Sum insured	£1,625,851	£1,773,075	£147,224

*Offences.*—During the year under review there were 29 cases in which the mails were plundered by highway robbers, of which 19 were in British territory and 10 in Native States. The figures for the preceding year were 27 and 8 respectively.

The number of cases in which the servants of the Post Office were found guilty of offences punishable by the law was 569. The defalcations and losses amounted to £3,130, as compared with £4,346 in 1908-9. A sum of £1,831 was recovered from the offenders or their sureties; £316 was charged against the Post Office Guarantee Fund, and the remainder was written off as irrecoverable or remained unadjusted at the close of the year.

*Staff.*—The total staff of the department numbered 92,163 on 31st March 1910, as compared with 91,187 on the corresponding date in 1909.

*Sale of Quinine.*—To facilitate the supply of the drug, especially in cases of malaria, quinine is sold at Post Offices throughout India. The supplies issued to Post Offices in 1909-10 slightly exceeded those issued in the previous year.

#### TELEGRAPHS.

The following statement refers to the whole of the telegraph system under the direct control of the Government of India, but excludes the Indo-European Department, extending from Karachi to Teheran and Fao, for which, as usual, a separate account is given. The system now consists of 72,420 miles of line, 283,374 miles of wire, and 327 miles of cable.

The principal event of the year was the promulgation of a scheme for the reorganisation of the upper ranks of the Indian Telegraph Department, under which the rates of pay of the various grades were considerably improved. The changes included the formation of eight circles, each in charge of a director, coterminous with the existing postal circles, the increase of the number of divisions from 20 to 34 and the abolition of all sub-divisions, the delegation to directors of many of the powers previously exercised by the Director-General, and the formation of a purely technical branch under an electrical engineer-in-chief. The system of recruitment of the provincial branch of the service, appointments in which were previously restricted to students from the Thomason Civil Engineering College at Rurki, was modified so as to permit of these appointments being made by selection from the graduates in the engineering classes of any college which gives a suitable and adequate training in electrical engineering.

Other events of interest were the introduction of a mixed postal and telegraph service between India and the United Kingdom from 1st July 1909, and of a system of telegraphic money orders between India and Aden from 1st April 1910, the reduction of the press rates between Great Britain and India, Australia, and South Africa to 9d. a word with effect from 1st August 1909 and between Great Britain and Penang, Singapore, and Labuan to the same figure from 1st March 1910.

Field telegraph operations were carried out on a small scale in connection with a punitive police force sent into the Bastar State to quell a disturbance. No special wires were erected except a short line of about 2 miles in Jagdalpur; 28 camp offices in all were opened and closed.

The following statement shows, for a period of five years, the progress that has been made in extending public telegraphic communication:—

Year.	Capital Expenditure.	Miles of Line.	Miles of Wire.	Miles of Cable.	Offices open to the Public.		
					Departmental, Ordinary and Postal combined.	Railway and Canal.	Total.
Up to beginning of 1905-6	£ 5,824,031	61,684	227,436	245	2,189	3,797	5,986
During 1905-6	380,474	2,699	15,776	34	120	122	242
" 1906-7	379,798	2,814	15,648	42	129	142	271
" 1907-8	272,745	1,371	10,529	50	106	179	285
" 1908-9	239,671	1,140	8,342	—14	114	75	189
" 1909-10	167,955	2,712	5,643	—30	104	148	252
To end of 1909-10	7,264,674	72,420	283,374	327	2,762	4,463	7,225

\* Excludes £6,861 cost of cable lines transferred to Military Works Department on the 1st April 1899.

A general view of the operations of the Department in 1909-10, in comparison with those of the four previous years, will be gained from the following statement :—

Year.	Number of Messages during Year.	Gross Receipts, including State but excluding <i>pro forma</i> Revenue.	Charges.	Net Receipts.	Percentage of Net to Gross Receipts.	Return on Capital.
1905-6	10,461,117	£ 805,748	£ 599,052	£ 206,696	25.65	8.33
1906-7	11,385,166	827,744	644,205	183,539	22.17	2.79
1907-8	12,749,923	875,778	752,411	123,367	14.08	1.80
1908-9	13,006,778	874,795	788,022	91,773	10.49	0.70
1909-10	12,084,697	795,828	807,519	-11,691	—	—

The whole of the annual expenses connected with the telegraphs in India, whether incurred on capital account for the construction of new lines or on revenue account for the maintenance and working of the system, are defrayed from the revenues of the Government of India. In 1909-10 the receipts of the Department were not sufficient to cover even the working expenses, and there was a charge on Government revenues of £179,646.

The gross receipts fell short of those for any year since 1904-5; they were less than those for 1907-8—the best on record—by £79,950. This was due almost entirely to a reduction in inland message revenue, both private and State, consequent on general depression in internal trade. Working expenses, on the other hand, continue to increase. In 1909-10 they exceeded those of the previous year by £24,497, due chiefly to an increase of expenditure under "Signalling," consequent on the reorganisation of the establishment of that branch, and to the introduction of the new time-scale of pay for superintendents and assistant superintendents with effect from 19th December 1909. The net result for the year was a loss on working amounting to £11,691.

The number of telegrams decreased during the year by 7.11 per cent., and their value by 11.65 per cent., due to the causes referred to above.

The following figures show, for the last two years, the division of the traffic between State and Private, and between Inland and Foreign, messages respectively :—

Class of Telegram.	1908-9.		1909-10.	
	No.	Value.	No.	Value.
Inland State	976,208	£ 106,720	834,435	£ 51,437
Foreign State	15,820	8,433	15,174	3,640
<b>Total State</b>	<b>992,028</b>	<b>110,153</b>	<b>849,609</b>	<b>55,077</b>
Inland Private	10,861,923	406,608	9,963,541	376,066
Foreign Private	1,152,827	132,560	1,271,547	144,027
<b>Total Private</b>	<b>12,014,750</b>	<b>539,168</b>	<b>11,235,088</b>	<b>520,093</b>
<b>Total State and Private</b>	<b>13,006,778</b>	<b>649,321</b>	<b>12,084,697</b>	<b>575,170</b>

The subscriptions to the Telegraph Department for telephone and similar services rendered during the calendar year 1909 amounted to £32,592, being an increase of £5,462 over the figures of the previous year. The average annual subscriptions for the past five years amounted to £22,946.

Numerous interruptions occurred during the year on the lines to foreign countries, notably on the Turkish and Teheran routes to Europe and on the Moulmein-Bangkok and Raheng lines to Siam.

New wireless telegraph stations were opened at Bombay and Jask during the year, that at the latter place being subsequently handed over to the Indo-European Telegraph Department. Communication between the other stations and with vessels at sea was maintained throughout the year.

#### INDO-EUROPEAN TELEGRAPH DEPARTMENT.

The system of telegraph lines and cables connecting the terminus of the Indo-European Company's telegraphs at Teheran and of the Turkish telegraph lines at Bombay with the Indian telegraph system at Kumbhari is controlled by the Indo-European

Government Telegraph Department, and consists of 1,946 knots of cable, 2,724 miles of line, and 6,988 miles of wire. This also includes a cable from Jask to Muscat, 218 knots in length:

The Department also maintains a line from Teheran to Meshed, 568 miles, which is the property of the Persian Government.

The financial results of working the Department, as compared with the four preceding years, were as follows:—

Year.	Total Capital Outlay.	Gross Receipts.*	Expenditure.	Net Receipts.	Percentage of	
					Net Receipts to Capital.	Expenditure to Gross Receipts.
1905-6 - - - -	£ 957,491	£ 111,082	£ 59,457	£ 51,625	5·39	53·52
1906-7 - - - -	988,204	102,674	72,104	30,570	3·09	70·22
1907-8 - - - -	997,094	109,002	75,690	33,312	3·34	69·44
1908-9 - - - -	998,142	103,689	75,287	28,402	2·84	72·60
1909-10 - - - -	1,000,263	111,489	72,084	39,405	3·93	64·65

\* This represents the revenue of the Department after adjustments made in accordance with the provisions of the Joint Purse arrangement.

The gross earnings of the year increased by £7,800, due to an increase of both Indian and trans-Indian traffic. Working expenses decreased by £3,203, mainly due to smaller payments on account of furlough allowances, office contingencies, and repairs to cables, and to two instalments only of the rental for the Central Persia line having been paid instead of three as in 1908-9. The capital expenditure of £2,121 incurred during the year was used mainly on the construction of buildings in the Persian and Persian Gulf sections.

The number of messages transmitted during the year amounted to 274,092, being an increase of 19·22 per cent. as compared with 1908-9, due, as explained above, to an increase in traffic.

Under the Joint Purse Agreement, the share of the Department was £8,255 more than last year, being £115,306, as against £107,051 in 1908-9. This was principally due to the increase of traffic mentioned above. The amount paid into the Joint Purse for the year under review was £60,346.

The Departmental receipts from the Australasian Message Fund for 1909-10 amounted to £6,049, being £113 more than in 1908-9, and a decrease of £186 on the receipts for 1899, on which the original Australasian Message Fund was based.

There were no total interruptions between Karachi and Teheran during the year, but between Teheran and London the lines were totally interrupted for an aggregate of 15 days 21 hours, due in many cases to failure of the cables between Lowestoft and Emden. Acts of wilful damage again increased, numbering 1,384, or 172 more than in the preceding year.

In December 1909 a wireless installation was established at Jask by the Indian Government Telegraph Department, and was taken over by the Indo-European Telegraph Department on 24th January 1910.

## CHAPTER XIII.

## SCIENTIFIC DEPARTMENTS.

## GENERAL.

BOARD OF SCIENTIFIC ADVICE.

SURVEY OF INDIA.

OTHER SURVEYS.

METEOROLOGICAL DEPARTMENT.

## AGRICULTURAL DEPARTMENTS.

CIVIL VETERINARY DEPARTMENT.

FOREST RESEARCH INSTITUTE.

ARCHÆOLOGICAL DEPARTMENT.

MEDICAL RESEARCH INSTITUTES.

## GENERAL.

Owing to the progress made in recent years in the application of science to various branches of the work of Government, a special chapter is now necessary for dealing not only with surveys, but also with other scientific departments that have been established by the Imperial or Provincial Governments for the conservation and development of the natural resources of the country. In 1909-10 expenditure on Scientific Departments amounted to about £610,000, against which must be set about £73,000 for receipts. The great bulk of the expenditure was for agricultural and veterinary work and for survey work.

## THE BOARD OF SCIENTIFIC ADVICE.

This Board includes the heads of the Meteorological, Geological, Botanical, Forest, Survey, Agricultural, and Civil Veterinary Departments, and other scientific authorities whose special attainments may be useful. It was established in 1902 to co-ordinate official scientific inquiry, to ensure that research work is distributed to the best advantage, and to advise the Government of India in prosecuting practical research into those questions of economic or applied science on the solution of which the agricultural and industrial development of the country so largely depends. The programmes of investigation of the various departments are annually submitted to the Board for discussion and arrangement, and an annual report is published on the work done, as well as a general programme of research for the ensuing year. The reports and the programmes formulated are communicated for consideration to an Advisory Committee of the Royal Society, who from time to time furnish valuable suggestions and advice. The Board's report for 1908-9 was published in 1910.

## SURVEY OF INDIA.

The work of the Survey of India Department falls under various heads, namely, the trigonometrical survey, topographical and forest surveys, special surveys and explorations, and map production. The latest available information on most of these matters relates to the year ended 30th September 1909. The total cost of the Department for that year was about £216,000. The Department has been materially expanded during the last few years, and the work has improved owing to closer supervision and the better instruction of field surveyors and draughtsmen.

In 1904 attention was drawn to the defective state of the topographical survey maps, and a Committee was appointed to report on the subject. To overtake the arrears of revisional survey and to secure that the map of India should be brought up to date and revised at proper intervals, they recommended a considerable increase of establishment and an increased expenditure of £210,000 a year for the next 25 years. They also made recommendations for altering the size and improving the quality of the maps. After further inquiry the Government of India decided that a scale of 1 inch to the mile would ordinarily be sufficient, reserved forests and special areas being surveyed on the scale of 2 inches to the mile, and the  $\frac{1}{2}$  inch scale employed for waste and barren tracts. This decision will somewhat reduce the standard of establishments and expenditure proposed by the Committee.

During 1908-9 field operations were carried on by 17 survey parties and three detachments. Twelve parties and one detachment were employed on topographical and forest surveys; one party on principal triangulation; four parties on purely scientific operations; and two detachments on cantonment surveys.

*Trigonometrical Survey.*—The triangulation party, working in five principal and four secondary detachments, continued the series of principal triangulation; eight triangles, covering 3,500 sq. ms., were completed in Baluchistan; seven triangles, covering 1,900 sq. ms., in the N.W. Frontier Province; and nine triangles, covering 4,200 sq. ms., in Burma (Shan States). Work was also begun in Upper Burma and Kashmir.

*Special Operations.*—Pendulum observations were taken at 12 stations in Central India with the object of investigating the structure of the Vindhya and Satpura ranges.

*Tidal and Levelling Operations.*—The new tidal observatory at Moulmein was opened. The recording of tidal curves by self-registering gauges, their reduction, and the publication of tide-tables were continued during the year at the eight permanent stations. Three detachments were engaged on levelling operations.

*Magnetic Survey.*—The preliminary magnetic survey was finished (excepting the Himalayan Karakoram regions) with the completion of observations along the coast of Burma. The detailed magnetic survey was commenced. The reduction of the preliminary survey is in hand.

*Topographical and Forest Surveys.*—The total area of detail topographical and forest surveys on all scales during the year was 42,600 sq. ms. Of the total area, 9,509 sq. ms. were covered in Burma, where a five years' programme of topographical survey was arranged in 1905, embracing a large portion of the more important tracts of country. All reserved forests are now surveyed, principally on a scale of 2 inches to the mile, in the course of the general programme. During the year forest surveys were carried out in seven provinces.

*Headquarters Offices.*—The results of the reorganisation of the publication offices have been very satisfactory. The general maps are still far from completion, but satisfactory progress is being made. The number of maps issued during the year was 104,661.

#### OTHER SURVEYS.

*Marine.*—Two marine survey vessels, the "Investigator" and the "Palinurus," thoroughly equipped for modern requirements, have been placed on the service.

*Geological.*—The first object of the Geological Survey Department is the preparation of a general geological map of India, and this work was continued during 1909 by surveys in Burma, Rajputana, Central India, Kashmir, and the Punjab. Various economic investigations, which form an increasingly important part of the Department's work, were conducted. These included the revision of the map of the Raniganj coal-field, and inquiries into occurrences of copper and coal in Sikkin, petroleum in Burma, &c. Inquiries were conducted into the salt resources of Myingyan in Burma. Many applications were received for advice regarding the search for artesian water in various parts of India.

*Botanical.*—Plant collections were made by or on behalf of the Botanical Survey in different parts of India. The study of economic problems forms no part of the work of the Botanical Survey as such, but much work of this kind was done by the officers of the Survey who serve as Economic Botanists to the local Governments.

*Zoological.*—The work of the Zoological Survey in 1909 included surveys of fresh-water fauna, studies in marine zoology, Indian rats, fish, &c.

#### METEOROLOGICAL DEPARTMENT.

The work of the Meteorological Department falls into two parts, the directly useful, and the purely scientific, aiming at the ascertainment of facts that shall be of practical utility in future. The scientific work includes the experimental and theoretical examination of the physical processes, on the earth or in the sun, which determine the weather. The practical work consists chiefly in the collection and distribution of current weather information. The area under observation by the Department embraces not only India but the whole of the Arabian Sea and Indian Ocean, the Persian Gulf, Persia, Arabia, Chinese Turkestan, and Tibet. There were 277 observation stations (of which 50 were non-departmental) at the close of 1909-10, ranging from the well-equipped observatories at Kodaikanal, Madras, Bombay, Alipore (Calcutta), Allahabad, and Lahore, to small stations at which observations of temperature, rainfall, and snowfall only are recorded. The Department inspects their working and collects



the results ; it also studies the meteorology of the Indian Ocean by means of the logs of vessels arriving at Indian and other ports, and conducts seismographic observations. Experimental work for determining the conditions of the upper air by means of small free balloons was continued during the year. Special investigations comprised wind observations, solar and terrestrial radiation observations, sunshine observations, seismological observations, barometric observations, and observations of temperature. Great attention is now paid to the correct registration of rainfall. The actual rainfall of the last ten years compared with the normal will be found in the annual *Statistical Abstract of British India* (Table 118). Daily, weekly, and monthly weather reports, as well as seasonal forecasts and storm warnings, are issued. Warnings of approaching storms are sent to ports on the Bay of Bengal from Calcutta, and to ports on the Arabian Sea coast from Simla. The system of flood warnings to canal, civil, and railway officers, to military officers, and to private firms continued to be useful, and 941 such warnings were issued during 1909-10. The publication of the meteorological atlas of the Indian seas has placed a large amount of valuable information at the convenient disposal of ship captains.

#### AGRICULTURAL DEPARTMENTS.

*General.*—The greater part of the scheme for the development of agricultural experiment and instruction formulated in 1905 has now been realised. It is based on the generally accepted principle that effective improvement in Indian agriculture depends largely, or mainly, on the application of European science to Indian conditions. Although India is a land of skilled agriculturists, the outturn per acre of many crops is comparatively small, and the quality of some kinds of produce is inferior. Much can be done to improve and develop Indian agriculture by energetic research and by the application of more scientific methods and greater scientific knowledge than were formerly available. The necessary scientific knowledge must inevitably be obtained in the first instance by the recruitment of trained specialists from the United Kingdom ; but it is an essential part of the scheme that facilities for the best agricultural training shall be made available in India, in order that the country may become self-supporting, so far as possible, in the scientific development of agricultural methods on lines suited to local conditions.

India now possesses an Imperial Department of Agriculture, under an Inspector-General and an Assistant Inspector-General, while there are nine provincial Departments of Agriculture under Directors and (usually) Deputy-Directors. To the Imperial Department is attached the Pusa Central Research Institute and Agricultural College, which has been provided with a Director and European experts in agriculture, entomology, botany, mycology, chemistry, and bacteriology, together with a cotton specialist. Further, there have been established in seven provinces an agricultural college and a research station, equipped with laboratories and class-rooms, and connected with a farm of suitable size. The principals of the colleges have a staff of chemists and botanists. In Eastern Bengal and Assam there is a special fibre expert. In the various provinces there is a number of agricultural stations and of botanical, horticultural, and agri-horticultural gardens. The provincial departments distribute selected seeds and manures, and furnish advice as to implements and crops.

There is a Board of Agriculture of 38 members which suggests and reviews programmes of work and discusses current problems. Agricultural memoirs and an agricultural journal are published.

*Pusa Research Institute.*—The Phipps Laboratory at Pusa is now fully equipped, and practically the whole of the Institute estate is under grass or arable cultivation. Pusa is chiefly a higher teaching institution for post-graduate studies in one branch of research. Last year there were 62 students, of whom 13 were drawn from provincial agricultural colleges or other colleges. Experiments were undertaken in connection with manures and permanent pasture and the preservation of fodder, while the crops under trial included wheat, rice and other food grains, pulses, oil-seeds, maize, *sann* hemp, cotton, jute, sugar-cane, flax, tobacco, and fruits. One of the most important lines of work is the breeding and rearing of farm live stock. Poultry breeding is undertaken. Experiments in growing stronger wheats with better milling qualities have been very successful, and are likely to have a great effect in the production of wheat in India. A monograph on Indian wheats has been published. Fruit cultivation has been successfully established. An inquiry is proceeding on the subject of the prevention of injury by weevils to wheat and other grains. A general study of the oil-seeds of India is to be undertaken. A study was made of the water

requirements of crops. The plant diseases (e.g., in the tea-plant and palms) due to particular parasites have been studied. The entomologists have conducted experiments in *eri* and *tussar* silk, while practical instruction has been given in lac cultivation. A new work on "Indian Insect Life" was published. The Imperial Cotton Specialist has been examining the varieties of cotton in different provinces and making recommendations as to their cultivation.

A brief sketch will now be given of the work carried out in each province during 1909-10 in connection with agricultural development.

**Bengal.**—The main buildings of the provincial agricultural college at Sabaur are complete, and it is now in working order. No addition was made to the number of agricultural stations, which are designed eventually to be representative of the six agricultural tracts of the province. There are seven Government stations, besides a demonstration farm at Kalimpong. The Bengal Provincial Agricultural Association met three times to discuss agricultural problems. The 26 agricultural shows and fairs held during the year received grants-in-aid from Government, and at most of them the Department exhibited seeds, manures, and improved implements.

Samples of food-stuffs, manures and soils were analysed, and special research in connection with sugar-cane was continued with useful results. Experiments were made in connection with the soy-bean, paddy, potatoes, wheat, ground-nut, cotton, jute, and cassava. The Government has granted Rs. 32,500 a year for five years in aid of the indigo research work at Sirsiah. Investigations were made regarding insect pests that attack hemp, indigo, paddy, and other crops. Experiments with agricultural implements were continued. The Department prepared leaflets on sugar-cane, paddy, potatoes, and other subjects, and a note on sericulture in Bengal. A quarterly journal of agriculture is published. Large quantities of seeds, manures, and agricultural implements were issued from the Government store.

The Director, aided by a committee of four silk experts, is inquiring into the improvement of the Bengal silk industry, which had declined owing to the prevalence of disease. A central nursery with mulberry farm and rearing houses at Berhampore and 18 small subsidiary nurseries have been established to rear and distribute pure seed, i.e., live cocoons, to rearers of silk-worms. Six sons of professional rearers are under training. Experiments were continued at the *tasar* silk-rearing station at Chaibassa.

Work in connection with inland fisheries has been incorporated with that of the Department, and two assistants have been appointed, who investigated carp culture and the spawning grounds of *hilsa*.

**United Provinces.**—There has been a remarkable growth of public interest in the improvement of agriculture and stock-breeding, and in labour-saving appliances, especially chain pumps, improved iron ploughs, and sugar machinery. This increase of interest has led to many requests for advice, &c. The seed depôts, which issue wheat, cotton, ground-nut, and other seeds to cultivators, are much appreciated. These depôts are being managed with a view to their transfer to co-operative societies. A trained staff of borers has been placed under the control of district officers to help the people in well-sinking, which has been facilitated by advances of capital. The well-boring staff was constantly engaged with very satisfactory results. A post of agricultural engineer has been created temporarily to deal with wells, &c. The Cattle Conference, held at Lucknow in 1909, furnished much useful information. A cattle survey is being conducted. Good progress was made with arboriculture. Four training centres for students of sugar manufacture were maintained, and 51 students trained. Investigations of cotton, sugar-cane, wheat, maize, juar, ground-nut, rice, hemp, manures, &c. were in progress at the four agricultural stations. Vernacular pamphlets were issued on the cultivation of lucerne, the use of reaping machines and winnowers, and maize cultivation. The Urdu agricultural journal increased its circulation. There were several shows and fairs, and much preparatory work was done for the United Provinces Exhibition at Allahabad. The Cawnpore Agricultural College was brought to its full strength, and 33 students obtained diplomas.

**Punjab.**—The Agricultural Department is already making its influence felt, especially in the canal colonies, in which an agricultural station and seed farm are situated. An agricultural station for the Eastern Punjab has been opened at Gurdaspur. The Department has been chiefly occupied in experiments with new and improved varieties of cotton, wheat, sugar-cane, &c., and with the introduction of reapers, ploughs, and other agricultural machinery which, owing to scarcity of labour,

is growing in popularity. A commercial firm have deemed it worth while to relieve the Department of the work of distributing mechanical reapers and some other implements. Demonstrations of implements were given at the Lahore Agricultural and Industrial Exhibition, 1909, and fodders, seeds, diagrams of plant diseases, &c. were exhibited. Inquiries into the milling and baking qualities of Punjab wheats have shown that the red wheats, which are most suited for cultivation, are also superior for milling and baking to the soft white wheats which have hitherto been most in demand for export. As wheat occupies a third of the cultivated area of the province, this information has been widely circulated in a bulletin. Efforts are now being made to "strengthen" and standardise the wheat grown. Considerable advance has been made in selecting cotton seed suited to the province, and an acclimatised American variety has been grown with success. Experiments have been made in improving date cultivation, as well as in bee-keeping and poultry farming. Attempts to revive sericulture in the province are being continued. A staff has been trained to undertake well-boring. The first year of the new Punjab Agricultural College at Lyallpur was fairly successful, and special attention was given to practical field work. There were 35 students at the close of the year.

*North-West Frontier Province.*—Experiments made with cotton in two districts were not very successful. An Agri-Horticulturist, who has taken the place of a Deputy Director of Agriculture, will devote special attention to fruit culture, which is of particular importance in this province.

