

EAST INDIA (PROGRESS AND CONDITION).

STATEMENT

EXHIBITING THE

MORAL AND MATERIAL PROGRESS AND CONDITION

OF

I N D I A

**DURING THE YEAR 1901-02, AND THE NINE
PRECEDING YEARS.**

THIRTY-EIGHTH NUMBER.

(BEING THE FOURTH DECENNIAL REPORT.)

(PRESENTED PURSUANT TO ACT 21 & 22 VICT. c. 106, s. 53.)

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India Office,
June 1903.

ARTHUR GODLEY,
Under Secretary of State for India.

[1]

NOTE.

This Report has been prepared under the instructions of His Majesty's Secretary of State for India, by Mr. Francis C. Drake, of the India Office.

P R E F A C E.

The present number of this Statement is affiliated, according to Statute, to the year 1901-02, but it is also concerned to bring into one view the progress made during the preceding nine years. For this purpose it has been necessary to treat the year 1901-02 in less detail than is usual in the annual Statements, and, secondly, to adopt a more general method of treatment, instead of reviewing each subject by provinces. In those chapters, however, in which this method, of dealing with the progress of India as a whole, has been employed, an attempt has been made, by the free use of tables, to mark the differences between the provinces.

In its general outline, the Statement follows the decennial Statement for 1891-92.

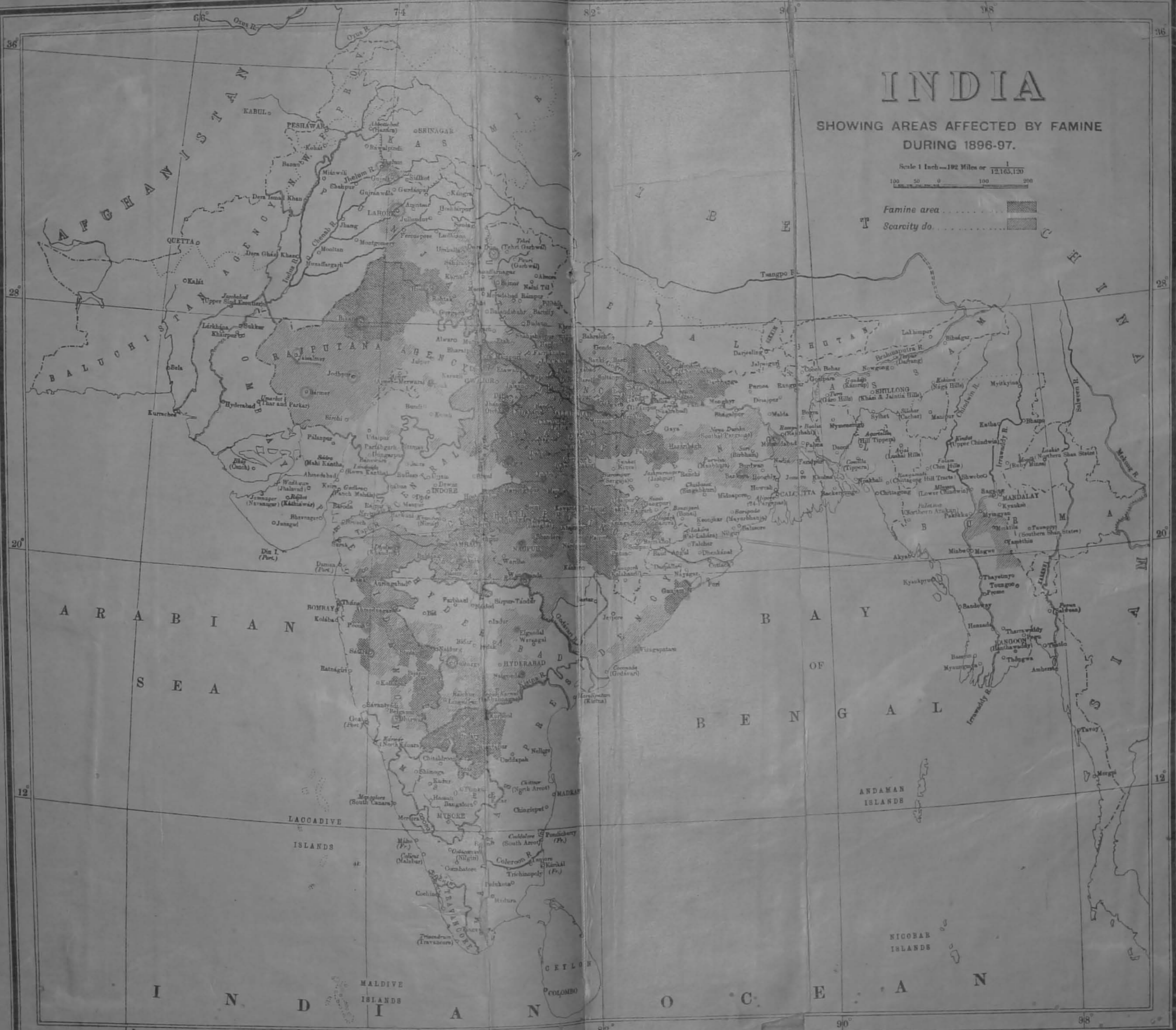
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INDIA

SHOWING AREAS AFFECTED BY FAMINE DURING 1896-97.

Scale 1 Inch = 100 Miles or $\frac{1}{12,165,120}$

Famine area [hatched box]
T Scarcity do [dotted box]



STATEMENT
 EXHIBITING THE
MORAL AND MATERIAL PROGRESS AND CONDITION
OF INDIA

During the Year 1901-1902 and the Nine preceding Years.

[NOTE.—Throughout this Statement, Receipts and Expenditure are shown in pounds, rupees being converted for the purpose at the rate of Rs. 15 = £1.]

CHAPTER I.

INTRODUCTORY.

I.—AREA AND POPULATION.

The British Empire in India falls politically into two great divisions, the Provinces and the Native States. The former, known as British India, consists of the territory immediately under the administration of the Crown; the latter comprises some 364 distinct units, each under its own chief or chiefs, and all acknowledging the suzerainty of the Paramount Power. The total area, so far as it has been surveyed, is 1,761,000 square miles, while the area which came under the operations of the census in 1901 was nearly 1,600,000 square miles, with a population of 294 millions. The States contain 21 per cent. of the

AREA AND
POPULATION.

	Area.	Population.
	Sq. Miles.	
British India	1,074,457	231,560,644
Native States	686,833	62,746,014

population on 39 per cent. of the area; and the mean density is 216 