*Central Provinces and Berar.*—The superior staff of the Department is insufficient for the work that should be done, though six new assistants joined the staff during 1909-10. A larger subordinate staff is needed for the important work of demonstration, which is being extended in co-operation with the Irrigation Department. The Agricultural College at Nagpur was well attended. Provision is being made for proper laboratories and for instruction in entomology and agricultural engineering. There were 47 students. The "Agricultural Gazette" increases in popularity, and its circulation has risen to 5,680 copies. There are four agricultural stations as well as eight seed farms which distribute selected wheat, cotton, and other seeds. Cotton-seed sold from the Akola Government farm and 22 private farms was sufficient to sow 10,000 acres. Progress was made in experiments with cotton, ground-nut, and wheat. Demonstration work to show the advantages of transplanting and irrigating rice was carried out at Labhandih farm. Much attention has been paid to the demonstration of improved implements, and certain simpler descriptions, especially turnwrest ploughs, cornshellers, winnowers, hullers, and chain pumps, are gradually obtaining a sale. A bulletin on wheats was issued. The District Agricultural Associations, consisting of representative landowners, show an active interest in improvements, and are an invaluable link between the Department and the farmer in the introduction of new varieties of crops and of improved methods of manuring recommended by the Department.

*Burma.*—The staff and the operations of the new Agricultural Department were again curtailed through lack of funds. The agricultural station at Mandalay was fully worked, but the formation of another station was postponed. It has been decided that the time is not ripe for the establishment of an agricultural college. The growing interest taken in the work of the Department by the public is very gratifying, and its simple improved implements are gaining acceptance. A comparative study of wheat, cotton, jowar, and various pulses was undertaken; reports were provided on sugar-canes; inquiries were made regarding *taungya* soils and canal and river silts, and cotton and other pests were studied. Experiments have established the cultivation of moisture-resisting paddy in Arakan, ground-nuts in the dry zone, and wheat in the Chin Hills. A careful investigation is being made of the effects of soil and manure ingredients on the growth of paddy, and also a study of the best varieties of paddy, which is by far the most important crop in Burma. A number of cultivators' leaflets were distributed on the cultivation of *sann* hemp and on implements, insect pests, &c.

*Madras.*—The staff of the Agricultural Department was strengthened by the addition of a mycologist and of a scientific officer deputed to help the planting industries. The College of Agriculture and Research Institute at Coimbatore has been opened. Much useful experimental and demonstration work on the main food and industrial crops was done at the 10 agricultural stations. Efforts were continued to improve cotton cultivation and obtain a superior strain of cotton by careful seed selection. Experiments were also made with paddy, ground-nut, &c. The introduc-

tion of a Mauritius sugar-cane in some districts has been attended with great success. There was a further increase in the number of oil-engines and pumps used for irrigation. There is a great demand for these boring appliances. Entomological assistants were engaged in the study of the paddy stem borer, the pepper fungus, and other agricultural pests, and operations for the eradication of the palmyra palm disease in Godavari were continued, and were extended to the Kistna district. Leaflets were issued on paddy cultivation, cotton cultivation, manuring, &c. The ryots are on good terms with the officers of the Department. They visit the farms, buy seeds largely, and adopt improvements recommended. Good work was done by some of the Agricultural Associations to popularise new crops and methods in their districts, and to organise exhibitions and cattle shows.

*Bombay.*—The year was one of varied activity and substantial progress. At the 10 agricultural stations and farms experiments were made with jowari, oil-seeds, pulses, tapioca, ground-nuts, tobacco, potatoes, and wheat. Experiments were directed to deciding between the merits of different varieties of the same crop and their behaviour under various conditions and to the improvement of types by selection and hybridization. Much attention was paid to the seed distribution of Broach cotton in Dharwar and Belgaum, and to American and Cambodian cottons. Tree cottons were also investigated. Tillage experiments were made to ascertain the results of deep ploughing and to determine the best time for tillage operations. Attention was also given to dry-farming, sericulture, silage, and the prevention of crop pests. Cultural experiments were undertaken at Surat to elucidate the comparative advantages of deep and shallow cultivation. The value of the American method of "dry-farming" as applied to *rabi* cultivation was demonstrated. Certain foreign varieties of ground-nut have proved superior to the indigenous kind, and are being widely distributed. It is regrettable that higher qualities of cotton, wheat, &c. do not always fetch correspondingly high prices, and the cultivators are therefore inclined to sacrifice quality to quantity. Again, cultivators are careless about separating varieties of seed. Manures received much attention, and the strength and lasting value of crude nightsoil were again made evident. The value of mineral manures was also proved, especially for cotton. There was a keen public demand for selected seeds, concentrated manures, and improved implements. There was a marked increase in demonstration work, and agricultural shows were more numerous than in 1908-9. An Agricultural Conference and Exhibition was held in Poona. A large number of bulletins and leaflets was issued. The mechanical and engineering branch continued operations with well-boring in Gujarat, and with trials of oil engines for water-lifting and cane crushing in the Deccan. Agricultural associations increased to 31. The new buildings of the Poona Agricultural College steadily progressed and were partly occupied. The students numbered 110, of whom 36 graduated.

*Eastern Bengal and Assam.*—A second Deputy Director was appointed during the year, but a further increase of staff is required. The raiyats are very conservative, and need advice and the demonstration of new methods. New crops and improved methods have been successfully introduced in the hill tracts, but the chief essential is to awaken interest in the teeming population of the plains. Attempts were made to increase the area under cotton. An Agricultural and Industrial Exhibition was held at Dhubri. There are two Agricultural Associations. Experiments were made at the seven agricultural stations with paddy, sugar-cane, jute, tobacco, potatoes, ground-nut, fodder crops, cotton, fruit trees, and manures. The Fibre Expert was again engaged in studying the races of jute with the view of improving the crop by raising and distributing improved seed. He further investigated the cause and possible prevention of "heart damage" in baled jute. The experimental cultivation of flax, *sann* hemp, and other fibres also received his attention. The Department continued its sericultural operations in three districts. The aim is to produce and sell seed guaranteed pure. Several agricultural shows were held, and bulletins and leaflets were issued. The laboratory at Dacca was completed.

#### CIVIL VETERINARY DEPARTMENT.

The Department has made very satisfactory progress, and further work cannot be undertaken without an increase of staff. Pathologists are needed to deal with the growing demands of the College laboratories for teaching and diagnostic work. A larger European staff, as well as a larger and more highly trained native subordinate staff, are greatly required. The total cost of the Department (Imperial and Provincial) was £137,000.

*Horse, Mule, and Donkey Breeding.*—In those districts of the Punjab, Baluchistan, the United Provinces, and Bombay, in which the breeding of equines specially flourishes, the entire control of horse, mule, and donkey breeding has been transferred from the Civil Veterinary Department to the Army Remount Department, the work of the former being confined to cattle. Outside these districts the Civil Department controls breeding operations of every sort. Government stallions are allotted only to selected districts, but the stallions provided in the non-selected districts, partly from District Board funds and partly from provincial revenues, aided by grants from the Government of India, are controlled by the Department. Of these, there were on the register, at the end of 1909-10, 71 horses, 105 ponies, and 100 donkey stallions, mostly located in the United Provinces and the Punjab. The district stallions covered 12,487 mares in 1909-10. A paucity of donkey stallions is reported from the Punjab, United Provinces, and N.W. Frontier Province.

*Cattle Breeding.*—Owing on the one hand to the decrease in the grazing areas and on the other to an increase in the more profitable occupation of cultivating crops, there has been a decline in cattle-breeding in most provinces. As regards bovines, veterinary operations are directed towards improvement of the breeds, investigation of diseases, inoculation, and maintenance of veterinary dispensaries. There were at the end of the year 58 Government bulls and 627 bulls owned by district boards, the great majority of the latter being in the Punjab. There were eight provincial cattle farms, viz., three in Bengal, one in Eastern Bengal and Assam, one in the United Provinces, one in Bombay, and two in the Central Provinces. The most important centre of cattle breeding is the Hissar Government Cattle Farm, in the Punjab. This farm contained 24 herd bulls and 1,217 cows, besides a large number of young stock and cultivation bullocks, and some mules, donkeys, and sheep. The aim is to maintain a herd of 1,200 cows, so as to meet present demands for ordnance bullocks and for bulls required by the districts and at the farm. A large number of cattle fairs and shows were inspected. Prizes are offered out of Imperial and local funds. Attempts are being made at Hissar and in other parts of India to improve the breed of sheep for both mutton and wool. To encourage the breeding of camels substantial prizes are being offered at some of the Punjab fairs.

*Horse and Cattle Disease.*—About two-thirds of the 236 reported cases of glanders were in Bengal. The extension of the Glanders and Farcy Act to all districts in Bengal should aid in the suppression of glanders and other scheduled diseases. Several provinces, and particularly Bombay, the United Provinces, and the Punjab, suffered losses from surra. Only 51 cases of anthrax amongst equines were reported in the whole of India; and of these, 22 occurred in Eastern Bengal and Assam.

Owing to the difficulty of collection, statistics of mortality from contagious diseases among cattle are defective. The number of reported deaths was 287,823, as against 401,139 in 1908-9. The deaths from rinderpest numbered 155,708, a decline of 82,666. More than one-third of these were in Madras, while Eastern Bengal and Assam again suffered severely. But in both provinces there was a great improvement on the previous year. Considerable progress has been made in breaking down the opposition of the people to inoculation, which was performed in 229,000 cases. The reported deaths from anthrax numbered 16,666, of which Madras contributed 11,968. Inoculation was performed in 3,239 cases. There were 39,423 deaths from hæmorrhagic septicæmia, chiefly in the Punjab (18,255 deaths), and 26,403 deaths from foot-and-mouth disease, which was widely prevalent. There were 11,934 cases of black quarter. The sera for inoculation were prepared at the Bacteriological Laboratory, Muktesar. The serum method is growing in popularity, and frequent and large demands for sera have continued in excess of the supply. Considerable progress has been made in the study of camel diseases. A further investigation of the curative treatment of surra has been most successful, 80 per cent. of the cases treated being cured.

*Subordinate Staff.*—The subordinate staff has been reorganised, but the establishment is below the sanctioned strength, as trained men cannot be obtained. Sixty-five veterinary inspectors and 688 veterinary assistants were employed in 1909-10. Of these, 517 assistants visited on tour 83,114 villages and dealt with 450,919 cases. The veterinary hospitals and dispensaries, at which 518,787 animals were treated during the year, numbered 408, an increase of 28 over 1908-9.

*Veterinary Instruction.*—The number of students who graduated in 1909-10 at the four veterinary colleges, viz., the Punjab, Bengal, Bombay, and Madras, and the Burma Veterinary School was 137, compared with 160 in 1908-9. There were 516 students under training at the close of the year. The Punjab College has the strongest teaching

staff and the greatest facilities for teaching, and it turns out one-half of the graduates. At present the classes are too large, and additions to the buildings are required. The Bengal College trains men for Bengal, Eastern Bengal and Assam, and Burma. The laboratories attached to the colleges were increasingly used. The demand for admission is very great in the Punjab and considerable in Bengal and Madras, but not so good in Bombay. The demand for vernacular trained men as veterinary assistants still continues, and the need for the establishment of a new vernacular college is more than ever apparent. The Government of India have taken over the "Journal of Tropical Veterinary Science" as a departmental publication.

#### IMPERIAL FOREST RESEARCH INSTITUTE.

The work of the Institute comprises tuition and research in silviculture, forest economy, zoology, botany, and chemistry. During 1909-10 investigations were undertaken in connection with working plans, teak reproduction, and forest grasses, while the Forest Economist was engaged in inquiring into the utilisation of many kinds of forest produce, such as woods for railway sleepers, street paving, paper pulp, and pencils and gum-resins. The prospects of establishing a bamboo pulp industry are promising. The Forest Chemist inquired into tannin extracts, the extraction of oil from various oil-seeds, and the preparation of turpentine. At the Imperial Forest College 56 students attended the Rangers' class.

#### ARCHEOLOGICAL DEPARTMENT.

The primary function of the Department is the conservation of monuments of historic and architectural interest under the Ancient Monuments Preservation Act, but exploration is undertaken so far as means and opportunity permit. In the United Provinces over £3,000 was spent in 1909-10 in the conservation of Muhammadan monuments at Fatehpur-Sikri, Agra, &c. Excavations at Bhita were continued. In the Punjab 24 of the more important Buddhist and Brahminical monuments have been declared "protected." In the North-West Frontier Province excavations at Shahji-ki Dheri in 1908-9 brought to light the great stupa (286 feet in diameter) of King Kanishka, which was found to enshrine a reliquary containing relics of the Buddha. In 1909-10 these relics were presented to a deputation of Burmese Buddhists and enshrined at Mandalay. In Burma action was taken to conserve further buildings in Mandalay and pagodas at Pagan. In Bombay Presidency a fine Buddhist *stupa* containing relics was excavated at Mirpur-Khas in Sind. Among the monuments in other parts of British India that were the subject of special attention, the most prominent were the following:—In Bombay Presidency, buildings at Ahmedabad, Bijapur, Champaner, Broach, and the Elephanta Caves; in Madras, Buddhist monastic remains at Ramathiratham; and in the Punjab, temples at Baijnath in Kangra and Jagatsukh in Kulu.

#### MEDICAL RESEARCH INSTITUTES.

In 1907 the bacteriological laboratories in India were placed on a definite footing, and the Bacteriological Department now comprises 12 appointments distributed among the institutions named below. At the Central Research Institute, Kasauli, the staff during 1909 conducted investigations into dysentery at Bombay, malaria in the Punjab, and other subjects, and published reports of the results. Short courses of instruction in clinical bacteriology and technique were given to 32 officers of the Indian Medical Service. The demand for curative sera and vaccines continued to increase. The Bombay Bacteriological Laboratory was, as usual, utilised for the work of the Plague Research Commission. Much work was done in connection with plague vaccines, which are prepared here for the whole of India, with disinfectants for killing fleas, and with poisons and other methods for destroying rats. During 1909 over 593,000 doses of anti-plague vaccine were issued. The staff of 111 persons, who are annually inoculated, escape plague infection. About 91,500 rats were examined for the Bombay Health Officer, and 9,600 were found to be infected with plague. Practical instruction in plague diagnosis and inoculation was given. A great deal of bacteriological work was done. At the King Institute of Preventive Medicine, Madras, much chemical and bacteriological work was carried out. Inquiries were continued regarding the town water supplies of Madras Presidency. Two memoirs or pamphlets bearing on medical research were issued in 1908.

## CHAPTER XIV.

## EDUCATION, LITERATURE AND THE PRESS.

(For further details see *Statistical Abstract for British India, Tables 105 to 116.*)

## EDUCATION.

*General.*—Educational institutions in India are of two classes :—

- (1) Those in which the course of study conforms to the standards prescribed by the Department of Public Instruction or by the University, and which either undergo inspection by the Department, or else regularly present pupils at the public examinations held by the Department or by the University. These institutions are called "public," but may be under either public or private management. To the latter class, for example, belong those "aided schools," receiving grants from Government or from local or municipal boards, which occupy so important a place in the system of Madras, Bengal, and other provinces.
- (2) Those which do not fulfil the above conditions, and are called "private."

The system of education operates, generally speaking, through three grades of institutions, viz. :—

- (i) Primary schools, which aim at the teaching of reading, writing, and such elementary knowledge as will enable a peasant to look after his own interests.
- (ii) Secondary schools, which are divided into English and Vernacular. Those in which English forms part of the regular course of study of all the scholars, or at least of all the scholars in the higher classes, are counted as English schools; if English is not taught, or is an optional subject only, they are reckoned as Vernacular.
- (iii) Colleges, the students in which, having passed the matriculation examination of a University, are reading for the examinations required for a degree.

In addition to these there are various institutions of a special character, such as technical schools teaching arts and industries, engineering, and other branches of applied science; law schools; medical schools and colleges; and normal schools for the training of teachers.

The general educational policy of the Government of India was declared at length in a Resolution published in March 1904, of which some account was given in the issue of this Statement for 1903-4.

*Madras.*—In the Madras Presidency steady progress was made during the year 1909-10. The total expenditure, direct and indirect, on education amounted to £795,950, the highest figure that has yet been attained in any one year. There was a further advance in the total number both of schools and of scholars. There were 1,179,048 scholars in all, or 79,433 more than in the previous year, an increase of over 7 per cent. The percentage of boys and girls under instruction to those of school-going age rose to 34·7 and 6·8 respectively. All classes of schools, both under public and private management, contributed to the increase. 136,407 boys and 16,160 girls were studying English at the close of the year. Of the classical languages Arabic maintained its position as the most popular; fewer pupils took up Sanskrit. The important changes in the arrangements for inspection mentioned in the last report, and in particular the provision of a separate assistant inspector for each district, enabled far more thorough control of the subordinate inspecting agency to be maintained. The staff of supervisors, whose pay was accepted as a charge upon provincial revenues last year, worked well. Elementary schools were kept under closer supervision, each receiving on an average four visits a year. Judged by statistics, elementary education may be considered to have made satisfactory progress during the year. Public elementary schools for boys rose in number to 23,260 (an increase of 712), and in attendance to 854,137 (an increase of 63,500 scholars). Improvement both in the number and the qualifications of the teachers is reported; 31,321 out of the 36,433 teachers employed in elementary schools held

certificates. Most of the inspectors are able to report that their efforts to introduce the new scheme of studies met with a measure of success, at any rate as regards the compulsory subjects, but there is still ample room for improvement in the quality of the instruction given. Municipal councils and local boards have been urged to take as many as possible of these elementary schools under their management. The question of opening elementary schools in villages where there are none is receiving attention, and Government will consider measures for assisting financially such district and taluk boards as cannot provide funds for the purpose. Reclassification of schools accounts for a slight decline in the number of secondary schools, but the figures of attendance in them rose from 95,765 to 101,082. A reform of the first importance, marking a new era in the history of secondary education in the Presidency, is the introduction of the new system of school-leaving certificates. This is an attempt to give a more practical turn to secondary education, and to remove the reproach that the teaching in secondary schools is little more than a system of cramming students for matriculation. The new scheme embraces a wider range of subjects than the Matriculation Examination of the local University, and guarantees not merely that a pupil has passed a certain literary test, but also that he has gone through a definite course of study, in a recognised secondary school, and, further, that his conduct has been satisfactory; school work done by the pupil from the fourth form upwards is taken into account, as well as the result of a public examination held at the end of the course. Students holding the completed school-leaving certificate will be eligible to proceed to the University intermediate course of study in an affiliated College; they will also be eligible for superior Government appointments. In the Arts Colleges, now numbering 31, some improvement was effected to meet the requirements of the new University regulations in respect of accommodation, construction of laboratories, and the supply of books, and 4 additional appointments in the Indian Educational Service, 3 in the Provincial Service, and 7 in the Subordinate Service have been created. There were no serious cases of breach of discipline in the Colleges. The University received a special grant of £1,000 from Government funds towards the expenses of a Committee appointed to inspect affiliated Colleges. What may be called the professional institutions, viz., the Law, Medical, and Engineering Colleges, and the Training Schools for Masters, maintained their efficiency.—Female education is still confined almost wholly to the elementary stage, but with this limitation a further advance was made, the number of girls under instruction being now 193,350; more than half of these were at mixed schools; 5,242 girls were in secondary schools, and 32 in Colleges.—Additional facilities were provided for Muhammadans; the number of institutions intended specially for them rose from 2,049 to 2,147, with 97,287 pupils, as against 87,025 the previous year. European education calls for no special comment; the numbers remained nearly stationary. The total expenditure on education was provided as follows:—From Provincial funds (in round figures) £275,300; local funds, £62,170; municipal funds, £20,450; fees, £232,600; other sources (including subscriptions, endowments, and the like), £205,430.

*Bombay.*—In the Bombay Presidency the year was marked by progress in all branches of educational work. Especially satisfactory is the extension of primary education. The total number of institutions has increased from 14,589 to 15,432, and the total number of scholars from 792,559 to 850,293. In public institutions, i.e., those under Government inspection, the number of male pupils rose from 607,537 to 653,704, and the number of female pupils from 108,176 to 116,731. The percentage of pupils under instruction to the general population was the highest yet recorded. As regards University examinations, the most noteworthy feature is the disproportion between the number of those appearing for the Arts degree and those of candidates for the Science degree; while 500 candidates were examined for the degree of B.A., only 17 sought the degree of B.Sc.; out of these, 331 and 14, respectively, were successful. When the plans at present under consideration for the improvement of Science teaching have been matured, more students will no doubt present themselves for examination in Science subjects. Important proposals for the revision of the University curricula were under discussion throughout the year, but no settlement has yet been arrived at. The total number of Arts Colleges remained the same, viz., 11, but the number of students continued to rise; there are now 3,034 in the Arts Colleges and 1,162 in the four Professional Colleges. As indicating the extent to which Government is interested in higher education in the Presidency it may be mentioned that 74 per cent. of the expenditure on affiliated Arts Colleges



and 98 per cent. of that on Professional Colleges is borne by Government. In secondary schools, also, the figures show an increase, the number of such institutions at work being 548, with 70,000 scholars, including more than 6,000 girls. As regards discipline, an improvement is reported; the issue of a Government Resolution on this subject (30th September 1908) appears to have had a beneficial effect; the year was not marked by any open displays of insubordination or disorderly conduct on the part of pupils in schools of this class.

In the field of primary education the great events of the year were the opening of 573 new schools, from a special grant of £7,600, and the improvements made in the pay of the teachers from a special grant of £9,600. The minimum pay of assistants had already been raised to Rs. 9; with the new grant it has been possible, among other concessions, to give those of five years' standing Rs. 10; to raise the minimum pay of trained headmasters to Rs. 12, and that of trained assistants to Rs. 11. These improvements have been hailed with joy, and it is hoped that means will be found before long to carry them still further. On the question of fees it is reported that, if full effect is given to the existing rules as to remission, the probability of any boys being prevented from attending school by inability to pay fees becomes very slight. The concessions now made in favour of the poor and backward classes are such that the increase in attendance resulting from the abolition of fees would probably be comparatively small and out of all proportion to the cost of recompensing District and Municipal Boards and the managers of private institutions for their loss. As regards female education, the figures for 1909-10 show the substantial increase of 8,278 in the attendance of girls in primary schools, the total for the whole Presidency being now nearly 110,000. Among Muhammadans increasing advantage is being taken of the facilities for education. There were 125,110 Muhammadan pupils under public instruction during the year under report, as against 114,762 in the previous year. The total expenditure on education in the Presidency rose from £786,870 in 1908-9 to £823,480 in 1909-10. More than one half of the increase was devoted to primary education.

*United Provinces.*—On the whole the record for the year under report was disappointing in the United Provinces. In spite of the strenuous efforts recently made to popularise elementary education in towns and villages, there was in 1909-10 a decrease of 460 in the total number of institutions, and of nearly 11,000 in the number of scholars. The decrease is common to both public and private institutions, the total number of scholars on the rolls at the close of the year being returned as 647,581. The falling-off is not attributable to curtailment of the amount spent, for the total expenditure, direct and indirect, on education from all sources amounted to £621,508, *i.e.*, about £58,000 more than in 1908-9 and £130,000 more than it was two years ago. Reasons for the apparent set-back are discussed in detail by the Director of Public Instruction. Previous to the last two years, he explains, there was a period of extension, during which all efforts were concentrated on increasing the number of schools and swelling the enrolment. The result was that schools were sometimes opened on too easy terms and without due regard to the areas which they would serve. There was, in fact, a good deal of educational jerry-building, and some local boards, in their desire to multiply the number of scholars, indulged in reckless expenditure. Now, nearly all boards have found it necessary to make a careful review of their resources and to cut down unprofitable expenditure, and there has been a fairly general process of weeding out of schools which, on a close examination, were found to be serving no very useful purpose. Another reason for the falling off in scholars is that stricter administration has operated to reduce the enrolment; fictitious entries in the registers have been expunged and habitual absentees have been struck off with greater vigilance and punctuality. It is further to be noted that the decline was not uniform throughout the province; a sudden shrinkage in the Benares division accounts for two-thirds of the total. The average of attendance showed marked improvement, rising in the Meerut division, for instance, from 71·3 to 77 per cent. As regards the higher education, the Allahabad University is now well on the way to possess suitable buildings of its own. The foundation-stone of the Senate Hall was laid during the year by the Lieutenant-Governor, and designs have also been approved for the University College and Library. The number of Arts Colleges remains the same, 31 for men and 4 for women, but in several important institutions, including Queen's College, Benares, the Muir Central College and the Christian College, Allahabad, the Canning College, and the Agra College, the staff has been strengthened. Much has also been done for the accommodation and equipment of colleges, especially on the science side. The number of

students rose by more than 5½ per cent., the bulk of the increase having taken place in aided colleges. There are now more than twice as many college students as in 1902. Oriental colleges rose in number from 7 to 13. The system of residential hostels continues to extend, the total number of college students who were boarders having increased from 1,296 to 1,378 during the year. In secondary education the number of scholars has increased; their attainments, however, leave much to be desired; the matriculation results were extremely bad, no less than 72 per cent. of the candidates having failed. In the examination for the school-leaving certificate, which was held for the first time during the year, more promising results were attained, 42 per cent. of the candidates being successful. In primary schools there were 443,000 pupils, as compared with 461,000 at the close of the previous year. The total direct expenditure on schools for Indian boys now stands at £101,330; a larger amount has been spent proportionately on each school, better salaries being paid, and more masters employed relatively to the number of pupils. Some progress in the supply of trained teachers is reported. There are now two training colleges for masters for native schools, as well as 6 normal schools and 106 training classes. In training institutions for native schoolmistresses the number rose from 217 to 281, and the work of the Government Female Normal School, Lucknow, and the Isabella Thoburn College is singled out for special mention. In female education, generally, there is little progress to record; the number of institutions rose, it is true, but the number of scholars on the rolls fell from 49,478 to 46,188. The decrease is due mainly to the exodus of girls from boys' schools: Indian parents do not, as a rule, take kindly to the idea of educating boys and girls together. Education of Europeans and Eurasians calls for no special comment. In the field of technical and industrial education good progress has been made; the carpentry school at Bareilly, the industrial school at Gorakhpur, the Weaving Station at Benares have been completed and equipped; the School of Design at Lucknow has also been completed, and among purely industrial institutions the Hewett Weaving School at Bara Banki has met with much success. A post of Director of Industrial Enquiries and Inspector of Industrial Schools has also been created. The total expenditure on education rose during the year from £563,495 to £621,508.

*Punjab.*—Judged by numerical tests the year has been one of unusual development in the Punjab. In practically all classes of institutions the numbers of pupils increased, the total increase being 19,855 males and 7,035 females. Hindus (including Sikhs) increased by 8·6 per cent. and Muhammadans by 8·1 per cent. The total number of scholars now stands at 329,466, representing 17·39 per cent. of the boys and 3·12 per cent. of the girls of school-going age. Agriculturists' children number 49·5 per cent. of the total in attendance at primary schools, and 24·6 per cent. of those in attendance at secondary schools. Expenditure on public institutions has increased by £18,940, or about 5 per cent., more than half of the increase coming from fees and other private sources. The Provincial Government contributed nearly £6,600 more than in the preceding year, and municipal expenditure on education has increased by 12 per cent. District Boards, on the other hand, spent a slightly smaller proportion of their funds on education. In the previous year some boards had forced the pace, and had started schools not only in advance of the demand but also without sufficient regard to their financial position. Primary education is already free for sons of agriculturists and for a number of other boys of the poorer classes, and it is held that the pressing need of the time is for better schools rather than for cheaper schools. The difficulty of recruiting good material for the teaching profession is being felt more acutely, and improvement of the staffs and of the school buildings, which are too often overcrowded, has not kept pace with the demand for education as shown in the growth of school attendance. "In education," writes the Director of Public Instruction, "it is quality rather than quantity that matters, and here it is to be feared that there are few signs of progress, owing to want of funds for buildings and teachers." As regards the important question of abolishing fees in primary schools, the number of children of school-going age in the province may be taken, roughly, as three millions, and if free and universal primary education were introduced it is calculated that the direct cost to the country would be at least £533,330, and with a consequential increase of normal schools and of the inspecting agency, might be expected to amount ultimately to a crore of rupees (£666,670). With the province in its present stage of development, it is unlikely that so large a sum could be raised by additional taxes without causing severe hardship and creating serious discontent. The conclusion of the Local Government, in their review of the year's report, is that the scheme for abolishing fees in primary schools was conceived in misapprehension of the true needs

of the situation in India, and in a mistaken belief in the analogy of that situation with the conditions prevailing in countries where compulsory education has been introduced. Collegiate education in the province is on a high level, and with stricter University control the standard of education in the affiliated colleges is steadily rising. Special efforts are being made to regulate examinations so as to exclude from college classes the unfit, whose presence acts as a drag upon the progress of the majority. There were 10 Arts colleges in all, as last year; the number of students in them rose from 1,860 to 2,022. Progress during the year has been greatest not in primary schools but in the secondary stage. The year's increase in pupils in high and middle schools is 14·2 per cent., as compared with an increase of 5·7 per cent. in primary schools. The total number of secondary schools for boys rose from 296 to 304, and the number of pupils rose by 10,182 to 71,784. Fees increased by £5,370, and defrayed 42 per cent. of the expenditure on this branch of education. The number of elementary schools conforming to departmental standards fell from 3,408 to 3,345; the closing of schools, however, has not prejudicially affected the attendance as a whole, the total number of pupils having risen by 8,506 to 158,312, whereas in 1908-9, when 76 new board schools were opened, the increase of pupils amounted only to 3,516. The supply of competent teachers still falls far short of the demand; out of 4,188 teachers employed in board primary schools, only 2,423 were trained men, and in aided schools trained teachers are rarely found. The fact is that the teachers' remuneration, though it is gradually advancing, has not yet reached the stage of attracting competition. The number of training institutions remains the same, the principal ones being the Central Training College, Lahore, six normal schools (including one for women), and the Sanawar class for European teachers. The statistics as to the education of Europeans call for no special remark. As regards female education, although the number of schools remained the same, there was a notable advance (15 per cent.) in the number of girl pupils. Especially satisfactory was the increase in the number of Muhammadan boys at public institutions; in the previous year it had risen by 2,396 to 89,564; in the year under review there was a further rise by 8,320 to 97,884. The percentage of boys of school-going age attending public institutions is now 11·3 for Muhammadans, 17·7 for Hindus, and 23·3 for Sikhs. The total expenditure on education in the province was £389,560.

*Central Provinces and Berar.*—The general conditions of the year in the Central Provinces and Berar were more favourable to the progress of education. In several important centres, notably Nagpur and Jubbulpore, plague interrupted the cold-weather session, seriously affecting the examination results; in other respects steady improvement is reported. Much of the activity in educational matters cannot, however, be accurately gauged at present, as it was devoted to a considerable extent to the discussion of schemes of far-reaching reforms, such as the improvement of secondary education; but among the important changes actually introduced during the year may be mentioned the revision of the curricula for middle and primary boys' schools, the initiation of a school-leaving certificate examination, the opening of a Government High School for Muhammadans at Amraoti, and the formulation of rules for grants-in-aid by local bodies to boys' primary schools in Berar. The question of moral and religious instruction in schools has also been under consideration. The number of pupils in all classes of institutions has for some years past been rising at a steady rate. There are now 3,793 schools and colleges, including those in Feudatory States, and 296,305 students, as compared with 3,651 institutions and 276,700 students in the previous year. The most noteworthy point is the increase of pupils in the secondary schools, viz., 2,651, and of public primary schools (125) and pupils (13,983), 32 additional schools and 3,300 additional pupils being credited to Berar. The number of students in Arts colleges rose from 457 to 479. Work in the colleges was much hampered by serious outbreaks of plague; 423 candidates entered for the University examinations and of these 187 were successful; of the latter no less than 121 were Brahmans. A far better tone prevailed in all colleges, and discipline was well maintained. The improvement is attributable in part to the system of residential hostels or boarding-houses. At Jubbulpore College the number of boarders rose from 74 to 82; in the Hislop College the hostels have been crowded and are almost self-supporting; in the Morris College a resident superintendent and a medical officer have been appointed, and the behaviour of the students is reported to be steadily improving. The Victoria College of Science secured affiliation up to the M.Sc. standard. The number of secondary schools in British districts rose to 389 for boys and to 39 for girls, with 50,536 and 2,309 pupils

respectively. The continued substantial increase in the number of boys in secondary schools is a striking indication of the widespread demand for English education and further satisfactory features are the readiness with which money has been subscribed for the erection of hostels in connection with high schools and the establishment at private expense of a large number of scholarships tenable by poor boys in the new Muhammadan High School. The University Matriculation results were deplorably bad, only 95 passing out of 200 candidates. The high percentage of failures is attributed partly to the frequent interruption of school sessions in late years by plague, partly to overcrowding of schools, especially in the larger towns, and lastly to the small proportion of certificated teachers. To remedy this last defect a regular training college, with a well paid staff of masters, has been set up at Jubbulpore. In regard to primary education the enthusiasm is not so keen, but it is growing, and though there are still many villages in the more backward districts where a good number of inhabitants would not be sorry if the village school disappeared, there is increasing evidence in rural tracts of a demand for schools which is larger than district councils and boards can meet. A scheme has recently been sanctioned which, it is hoped, will enable local bodies to open schools wherever they are wanted. The same steady increase in the number of scholars under instruction in primary schools occurred this year as in several preceding years; in particular the number of scholars of the Mahar and other low castes is advancing, though slowly. An interesting experiment has been tried in Ninar with a view to widening the area served by schools, feeder classes being established at private expense in villages situated too far from a primary school to admit of the attendance of small children; children thus attend the infant and first standard classes close at hand, and when they are of an age to walk two or three miles to school they join the second standard in the nearest primary school. Female education showed a slight advance, a noticeable feature being the increased number of girls in boys' schools; but even the most elementary education of girls is still terribly hampered by social custom. In all the number of girls' schools rose from 303 to 320, and of girl scholars from 16,576 to 17,526. The year was an eventful one in the annals of Muhammadan education in these provinces; the opening of the Government High School at Amraoti has already been mentioned; a separate Muhammadan normal school has been established, and an Urdu class is to be attached to the new normal school at Chandwa. The total expenditure on education, which for some years past has been showing a large annual increase, was slightly less than in 1908-9 and amounted to £185,040. The contribution from provincial and imperial revenues, however, rose to £72,780.

*Burma.*—The educational record of the province during the year was on the whole uneventful, and is aptly illustrated by the slight increase in the total number of pupils under instruction from 433,211 to 433,973. A reassuring measure of progress was secured in higher education, which was counterbalanced by a slight retrogression in respect of technical institutions and primary schools. The number of students enrolled at the two Arts colleges rose from 155 to 244, the highest figure yet attained; pending the solution of the standing problem of the establishment of an independent university for Burma, creditable results were achieved in the examinations held under the auspices of the Calcutta University. The popularity of athletics showed no diminution, and conduct was on the whole good. The number of secondary schools rose from 746 to 831, and of scholars from 67,830 to 74,547; an encouraging increase occurred in the attendance in the Middle Stage of Anglo-Vernacular schools. In the number of pupils receiving primary education a decline of about 7,000 is reported, some portion of which is accounted for by the raising of various Anglo-Vernacular schools from the primary to the middle grade; the greater part of the loss may perhaps be attributed to the fact that a large number of pupils passed over from the registered to the unregistered Vernacular schools. Private institutions of the latter class rose in number from 16,236 to 16,403, owing probably to the difficulty experienced by managers in meeting the requirements of the Education Department. There was a decrease of 409 in the total of girls under instruction, chiefly confined to the lower grades of female education; in Arts colleges the number rose from 7 to 12, and an increase is also recorded in the number of girl students in training schools. The number of European schools increased from 24 to 27, and the attendance in them from 3,135 to 3,222. The number of Muhammadans under instruction also rose by 1,198, and now stands at 12,981. There was an expansion, restricted chiefly to private institutions, in both schools and scholars belonging to the "special classes."

The total expenditure on education during the year increased from £262,120 to £284,734. Among the more important educational events may be reckoned the abolition of the itinerant teachers, the formation of governing bodies for High Schools taking the Matriculation of the Calcutta University, and the sanctioning of proposals for religious instruction in schools under public management.

*North-West Frontier Province.*—In the North-West Frontier Province the year was one of satisfactory progress. The number of primary schools rose by 13, and that of secondary schools by 2; and the number of scholars showed an increase in nearly all public institutions for general education. The figures were 21,462, as compared with 19,235 in the previous year. There was a noteworthy decrease of 57 in the number of private schools, and of 873 in that of their pupils; the decline may be attributed to the expansion of public primary schools and the growing demand for a sound and methodical school education. The total number under instruction, in public and private institutions combined, is returned as 30,045, against 28,891 for the preceding year. The one Arts college in the province, the second-grade Mission College at Peshawar, contained 19 students, a decrease of 3 on the previous year; the scheme for the opening of an Islamic College, which was under careful consideration, appears to command the hearty support of the public. Progress in secondary education is pronounced to have been eminently satisfactory; in primary schools, despite the decline in indigenous unaided schools, there was an increase of 1,473 in the number of pupils, and the percentage of boys of school-going age rose from 8·7 to 9·5. The number of girls under instruction increased from 3,151 to 3,456, and there were clear signs of a growing appreciation of the benefits of female education in the province. The Normal School at Peshawar succeeded in passing 25 out of 27 candidates for the Vernacular certificate; the number of students rose from 51 to 54, but the relative unattractiveness of the teaching profession militated against full advantage being taken of the opportunities offered by the school. The total expenditure of the year amounted to £20,306.

*Coorg.*—Expenditure on education in Coorg increased by £521 during the year, and the numbers attending public institutions rose from 5,316 to 5,731. Attendance in primary schools increased by 398. The percentage of pupils under instruction to those of school-going age was 14·17, as compared with 12·95 in the previous year. The educational institutions in the province were one training school, one upper secondary school (High School), and one lower secondary girls' school—newly started—at Mercara, one lower secondary school at Virajendrapet, and 87 primary schools. The number of pupils at the 28 private elementary schools rose from 476 to 604; in one of these institutions instruction in Sanskrit was added to the ordinary curriculum. There were one secondary and five primary schools exclusively appropriated to girls; the total number of girls under instruction rose from 1,554 to 1,758. The system of village school committees, or *panchayats*, was retained during the year.

*Bengal.*—Activity in educational matters was fully maintained during the year under review. The total expenditure from all sources rose from £963,330 to £1,005,912. Since 1905-6 the expenditure from provincial revenues has increased from £226,660 to £332,864. The number of boys under instruction was approximately 1,300,000, representing 33·2 per cent. of the total male population of school-going age. Primary schools for boys numbered 35,201, or 729 more than in the previous year. Efforts were made to improve the standard of teaching by bringing the training schools for Vernacular masters into contact with the training colleges in Calcutta and Patna. Of the 202 *guru*-training schools sanctioned under Government, 199 were open during the year. It is stated that while 1,182 *gurus* left the schools during the year with certificates of proficiency, the number of *gurus* actually employed in schools of all classes increased by 585 only—an unsatisfactory state of affairs for which the unremunerative character of the *guru's* work appears to be responsible. Expenditure on secondary education increased by £6,814, and the number of pupils in High Schools by over 4,000. A growing appreciation of the direct method of teaching English was manifested, for which credit is due to the Training Colleges for Indian Teachers. In collegiate education there was a remarkable increase in the number of students from 4,655 to 7,154, as a result of the very high percentage of success at the previous Entrance examination of the University of Calcutta. An imperial grant, the greater part of which was devoted on the advice of the University to the improvement of laboratories, was received for expenditure on private colleges. Eight additional appointments were sanctioned in the Indian Educational Service;

proposals for improving the prospects, both of this and of the Provincial Educational Service, were under consideration. By the end of the year, every Government College was under the control of a separate Governing Body. An increase of nearly 15,000 in the number of Muhammadans under instruction is reported; a new scheme of studies, embracing an 11-year course, was introduced during the year in the Calcutta and Hooghli Madrasas. As regards female education, there were 144,510 girls under instruction in primary schools, 149 at the collegiate school, and 35 at the Bethune College. The Diocesan Girls' School at Calcutta was returned as an Arts College during the year, this being now the second Female Arts College in the province. Government assumed the direct management of all the model primary girls' schools; 21 lower primary schools for peasant girls were established in the Presidency Division, and it is now proposed to start a few schools on similar lines for the exclusive benefit of Muhammadan girls. The most serious obstacles to the progress of female education continue to be the want of female teachers and the general indifference of the public. On European education £8,215 less was spent than in 1908-09, owing chiefly to a falling-off in the income from subscriptions and endowments. Under the revised code now adopted for European schools, four grades of schools are to be recognised, Elementary, Higher Elementary, Secondary, and Higher Secondary, opportunity being given to managers to raise the standard of efficiency in their schools so as to meet the requirements of the secondary grade. As regards professional education, the University Law College in Calcutta and the Patna Law College were opened during the year under review. The Government Weaving Institute at Serampore, started in January 1909, appears to be attracting working weavers. The number of hostels in the province increased from 445 to 534, and the number of inmates from 13,131 to 15,644; physical exercise and games are said to be growing steadily in popular favour, and some improvement in general discipline is noticed.

*Eastern Bengal and Assam.*—The Education Department was occupied during the year in advancing the schemes which have been framed for the improvement of all branches of education in Eastern Bengal and Assam, and no extensive development in policy took place. The total number of public institutions declined from 23,933 to 23,340, the decrease being practically confined to primary schools; but the number of pupils rose to 907,509, an increase of 3,736. The proportion of scholars to children of school-going age now stands as follows:—Boys, 35·09 per cent.; girls, 5·72 per cent. The total expenditure on public education fell from £442,290 to £439,601. With regard to collegiate education, the number of institutions remained at 11, of which five were of the first grade. Considerable progress was made with the improvement of college buildings and equipment; and the number of students rose from 1,329 to 2,034. An important development was the establishment of a Muhammadan hall for college students at Dacca. The number of secondary schools remained at 1,205; the number of pupils in them rose from 132,151 to 140,985. The principal features of the year were the introduction of the new curriculum for English schools and the special inspection of middle schools, from which beneficial results are expected. The total number of pupils in High Schools was 56,982, an increase of 9·7 per cent. on the previous year, 40 per cent. of the increase being accounted for by Muhammadans. The number of primary schools for boys is reported to have decreased from 18,041 to 17,325, and that of pupils from 663,819 to 650,564; the reasons assigned for the decline are the system of concentration of grants pursued by the boards, and the correction of the figures of increase returned for the previous year, particularly in regard to schools of the *Maktab* type. The proportion of trained teachers in boys' schools in the province rose slightly from 13·4 to 14·1 per cent.; the ratio is sufficient to indicate the magnitude of the work still to be accomplished. With regard to female education, the number of girls' schools rose from 4,121 to 4,231, and that of their pupils from 86,644 to 92,404; of the total number (122,173) of women and girls under instruction, 48·1 per cent. were Muhammadans. A satisfactory feature of the year was the cessation of political agitation in schools, and a consequent improvement in general discipline. The encouragement of physical training and games was maintained with good results. The number of hostels for students increased from 214 to 269; capital expenditure from Government funds on hostel construction amounted to £3,467, and some assistance in this important field of educational activity was derived from private co-operation.

## LITERATURE AND THE PRESS.

**Bombay.**—In Bombay 2,073 publications were registered, as compared with 1,676 in the previous year. The total increase is made up chiefly of an increase of 202 under the heading Miscellaneous and 100 under Poetry. In Arts the number has risen from 66 to 85; in Biography from 21 to 33; in Drama from 39 to 50; in Fiction from 56 to 74; in Politics from 20 to 31; in Science (mathematical) from 9 to 23. History, Language, and Medicine show slight increases, whilst the numbers under Law, Philosophy, Religion, and Natural Science have fallen. Books published in English numbered 113; noteworthy among them were *English Impressions*, an excellent series of notes on certain aspects of English life, by N. G. Welinkar; a translation of *Merope*, by E. R. Sahiar; and a useful compendium entitled *The Emporium of Commercial Training*, by K. N. Banarji. Among books in Gujarati may be mentioned *Acharya-darsana*, by V. K. D. Shyama Dhruva, a drama depicting the struggle between orthodoxy and reform in Hindu social and domestic life; and *Zoroastrian Lectures and Sermons*, by J. J. Modi. 333 books were published in Marathi, including an admirable life and appreciation of Moropant, by L. R. Pangarkar, B.A. Two Shakespearian adaptations appeared in Marathi drama, one—the more creditable production—being based on *The Merchant of Venice*, the other on *Romeo and Juliet*. A commendable example of indigenous drama is *Maharana Pratapsinh*, a play full of heroic incidents relating to the stubborn resistance offered by Pratap to Akbar. Marathi fiction is represented by twelve works, among which *Jeevanasandhya*, a historical romance also dealing with the conflict between Akbar and Pratapsinh, has a high degree of merit.

Other Marathi works that call for remark are a well-written adaptation of *Women's Worth and Work*, by S. D. Deshmukh, and a beautiful elegy entitled *The Tears of a Father*, by N. W. Tilak, a modern poet of some note. The only Marathi contribution to science was a well-arranged volume by B. G. Deshpande, describing the work of the Forest Department. Political treatises in Marathi were for the most part devoted to the advocacy of extreme views.

As regards newspapers, there was, on the whole, a marked decrease in the circulation of extremist organs. The number of newspapers and periodicals treating of current political topics fell from 178 to 173; of these 80 were conducted by Brahmins, 46 by other Hindus, 22 by Parsis, 12 by Muhammadans, and 13 by Christians. During the year the editors of the *Kal* and the *Pratod* were convicted and sentenced for sedition, and proceedings were taken against the *Hindu Punch* which resulted in the confiscation of the press at which the paper was published.

**Madras.**—In Madras the literary activity of the previous year was fully maintained. The number of books and periodicals published was 2,740, as compared with 2,207 in 1908-9; the increase is marked, though it may be due to some extent, as in 1908, to a more strict enforcement of the rules regarding registration. Religion continues to be the dominating force in indigenous literature; it was the subject of 971 works. Of the rest, 254 related to law, and 234 to languages, while 177 works were classed as poetry and 79 as drama. On politics there were only 7 publications, and on history 41. Among individual works may be mentioned *Messages of Uplift for India*, by Saint Nihal Singh, containing interesting comparisons between Indian ideals and those of America and Japan; *The Message of the East*, a tract on the influence of Indian art, by Dr. A. K. Coomaraswami; and a close translation in Telegu of Mill's *Essay on Liberty*. *The Twentieth Century Tamil Dictionary* is a useful compilation. As regards newspapers, the chief topics of interest were the passing of the Reform Scheme through Parliament, the treatment of Indians in South Africa, and the recommendations of the Royal Commission on Decentralisation. The anarchist outrages that occurred during the year were made the object of the severest condemnation.

**United Provinces.**—The total number of publications registered in the United Provinces rose from 1,433 to 1,988, the increase being shared by almost every branch of literature, although there was a proportionate falling off under the head of religion, due in part to a satisfactory decline in religious polemics. There was a dearth of Islamic literature during the year, which is attributed to the expenditure of Muhammadan energy in other directions; Arya Samajists continued to carry on a vigorous literary campaign. The historical work of the year was of little or no interest; among biographies may be mentioned an excellent edition of the *Bhaktamala* of Nabhadras Swami on the Vaishnavite saints, composed in the seventeenth century.

Some notable reprints of texts and commentaries appeared during the year, the most important of which were the original Sanskrit text of the *Yājñavalkya Smṛiti* and the opening number of a series entitled "The 108 Upanishads." Books in verse rose in number from 403 to 519, but the increase was not accompanied by any improvement in quality, and was chiefly marked by a preponderance of erotic interest, which equally pervades the bulk of the novels published during the year and not infrequently degenerates into an ultra-Gallic lubricity. The standard of dramatic works continued low. Two legal publications deserve mention: Raj Kishore's *Index of Cases Judicially Noted* is a work of merit, while C. D. Bauerji's *Commentary on the Provincial Insolvency Act* is the first contribution to that branch of law from these provinces. The number of newspapers and periodicals rose from 114 to 123; the general tone of the press showed considerable improvement. It was found necessary to institute proceedings under section 124A of the Indian Penal Code against the editor of the *Swarajya*.

*Punjab*.—The number of publications received for registration in the Punjab rose from 1,185 to 1,191. The number of books on religious subjects was outstripped by that of poetical works, which rose from 292 to 332; the quality of the latter was poor, but their tone was for the most part unobjectionable. Of political biographies, *Guru Gobind Singh*, by Lachhman Singh, and an Urdu reprint of Lajpat Rai's *Shivaji*, are productions of some merit; it is satisfactory to note that the number of biographical works is increasing yearly. There was a decided improvement in the standard of the novel during the year, although the translations of European novels were few in number. An adaptation of one of Tolstoy's works by Chandu Lal may be mentioned. Historical romances maintained their popularity. In Art a noteworthy achievement is Pandit Vishnu Digambar's Hindi work entitled *Naradiya Shiksha*, an orthography of sound of considerable value to students of Hindu music, in which there are signs of a revival. Newspapers numbered 265, of which 24 were published in English and 206 in Urdu. Proceedings under the Newspapers (Incitement of Offences) Act had to be taken against one newspaper, the *Tilak*, of Hoshiarpur; and the editors of the *Peshwa*, the *Sahaik*, the *Bedari*, and the *Akash* were prosecuted under section 124A of the Indian Penal Code.

*Burma*.—Out of 246 books published during the year in Burma, 121 were devoted to religious subjects. Ledi Sayadaw was again prominent as an able expounder of Buddhist teaching. Only three poetical works appeared during the year, of which *Muslim Chivalry*, by Y. Parkinson, is a work of more than ordinary merit. Some useful exploration in the fields of Shan folklore was accomplished by the Rev. C. B. Antisdel and the Rev. Ba Te. There were two examples of original fiction, both of a disappointing character. Owing to a more careful system of classification, the number of dramatic works showed a decrease from 68 to 19; this class of literature, however, appears to constitute the most popular form of reading among the present-day Burmans, and it is to be regretted that its standard is by no means high. There were 44 newspapers published, of which 24 were in English and 20 in the Vernacular.

*Bengal*.—The increase in the literary output of Bengal was maintained during the year under review, 3,837 publications having been registered, as compared with 3,417 in 1908 and 2,995 in 1907. Of these publications 2,655 were books, 2,187 being original works and 468 re-publications or translations. Biographies of the first class were chiefly concerned with the leaders of the social and religious movements which have passed over the country since the twelfth century of the Christian era. In history a mass of indigenous material hitherto unused was laid under contribution by the new spirit of research. A second part of the *Bhāsā Tattva*, by Srinath Sen, dealing with the philology of the Bengali language, was produced during the year. In poetry, a noteworthy edition of *The Love Poems of Vidyapati*, published under the auspices of the Sahitya Parisad of Calcutta, may be mentioned, besides a number of collections of Bengali lyrics of average merit. A feature of the year was the increase in the number of publications dealing with questions of caste.

Religious works, dealing with every variety of religion and written in nearly every vernacular found in the province, constituted as usual the bulk of the year's literature. Except for Government publications, scientific activity was concerned less with the science of the West than with that of the ancient Hindus. Two works on Art deserve notice: *Bhārat Silpa*, a treatise advocating a revival of classical Indian art, and *Sangit Chandrika*, a work on Hindu music. Among dramatic productions may be mentioned *Sāsti ki Sānti*—Punishment or Peace—a social drama dealing with the Hindu widow



re-marriage question, and an adaptation of *Measure for Measure*, besides various historical and religious dramas of some interest. In fiction, the continued demand for stories of a sensational description has reacted unfavourably upon the standard of the general output; but *Gorá*, a serial novel of unusual length, contains a subtle analysis of the present condition of the country. Among the chief topics discussed in the press during the year were the Press Act, the condition of Indians in South Africa, the relations between the police and the people, and the treatment of under-trial "political" prisoners.

*Eastern Bengal and Assam.*—In Eastern Bengal and Assam the number of books registered fell from 223 to 201. Some reaction was noticeable from the extremist tendency displayed in the political writings of the previous year. There were signs of an awakened interest in literature on the part of the Muhammadan community.

*Other Provinces.*—The publications issued in the Central Provinces were not of any special interest. There were no publications in Coorg during the year under review.

## CHAPTER XV.

## LOCAL SELF-GOVERNMENT.

GENERAL.  
MUNICIPALITIES.DISTRICT AND LOCAL BOARDS.  
PORT TRUSTS.

GENERAL.

Local self-government, municipal and rural, in its present form is essentially a product of British rule. Beginning in the Presidency towns, the principle made little progress until 1870, when it was expressly recognised by Lord Mayo's Government that "local interest, supervision, and care are necessary to success in the management of funds devoted to education, sanitation, medical charity, and local public works." The result was a gradual advance in local self-government, leading up to the action taken by Lord Ripon's Government in 1882-84, and to various provincial Acts passed about that time, which greatly altered the constitution, powers, and functions of municipal bodies—especially by widely extending the elective system—and which still form the basis of the provincial systems in force. At the same time the resources and financial responsibility of municipalities were increased. Municipal committees now exist in most towns of any importance. In the rural districts local and district boards were established by Acts of 1883-5. The local boards are under the control of a general district board, or send delegates to a district council. The systems vary in different provinces, as a large discretion is left to the provincial governments. The elective principle has been adopted in varying degrees. There is also a smaller number of non-elective local bodies discharging similar duties in towns other than constituted municipalities and in cantonments. In the Punjab, United Provinces, Burma, Bombay, Central Provinces and Berar, and North-West Frontier Province certain provisions of the Municipal Acts are extended to small towns which are not fitted for the full responsibilities of municipal government, but nevertheless require organised measures for sanitation and other purposes. These, which are described as Notified Areas, must not be purely agricultural, and must not have a population exceeding 10,000. In 1909-10 there were 179 such areas with an aggregate income of £74,422. In the chief ports specially constituted boards or "trusts" have charge of harbour works, port approaches, and pilotage.

## MUNICIPALITIES.

(For further details see *Statistical Abstract for British India, Tables 101 to 103.*)

*General.*—The municipal bodies exist, raise funds, and exercise powers under enactments which provide separately for the special requirements of each province and of the three presidency capitals, Bombay, Calcutta, and Madras. In the municipalities as a whole about half of the members are elected by the townsfolk under legal rules; in every town some, and in a few minor towns all, of the members are appointed by the Government. In almost every municipal body one or more Government officials sit as members. The number of Indian and non-official members, however, in every province largely exceeds the number of Europeans and officials. The municipal bodies are subject to Government control in so far that no new tax can be imposed, no loan can be raised, no work costing more than a prescribed sum can be undertaken, and no serious departure from the sanctioned budget for the year can be made, without the previous sanction of the Government; and no rules or byelaws can be enforced without similar sanction and full publication.

There were 717 municipalities at the end of 1909-10, containing within their limits nearly 16½ million people, or 7 per cent. of the total population of British India. Generally speaking, the income of municipalities is small. In 1909-10 their aggregate income amounted to £4,307,000, excluding loans, sales of securities, and other extraordinary receipts. About 39 per cent. of the total is provided by Calcutta, Bombay, Madras, and Rangoon. Loans are incurred for water supply and drainage schemes, the cost of which is too large to be defrayed from ordinary revenues. Considerable loans have been obtained in the past from Government, but in 1909-10 specially heavy loans were raised in the market. The sources of municipal revenue, apart from loans and Government contributions, fall mainly under the two heads, "Taxation" and "Municipal Property and Powers apart from Taxation." Of the taxes the most important are octroi duties, levied in the United Provinces, the Punjab, the North-West Frontier Province, the Central Provinces and Berar, and Bombay, and the tax

on houses and lands, which holds the chief place in the other provinces, as well as in Bombay city, and also contributes a considerable share of the receipts in the provinces named above. These two taxes each yield about one-fifth of the total income of municipalities. There are also water, conservancy and lighting rates, tolls on roads and ferries, taxes on animals and vehicles, and in some places a tax on professions and trades. The other sources of income include cattle-pound receipts, rents of municipal property, such as markets and slaughter-houses (an important item in Burma), and fees of various kinds. The objects on which municipal funds are spent are, mainly, water supply, hospitals, vaccination, conservancy, drainage, lighting, fairs and markets, and education.

The interest in municipal elections, and in municipal affairs generally, is not usually keen, save in a few cities and large towns; but, as education and knowledge advance, interest in the management of local affairs gradually increases. In most provinces municipal work is fairly well done, and municipal responsibilities are, on the whole, faithfully discharged, though occasional shortcomings and failures occur. The tendency of local bodies, especially in the smaller towns, is to be slow in imposing additional taxes, in adopting sanitary reforms, and in incurring new expenditure. Many members of municipal bodies are diligent in their attendance, whether at meetings for business or on benches for the decision of petty criminal cases.

The following table exhibits the constitution of the municipal committees in the chief provinces in 1909-10:—

	Number of Municipalities.	Total Number of Members.	By Qualification.			By Employment.		By Race.*	
			Ex-officio.	Nominated.	Elected.	Officials.	Non-Officials.	Euro-peans.	Indians.
<i>Presidency Towns, &amp;c. :—</i>									
Calcutta	1	50	—	25	25	8	42	22	28
Bombay	1	72	—	16	56	6	66	18	54
Madras	1	33	1	12	20	8	25	10	23
Rangoon	1	26	—	6	19	5	20	13	13
<i>District Municipalities :—</i>									
Bengal	130	1,761	145	719	897	252	1,509	245	1,516
Bombay (including Sind)	157	2,172	418	888	866	506	1,666	146	2,026
Madras	61	954	74	416	464	188	766	152	802
United Provinces	87	1,196	143	142	911	250	946	204	992
Punjab	109	1,248	230	426	587	250	998	103	1,140
North-West Frontier Province	8	139	42	97	—	42	97	21	118
Central Provinces and Berar	57	763	29	252	482	176	588	74	689
Eastern Bengal and Assam	51	664	70	257	337	137	537	69	595
Burma	44	657	169	322	66	192	565	151	406

*Bengal.—Calcutta.*—The Calcutta Corporation consists, under the Act of 1899, of 25 elected commissioners and 25 appointed—four by the Bengal Chamber of Commerce, four by the Calcutta Trades' Association, two by the Port Commissioners, and 15 by the Local Government. There is a General Committee, with executive powers, consisting of the chairman and 12 members, who are selected from among the commissioners. Progress was made in 1909-10 with great schemes of water supply and drainage (*see* Chapter XVI. under "Sanitation"). With the growth of prosperity the valuation of the city has increased by 52 per cent. in ten years to £2,225,404, and the revenue shows great elasticity. Retrenchments have been effected in establishment and other charges, and the financial position is stronger than for many years. The revenue collected in 1909-10 amounted to £537,893, while the expenditure was £476,640. Of the income, about 73 per cent. is derived from the consolidated rate, and about 11 per cent. from taxes and licences; of the expenditure, more than one-third is for loan charges. A loan of £400,000 was raised, and the debt at the close of the year amounted to £3,173,500. The interest and sinking fund charges on 31st March 1910 were £169,693. Byelaws relating to plumbers, markets, slaughter-houses, house drainage, and cattle sheds were issued. The building regulations have been amended. Progress in the improvement of bustees was well maintained. The extension of the Sir Stuart Hogg market, which cost £77,000, has been opened. It is proposed to lay out a public park in the northern part of the city. A very large scheme for clearing congested areas and making street improvements has received general sanction, and a draft bill giving effect to the proposals has been prepared.

*Interior of Bengal.*—General elections were held in 53 out of the 130 municipalities. The percentage of voters varied from 93 to 3 per cent. A material extension of the

elective system was made in 18 municipalities. The average attendance of members at the meetings was fairly satisfactory. The incidence of municipal taxation for the whole province averaged 2s. 1d., showing a small increase over that of 1908-9. Incidence varied considerably. There were revisions of assessments in 65 municipalities. The rate on holdings was in force in 54, and the tax on persons in 68, municipalities, while in parts of six both were in force. The total revenue of the Bengal municipalities amounted to £358,510, and the ordinary expenditure to £349,530. Thirty-eight municipalities were in debt at the close of the year to a net amount of £266,500, more than half of which was on account of Howrah, which adjoins Calcutta. A free hand in respect of their budgets has been allowed to four large municipalities as an experiment, while other municipalities will receive general official direction rather than explicit direction.

*United Provinces.*—A number of changes in the working of municipalities have been introduced as a result of the report of the Decentralisation Commission. In 17 municipalities the boards have elected non-official chairmen to succeed chairmen. Polls were held in 63 municipalities, and 56 per cent. of the electors voted. The income of the municipalities was £447,596, of which about £234,233 was derived from octroi duties. The incidence of taxation as a whole rose to about 2s. 1d. per head. The expenditure amounted to £449,882. During the year there was an increase of 6 per cent. in the expenditure on education. In consequence of the report of the Special Committee on Municipal Taxation, published in June 1909, the question whether octroi should be replaced by other sources of taxation is under consideration. Eight boards issued new building regulations. The draft of a new municipal bill is in preparation.

*Punjab.*—The powers of self-government provided in the municipal Acts were granted more freely in the Punjab than elsewhere. Owing, however, to the unsatisfactory working, lack of equity in assessing taxation, and expensive machinery of the smaller municipalities which have insignificant incomes, many municipalities have been converted into notified areas. This process continued in 1909-10, and at the end of the year there were 109 municipalities, besides 95 notified areas, in which cheapness and simplicity of administration are the chief requisites. The system by which each religious community elects its own representatives has proved successful in some towns. Except in Jullundur and some towns in the Delhi Division, elections excited very little interest. The working of the committees at meetings was on the whole unexceptionable. The total income of the year amounted to £389,509, and the total expenditure to £366,541. Octroi, the receipts from which improved, accounts for 60 per cent. of the total income. There appears to be no immediate likelihood of abolishing octroi, possible substitutes, such as the house tax, being highly unpopular. The machinery of collection, however, is being improved, and the cost of collection has fallen in several places. In the municipalities that were converted into notified areas a house tax was generally substituted for octroi. The average incidence of taxation was 2s. 11d. per head.

*North-West Frontier Province.*—One municipality was converted into a notified area. The ordinary income of the municipalities amounted to £41,046, of which 60 per cent. was derived from octroi duties. The cost of collection of octroi duties was about 11 per cent. of the income therefrom. The elective system is not in force in this province, and members are nominated for three years.

*Burma.—Rangoon.*—The ordinary revenue of the Rangoon municipality rose to £234,270, while the expenditure decreased to £213,630. There was smaller expenditure owing to the reorganisation of establishment, smaller cost of maintenance of water and drainage works, &c. The financial position of the corporation is now more assured. The year showed continued activity in the laying out and practical rebuilding of the town. Milk shops and coolie barracks are being taken in hand, and markets improved. The incidence per head of direct taxation was 15s. 6d. The outstanding loans at the end of the year rose to £1,111,000, including the reclamation works loans of £303,300.

*Interior of Burma.*—In some municipalities members had to be nominated owing to lack of candidates for election. Plague had again a serious effect on the finances, and expenditure in other directions had to be postponed. A recurring contribution of £20,000 is granted from imperial revenues to meet special sanitary expenditure in the province. Municipalities have been generally administered with efficiency, and most of the members take an interest in the affairs of the towns. Specially good work has

been done in Moulmein. The aggregate income, excluding debt heads, was £239,147, of which £98,098 came from rates and taxes, and £91,365 from markets and slaughter-houses. The expenditure amounted to £233,269. The average incidence of taxation rose to 2s. 10d. per head of population. The Burma Municipal Act was amended. Further amendments are proposed to deal better with the erection and demolishing of buildings.

*Central Provinces and Berar.*—The elective principle is in force in all but seven of the 57 municipalities. The interest taken in elections varies greatly in different places. The attendance of members was generally satisfactory. The total income of the municipalities was £162,045, over 60 per cent. of which was derived from rates and taxes. The expenditure amounted to £145,080. The average incidence of taxation was about 2s. 3d. per head. Measures are being taken to render the levy of octroi more uniform in the Central Provinces. Octroi is not levied in Berar. Of the 44 municipalities in the Central Provinces proper, no less than 14 subsisted during 1909-10 on revenues smaller—in most cases considerably smaller—than £700. In Berar municipal taxation is especially low, the incidence being only 1s. 5d. per head. The total indebtedness of the municipalities was £108,981, over half of which was owed by Nagpur and Jubbulpore. The financial position of the borrowing municipalities is sound.

*Eastern Bengal and Assam.*—Keenly contested elections took place in 10 municipalities. The returns of attendance at meetings indicated an increase of interest in municipal affairs. The income of the 51 municipalities in 1909-10 was £111,848, and the average incidence of taxation was 2s. 1d. per head. The tax on holdings was in force in 17 towns, the tax on persons in the remainder. The expenditure amounted to £123,189. The net indebtedness at the end of the year was £36,051, the greater part being on account of Dacca and Narayanganj. Poor collections and bad management are the most common faults in municipal administration.

*Madras.—Madras City.*—The income in 1909-10, excluding loans and advances, amounted to £169,065, and the expenditure to £189,779. The average incidence of taxation was about 4s. 2d. per head. The principal taxes are one of 10 per cent. on the annual value of buildings and lands, a water and drainage tax of 6½ per cent. levied on the same basis, and a lighting tax of 1½ per cent., besides taxes on animals and vehicles, &c. The outstanding debt of the municipality at the end of the year was £541,750, against which must be set a sinking fund of £161,370.

*Interior of Madras.*—The number of municipal councils in the mufassal was 61, in 58 of which the elective system was in force. No candidates appeared for four elective seats. Out of 1,638 meetings 120 were adjourned for want of a quorum. Nine councils consisted entirely of Indian members. The income increased to £333,380, and the average incidence of taxation was nearly 1s. 9d. per head. The total expenditure was £344,235. The outstanding debts at the end of the year amounted to £185,925, against which there was a sinking fund of £12,420. A fair standard of efficiency was maintained in some municipalities, but in seven (including Tanjore, Vizagapatam, and Salem) the administration left much to be desired.

*Bombay.—Bombay City.*—Bombay City is administered by a corporation of 72 councillors, of whom 16 are nominated by the Government, 36 are elected by the ratepayers, 16 by the justices, 2 by the Chamber of Commerce, and 2 by the University. The ordinary income in 1909-10 was £747,591 and the expenditure £759,803. There was a further large increase of receipts, resulting from the general expansion of the city and the rise in values of rateable properties. There was, however, a deficit in the year's working owing to expenditure on improvements, &c. It is thought that expenditure on street improvements and on establishments may be curtailed, while property taxes may be made to yield a larger amount. During the year the general tax was raised from 8 to 9½ per cent. The average incidence of taxation per head was 13s. 1d. At the end of the year the outstanding debt was £3,660,547, and the invested sinking fund £629,309. The financial position of the municipality is assured beyond question. The expenditure on plague preventive measures from the outbreak of the epidemic in 1896, to the end of March 1909, has amounted to £482,038, of which £96,700 was received from the Government, and the remainder met partly from loans and partly from municipal revenues.

The capital expenditure of the Bombay City Improvement Trust, which is engaged in reclaiming land, clearing slum areas, laying out new streets, erecting chawls, &c., amounted to £450,764. During the year the large area of 1,100,000 sq. yds. of land was acquired, and good progress was made in erecting chawls. A sterling loan of £566,600 was raised in 1909-10, the amount of the loans being thus brought up to

£2,667,000. The year's revenue, derived from the municipal contribution and receipts from investments, rents, and other property, amounted to £142,684, and the expenditure, exclusive of capital charges, to £139,177.

*Interior of Bombay.*—During 1908-9, with the object of quickening interest in local affairs, Government relaxed its control by empowering 87 municipalities not specially excepted to select non-official presidents and by conceding to five city municipalities the privilege of electing two-thirds of the number of their councillors on their agreeing to appoint a Government servant as chief officer of the executive. In 1909-10 this privilege was extended to 34 additional municipalities. On the whole, municipal administration, where not impeded by faction, was satisfactory. Gross inefficiency, however, marked the administration in Ahmedabad, Ratnagiri, and Kaira, and in the last of these the municipality was suspended. The aggregate income rose by 13 per cent. to £538,321, and the aggregate expenditure to £564,724. Octroi receipts rose materially owing to a good season and a large number of marriages. The accounts of most of the municipalities were audited by the Local Audit Department, and only in one case were serious irregularities exposed.

#### DISTRICT AND LOCAL BOARDS.

(For further details see *Statistical Abstract for British India, Table 104.*)

*General.*—In rural areas district and local boards perform the duties assigned to municipalities in urban areas. In each district there is a board subordinate to which are two or more local boards. The boards contain a varying proportion of elected members. Elected members form a large proportion of the boards in the United Provinces and the Central Provinces and Berar. On all boards the great majority of members are Indians. The total number of district boards in 1909-10 was 197, and of local boards 517. There are no boards in Burma. The following table shows the general constitution of the boards in each province, the figures in italics relating to local boards, the others to district boards:—

Province.	Number of Boards.	Total Number of Members.	By Appointment.			By Employment.		By Race.	
			Ex-officio.	Nominated.	Elected.	Officials.	Non-Officials.	Europeans.	Indians.
Madras	23	702	109	272	321	275	427	134	568
	83*	1,219	85	1,108	28	364	855	84	1,135
Bombay	25	540	5	295	240	135	405	79	461
	212	3,103	20	1,698	1,385	632	2,471	156	2,947
Bengal	29	598	163	185	250	200	398	181	414
	78*	942	68	611	263	128	814	85	857
United Provinces	48	895	1	274	620	247	648	101	794
Punjab	29	1,115	244	512	359	258	857	74	1,041
	17	309	17	108	184	17	292	2	307
N.-W. Frontier Province	6	216	49	167	—	49	167	25	191
Central Provinces and Berar	21	502	8	129	365	74	428	16	486
	75	1,266	17	337	912	137	1,129	6	1,260
Eastern Bengal and Assam	14	283	73	108	102	99	184	53	230
	62*	685	104	268	313	138	547	144	641

\* Besides 389 union committees or *panchayats* (with 3,739 members, of whom only 48 are Europeans) in Madras, 52 in Bengal, and 9 in Eastern Bengal and Assam.

The funds of district and local boards are largely derived from rates or cesses levied upon agricultural land over and above the land revenue. Up to 31st March 1908 the proceeds of these rates were included in the general revenues, and assignments from them were made to the boards. From April 1908 the accounts of the boards have been excluded from the general provincial accounts, and their funds treated independently in the same way as municipal funds. The new system remedies certain practical inconveniences and gives the boards freedom of reappropriation. The Government of India now make a grant-in-aid to the funds of all boards equal approximately to one-fourth of their income from rates or cesses levied on land. The chief object is to enable the boards to provide improved roads and other local needs. The boards have also other sources of income, such as cattle pound receipts (except in Madras), educational receipts, medical receipts, tolls from ferries and bridges, and contributions for specific purposes from the provincial funds. Their

aggregate income (excluding debt items) in 1909-10 was £3,226,000. The expenditure of the boards is chiefly for roads and bridges, hospitals, vaccination, conservancy, drainage, water supply, primary education, markets, and resthouses.

*Bengal.*—In Bengal, the attendance at the district, and still more at the local board, meetings, was not very satisfactory, though there was absence of friction in working. Little interest was shown in elections. Efforts are to be made to encourage the growth of village organisation in the form of union committees in suitable localities. The ordinary income of the district boards was £416,470. The receipts from provincial rates, £240,653, were larger, while those from civil works rose to £88,936. The expenditure, excluding debt, was £439,085, of which £79,367 was spent on education and £277,094 on civil works, chiefly roads and bridges. Four light railways constructed under the guarantee of district boards continued to work satisfactorily, and some extensions were made.

*United Provinces.*—Interest in the work of the boards was well maintained, though elections awakened little enthusiasm. On the suggestion of the Royal Commission on Decentralisation local committees of the boards were formed in most sub-divisions. The time has come for greater reliance on local resources. The aggregate income amounted to, £539,640, including provincial grants. The expenditure amounted to £531,615. There were increases under civil works and under medical charges, although the year was healthier than the preceding one. The expenditure of district boards has rapidly increased during recent years, and has been largely met from provincial contributions, which amounted, in 1909-10, to £145,000.

*Punjab.*—A lack of interest is still shown in elections to district boards, and candidates are hard to find. In the working of the boards, too, members display little efficiency. The Local Government has ordered that a meeting of each board shall be held at least once in two months. The year was one of general prosperity, and the ordinary income of the boards for 1909-10 rose to £356,400, of which the chief item was £185,500 from provincial rates. The expenditure was £359,800, of which the chief items were civil works £144,000, education £81,400, and medical charges £38,650.

*North-West Frontier Province.*—There is no elective system in this province. The working of the district boards was on the whole satisfactory. The average attendance of members showed some improvement. The aggregate income of the boards was £24,270 and their expenditure £23,914. Most of the income was derived from provincial rates. Of the expenditure, about 24 per cent. was on education.

*Central Provinces and Berar.*—The interest taken in elections is small, but this is because local notables are re-elected without opposition. Any further extension of activities is hampered by the limited sources of income. The attendance of members of the boards at the meetings is not good, probably owing to the exiguous funds and trivial business, but a few take a real interest in affairs. The ordinary income amounted to £161,700, excluding debt heads, while the expenditure was £157,270. The chief source of income, as in other provinces, is provincial rates, but receipts from cattle pounds constitute an exceptionally large proportion of the total. The bulk of the expenditure was on civil works, including roads and schools and other buildings, and on education.

*Eastern Bengal and Assam.*—There was generally an improvement in the attendance of members of boards, but in the case of four it was exceptionally bad. In Eastern Bengal the improvement recorded last year in the representation of the Muhammadan community, which includes two-thirds of the population, was maintained. Of the income of the boards, £306,626, nearly one-half accrued from provincial rates, and over one-third from Government contributions for education, roads, &c. Their expenditure amounted to £335,704, of which £91,664 was devoted to education and £192,846 to civil works. There are nine union committees in the province.

*Madras.*—One-half of the members of the district boards are, as a rule, elected by the taluk boards. In 1909 the elective system was introduced for taluk boards, the elected members being generally limited to one-third of the maximum strength. Thus about 500 seats were thrown open to election. There were in Madras 23 district boards, 82 taluk boards, and 389 village unions. The village union *panchayats* or councils have each not less than five members; they deal chiefly with sanitation, and the making and repair of roads, and in some cases they have the

management of choultries, markets, and other local institutions entrusted to them by the taluk boards. On the whole the working of the local bodies was satisfactory. The income of the boards and unions, excluding debt heads and contributions from one district board to another, amounted to £878,512, and the expenditure to £830,509. The Tanjore and Kistna District Boards railways yielded net profits of 5·9 and 8·3 per cent. respectively on the capital outlay.

*Bombay.*—The average attendance of members at meetings of the boards did not alter greatly. There were numerous complaints of the apathy of non-official members. The income of all boards in 1909–10, excluding debt heads, was £457,792, a rise, as compared with 1908–9, due to a prosperous season, which facilitated the recovery of past arrears, and to more liberal Government grants for education. The total expenditure of the boards rose to £461,084, most of the increase being for medical relief and education. Of the total expenditure, 34 per cent. was for education, and 54 per cent. for roads, schoolhouses and other buildings, water supply, and other works.

*Burma.*—There are no local boards in Burma. Their place is taken by District Funds in Upper Burma and District Cess Funds in Lower Burma, which are administered by the Deputy Commissioners of the districts. These Funds numbered 36, and had an aggregate income of £234,190 and an expenditure of £244,050 in 1909–10. Those in Lower Burma, known as "District Cess Funds," are the largest, as they include the proceeds of a 10 per cent. cess on the land revenue, and account for £198,974 of the expenditure, of which about £25,000 was on education and about £118,000 on public works. The expenditure from District Funds in Upper Burma was chiefly on public works.

#### PORT TRUSTS.

(For further details see *Statistical Abstract for British India, Table 178.*)

*General.*—The administration of the larger ports is placed by various Acts in the hands of Port Commissioners, who are charged with the provision of suitable dock accommodation and other services necessary to shipping. They have wide powers, but are more subject than municipal bodies to Government control. Members of these Port Trusts, which include both Europeans and Indians, are for the most part appointed by the Local Governments, and are largely representative of the local commercial communities. Except in Calcutta the elected members are fewer than the nominated members. Port trustees are empowered, subject to the control of the Government, to levy dues on shipping and goods, to charge fees for services rendered, to contract loans for port improvements, to maintain the harbour and its approaches, and to erect warehouses, jetties, harbour lights, and docks for the convenience of traders and shipping. The chief ports, in which is carried on by far the largest part of the trade of India, are alone dealt with here. There are smaller ports, especially in Madras and Burma, where sums are raised yearly for expenditure on improvements.

*Calcutta.*—The receipts of the Port Trust, mainly as the result of a decline in rice imports, which had been abnormal in 1908–9 owing to famine, decreased by £15,000 to £789,100 in 1909–10, while the expenditure was £801,110. But this total includes three works of an extraordinary and non-recurring nature, which cost £11,400. Receipts have doubled in the last 10 years owing to the enormous expansion in the trade of the port, especially trade in coal, jute, tea, and sugar, although considerable reductions have from time to time been made in the charges on goods. Lands and buildings are a growing source of income. The expenditure upon capital works amounted to £828,500. The more important works completed or in progress were the extension of docks and sidings, the acquisition and reclamation of land, and the provision of a coal depôt, a landing stage, and four ferry steamers. The ferry service, opened in October 1907, has met a great public need. In connection with the scheme for the extension of the Kidderpore Docks and the general improvement of the port, large areas of land have been acquired. The capital debt of the Trust on 31st March 1910, after allowing for £599,000 at the credit of sinking funds, was £5,566,000, of which about £2,048,000 represents Government loans, and the rest mainly debenture loans. The Commissioners during the year raised their second sterling loan, amounting to £700,000. Against this total debt may be set assets amounting to £6,901,000.



*Bombay.*—The receipts of the Port Trust, in 1909-10, amounted to £525,000, and the expenditure to £466,000. In order to build up a larger Revenue Reserve the trustees reduced the temporary rebate on certain dues from 20 to 12½ per cent. and discontinued the rebate on pilotage charges. As a result the rebate on all heads amounted to £38,000. There was a surplus of £26,670 on the year's working, appropriated to the Revenue Reserve Fund, which was thereby raised to £399,000. The new capital expenditure amounted to £550,100, including £337,300 spent on the dock works, and £174,400 on the Mazagon-Sewri reclamation. A 4 per cent. sterling loan of £500,000 was raised in London, and a 4 per cent. debenture loan of 40 lakhs in India. The debt of the Trust amounted at the end of the year to £6,005,000, of which over £2,011,000 is due to Government, while the remainder consists of fore-shore securities and debenture loans. The cost price of the properties vested in the Trust was £5,995,000, and various depreciation, reserve, and sinking funds amounted in the aggregate to £798,000. Works for the excavation of the new docks made rather slow progress. Government has sanctioned an estimated expenditure of £872,000 for the Mazagon-Sewri reclamation scheme, involving 518 acres, and satisfactory progress has been made with it.

*Karachi.*—The revenue receipts, owing to the heavy exports of grain and seeds, constituted a record, advancing by 29 per cent. to £219,000, while the expenditure was £196,000. The activity in improvement works continued, and the length of wharfage was increased by 37 per cent. The policy of providing trade facilities at great cost has been justified by the increased advantage taken of them. The capital expenditure on improvements reached £226,000. The total liabilities of the Trust at the end of the year stood at £985,000, of which £77,000 is due to Government.

*Rangoon.*—In 1909-10, owing to the continued expansion of inland trade, the ordinary revenue amounted to £195,000, while the revenue expenditure was £223,000, leaving a deficit on the year's working. During the year the Port Commissioners made a thorough investigation of their present financial position and future policy. In future they will derive their revenue mainly from port and river dues, instead of from landing, shipping, and warehousing charges. An Indian loan of 32 lakhs was raised. The capital expenditure of the year was £547,000, and the total debt amounted to £1,594,000. Substantial progress was made with the river training works, on which the welfare of the port must largely depend. The extensions of wharves in connection with the scheme for the new port works were practically completed.

*Madras.*—The receipts of the Madras Port Trust fell to £70,000 in 1909-10, owing to smaller imports. The expenditure was about 70 per cent. of the revenue. Progress was made in improving the harbour and in furnishing better facilities for handling cargo. The harbour is being provided with a new north sheltering arm and a new entrance, and with new berths and moorings. The debt at the close of the year was 522,000*l.*

## CHAPTER XVI.

## CONDITION OF THE PEOPLE.

VITAL STATISTICS.	EMIGRATION AND MIGRATION.
PLAGUE.	PRICES.
SANITATION.	WAGES.
HOSPITALS, DISPENSARIES, AND	FAMINE OR SCARCITY.
ASYLUMS.	GENERAL REMARKS.

## VITAL STATISTICS.

(Detailed information on Vital Statistics, Sanitation, &c. is contained in the annual Report on Sanitary Measures in India, which is published as a Parliamentary Paper, and in the Statistical Abstract for British India, Tables 103-4 and 192 to 199.)

*General Population. Registration.*—As the date of the census of 1901 recedes, the birth and death rates calculated upon the census returns of that year necessarily become unduly high. Although improvement in registration is being steadily effected, there are still serious defects in some areas. The facts are nearly everywhere collected by an illiterate agency (usually by village watchmen in rural areas), and accurate figures, especially of the causes of death, are unobtainable. It is more difficult, especially in towns, to obtain information about births than about deaths. The actuarial reviews of the returns of the last three censuses show that the registered birth and death rates are understated, and, as registration improves, the registered rates must tend to approximate to the calculated rates. An increase in the registered death-rates cannot, therefore, be regarded as proving the impoverishment of the masses. The high Indian birth-rate is due, not to exceptional fertility, but to the large proportion of married women. The high infantile death-rate is partly due to the weakness of the children of immature and ignorant parents, but to some extent it is only apparent, being calculated on imperfect returns of births.

*Birth-rates and Death-rates.*—The population of the areas in which births and deaths were registered was 226,394,326 according to the census of 1901, and the number of births registered in 1909 was 8,298,379. The provincial rates are given in the table below. The calculated birth-rate in 1909 was 36·65 per mille, compared

Province.	BIRTH-RATES.		DEATH-RATES.					
	1908.	1909.	1908.			1909.		
			Rural.	Urban.	Total.	Rural.	Urban.	Total.
Bengal	36·1	37·8	39·1	31·2	38·6	30·7	28·7	30·6
Eastern Bengal and Assam	41·1	40·5	30·1	22·2	30·7	34·1	23·7	33·9
United Provinces	37·5	33·3	53·0	49·2	52·7	37·3	37·6	37·3
Punjab	41·8	35·1	50·2	55·6	50·7	30·5	31·6	30·9
North-West Frontier Province	37·3	34·7	35·9	35·6	35·8	26·6	25·1	26·6
Central Provinces and Berar	52·8	51·6	38·2	37·7	38·1	32·4	39·3	33·1
Madras	32·4	33·1	25·3	32·3	26·2	21·2	26·4	21·8
Coorg	24·2	27·6	33·5	50·3	34·9	26·5	46·2	28·2
Bombay	35·7	35·6	25·1	37·5	27·1	25·8	34·8	27·4
Burma	34·1	35·3	25·9	42·6	28·1	25·9	40·0	27·7
{ Lower								
{ Upper	36·3	37·1	27·2	38·8	28·5	33·2	47·6	34·8
Ajmere-Merwara	42·5	37·8	35·3	52·6	40·0	43·0	72·3	50·1

with 37·78 in 1908 and a quinquennial mean of 38·64. In the Central Provinces the birth-rate per mille of population was again exceptionally high. Only in Bengal, Madras, Burma, and Coorg was the birth-rate higher in 1909 than in 1908. The most serious decrease in the birth-rates occurred in the Punjab, United Provinces, and Ajmere-Merwara, where the people suffered severely from the epidemic of malaria in the autumn of 1908. In most provinces the birth-rates exceeded the death-rates, the most considerable excesses being 18·54 per mille in the Central Provinces, and 11·3 in Madras. In the United Provinces the excess of the death-rate over the

birth-rate was 4·02 per 1,000. The mean percentage of male to female births was 106·83 per mille, ranging from 121·4 in the North West Frontier Province to 104·5 in Madras.

The number of deaths registered during 1909 was 6,998,044, compared with 8,653,007 in 1908, while the death-rate was 30·91 per thousand, or 7·30 lower than in 1908, and 4·88 below the quinquennial mean. The death-rate was still high in the United Provinces, though it declined from 52·7 to 37·3 per mille. The lowest death-rate, 21·8, was again in Madras. In all provinces, except Eastern Bengal, Bombay, Upper Burma, and Ajmere-Merwara, the death-rates were lower than in 1908, and in most cases the reduction was very large. In most provinces the male death-rates exceeded the female.

The greatest mortality occurred in November, while the lowest was July. Infantile mortality was highest in the United Provinces, Bombay, and Upper Burma, and lowest in Madras. A systematic inquiry into the causes of infant mortality in Cawnpore showed that it was largely due to the unclean habits of midwives.

The following table gives the ratio of deaths per mille in cities of British India whose population exceeded 150,000 in 1901:—

City.	1908.	1909.	City.	1908.	1909.	City.	1908.	1909.
Calcutta -	32·6	34·1	Benares*	53·1	50·8	Ahmedabad*	56·5	56·2
Bombay -	39·5	35·7	Delhi -	60·0	42·2	Mandalay -	40·7	51·7
Madras -	43·7	37·9	Lahore -	56·4	34·7	Allahabad*	28·5	17·1
Lucknow*	55·3	49·4	Cawnpore*	63·1	54·8	Amritsar -	94·7	39·1
Rangoon -	41·6	39·6	Agra*	35·8	26·8	Poona* -	41·4	33·7

\* Excluding cantonment.

*Chief Diseases.*—There are three main classes of fatal disease: specific fevers, diseases affecting the abdominal organs, and lung diseases. Intestinal and skin parasites, ulcers and other indications of scurvy, widely prevail. Much of the sickness and mortality is due to deficient powers of resistance and to insanitary habits and surroundings. The table below shows the number of deaths, and the death-rates per 1,000 from each of the principal diseases recorded, in British

Years.	Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhoea.	Plague.	Respiratory Diseases.	All causes.
1907	408,102 1·81	103,988 0·46	4,464,881 19·76	282,191 1·25	1,166,223 5·16	226,419 1·00	8,399,623 37·18
1908	591,725 2·61	170,694 0·75	5,424,372 23·96	285,921 1·26	113,888 0·50	227,817 1·01	8,653,007 38·21
1909	239,231 1·05	101,152 0·45	4,487,492 19·82	216,956 0·96	145,333 0·64	203,363 0·90	6,998,044 30·91

India, during the three years from 1907 to 1909. With regard to special diseases, no province escaped the visitation of cholera, which was chiefly prevalent in Upper Burma, Eastern Bengal and Assam, and Bombay, where the death-rates were 2·46, 2·40, and 1·55 per mille respectively. The total cholera mortality, however, was less than half that in 1908. Small-pox was not so widespread as in 1908, the decrease being greatest in the Punjab. Plague, the mortality from which was higher than in 1908, but much below the annual rate in recent years, forms the subject of a separate section. When reference is made to fever in India, malarial fever is generally understood, but many causes of death and many diseases much more fatal than malarial fever are included under the heading. Special measures were taken in several provinces to improve the free distribution and sale of quinine. The fever death-rates, as usual, varied greatly, ranging from 30·94 in the United Provinces to 7·3 in Madras.

*Malaria Conference.*—In October 1909 the Government of India convened a malaria conference at Simla which recommended systematic investigation into the distribution of malaria, the epidemiology and endemology of malaria, and the physiological and therapeutical action of quinine and other remedies by means of local organisations working under a Central Committee. The Conference suggested practical measures for the extirpation of mosquitoes and for quinine treatment and prophylaxis. It also recommended measures for instructing the people

on the subject of malaria. The Central Committee during 1910 established a central malaria bureau at Kasauli and a laboratory at Amritsar. A periodical and pamphlets have been issued, and a number of investigations undertaken.

*Vaccination.*—The total number of vaccinations performed among the civil population during 1909–10 was 9,090,586, being a decrease of about 30,000 on the previous year's work. Of primary vaccinations 94·6 per cent., and of re-vaccinations 66·6 per cent., were successful, about 35·6 per mille of the population being successfully vaccinated. The number of infants successfully vaccinated was 44·2 per cent. of the number born.

#### PLAGUE.

The present epidemic of plague in India first broke out at Bombay in August 1896, and, as the marginal table shows, it has been responsible for a heavy rate of mortality since that date. In 1907 the deaths from plague attained the highest total yet recorded, viz., 1,315,892, for India as a whole, the number in British India alone being 1,166,223, or 5·16 per mille. In 1908 the mortality declined enormously, falling to 156,480, the lowest total since 1900. In 1909 there was once more a relatively low mortality, namely, 178,808 deaths, or fewer than in any year since 1900, excepting 1908. In 1910 there was a severe recrudescence. The mortality again reached its height in March.

Plague is so local in its visitations that all general and unanalysed statistics are likely to prove misleading. Many parts of India have been almost entirely free from its ravages, and in the greater part of the country the outbreaks cannot be described as having been severe or disastrous. The mortality in Eastern Bengal and Assam has been at no time appreciable, while in the Madras Presidency and in Burma the epidemic has never reached serious dimensions. On the other hand, general statistics tend to conceal the severity of the distress caused by the disease in particular districts. In some parts of the Punjab the mortality in 1907 was so severe as to disorganise the labour market and to affect the level of wages.

The efforts of Government to discover and apply the most effective methods of remedial action have not been relaxed. The Advisory Committee on Plague Investigation in England and the Plague Commission in India, whose constitution has been described in former issues of this Report, have continued their investigations, which have already led to most important results. The main facts in regard to the mode of propagation of an epidemic and the life history of the plague bacillus have been ascertained, and rational methods of attack have thus been made possible. A popular summary of the principal conclusions arrived at was given in "The Etiology and Epidemiology of Plague" (price 5*d.*), published early in 1908. It is now generally agreed: (1) That epidemic bubonic plague in man is directly dependent on epidemic plague in rats; (2) that the vehicle of contagion between rat and rat and between rat and man is the plague-infected rat-flea; (3) that bubonic plague is not directly infectious from man to man; and (4) that the life of the plague bacillus outside the bodies of men, animals, or fleas is of short duration. In large towns plague may persist through the year, but in villages such persistence is exceptional, and the recurrence of an epidemic is probably due to fresh infection.

In the light of the knowledge and experience now acquired it is possible to deal satisfactorily with the disease when effective control can be established over the sanitary conditions; and in the case of the native army and in limited areas such as jails there has been remarkable success. But attempts to establish such control over large areas would involve too great an interference with the habits, prejudices, and sentiments of the people, and the application of measures of proved utility must depend upon the particular circumstances of each locality and upon the character of its inhabitants. In the face of great practical obstacles, three principal measures for combating plague are now adopted:—

- (1) The temporary evacuation of quarters in which plague is prevalent. This has proved to be the most effective way of removing man from contact with infected rat-fleas. Government is ready to supply money and material to provide temporary dwellings and to alleviate the discomfort and distress which must accompany evacuation of quarters, a matter, of course, in which no pressure can be exerted, and in regard to which the wishes and even the prejudices of the people must be consulted.

- (2) Inoculation with the prophylactic fluid. The efficacy of this remedy on the occasion of an outbreak has been placed beyond doubt; it is freely resorted to, and encounters little popular prejudice, when the presence of plague is felt; but as a general or permanent remedy it is obviously of limited utility.
- (3) The systematic destruction of rats, the diminution of the food supply to which they have access, and, in the course of time, such improvement in the structure of houses as shall render them reasonably rat-proof.

#### SANITATION.

*General.*—Increasing attention has been paid in recent years to questions of sanitary reform. Proposals for reorganising and developing the Sanitary Department by appointing medical officers of health and sanitary inspectors are under consideration. The following paragraphs give some account of the chief sanitary works undertaken in the various provinces during 1909.

*Bengal.*—In Calcutta steady progress was made with the great projects of water-supply and drainage, which are of vital importance to the health of the citizens. The water-supply is being doubled and the whole system of distribution reconstructed, so that the legal requirement of a continuous supply of filtered water at a pressure of 40 feet may be complied with. The principal feature of the scheme is a great elevated reservoir at Tallah, to contain nine million gallons, into which all the water will be pumped and from which it will be distributed by gravitation through a large steel main. The pumps are capable of pumping 40 million gallons a day. The reservoir was begun in 1908. The total estimated cost is £461,000. Tolly's Nullah Syphon, a difficult piece of work, has been completed, while the most difficult part of the drainage scheme in the Fringe Area, estimated to cost £200,000, has also been carried out. There has already been a marked improvement in the health of the people in the Fringe Area.

A scheme for the improvement of the congested areas of Calcutta, to be carried out by a Board of Trustees, has been drawn up, and a Bill has been drafted for carrying it out. The expenditure on street improvements and attendant measures will be recovered in rent from the lands acquired, and the balance will be provided partly from a municipal contribution, partly from certain special taxes, and partly from Government grants.

The 128 municipalities in Bengal (excluding Calcutta) spent about 40 per cent. of their income on sanitation. The greater part of a grant of £30,000 by the Government of India was expended on drainage. Much attention was paid to the working of septic tanks, especially those installed by mills on the banks of the Hooghly, and the appointment of an inspector to ensure their efficient working has been justified by success. Schemes of water-supply were in hand at Darjeeling, Monghyr, Bhagalpur, and elsewhere. Drainage schemes were in progress in Puri, Arrah, Darjeeling, and other municipalities. Work was commenced on a further portion of the comprehensive Howrah drainage scheme. The expenditure under the head of conservancy is steadily rising in almost all municipalities. Night-soil is now properly trenched, and trenching grounds are in many cases cultivated at a profit.

*United Provinces.*—In the United Provinces a large proportion of their income was again expended by municipalities on conservancy, water-supply, and drainage. Sanitation made a considerable advance, especially in the larger municipalities. Improvements in drainage and the opening up of congested areas are now the chief needs. Schemes were under consideration for augmenting the supply of piped water at Lucknow, Mirzapur, Cawnpore, and Agra. The more extensive use of meters has checked waste. The results of analyses of drinking-water were uniformly good. A large number of drainage schemes made progress, and work was begun at Farrukhabad, Jaunpur, Budaun, and elsewhere. The drainage of the numerous pits and hollows in towns is to be taken in hand.

*Punjab.*—A sum of £6,667 was distributed to local bodies as a grant-in-aid for sanitary works, of which £2,500 was assigned to the Amritsar sullage scheme. There were signs in Lahore of awakened public interest in sanitation, and measures were taken to improve the sanitary condition of the city. The suburban drainage works at Delhi made good progress. Drainage schemes were sanctioned for Multan, Amritsar, and elsewhere. The Lahore waterworks were nearly completed, and the Delhi water-supply was improved. In rural areas sanitation makes little advance, although the District Boards offer rewards for village sanitation.

*North-West Frontier Province.*—A Government grant of £3,333 enabled a great improvement in sanitation to be made by the municipalities of Peshawar, Abbotta-

bad, and Dera Ismail Khan, in the last of which a system of incineration for refuse has been started.

*Burma.*—Progress was made in Rangoon with the urgently needed pumping station at Yegu and connected works. Reclamation work was carried steadily forward in the Lanmadaw and East Rangoon tracts, the total expenditure being £82,600.

The Burma municipalities (exclusive of Rangoon) spent less than 39 per cent. of their income on sanitation, the cost of plague measures having left only a small amount available. Sanitation in Burma is in a very backward condition, and there is hardly a town or district in which sanitary reform is not a pressing need. At Akyab work on the gravitation water-supply scheme was completed. Water-supply schemes were under consideration for Mandalay and other towns. Progress was made in several towns with cheap refuse incinerators. The Sanitary Board considered schemes for the laying out of sites for railway towns.

*Central Provinces and Berar.*—Out of the Imperial grant of £13,333 substantial sums were allotted for town improvement schemes in Hoshangabad, Raipur, and Drug to relieve the congestion of population, and for an improved water-supply in Seoni. In Nagpur the completion of the new reservoir will double the water-supply. A comprehensive sewerage scheme for Nagpur is in hand, and a similar scheme for Jubbulpore is in preparation. At Jubbulpore incinerators have been erected. Water-supply schemes were in progress at Harda, Khandwa, and Burhanpur. A subordinate sanitary staff is being created and trained for employment in municipal towns.

*Eastern Bengal and Assam.*—The expenditure on sanitation amounted to about 50 per cent. of the income of the municipalities. Schemes for improving the sewerage and drainage of Dacca were under consideration, while the conservancy tramway and the remodelling of the waterworks were completed. Drainage schemes were in progress at English Bazar and elsewhere. Several water-supply projects were under consideration. A grant of £4,000 was allotted for improving water-supplies in rural areas. Anti-malaria operations were continued. Proposals for improving the sanitary service were under consideration.

*Madras.*—In Madras city the construction of the new water-supply works was begun. Plans and estimates amounting to £107,200 for the main drainage of Madras and the local drainage of Tondiarpet were completed. A good deal of work was done in opening up congested areas.

A special grant of £33,140 was made from provincial funds to local authorities for sanitary works. Sanitary progress in mofussil municipalities is slow, owing in some cases to want of money, in others to lack of interest and capacity for management on the part of the councils. During the year waterworks were under construction at Salem, Berhampur, Bezwada, and elsewhere. Comprehensive drainage schemes are contemplated in several of the larger municipalities. The Sanitary Board supervised many sanitary works undertaken by local bodies, including water-supply and drainage schemes, projects for opening up congested areas, the sinking and repair of wells, &c.

*Bombay.*—The water-supply and drainage works in Bombay city were extended. Very large areas of land (1,100,000 sq. yds.) were acquired by the Bombay Improvement Trust. Several improvement schemes for transforming insanitary areas were advanced, and chawls capable of housing nearly 14,600 people were provided or under construction.

Under the stimulus of liberal grants-in-aid, amounting to about £24,500, many improvements in water-supply and drainage are being carried out, and in many towns important works are under construction or investigation. At Pandharpur, an important place of pilgrimage, extensive drainage and water-supply schemes were in progress. Drainage schemes were in progress at Karachi, Ahmedabad, and Hyderabad, and water-supply works at Nasik, Ahmedabad, Karachi, and other towns.

Vessels for the Red Sea pilgrim traffic were cleansed and freed from rats under the direction of the Bombay Port Health Officer. The out-going pilgrims, who numbered 21,056, were medically inspected, and their clothing and bedding thoroughly disinfected before embarkation.

#### HOSPITALS, DISPENSARIES, ASYLUMS, &c.

*Hospitals and Dispensaries.*—The civil hospitals and dispensaries in India, which numbered 2,652 in 1909, against 2,593 in 1908, treated 455,475 indoor and 27,782,604 outdoor patients during the year. The great bulk of their income is derived from government and local and municipal funds, and their total expenditure in 1909 was

£773,720. In addition there is a large number of special police and other medical institutions, as well as many private institutions which are not State-aided. These numbered 1,491, and provided treatment for 146,810 indoor and 6,690,125 outdoor patients. A satisfactory feature is the increased popularity of the dispensaries among women and children. The United Provinces had the largest number of indoor patients, followed by Bengal and Madras. Madras had by far the largest number of outdoor patients. The principal diseases treated are malarial fevers, diseases of the digestive system, ulcers and other skin diseases, diseases of the eye, and diseases of the respiratory system, worms, and diseases of the ear. About 1,247,400 surgical operations were performed.

In 1909 the small-pox wards in the Campbell Hospital at Calcutta were improved and the question of better nursing arrangements was under consideration. In Bombay Presidency two new hospitals were opened, and extensions of several hospitals were in progress. A scheme for establishing additional dispensaries is under consideration. In the Punjab there was a considerable rise in the number of women and children treated. Five women are employed as assistant surgeons and eleven as hospital assistants. In the United Provinces there was a considerable increase in the number of dispensaries and of patients. In Burma the popularity of the hospitals among out-patients, especially better-class women, has increased owing to greater privacy and better accommodation. Facilities for surgical cases and nursing arrangements have been improved. A new general hospital has been opened in Rangoon.

*Pasteur Institutes.*—There are Pasteur Institutes for anti-rabic treatment at Kasauli (Punjab) and Coonoor (Madras). The number of patients treated in the former in 1909 was 1,937 as against 1,389 in 1908, the corresponding figures for Coonoor being 658 as against 340.

*Lunatic Asylums.*—The treatment of lunatics at asylums prevails on only a small scale in India, where insanity is less prevalent than in European countries. The census of 1901 showed a decrease of nearly 11 per cent. in the number of insane since 1891. The decrease occurred in nearly all provinces, and was ascribed in many of them to the high death-rate of the insane in famine years. The number admitted into asylums in 1909 was 1,587, the average for the five years to 1909 being 1,593. The total asylum population of the year was 7,377. The causes of insanity are not very accurately classified, but the most important alleged cause is the use of hemp drugs. The expenditure on the asylums amounted to £69,900, most of which was borne by the State.

*Lepet Asylums.*—There are many leper asylums, among which may be mentioned the Madras Government Leper Asylum, the Matunga Leper Home, Bombay, the Trivandrum State Leper Asylum, and the Calcutta Leper Asylum. There are also many asylums or homes, frequently under some sort of Government supervision, including about 50 asylums of the Mission to Lepers. The census of 1901 showed a decline in the number of lepers to 97,340, compared with 126,244 in 1891, and the proportion works out to 48 male and 17 female lepers per 100,000 of the population. Berar had the largest proportion of lepers (2 per mille), followed at some distance by Assam, Bengal, the Central Provinces, Burma, Madras, and Bombay, in that order.

#### EMIGRATION AND MIGRATION.

(For further details see *Statistical Abstract for British India, Tables 190 and 191.*)

##### *Emigration.*

Emigration from India, so far as it is brought under the cognizance of Government, is mainly regulated by Act XVII. of 1908 and the Rules issued under its provisions. Emigration to Ceylon, to the Straits Settlements, and for employment under Government only in British East and Central Africa is, however, excepted from the restrictions of the Act. By this Act, natives of India are permitted to emigrate, under contract to labour for hire, only to such countries as have satisfied the Government of India that sufficient provision is made in them for the protection of Indian immigrants; and a similar protection is extended to natives of India engaged to emigrate, individually or in small parties, to work as artisans, for the purposes of an entertainment or exhibition, or for service in restaurants or other places of public resort. Emigration, otherwise than under contract to labour or work in one of the above capacities, is not controlled by legislation. This Act made no changes in the substance of the existing law, but merely for convenience repealed all previous enactments and incorporated in one statute the provisions relating to colonial emigration.

An amending Act was introduced into the Governor-General's Legislative Council in the year under review, but was not passed until July 1910.

*Calcutta.*—There were five emigration agencies at work during the year at Calcutta, four representing British colonies and one the Dutch colony of Surinam. The total number of labourers requisitioned rose from 9,276 in 1908 to 9,347 in 1909. The number supplied during the year was 8,420. There was no alteration in the terms offered to intending emigrants. The number of recruiting licences granted was 571, as compared with 598 in 1908; 27 licences were cancelled. The total number of emigrants registered during the year was 12,691, giving an average of 22 emigrants per recruiter, as against 29 in the preceding year. This number was contributed by the different provinces in the following proportions:—United Provinces, 85·23 per cent.; Bihar, 6·57 per cent.; Bengal, 5·15 per cent.; Punjab, 2·08 per cent.; Central Provinces, 0·62 per cent.; Ajmere, 0·32 per cent.

The number of emigrants admitted to the Calcutta depôts was 10,387, or 3,402 less than in 1908. Of the remainder, 1,827 were rejected subsequently to registration as unfit to emigrate. The percentage of deaths in the depôts was 0·71, as compared with 0·55 in the preceding year, and the percentage of rejections decreased from 12·78 to 11·68. The percentage of desertions increased from 0·34 to 0·63. After deducting casualties of all kinds, there remained 8,809 emigrants available for despatch to the colonies, of whom 8,686 actually embarked during the year, as against 10,519 in the previous year. They were distributed as follows:—Trinidad, 2,480; Demerara, 2,515; Surinam, 1,906; Fiji, 668; Jamaica, 1,117. The total number shipped included 2,320 women and 316 returned emigrants who re-emigrated. The death-rate on the ships carrying emigrants was 0·49 per cent., 23 out of the 43 deaths that occurred being due to cerebro-spinal fever, and the rest to chest affections and other diseases.

The number of emigrants who returned from the several colonies was 3,941, and their ascertained aggregate savings amounted to over £45,000. The average savings per head varied from about £25 in Trinidad to about £7 in Natal, no figures being available for Mauritius; but 867 adults—22 per cent. of the total number of returned emigrants—brought back no savings.

There was a slight increase in the average amount remitted by resident immigrants in Jamaica, Trinidad, and Fiji, and some decrease as regards Natal, Mauritius, and Demerara. The average was again highest in the case of Natal (nearly 10s.), and Fiji was again the only other colony where the average remittance exceeded one rupee.

*Madras.*—The number of emigrants embarking from Madras for Natal was 2,520, the corresponding figure for 1908 being 2,190. No emigrants went to Mauritius or the Seychelles. Two thousand three hundred and fifty-one emigrants returned from Natal with savings amounting to £15,351, and 554 from Mauritius without savings.

As regards non-regulated emigration, the number of emigrants to the Straits Settlements decreased from 58,778 to 48,719. The number of passengers increased on vessels bound for Burma, owing to reduction of steamer fares, and decreased to Ceylon, in consequence of the closure of the port of Kayts to passenger traffic and the prospects of a good season in the Madras Presidency.

*Bombay.*—The number of emigrants shipped from the port of Bombay rose from 67 to 68. Of these, 20 were destined as artisans for Mombasa and Uganda. From Karachi 32 emigrants, all of whom were Punjabis, left for service on the Uganda Railway. The number of emigrants who returned to Bombay was 537, of whom 519 returned from employment on the Uganda Railway. From Broach 94, and from Surat 914, persons went as free emigrants to South Africa. The colonial immigration laws continued to have a deterrent effect.

#### *Migration.*

*Assam.*—The total labour population at the end of June 1909 was 758,319, an increase of 2,481 on the figures for the preceding year. There was a further decline of 13,902 in the number of "Act" labourers. The number of immigrants was 39,332, as against 60,773 in 1908-9, which was, however, like that of the preceding year, an abnormal figure. Of the 29,397 adults who immigrated, 23,938 were free labourers. The largest number came from the plains districts of the United Provinces. The improvement in the health of coolies during transit was maintained, and the number of deaths fell to 45, of which 38 were from cholera. The number of complaints of fraudulent recruitment fell from 46 to 44; and fraud or irregularity was proved in only six cases. The number of contracts made in recruiting districts fell from 7,295



to 5,268, the number of coolies recruited by *sardars* being 515. The rate of wages slightly increased. The rate of mortality among adults fell to 32·4. Only one complaint of ill-treatment was lodged by a coolie against his employer, and it was dismissed. Desertions decreased from 3,023 to 2,067. The relations between planters and villagers continued to be satisfactory.

*Burma.*—During 1909, 302,287 immigrants and 301,930 emigrants passed through the ports of Burma; the figures for Rangoon being 259,462 and 253,349.

*Madras.*—The number of passengers, excluding indentured emigrants, who arrived at the several ports of the Madras Presidency during the year was 300,712, against 295,029 in 1908. An increase was noticeable in the number of passengers from Burma, owing to the reduction of steamer fares.

*Bombay.*—No noteworthy movement of the population occurred in Bombay during the year under report, beyond the usual seasonal emigration in search of employment. Six of the 22 families which emigrated in the previous year from Bhavnagar to Kaira in order to take up waste lands, returned, apparently to avoid repayment of takavi loans and the payment of land revenue.

PRICES.

(For further details see *Statistical Abstract for British India, Tables 203 to 209.*)

*General.*—The rise in the prices of commodities in India during recent years has been the subject of much discussion. The marginal table of prices during the 12 years

Year.	Index Number for Articles imported.	Index Number for Articles consumed or exported.	Index Number for Food-grains (Retail Prices).
1873 - -	100	100	100
1898 - -	80	102	139
1899 - -	87	100	137
1900 - -	97	124	192
1901 - -	96	116	157
1902 - -	86	113	141
1903 - -	88	103	126
1904 - -	93	104	117
1905 - -	96	116	147
1906 - -	105	139	179
1907 - -	116	145	180
1908 - -	107	151	231
1909 - -	99	134	195

to 1909 has been compiled from Government returns showing the index numbers of the prices of: (a) 11 articles imported; (b) 28 articles consumed in India or exported; (c) food-grains. The prices under (a) and (b) are wholesale, and under (c) retail. The index number of each year represents a simple average of the separate price ratios of the selected articles. In showing the variations the prices of 1873 are taken as 100.

After 1900, a year of severe famine, the tendency of prices for articles of Indian produce was, for several years, downward. The prices of imported articles steadily rose from 1902 to 1907, while a sharp and rapid rise in the prices of articles of Indian produce, especially food-grains, began in 1905. This rise was accentuated in 1907 and 1908 by the

widespread failure of crops in Northern India. In 1909 there was a general decline in prices. The Government has deputed an officer to investigate the extent, the causes, and the probable effects of the general rise in Indian prices. Landholders whose land revenue assessments have been settled for long periods, and cultivators who hold land at fixed rentals, reap an advantage from high prices. It is probable that the trading classes benefited by the rise in prices, and there is reason to believe that owing to the enhanced demand for labour, due to industrial activity, the advance in wages has kept pace with the rise in prices in great industrial centres. But where wage rates are more or less customary, or where incomes are more or less fixed, as in the case of pensioners, public and private employees, and the professional classes, the increased cost of living is a serious matter. Extra allowances, known as grain compensation allowances, have been made on a large scale to Government servants to cover the cost of dearer food.

The following paragraphs relating to prices are based on statements contained in agricultural and other reports.

*Bengal.*—Prices, which had attained an unusually high level in 1906-7 and 1907-8, continued high at the beginning of 1908-9, but there was a perceptible fall after the paddy harvest. In 1909-10, owing to favourable harvests, the prices of food-grains were materially lower in all districts.

*United Provinces.*—Prices, which had been generally at a high level since 1905, and had been exceptionally high in 1907-8 owing to famine, declined substantially with the improvement in agricultural conditions in 1908-9 and 1909-10. There was a marked fall in the prices of food-grains, especially wheat, jowar, barley, and maize, though prices did not go back to the rates considered normal prior to 1905.

*Punjab.*—With good harvests in 1909–10, the prices of the principal food-grains gradually fell, though they continued at rates between 21 and 30 per cent. above the average of the 11 years ended 1906–7. Rape-seed and sugar declined only to a small extent, while cotton prices rose very considerably. Agriculturists made large profits, and were able to hold up the bulk of the wheat surplus of 1910 for higher rates—the first time this has been done on a general scale. As regards particular crops, the price of rice was 21 per cent., of wheat, 26 per cent., of jowar, 30 per cent., of bajra, 29 per cent., of cotton (unginned), 50 per cent., and of maize and sugar, 26 per cent. above normal.

*North-West Frontier Province.*—The prices of food-grains continued high throughout the year, though they were lower than in the preceding year. This decline was the natural result of good harvests and of smaller exports of grain down country. The price of cotton was high owing to the world-shortage.

*Central Provinces and Berar.*—The improvement in agricultural conditions resulted in a considerable fall in prices of food grains, which were lower than for many years past. In Berar a good crop of cotton fetched unusually high prices.

*Burma.*—The prices of all agricultural produce continued to fall, though they were still generally above normal and gave good profits to the cultivator. The price of paddy fell by 1 to 2 annas per maund in Lower Burma and by much more in the rice exporting districts of Upper Burma.

*Eastern Bengal and Assam.*—The prices of food-grains, which had been extremely high in 1907–8, declined in 1908–9, and reached a still lower level in 1909–10. There was a steady fall in the retail price of rice from Rs. 4·6 to Rs. 3·2 per maund. The price of jute, which had fallen heavily during 1907–8 and 1908–9, was still lower in 1909–10.

*Madras.*—Generally, the prices of food-grains were slightly easier, though rice was above the scarcity rate everywhere, and ragi in all districts except Tanjore.

*Bombay.*—Owing to the excellent season the prices of food-grains (rice, millet, wheat, and gram) slackened in every district, but were still above the normal. The tendency at the close of the year was downward. The prices of cotton were very high owing to a keen foreign demand, although the outturn was 30 per cent. greater than in the previous year.

#### WAGES.

(For further details see *Statistical Abstract for British India, Tables 201 to 203.*)

*Bengal.*—The high level of wages reached in 1907–8 and 1908–9 was generally maintained during 1909–10, money wages being kept up in spite of lower food prices. This is due partly to the growing demand for skilled labour in towns and in mills, collieries, and brickfields, and on railways, partly to the high prices of food-grains, and partly to the general rise in the standard of comfort. In some districts it is ascribed to the emigration of the labouring classes to Assam and elsewhere. The Bengal Government has arranged for a quinquennial wage census.

*United Provinces.*—The year was such as to afford full occupation to labourers. Wages show no sign of returning to the level customary a few years ago, and are probably still tending to rise. This is all to the good for the labourer, and the low-caste small cultivator, who works the land with his family and occasional help, has little ground for complaint, but high-caste cultivators feel the change in cases where they cannot command labour at the old customary rates, and in some parts they are making their families work. Landholders who cultivate any considerable portion of their land feel the change acutely, and are taking much interest in all kinds of labour-saving machinery. In factories there was no substantial change in the rate of wages in 1909–10.

*Punjab.*—The demand for labour is still in excess of the supply, and wages continue to increase. Agricultural and other unskilled labourers represent 5½ per cent. of the population. In December 1909 a wages survey was carried out in 4,728 Punjab villages. Purely cash rates obtain in 49 per cent. of these, cash rates with supplementary allowances in 48 per cent., and purely grain rates in 3 per cent. Wages of unskilled agricultural labourers have generally doubled in the last 20 years, the advance being specially rapid in the last five years. Actual rates vary much, and only common rates can be given. Wages are highest, 6 to 8 annas per day, in the Central Punjab and in the new canal colonies, where development has been most marked and plague most severe. Hissar

and the submontane districts of Hoshiarpur, Gurdaspur, and Sialkot return 5 annas. In other districts the rate is 4 annas, except in Rohtak ( $3\frac{1}{2}$  annas), Delhi and Kangra (3 annas), and Gurgaon (2 to 3 annas). The Delhi district has not been so much affected as other districts by plague or by the opening up of irrigated areas. The wages of village artisans and ploughmen have also practically doubled in 20 years. The wages of carpenters range from 6 to 8 annas in the Delhi Division up to 20 annas a day in some Lyallpur villages. Masons usually earn a little more than carpenters, but in many districts carpenters also work as masons. Blacksmiths are usually paid a share of the grain at harvest. Ploughmen generally receive a cash wage (commonly about Rs. 3 per mensem) with a large variety of supplements (food, grain, clothing, bedding, lodging, tobacco, a plot of land to cultivate, and harvest money), probably worth Rs. 9 or 10 a month. The causes of the great increase in wages are the marked rise in the prices of food-grains, heavy mortality from plague, and the greater demand for labour owing to extensions of cultivation, irrigation works, railways, and buildings, and the starting of factory industries. Since about 1,900 labourers have been in a position to dictate terms to employers. Customary rates have given place to competition wages, and labourers move freely in search of more remunerative employment. The shortage of adult labour in factories is serious, though the wages earned are higher than those of agricultural labourers, as, indeed, are urban wages generally.

*North-West Frontier Province.*—There is no separate class of agricultural labourers in the province. Agricultural wages have risen considerably in Peshawar and Bannu districts owing to the great demand for unskilled labour for canal and other works and for military and other non-agricultural purposes, while plague has reduced the supply. Wages have risen, and the general condition of the labourers is satisfactory.

*Central Provinces and Berar.*—Wages continued very high during 1909-10, and in some districts rose further, owing to the heavy cotton crop. Ample employment was available in agriculture, mining, irrigation, and railway works, and, as usual, here were frequent complaints of a shortage in the supply of labour.

*Burma.*—In Lower Burma the rates of wages were much the same as in the previous year. The labour market is not over-stocked, and the condition of the factory operatives is good. Skilled labourers get anything from Rs. 25 to Rs. 60 a month, while coolies get about Rs. 15.

*Eastern Bengal and Assam.*—The year was exceptionally favourable to agriculturists, and the average wages of unskilled agricultural labourers rose to an average of Rs. 10, 9 annas, while food prices were lower. The resident labour force is decreasing with the growth in the general prosperity of the poorer classes.

*Madras.*—Agricultural labourers have not shared proportionately in their employers' prosperity, and their wages will soon have to be enhanced if sufficient labour is to be kept on the land, for there is a great demand for labour on tea and rubber estates in India, Ceylon, and the Straits Settlements.

*Bombay.*—The demand for labour again exceeded the supply. There was an almost general complaint of lack of labourers. Wages continued high among the agricultural population. Only those landholders who pay for labour by a fixed share of the produce are without complaint. The cotton industry was greatly depressed. In factories, wages were on the same level as in the previous year, and no labour troubles of importance occurred, although food prices were lower. The commercial and industrial expansion of cities like Bombay, Karachi, and Ahmedabad, the growth of mining, and the construction of public works, offer a wider field every year for skilled and unskilled labour. In Ahmedabad the activity of ginning factories rendered it difficult to obtain labour for other purposes. Although wages were exceptionally high in Sind, canal-clearing operations could scarcely be carried on owing to scarcity of labour. Everywhere the labouring class has improved its position and is becoming more independent.

#### FAMINE OR SCARCITY.

*Bengal.*—In the early part of 1909-10 there was distress in North Bihar, and also in Puri and Palamau. Test works were open in Muzaffarpur, Darbhanga, and Bhagalpur; and gratuitous relief was given in these districts, and also in Purnea, Palamau, and Puri. Distress continued in Darbhanga, where malarial fever caused many deaths. Early rains brought relief by providing abundance of field-work, test-works were gradually closed, advances were freely distributed, and by the end of July all relief operations were stopped.

*Eastern Bengal and Assam.*—The year opened with scarcity conditions in Dinajpur, Bogra, Rangpur, Rajshahi, and Malda. In the first three relief operations were continued till the reaping of the early rice crop in the middle of June.

#### GENERAL REMARKS.

The following general notes on the condition of the people during the year are based on observations recorded by the Provincial Governments.

*Bengal.*—The comparative poorness of the harvest of 1908-9 (especially in Behar), succeeding two years of bad crops, made that year one of hardship for all classes. In the early part of 1909-10 distress continued in some districts, but with good rainfall normal conditions of agriculture returned, prices of food-grains fell, and labourers found full employment. The condition of agriculturists improved considerably through the good harvests. The standard of living is rising among the labouring classes as shown by their increased demand for petty luxuries. Distress in Orissa caused emigration to Calcutta.

*United Provinces.*—The province returned to a condition of ordinary prosperity and the last traces of the great famine of 1907-8 disappeared. The autumn harvest was good and the spring crop a bumper one. The great malaria epidemic having come to an end the mortality was about normal.

*Punjab.*—With good harvests and continued high prices the year 1909-10 was one of all-round prosperity for cultivators. There has been an unquestionable advance of late years in the standard of comfort and in the intelligence and enterprise of the agricultural classes. Food, clothing, houses, and utensils all show an improvement. In the Central Punjab luxuries now find a ready sale. Co-operative societies have had a beneficial effect.

*North-West Frontier Province.*—The condition of the people was generally prosperous and improving. The harvests, especially the autumn one, were good, and prices, though they still ruled high, were lower than in the previous year.

*Central Provinces and Berar.*—The year 1909-10, following one of scarcity and high prices, was an unusually good one, and the condition of the people improved. The prices of food-grains declined, and at the close of the year were lower than they had been for some years. A good demand for cotton goods benefited the weavers.

*Burma.*—The unusually prosperous agricultural season in the dry zone of Upper Burma following on a good year in 1908-9 led to an increase in cultivation and greatly benefited the agricultural population, which had suffered from a succession of bad harvests. In Lower Burma the year, in spite of floods, was also very prosperous. Prices, though lower than in the previous year, were sufficient to yield a good return. A good deal of Indian loanable capital has been withdrawn from agriculture in recent years for investment in oil and other industrial companies. The population in general is increasing in prosperity, comfort, and intelligence.

*Eastern Bengal and Assam.*—Although scarcity conditions prevailed in five districts till June, the rest of the Province benefited from good rice crops. The general result was that the condition of the people was much better than in the three previous years. The winter rice harvest was excellent, and largely removed the depression due to the low prices of jute. The excellent outturn of the crops more than compensated the cultivator for the fall in prices.

*Madras.*—The south-west monsoon was favourable, and the dry crop was above the average. The north-east monsoon, however, was below normal, with the result that the paddy crop was badly affected. Prices were easier. No agricultural deterioration is evident anywhere. The ryots show more readiness in adopting improvements.

*Bombay and Sind.*—In 1909-10 the season was excellent. Wages continued high, though prices of food-grains were lower. These facts were somewhat unfavourable to the cultivator, but were more than offset by good crops and very high prices of cotton. The year was distinctly prosperous. Many cultivators paid off debts, and in some cotton tracts there was a considerable manufacture of gold ornaments.

CHAPTER XVII.

ARMY AND MARINE.

(For further details see *Statistical Abstract for British India, Tables 70 and 181 to 190.*)

ARMY.

The sanctioned establishment of the army in India for 1909-10 and its actual strength on 1st April 1910 were as follows :—

	Sanctioned Establishment.	Actual Strength.
British officers	6,205	6,293
British warrant and non-commissioned officers and men	73,447	74,287
Native officers, non-commissioned officers, and men	159,337	152,234
<b>Total, 1909-10</b>	<b>238,989</b>	<b>232,814</b>
„ 1908-9	239,004	233,555

During 1909-10, as in the previous year, four battalions of Native infantry were employed in the colonies. One battalion from the Indian establishment continued to be absent in North China. One battalion was employed for a short time in Somaliland.

The sanctioned establishment of the Native army reserve was 35,736, and its actual strength on 1st April 1910 was 37,422, as against 36,970 on 1st April 1909.

The number of Volunteers in the whole of India on 1st April was as under :—

	1909.	1910.
Enrolled strength	36,638	38,402
Efficients	35,597	36,816
Reservists	2,009	2,461

The net expenditure on the army (exclusive of Special Defence Works) in 1908-9 and 1909-10 was as follows :—

	1908-9.	1909-10.
	£	£
Effective charges	15,266,362	14,878,644
Non-effective charges	3,047,965	3,044,809
<b>Total</b>	<b>18,314,327</b>	<b>17,923,453</b>

During 1909-10 the process was completed by which the army in India was brought under the system of staff organisation recently introduced in England and in other parts of the Empire, under which the staff is divided into a General Staff responsible for organisation and training, and an Administrative Staff carrying on the current business of army administration.

The system of ordnance factory accounting was reorganised by the institution of a central accounting office with the Inspector-General of Ordnance Factories, and of a separate Audit Department for ordnance factory accounts.

No military operations were undertaken during the year with the exception that a combined military and naval force was sent to the Persian Gulf in January 1910 for the suppression of the illicit traffic in arms. The force was still operating at the end of the year.

*Health of the British and Native Armies.*—The year 1909 was a healthy one, although a legacy of chronic malaria was left from 1908. In the British Army the rates of admission to hospital, of constantly sick, of invaliding, and of mortality, shown in the table on the next page were the lowest ever recorded. Every chief disease, except influenza, shared in the decrease of sickness. An important cause of the recent and rapid improvement in health is personal hygiene, soldiers being instructed how to protect themselves against enteric fever and malaria. As regards enteric fever, they are taught by leaflets and lectures the advantages of inoculation, and mosquito curtains and quinine treatment are employed to guard against ague. The marked decline in venereal diseases is attributed to the encouragement of healthy pastimes,

to education and a better moral tone, and to the growth of temperance, as well as to improvement in the methods, and the longer duration, of hospital treatment. There was much greater sickness and mortality during 1909 in the Northern than in the Southern Army. There was a great decline in invaliding, from 1,078 to 649, ague, heart complaints, tubercle of the lungs, mental diseases, and ear diseases being the chief causes. This decline is partly due to more men being sent to hill stations. The admission rate for ague fell from 244 to 203 per 1,000, or 28 per cent. of the total sickness, and the rate for all venereal diseases was 67·8 per mille, which compares favourably with 90 in 1907 and still more with 486 in 1897. The chief causes of death were enteric fever and abscess of the liver, the mortality from each being 1·58 and 0·48 per mille respectively. The mortality from enteric fever was the lowest since 1875, and the number of deaths was only 113 as against 190 in 1908.

The health of the Native troops was extremely good, all the rates shown in the table below being the lowest on record. The chief cause of sickness was, as usual, ague, the admission rate for 1909 being 179·8 per mille, or 31 per cent. of all cases of sickness, as against 266·2 in 1908. Dysentery, pyrexia, and respiratory diseases were other important causes of sickness. Pneumonia, which, as usual, was the chief cause of mortality, accounted for 33 per cent. of all deaths, the rate being 1·88 per mille. Tubercle of the lungs, malaria, and enteric fever helped to swell the mortality. There were only eight deaths from plague during the year. The chief causes of invaliding were tubercle of the lungs, debility, malaria, and injuries. Sickness and mortality were much higher in the Northern than in the Southern Army.

	Ratio per Mille of Strength.					
	British Troops.			Native Troops.		
	Average 1903-7.	1908.	1909.	Average 1903-7.	1908.	1909.
Admissions into hospital - - - -	879·4	839·5	716·9	634·5	674·4	584·2
Constantly sick - - - - -	54·0	45·7	40·3	23·5	22·8	20·8
Deaths - - - - -	10·51	9·78	6·25	7·96	7·41	5·62
Invalids - - - - -	27·91	15·64	9·07	8·95	6·63	5·74

#### MILITARY WORKS.

The expenditure on military works in 1909-10 amounted to £782,569. There was also an expenditure of £28,604 on Special Defence Works. The corresponding figures for 1908-9 were £908,108 and £29,144.

#### MARINE.

The net expenditure on marine services amounted to £377,697 in 1909-10, as against £351,509 in 1908-9. In this amount are included the cost of the Royal Indian Marine, the contribution towards the expenses of His Majesty's ships employed in the Indian seas, and charges for pilot establishments and vessels, coast lights, and other smaller items.

On the 1st April 1910 the Royal Indian Marine consisted of 10 sea-going vessels, three inland vessels, one hulk, and a number of small steamers, launches, &c. There was an establishment of 104 executive officers, 81 engineer officers, and 76 warrant officers (including 12 assistant surgeons of the Indian Subordinate Medical Department); and the native crews of the vessels (seamen, artificers, and others) numbered, in all, 1,943.

## CHAPTER XVIII.

## FRONTIERS AND NATIVE STATES.

## FRONTIER STATES.

*Baluchistan: Frontier and Native States.*—In the Baluchistan Province general peace and quiet prevailed during the year 1909-10. The only disturbing features were raids from across the border by outlaws, who, owing to their possession of modern rifles, were more daring and more difficult to deal with. The general health of the public was good. The Province remained free from epidemic diseases, with the exception of a few imported cases of plague towards the end of March 1910. The most unfortunate event during the year was a shock of earthquake on 21st October 1909. It was felt in most parts of the Agency, but most severely at Belput, Shahpur, and Bhag, where there was great loss of life and property.

The land revenue of British Baluchistan amounted to £66,800, an increase of £7,000 upon that of 1908-9. Owing to scarcity in India prices of foodstuffs ruled high in several districts.

The value of trade with Persia and Afghanistan rose from £133,200 to £170,600. The total trade with Persia, valued at £83,300, exceeded that of the previous year by nearly £20,000.

On the Quetta-Pishin border a number of raids were committed by outlaws aided by transfrontier tribesmen. The Zhob district also was harassed by Momin and other Sherani and Wazir outlaws, who in April 1909 overpowered 13 men of the Zhob Levy Corps, killing 11 of the party. In May 1909 three of the Zhob Levies were killed in an attack by Mahsuds. Three of the ringleaders in these attacks were subsequently captured by the Wano authorities and sentenced to long terms of imprisonment. Since their arrest no serious Mahsud raid has been reported.

The Loralai district was disturbed by several outrages attributed to a Luni outlaw.

The Perso-Mekran border was quiet throughout the year.

Arms and ammunition were landed on the Persian Gulf coast during the year to the estimated amount of 16,500 rifles, 350 revolvers, and over a million rounds of ammunition. In September 1909 the Government of India decided to resume naval operations on the coast, and considerable success attended the operations. Up to April 1910, 6,300 rifles and 620,000 rounds of ammunition had been captured, and 520,000 rounds and over 4,200 rifles after the close of the year. Very large numbers of Afghans went down to the coast, accompanied by many men of the North-West Frontier tribes.

The general attitude and conduct of the tribes in the Quetta-Pishin, Bolan, and Chagai districts were satisfactory. Some trouble was caused in the Sibi district by a section of the Marris, but order was eventually restored.

The working of the police during the year was satisfactory. The Levies did good and useful work throughout the Agency. Steps have been taken to arm a certain number with Martini Henry rifles, in view of the fact that the raiders whom they encounter are well armed with modern weapons.

There were no serious disputes or troubles among the Kalat tribes. The receipts from the six Kalat Niabats administered by the Political Adviser increased by 25 per cent.

The revenue of the Las Bela State was slightly below that of 1908-9. The crops on the whole were good. The Jam was in indifferent health during the year, and was subsequently allowed to proceed to Quetta for a time, leaving the administration of the State in the hands of the Wazir.

Sardar Sir Nauroz Khan, K.C.I.E., the Chief of Kharan, died in June 1909. As a result of the inquiry into Kharan affairs by Major Whyte, which was referred to on p. 126 of the Statement for 1908-9, in October 1909 the new Chief, Sardar Yakub Khan, agreed to the boundaries laid down by Major Whyte, and undertook not to allow traffic in arms in the Kharan State. The annual subsidy of £400 granted to his father was continued by Government, together with an allowance of £266 for

protecting the new Indo-European telegraph line in his territory. Subsequently, however, under evil influences the Chief repudiated the boundary agreed upon, and at the close of the year his attitude was not satisfactory.\*

Mir Sir Khudadad Khan, G.C.I.E., ex-Khan of Kalat, died at Pishin on 20th May 1909.

*North-West Frontier Province.*—During the year under review the principal causes of unrest were the outlaws in Afghan territory and the Mahsuds. In other respects unusual tranquillity prevailed, the record of the Khyber Afridis being exceptionally good.

Gangs of raiders operating from bases beyond the Durand boundary gave trouble throughout the year in Kohat, Kurram, Bannu, and the Tochi. The number of serious border offences showed an increase of over 50 per cent. upon the previous year, and raids by outlaws formed nearly a third of the total. The existence of a safe asylum across the Afghan border partly explains the regrettable increase of crime of all descriptions reported in the Province during the year.

The fact that the tribes were much better armed than formerly increased the difficulty of protecting the frontier. A policy of arming villagers was, however, carried into effect, and in the course of the year Martini Henry rifles were issued to all border villages that required them. The villagers were thus enabled to meet raiders on more equal terms, and in some instances with distinct success.

An arrangement was concluded with the Afghan Government for the despatch of a joint Anglo-Afghan Border Crimes Commission† for the investigation and settlement of outstanding cases.

The peace of Kurram was for a time threatened by a border dispute with Afghans over the Kharlachi Canal. A conflict was averted by the intervention of the Chief Commissioner and the restraining influence of Afghan officials.

The year opened with peace between Government and the Mahsud Maliks, but disturbances, promoted by the Mulla Powinda, caused for a time considerable unrest. The Mulla, whose object was to induce Government to invoke his aid in effecting a settlement, was ignored in all dealings with the tribe. He remained a power for evil, the Maliks, though generally well disposed towards Government, being disunited through feuds and unable to restrain him. The raids attributed to Mahsuds and Waziris rose during the year from 56 to 109.

The appointment of Resident, Waziristan, sanctioned in 1908, had good results, and it was hoped by various measures‡ to improve relations with the Waziris.

In the Dir, Swat, and Chitral Agency steady progress and development among the people were reported. The Political Agent was able to do much in the way of keeping the peace. Work on the Upper Swat Canal proceeded without interruption, and satisfactory arrangements were concluded for the acquisition of land.

The Militia, without exception, rendered excellent service. Owing to the conditions of service in Waziristan, recruits for the Waziristan Militia Corps were increasingly difficult to obtain. Good work was done by the Border Military Police. A scheme for their reorganisation was under the consideration of the Government of India.

The weather conditions in the Province were on the whole favourable, and the spring and autumn crops were of good average quality. The year was a satisfactory one for the bulk of the population.

Disturbances connected with religious celebrations by Hindus and Muhammadans broke out in the City of Peshawar on 21st and 22nd March 1910, in which nine lives were lost, and 43 persons were wounded. Many shopkeepers sustained losses through the looting of their premises. On March 22nd it was found necessary to call out troops to aid the police; but there were no further acts of violence, and measures were promptly taken to punish the ringleaders and restore order, and to ensure the early suppression of similar disturbances in the future.

*Kashmir.*—Information as to the affairs of the Kashmir State for the years 1908–9 and 1909–10 was not available when this Statement was prepared. In the Statement for 1907–8 information was given as to the affairs of that year.

*Sikkim.*—The agricultural season in Sikkim was favourable. The rainfall was 139·89 inches, or more than 22 inches above the average of the preceding three years.

\* He has since been killed by his own troops (April 19th, 1911).

† The Commission met on 26th May 1910, and concluded its labours at the end of October, having disposed of over 2,600 cases.

‡ The enlistment of a number of Mahsuds in the Indian Army was approved by the Secretary of State in December 1910.



The public health was generally good. In the year under review 6,105 persons were vaccinated against 5,652 during the preceding year.

The Maharani has continued making carpets at her factory, but few orders were received from visitors and others. The carpets, however, were well designed and made. The Maharaj-Kumar opened an industrial school with a view to teaching Lepchas and Bhutias some of the handicrafts. Progress in education in the two boarding schools maintained in the State was fair. The number of mission schools during 1909-10 were 13 day schools; 8 night schools, and 4 lace schools for girls.

The receipts and expenditure of the State during 1909-10 were £12,770 and £13,170, against £12,930 and £12,980, respectively, during the preceding year.

During the year under report an extradition arrangement was entered into between Sikkim and Bhutan to regulate the surrender of criminals.

*Frontier Tribes of Eastern Bengal and Assam.*—The Bhutias and Akas received their *posa*, or annual allowance, as usual. *Posa* was also paid to the Darrang Daffas, but a section of the tribe had to be punished for raiding. No complaints were received against the Apa Tanangs. The conduct of the Miris was good, but it was necessary to impose a fine on one section owing to the proceedings of a raiding band. The Doba Abors, whose conduct throughout the year was good, received their customary *posa*. The blockade against two sections of Mishmis was maintained, except in the case of certain Chulikata villagers who were allowed to trade at Sadiya. The Khantias and Singphos gave no trouble. The Nagas behaved well throughout the year, and large numbers of men from certain tribes offered themselves for work on tea gardens. The Deputy Commissioner of the Naga Hills made two expeditions, against the village of Mozungjami and the Aishan Kukis respectively. Both terminated satisfactorily; the former paid the fine imposed, while the Kukis were disarmed and over 100 guns were collected. Among the independent trans-frontier tribes numerous raids by head hunters were reported, but their relations with Government continued to be satisfactory.

In the Garo Hills the political situation continued to improve. As a result of inquiry made during the year into the alleged grievances of the Garos in respect of forest administration, certain concessions have since been made to them. The boundary between the Habraghat Pargana and the Garo Hills was demarcated.

In the Lushai Hills the indefinite nature of the southern boundary led to friction between one of the chiefs and some villagers in unadministered territory. With one exception, the Siem of Maharani, the conduct of the chiefs in the Khasi and Jaintia Hills was good. A boundary dispute between Khyrim and Myliem, which threatened to be serious, was composed by demarcation arranged by the Deputy Commissioner. Information as to the Manipur State is given on page 131.

*Burma.*—The year 1909-10 shows a satisfactory record throughout the frontiers of Burma, for freedom from crime and disturbance, and for progress in friendly intercourse with contiguous peoples and with tribes in unadministered territory.

*The Chin Hills.*—The crops in the Chin Hills were generally good. Demarcation of forests continued, and improvements were effected in Public Works administration. The condition of the roads and communications admitted of touring throughout the year. The public health was not satisfactory, and the subject engaged the attention of the local Government.

A serious raid was committed in February 1910, on the village of Naungmo in the Upper Chindwin district. An expedition for the punishment of the raiders, who came from unadministered territory, was sanctioned.\*

*The Kachin Hills.*—In the Kachin Hills only one raid was reported on the Chinese border in the year under report. The usual meeting of British and Chinese officials was held at Nawngma, and resulted in an arrangement for the formation of Joint Courts, and in the acceptance by the Chinese of the principles of the Track Law and of a scale of compensation in the settlement of frontier cases.

In connexion with unadministered territory, no serious crimes or disturbances were reported. Relations with trans-frontier Kachins were excellent, and appeared likely to develop into steady friendship. Good feeling was promoted by a highly successful Darbar held by the Lieutenant-Governor at Myitkyina in December 1909.

\* The punitive measures were successfully carried out by a column of military police in January 1911.

Much attention was paid during the year to frontier roads and inter-village communication. The settlement of forest reserves continued, and experiments in re-forestation were made.

*Shan States.*—The administration of the Shan States was peacefully conducted. With a few exceptions the conduct of the chiefs was satisfactory, and in several cases their efforts to maintain a pure and efficient administration were most praiseworthy. In the greater part of the States the seasons were favourable and the crops good; serious losses resulted, however, from floods, both in the Northern and Southern Shan States, and distress was experienced in Manglun, Yawnghwe, and Myelat. The external trade of the States declined, except in timber on the Salween and Mekong. Internal trade was brisk in the Northern States, where the large immigration of Chinese coolies, in consequence of the discontinuance of opium cultivation, made labour plentiful. The total value of the trade with Burma was, for imports, £1,300,000, for exports £1,146,000. Important roads were constructed, and in the Northern States the Burma Mines Company's railway from Manpwi to Bawdwin was completed, while work began on the lower part of the Southern Shan States railway, the most important work ever undertaken in connexion with the States.

The Forest Department largely increased their area under reservation in the Southern Shan States, and completed working plans of teak reserves in the Northern Shan States. Over 9,000 tons of lead were produced at the smelting works of the Burma Mines Company. One prospecting licence in the Northern, and seven in the Southern States, were issued during the year.

Greater interest in education was evinced by the opening of schools maintained by private benevolence; the working of the Department was improved by the restriction of the number of registered schools, and by the development of those retained. The public health was good; small-pox of a very mild type was prevalent, but there was no plague. Vaccination and the use of quinine became more popular.

*Karenni.*—Most of the food supplies of Karenni being imported, prices were high despite good local crops. Depression was experienced in the timber trade, much timber being sold at a loss. The value of imports was £175,800, of exports £78,000. The Southern Shan States Syndicate continued their explorations and were satisfied that rich deposits of tin and wolfram existed, but shortage of labour and difficulties of transport hampered their proceedings.

#### NATIVE STATES.

*Hyderabad.*—The following information regarding the administration of Hyderabad is for the calendar year 1909.

The average rainfall in the State was 29 inches, or four inches less than during the preceding season, and was fairly well distributed, except in two or three districts. There was no general failure of the crops. The price of food-grains was uniformly high, and rain was needed at the close of the year.

The Nizam's Government agreed to the appointment of a Commission to settle two disputes regarding boundaries between His Highness's Dominions and the Kurundwad State in the Bombay Presidency.

The output of gold mined by the Hutti (Nizam) Gold Mining Company, Limited, during the year 1909 was 15,097 ounces, valued at £58,300. A dividend of 10 per cent. was again declared. The Singareni collieries, which are owned by the Hyderabad (Deccan) Company, Limited, produced 442,893 tons of coal during the year under review, as against 444,212 tons raised in 1908. The coolies employed at the mines numbered 8,517, compared with 7,047 in the preceding year. A draft of the Mining Rules proposed by the Mining Rules Committee of 1908 was approved by the Nizam's Government and the Hyderabad (Deccan) Mining Company.

The agreements between His Highness's Government and the Barsi Light Railway regarding the Latur extension were signed in April 1909.

Ten cases of surra were reported in August 1909 to have occurred in the city of Hyderabad. His Highness's Minister was addressed with a view to action being taken on the lines of the Glanders and Farcy Act (XII. of 1899). To avoid delay His Highness's Government promptly provided by executive order a veterinary establishment and segregation camp. On the 28th December it was reported that the blood of 151 horses had been examined and 32 cases of surra detected. Out of these 32 cases 15 animals were destroyed, 10 succumbed to the disease, and 7 were alive. In order

to prevent the spread of epidemic diseases among horses and cattle in Secunderabad, arrangements were made with His Highness's Government to report the appearance of any epidemic disease affecting the horses and cattle of that locality.

An Abkari Act was passed by the Legislative Council in which the words "intoxicating drug" have been so defined as to include Ganja and its preparations.

The estimated income was approximately £2,708,300 compared with £2,860,600 during the year 1908. Increased receipts were anticipated chiefly under Land Revenue, Salt, and Abkari. The expenditure for the year was estimated at £2,822,600 against £2,962,600 during 1908. The principal increases were under the heads Compensation and Assignments, Police, Flood Remedial Measures, Flood Protective Works, and the State Railway from Purna to Hingoli.

*Mysore.*—The rainfall during the year 1909-10 was 38·22 inches or 3·05 inches more than during the preceding year. It was generally seasonable and well-distributed, with the result that the outturn of crops was comparatively good, and the prices of food-grains, which ruled high during 1908-9, fell slightly. The total area cropped (including the area cropped more than once) was 6,302,778 acres, as against 5,926,103 acres during the preceding year.

The public health was not satisfactory. The birth-rate was lower and the death-rate somewhat higher, being 16·63 and 18·51 per mille of population respectively, against 20·31 and 16·26 during the preceding year. Fever, small-pox, and cholera contributed to the increase in the death-roll. Plague was, however, somewhat milder, though it prevailed in all the districts. Satisfactory progress was made in vaccination, more than 102,000 persons having been vaccinated during the year under review. Compulsory vaccination, which had already been introduced into the cities of Bangalore and Mysore and the Kolar Goldfields, was extended to certain municipalities in the Bangalore, Kolar, Kadur, Shimoga, and Chitaldrug districts. A health exhibition was held at Mysore during the Dussera of 1909, at which there were interesting exhibits under the various heads of public health.

The general condition of the cattle was very satisfactory throughout the State. As the agricultural prospects were favourable, four agricultural exhibitions and a large number of cattle shows were held. The year opened with 20 agricultural banks, of which three were wound up; on account of mismanagement Government withdrew from seven banks the entire loans advanced to them.

During the year under review the re-survey of certain talukas and villages in the Mysore State was completed.

There were 87 joint stock companies at the beginning of the year. Of these seven were wound up, and no new companies were registered. The co-operative society movement continued to make steady progress. The number of societies increased by 25, making a total of 70.

The total value of the gold obtained from the mines was nearly £2,120,000, and the royalty realised by Government amounted to nearly £106,700, almost the same as in 1908-9. The quantity of manganese and chrome ore extracted was 38,000 and 2,000 tons, against 56,000 and 3,000 tons respectively, during the year 1908-9.

The total expenditure on public works was nearly £245,000, against nearly £273,300 in 1908-9.

The sanctioned strength of the regular police force was 831 officers and 5,065 men against 855 officers and 5,090 men during the preceding year. The total cost of the Department was approximately £62,900, an increase of £2,300.

The total number of educational institutions, both public and private, was 4,292, with an attendance of 137,729 pupils, against 4,310 institutions and 139,000 pupils during 1908-9. Female education continued to make satisfactory progress. The number of institutions for girls increased from 272 to 286. The number of industrial schools increased from 20 to 21, and their attendance from 1,198 to 1,230.

During the year Tata's silk firm at Bangalore was transferred to the Salvation Army to be worked on non-sectarian lines.

The total receipts, excluding the opening balance, amounted approximately to £2,030,800, against £1,847,300 in 1908-9. The total expenditure was £1,926,000, as against £1,964,300. The cash balance at the beginning of the year was £608,000, against £725,000 in 1908-9.

*Baroda.*—The following information regarding the administration of the Baroda State is for the year ending the 31st July 1909.

The rainfall of the year was about the average in all the districts, but it was neither very timely nor evenly distributed. The yield of staple crops was, however, on the whole, better than in the preceding year. The land revenue collections showed an increase of more than £220,000 year, as arrears were recovered owing to good harvests.

The birth-rate per mille compared with the previous year rose from 24·2 to 24·9 and the death-rate fell from 24·4 to 21·9.

The State Council, presided over by the Minister, held 46 ordinary and four special sittings and dealt with 529 subjects, 71 of which, being beyond the powers of the Council, were referred to the Maharaja for orders.

Trial by jury was commenced experimentally in the case of less serious offences coming before the Sessions Courts of Baroda and Naosari. The arrangements made between the Baroda Durbar and the British Government for the mutual extradition of criminals continued to work satisfactorily. An arrangement was entered into under which summonses and processes from Civil Courts in British India can be forwarded for service direct to the courts of the Baroda State and *vice versa*. It was also arranged between the Durbar and certain Kathiawar States that Commissions for recording the evidence of witnesses in civil cases should be executed free of cost.

The Legislative Department of the State published 19 Acts and 43 sets of rules during the year. Four Acts were important, and their object is stated below:—

- (1) The introduction of tramways into Baroda rendered necessary an enactment for their control and efficient working.
- (2) The condition of indebtedness into which certain nobles and zemindars had fallen having attracted the attention of the Durbar, an Encumbered Estates Act was passed enabling Government to take such estates under management and to pay off their debts under approved schemes.
- (3) The Hindu Sons' Liability Act was passed to relieve such sons of their liability to pay ancestral debts when they inherited no ancestral property. This was done to bring the law more into harmony with modern notions.
- (4) A Compulsory Education Act was passed for the expansion and creation of primary schools, in which education is given free.

Requisite facilities were afforded to the Imperial Postal Department for opening additional post offices and placing letter boxes within the limits of the Baroda State.

With a view to develop trade and commerce and to encourage indigenous industries in Baroda territory, the question of abolishing some of the import duties and of abating the export duty on cotton engaged the attention of the Durbar, and since 1st November 1909 all frontier duties on imports and export duties on cotton in Baroda and the Amreli Districts have been abolished. Octroi duties charged on merchandise by some of the municipal towns were similarly abolished, and all self-governing municipalities were empowered to improve their sources of revenue according to schedules to be approved by the Durbar. The Agricultural Department was further reorganised and placed under the sole charge of the Director of Agriculture, who has been relieved of his other duties. A demonstration farm was started at Dwarka to give instruction in agriculture, and seed depôts were established at Amreli and Vankal to advance to the people the best cotton seed. The Baroda Agricultural Conference met in April 1909. It was presided over by the Director of Agriculture. A temporary veterinary dispensary was opened at Pattan in March 1909.

A geological survey of the State was made during the year, resulting in the discovery of sand for glass-making, white china clay, earth-soda, and cement stone.

Two new industrial concerns were opened with an authorised capital of £16,666, viz., the Chemical Works, Limited, at Naosari and the Amreli Kathiawar Swadeshi Vanat (Weaving) Company at Amreli. These brought the total number of joint stock companies registered during the last two years up to 17, with an aggregate capital of £303,700. Three co-operative credit societies were registered during the year, and five were cancelled, thus leaving 32 at the end of the year.

During the year under report there were 1,267 schools under the control of the Baroda Education Department, compared with 1,280 in 1907-8. English is taught in 27 of these institutions, the number of students on their rolls being 4,888 against 4,783 during the preceding year, excluding the Baroda College. English teaching was also introduced in nine Gujrati boys' schools and in three girls'

schools. For vernacular education there were 2,803 institutions altogether, against 1,253 during the year 1907-8. 165,266 children attended, compared with 104,180 during the preceding year.

Numerous public works were completed or were in progress during the year under report. The total expenditure on public works, inclusive of establishment charges, amounted to £214,800 against £163,300 during the previous year.

The total length of railway lines open during the year was 287·56 miles. A line from Miyagam to Sinore and a line from Kosumba to Zankawav were under construction and several schemes for new lines were under consideration.

The sanctioned strength of the police force, excluding non-effectives, was the same as in the previous year, viz., 926 officers and 3,944 men.

The total income and expenditure of the State were, approximately, £1,173,600 and £940,800, respectively, compared with £1,054,600 and £1,016,900 during the preceding year. The increase in receipts under land revenue amounted to £222,000. There were increases under other heads as well.

The most important domestic event of the year was the death of Fattasing Rao, eldest son and heir-apparent of His Highness the Gaekwar.

*Central India.*—The following information regarding the States in Central India is for the year 1908-9.

The agricultural conditions prevailing during the year were fair. In certain localities the crops were below the average, but on the whole the results were satisfactory. In Gwalior some damage was caused by excessive rain. Drinking water was scarce in parts of the Malwa and Bhopawar Agencies, and the cattle suffered in consequence.

A special feature in the agricultural history of Central India is the increased cultivation of wheat and cotton. The outturn for 1908-9 as compared with 1907-8 was as follows:—

	Wheat.		Cotton.	
	Area in Acres.	Outturn in Tons.	Area.	Outturn.
1907-8	1,680	323	1,027	14
1908-9	2,02½	392	9,829	39

Increased attention continued to be paid to forestry, the result being most successful in the Indore State.

The famine, which had prevailed in the east of the Central India Agency, ceased before the commencement of 1908-9. The public health was not quite satisfactory during the year, and there was an epidemic of small-pox throughout Central India. Plague continued in the Agency, but the number of outbreaks decreased, and the total number of deaths was 1,404, as compared with 8,800 during the preceding year. Cholera also appeared in the Baghelkhand, Bundelkhand, and Bhopal Agencies.

In July 1908 the Police Division for the Agra-Bombay Road was abolished, the watch and ward being entrusted to the Durbars through whose territory the route runs. The number of dakaities in Central India was 98 against 68 during 1907-8.

The approximate outlay on Imperial public works amounted to £78,930, against £72,300 during 1907-8. The total length of roads maintained by the Department in Central India was 750½ miles, compared with 761½. On the completion of Mr. H. Marsh's work in Central India, in December 1908, the post held by him of Consulting Engineer for Protective Irrigation Works in Central India was abolished.

Postal unity was effected between the Bhopal State and the Imperial Post Office.

The new Daly College buildings were in progress. The total expenditure incurred up to the end of the year under report was £38,660, the estimate for the entire scheme being £70,000. The working of the institution was satisfactory. The number of boys on the College roll on 31st March 1909 was 69, and the average daily attendance 55·65. The health of the boys was not satisfactory, owing mainly to malarial fever.

His Highness the Maharaja of Charkhari died during the year. His Highness the Raja of Narsingarh was invested with ruling powers. The minor Chief of Kbilchipur was installed on the *gadi*.

*Rajputana.*—The following information regarding the States in Rajputana is for the year 1908-9.

The season was favourable from an agricultural point of view throughout the Agency. The outturn of crops was good and, except in Kota and Alwar, the prices of foodstuffs were easy, with the result that there was a general immunity from famine in all the States.

In Dholpur the area under cultivation was more by 1,12,009 bighas than in the preceding year.

The area under kharif in Marwar (Jodhpur) rose from 6,48,101 acres in 1907-8 to 6,86,682 acres in 1908-9. The increase in rabi was even more extensive. A bumper crop of wheat and grain was harvested.

In Kota the favourable rabi harvest made up for the indifferent kharif crops, and the high prices for food-grains and oil-seeds which ruled benefited the agriculturists and enabled many to recover from their indebtedness.

In Banswara the kharif crop was on the whole good. The rabi crop was, however, below normal.

In Karauli the outturn of kharif and rabi crops was on the whole excellent.

The yield of the rabi crops in Sirohi was very good.

In Bikaner the crops were excellent, and yielded a bumper harvest in every part of the State.

In Alwar, although the crops were below the normal, the zemindars profited by the high prices of food-grains, and thus good progress was made in the collection of State dues.

The year was, on the whole, a healthy one, except that malaria prevailed, especially during the autumn, in several of the States, and there was an outbreak of plague in some of the villages in the Bharatpur, Mewar (Udaipur), Alwar, and Marwar (Jodhpur) States, and one case in Jodhpur itself.

In Marwar (Jodhpur) there was steady progress in irrigation works, and trade was in a flourishing condition, as it was in Alwar where a new stone quarry was opened.

Three new educational institutions were opened in the Kota State.

Seven new village schools were opened in the Jhalawar State, bringing the total number up to 26.

In Mewar (Udaipur) the number of secondary schools increased from two to three. The number of other schools was the same as in the preceding year.

In Jaipur the number of schools rose from 1,047 to 1,135, with 31,125 scholars, as against 28,893 during 1907-8.

The total number of State schools in Bharatpur was 107, against 109 in the previous year. A lower primary school was opened.

In Bikaner a commercial training school, a telegraph training school, and an Urdu school were opened.

Three schools in the Dungarpur State and one in the Dholpur State were closed during the year through lack of public interest.

In 1909 the Degana-Sujangarh section of the Degana Hissar line in the Marwar (Jodhpur) State was opened to traffic, also the following sections of the Nagda-Muttra railway:—

- (a) Sawai-Madhopur to Kota.
- (b) " " to Gangapur.
- (c) Hindaun to Muttra.

His Highness the Maharao of Sirohi visited England during the year 1909.

Their Highnesses the Maharawals of Jaisalmer and Dungarpur were invested with ruling powers in December 1908 and February 1909, respectively.

*Bengal.*—In the Cooch Behar State the crops were on the whole good, and the condition of the poorer classes was much improved by a heavy fall in the price of rice. The progress made in the cultivation of tobacco affected them favourably. Malarial fever was less prevalent than in 1908-9; but there was an increase in the number of cases of cholera and small-pox. In view of the recurrence of cholera the improvement of the public water supply was decided on. The new Legislative Council met twice in the year. An improvement took place in the revenue returns, and the expenditure, though higher than in 1908-9, was within the State's income.

H.H. the Maharaja of Cooch Behar was absent from the State for the greater part of the year.

Of the two States, Seraikela and Kharsawan, in the Nagpur Division the former was in charge of the chief, while the latter, owing to the minority of its chief, was under the management of Government. The year was favourable to both States from an agricultural point of view, and the material condition of the people and the public health were generally good. The financial conditions showed improvement. A scheme for the preservation of the forests in Kharsawan was under consideration.

In the Orissa Tributary Mahals the year was one of general prosperity; the harvests were excellent, and the financial position of the majority of the States substantially improved. There was marked progress in all branches of administration. The States of Bonai, Hindole, Kalahandi, Keonjhar, Nayagarh, and Rairakhol continued under Government administration. The chief of Patna died in February 1910 and the succession of his eldest son was recognised by Government.

*Eastern Bengal and Assam.—Manipur.*—The conduct of the hill tribes in Manipur was on the whole satisfactory. The Kukis outside the eastern boundary of the State continued to give trouble until a force of military police was sent against them in February 1910. There was a marked decrease in the number of unlicensed guns confiscated during the year, from which it may be inferred that the number of such weapons possessed by the hill tribes has greatly decreased.

A severe epidemic of malarial fever broke out in May, and lasted for three months. The Imphal waterworks scheme remained in abeyance. The gross revenue of the State was £32,000, an advance of £2,000 upon that of the preceding year. The Manipur Company made considerable progress in sericulture, but experiments in the cultivation of lac proved a failure.

*Hill Tippera.*—The principal event of the year in Hill Tippera was the installation of the new chief, H.H. Raja Birendra Kishore Manikya. The chief officer of the State, Babu Annada Charan Gupta, resigned, and was succeeded by Maharaj Kumar Navadwip Chandra Dev Barman.

The harvests were on the whole satisfactory, though floods resulted from excessive rainfall in July and August. The public health was exceptionally good. Three new dispensaries were opened. The gross revenue, £127,500, was slightly below that of 1908-9; the installation expenses partly accounted for the increased expenditure, which amounted to £145,500.

*United Provinces of Agra and Oudh.*—In the Rampur State the crops throughout the year were satisfactory. Owing to an outbreak of malaria in the autumn the public health was seriously affected, and the excess of deaths over births during the year was 4,000. The finances of the State continued in a sound condition. The working of the new sugar factory and distillery resulted in large profits.

The seasons in the Tehri State were not favourable, and harvests were below the average; no distress, however, was experienced, and the prices of food grains fell considerably. The public health was good, and no epidemic occurred. The gross revenue increased somewhat, but the expenditure exceeded it by £12,000, bringing the closing balance down to £93,000. A dispute with neighbouring States was adjusted by the joint efforts of officers of the Governments of the United Provinces and the Punjab.

*Punjab.*—Agricultural conditions in the Punjab States were generally favourable, and there was a gradual decline in the prices of food-grains. The year was one of general prosperity. Climatic conditions were more favourable to health than in 1907-8; there was no visitation of malaria, and only in Jind was plague reported to be worse than usual.

In the Patiala State the Council of Regency ceased to exist on the investiture of the Maharaja, in September 1909. During the absence of the Raja of Kapurthala in Europe the business of the State was carried on by the Administrative Council under the presidency of an Indian civilian officer lent to the Durbar. In May 1909, popular discontent in Mandi culminated in a serious disturbance which necessitated the despatch of troops from Simla. Order was quickly restored, and steps were taken to regulate the future administration of the State.

*Central Provinces.*—In the year under report the financial position of the Feudatory States of the Central Provinces was generally sound. The crops were good and conditions easy. Crime declined; while attention was given to education and the supply of medical aid. Considerable sums were laid out on State improvements.

The public health was generally good, but small-pox broke out in several districts. Vaccination was adopted in all the States. The potassium permanganate treatment of snake-bite was successfully employed in a number of cases. In several States the mortality among cattle, through disease, was heavy.

Five of the States were under management, owing to the minority of the chiefs. The chief of Korea died during the year, and was succeeded by his son, a minor. The chief of Sarangarh was installed in November.

At the close of the year, at the request of the Raja of Bastar, a body of police, subsequently reinforced by troops, was despatched to his State by the Government of India in order to suppress a rising of aboriginal tribes. Order was restored, and the rebels, found guilty of arson, robbery, and violence, were duly punished.

*Bombay.*—In the States under the political supervision of the Government of Bombay the season was generally more favourable than in 1908-9, especially in the States of North and South Konkan, the Rewa Kantha Agency, and some of the Southern Maratha States, where the outturn of the principal crops was excellent. In some States, particularly in Kolhapur and Kathiawar, the crops were impaired by ill-distributed rainfall, but only in Phaltan were there any signs of scarcity. There large remissions were given, and a test-work was opened, which was, however, attended by few people owing to the extensive demand for labour in the neighbourhood. Generally, the prices of staple grains were stationary, except in a few States, where the excellence of the season permitted a slight fall.

Wages were high, and the demand for labour exceeded the supply. The States which have a sea-borne trade shared in the general prosperity, and in the ports of Kathiawar exports rose by 22 per cent. and imports by 28 per cent. Another mark of the favourable season was the increase in the revenue receipts and the enhanced outlay on public works in most of the States. The recovery of the Southern Maratha States from the depression of the preceding year was noticeable.

The abatement in the ravages of plague was responsible for the widespread decrease in the death-rate, but in most States a diminished birth-rate was reported.

Facilities for education improved with the opening of 147 new schools, while the number of pupils increased by over 6 per cent., raising the percentage of pupils to the whole population of these States to 2.9, compared with 3.5 in British districts.

In the majority of States a slight increase in the number of criminal offences was reported, but there was a general decrease of litigation in the civil courts.

Generally speaking, the condition of the people showed a marked improvement, and nowhere was this more evident than amongst the population of Aundh and of Khairpur, while in Dharampur, Bansda, and Jawhar considerable efforts were made to ameliorate the condition of the backward classes.

There were few changes among the ruling chiefs. H.H. the Nawab of Radhanpur died in February 1910, and the orders of Government recognising his younger brother, Kumar Shri Jalaluddinkhan, as his successor were<sup>\*</sup> awaited at the end of the year. The chief of Aundh having been deposed, Bhavanray Shrinivasray Pant Pratinidhi was selected by Government as chief in his place. H.H. the Mir of Khairpur was installed on the *gadi*, and the chief of Sangli was invested with full powers over his jaghir.

Visits were paid to Europe by H.H. the Raja of Rajpipla and by the chief of Jankhandi.

*Madras.*—The following information for the States of Travancore and Cochin is for the year ended 15th August 1909.

In Travancore the season was normal, and the prices of food-grains were more or less stationary. There was a general absence of malaria and epidemics. Excluding debt heads the total revenue amounted to £780,000, while the expenditure was £746,000, the corresponding figures for the preceding year being £702,000 and £698,000. Excise and customs improved. The State's external trade showed a marked advance, from £2,152,700 to £3,658,600. The expenditure on public works was £158,600 as against £134,000 in 1907-8. On the Kodayar irrigation works £35,200 were spent, the total capital outlay up to date amounting to £362,800.

During the year the Department of Agriculture was reorganised. Changes were made in the administration of the Educational Department, and the receipts and expenditure under this head were greater than in 1907-8.

\* The installation of His Highness took place in November 1910.



In Cochin the season was on the whole favourable to agriculture. The mortality from cholera showed a marked decrease. The total receipts and expenditure under service heads amounted to £270,400 and £223,700, the receipts, the highest on record, being £46,900 above those of the preceding year, while the expenditure was less by £26,100. Eight new Regulations were passed during the year, and the Commission of inquiry into the relations between landlords and tenants submitted a report. The separation of judicial and executive functions, which was introduced in the previous year, worked well. The Civil Judicial Department was reorganised, and the reorganised Police Department was at work. The forest settlement work was completed. Primary education was made free for girls and for the backward classes.

The report on the Pudukkottai State is for the year ended 30th June 1910. Owing to deficiency in the rainfall, many of the crops failed, and relief measures were started in December as a precaution against local distress. The public health was fairly satisfactory. The revenue, amounting to £118,700, fell slightly below, while the expenditure, £94,100, was £17,000 above, that of the previous year. Public works expenditure increased, and steps were taken for the improvement of irrigation. Expenditure on education also increased. Owing to ill-health H.H. the Raja was absent in Europe throughout the year.

In Banganapalle the season was a prosperous one, and the total receipts showed some improvement on those of 1908-9. The birth-rate increased and the death-rate declined. The subject of education received attention, and a technical school was opened. The attendance of pupils at the State schools increased during the year.

The administration of the Sandur State was in the hands of the Diwan throughout the year, the Raja being a minor. Despite a satisfactory rainfall, the year's crops showed little improvement; the prices of food-grains, however, were slightly easier. The public health was generally good. Expenditure was normal; a large decrease in revenue was accounted for by the non-collection of rent due from the General Sandur Mining Company. 59,855 tons of manganese ore were exported by this Company during the year.

## APPENDIX.

## CENSUS OF 1911.--PROVISIONAL FIGURES.

The fourth general census of India was taken on the night of 10th March 1911. The date was chosen so as to avoid as far as possible religious festivals and fairs, and other ceremonial occasions. Unfortunately, a serious recrudescence of plague interfered considerably with the enumeration in some parts of India, and caused a large temporary decrease in the population of certain towns, many of the inhabitants having left their homes. The census included the whole of Baluchistan (except Kharan), the agencies and tribal areas of the North-West Frontier Province, and several remote tracts of Burma not previously dealt with. Arrangements were made for the enumeration of persons travelling by rail, road, or river, or otherwise absent from home. The total strength of the census staff was about two millions.

The provisional figures show that the total population of British India was 315,001,099 (viz. :—British territory 244,172,371, and Native States 70,828,728), an increase of 20,640,043 on the returns of the census of 1901. To this increase British territory contributes 12,547,564, and Native States 8,092,479. Allowing for the fact that areas for the first time included had a population of 1,731,099, the increase of the Indian population during the decade 1901–11 was 6·4 per cent.

During the decade 1891–1901, India was afflicted by two severe famines followed by severe epidemics of fever, cholera, and other diseases, which caused great mortality. The decade 1901–11 was fairly prosperous; there were no very wide-spread famines, and the birth-rate was higher. Plague, however, extended its ravages much more widely, causing 6½ million deaths in the decade, while, in 1908, malarial fever was accountable for heavy mortality in the United Provinces and the Punjab Provinces, which have also suffered severely from plague and local famines.

The following tables show the provisional results of the census as regards the population of (I.) the provinces and Native States; and (II.) the principal towns. The population returned at previous Censuses has been corrected, as far as possible, in order to allow for subsequent interprovincial transfers. The largest changes are those necessitated by the partition of Bengal. The population of Manipur State (total 284,465—males 139,632, females 144,833) which was included under the head British Territory in 1901, has now been included under the head Native States. The tribal areas in the North-West Frontier Province have also been shown under the latter head. Sikkim, which in 1901 was classed under Bengal States, is now shown separately.

The areas newly included within the scope of the enumeration are noted below :—

Name of Tract.	Manner in which Population ascertained.	Population.
<i>Burma.</i>		
Unadministered area in Pakokku Hill tracts	Estimated - -	9,123
West Manglun - - - - -	Estimated - -	18,562
Kokang - - - - -	Estimated - -	25,604
<i>Baluchistan.</i>		
Mekran - - - - -	Enumerated - -	71,925
Western Sanjirani country - - -	Enumerated - -	1,620
<i>North-West Frontier Province.</i>		
Agencies and Tribal areas - - -	Estimated - -	1,604,265
	<b>TOTAL</b> -	<b>1,731,099</b>

CENSUS OF INDIA, 1911.

I. TOTAL POPULATION AND VARIATION, 1901-1911.

PROVINCE, STATE, OR AGENCY.	POPULATION, 1911.			POPULATION, 1901.			VARIATION, 1901-11.	
	Total.	Males.	Females.	Total.	Males.	Females.	Actual.	Per cent.
1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Ajmer Merwara	501,436	266,170	235,266	476,912	251,026	225,886	+ 24,524	+ 5.1
2. Andamans and Nicobars	26,447	19,570	6,877	24,649	18,695	5,954	+ 1,798	+ 7.3
3. Baluchistan (Districts and Administered Territories).	498,016	251,811	186,205	401,648	230,108	171,540	+ 86,368	+ 21.1
4. Bengal	52,656,461	26,264,748	26,391,713	50,715,794	25,151,960	25,563,834	+ 1,940,667	+ 3.8
5. Bombay (Presidency). Bombay	19,664,546	10,239,722	9,424,824	18,559,650	9,583,456	8,976,194	+ 1,104,896	+ 6.0
Sind	16,104,955	8,299,309	7,835,646	15,304,768	7,791,136	7,513,630	+ 800,189	+ 5.2
Aden	3,513,732	1,939,431	1,574,301	3,210,910	1,761,790	1,440,120	+ 302,822	+ 9.4
6. Burma	45,850	30,982	14,877	43,974	30,530	13,444	+ 1,885	+ 4.3
7. Central Provinces and Berar	12,057,906	6,144,301	5,913,604	10,490,624	5,342,033	5,148,591	+ 1,567,281	+ 14.9
8. Coorg	13,917,637	6,931,505	6,986,132	11,867,132	5,924,192	6,042,940	+ 1,950,505	+ 16.3
9. Eastern Bengal and Assam.	175,004	97,315	77,689	180,607	100,258	80,349	+ 5,603	+ 3.1
10. Madras	88,978,307	44,989,992	43,988,315	86,510,844	43,273,023	43,237,821	+ 3,467,963	+ 11.4
11. North-West Frontier Province (Districts and Administered Territories).	41,402,026	20,366,336	21,015,688	38,229,654	18,851,329	19,378,325	+ 3,172,372	+ 8.3
12. Punjab	2,199,029	1,184,201	1,014,828	2,046,218	1,110,378	935,840	+ 162,811	+ 7.5
13. United Provinces of Agra and Oudh. Agra	19,962,165	10,985,638	8,976,527	20,330,337	10,942,682	9,387,655	- 368,172	- 1.8
Oudh	47,193,392	24,628,344	22,565,048	47,691,236	24,616,617	23,074,621	- 497,846	- 1.0
14. Baluchistan (Agency Tracts).	34,631,658	18,147,339	16,484,319	34,858,070	18,048,411	16,809,659	- 226,412	- .7
15. Baroda State	12,561,734	6,481,005	6,080,729	12,833,168	6,568,206	6,264,962	- 271,434	- 2.1
Total, Provinces	244,172,371	124,791,881	119,380,490	231,624,807	117,665,757	113,959,050	+ 12,547,564	+ 5.4
16. Bengal State	872,995	201,868	171,127	409,098	215,412	193,686	- 36,108	- 8.8
17. Bombay States	2,031,453	1,065,966	976,087	1,952,692	1,008,634	944,058	+ 78,761	+ 4.0
18. Central India Agency	4,535,657	2,270,645	2,265,012	3,881,448	1,954,974	1,926,474	+ 654,209	+ 16.9
19. Central Provinces States	7,410,024	3,764,379	3,645,645	6,908,559	3,512,956	3,396,603	+ 501,465	+ 7.3
20. Eastern Bengal and Assam States.	9,365,165	4,804,914	4,560,251	8,514,114	4,369,388	4,144,726	+ 851,051	+ 10.0
21. Hyderabad State	2,117,408	1,053,467	1,063,939	1,631,140	811,970	819,170	+ 486,266	+ 29.8
22. Kashmir State	576,622	292,744	283,878	457,790	232,127	225,663	+ 118,832	+ 26.0
23. Madras States	13,375,469	6,795,209	6,580,260	11,141,142	5,673,629	5,467,513	+ 2,234,327	+ 20.0
24. Mysore State	3,157,352	1,673,408	1,483,944	2,905,578	1,542,057	1,363,521	+ 251,774	+ 8.7
25. North-West Frontier Province (Agencies and Tribal Areas).	4,813,644	2,413,263	2,400,381	4,188,086	2,098,048	2,090,038	+ 625,558	+ 14.9
26. Punjab States	818,639	458,103	460,536	812,025	405,200	408,825	+ 106,014	+ 13.1
27. Rajputana Agency	3,430,254	1,731,955	1,698,299	2,952,157	1,490,165	1,461,992	+ 478,097	+ 16.2
28. Sikkim	5,808,796	2,934,651	2,872,145	5,539,399	2,797,024	2,742,375	+ 267,397	+ 4.8
29. United Provinces States	1,622,078	864,868	757,210	79,278	48,939	30,339	+ 1,542,800	-
Total, States and Agencies.	4,210,036	2,321,997	1,888,039	4,424,398	2,409,809	2,014,589	- 214,362	- 4.8
Total, India	10,514,111	5,506,213	5,007,898	9,842,416	5,165,891	4,676,525	+ 671,695	+ 6.8
Total, India	58,169	45,186	48,033	59,014	30,796	28,219	+ 29,155	+ 49.4
Total, India	831,751	429,367	402,384	802,097	414,414	397,683	+ 29,654	+ 3.7
Total, States and Agencies.	70,828,728	36,427,495	34,401,233	62,736,249	32,286,067	30,450,182	+ 8,092,479	+ 12.9
Total, India	315,001,099	161,219,376	153,781,723	294,361,056	149,951,824	144,409,232	+ 20,640,043	+ 7.0

II.—POPULATION OF PRINCIPAL TOWNS.

In some towns such as Nagpur, Gaya, and Indore, where plague was prevalent at the time of the Census, many of the inhabitants were absent from their homes and the population shown in this table is far less than it would otherwise have been. A fresh enumeration will be effected in some of these towns later on, when the plague has disappeared.

## II. POPULATION OF PRINCIPAL TOWNS AND VARIATION, 1901-1911.

CITY.	POPULATION, 1911.			POPULATION, 1901.			VARIATION, 1901-11.	
	Total.	Males.	Females.	Total.	Males.	Females.	Actual.	Per cent.
1.	2.	3.	4.	5.	6.	7.	8.	9.
Calcutta with Suburbs and Howrah.	1,216,514	805,475	411,039	1,106,738	721,759	381,979	+109,776	+ 9.9
Bombay*	972,930	633,884	339,046	776,006	479,786	296,220	+196,924	+25.4
Madras	517,335	265,456	251,879	509,346	256,730	252,616	+ 7,989	+ 1.6
Hyderabad	499,840	257,826	242,014	418,466	232,295	216,171	+ 51,374	+11.5
Rangoon	289,432	204,343	85,089	245,430	174,587	70,843	+ 44,002	+17.9
Lucknow	260,621	145,070	115,551	264,049	140,759	123,290	- 3,428	- 1.3
Delhi	232,859	133,842	99,017	208,575	114,815	93,760	+ 24,284	+11.6
Lahore	228,318	143,045	85,273	202,964	119,996	82,968	+ 25,354	+12.5
Abmedabad	215,448	116,352	99,096	185,889	97,343	88,546	+ 29,559	+15.9
Benares	204,222	105,811	98,411	209,331	108,813	100,518	- 5,109	- 2.4
Bangalore (including Civil and Military Station).	189,393	97,477	91,916	159,046	81,086	77,960	+ 30,347	+19.1
Agra	182,419	99,398	83,021	188,022	99,903	88,119	- 5,603	- 3.0
Cawnpore	174,031	100,043	73,988	197,170	111,280	85,890	- 23,139	-11.7
Allahabad	166,463	92,547	73,916	172,032	91,762	80,270	- 5,569	- 3.2
Karachi	159,270	96,265	63,005	116,663	68,386	48,277	+ 42,607	+36.5
Poona	157,666	84,294	73,372	153,320	80,065	73,255	+ 4,346	+ 2.8
Amritsar	152,866	88,782	64,084	162,429	93,199	69,230	- 9,563	- 5.9
Mandalay	138,456	69,691	64,765	183,816	93,583	90,233	- 45,360	-24.7
Jaipur	136,491	70,635	65,856	160,167	83,851	76,313	- 23,676	-14.8
Patna	136,470	70,854	65,616	134,785	67,038	67,747	+ 1,685	+ 1.2
Madura	132,669	66,215	66,454	109,760	54,512	55,248	+ 22,909	+20.9
Bareilly	127,476	69,008	58,468	131,208	69,853	61,355	- 3,732	- 2.8
Srinagar	126,358	68,397	57,961	122,618	65,542	57,076	+ 3,740	+ 3.1
Trichinopoly	122,037	60,577	61,460	104,721	51,215	53,506	+ 17,316	+16.5
Meerut	115,471	65,597	49,874	118,129	65,568	52,561	- 2,658	- 2.3
Surat	114,116	59,117	54,999	119,306	61,653	57,653	- 5,190	- 4.3
Dacca	108,188	62,861	45,327	89,733	49,871	39,862	+ 18,455	+20.6
Nagpore	101,364	58,693	47,671	127,734	66,255	61,479	- 26,370	-20.6
Jubbulpore	100,660	56,022	44,638	90,533	46,989	43,544	+ 10,127	+11.2

\* Plague was raging in Bombay when the Census of 1901 was taken. At a special Census taken in 1906 the population was 959,537.

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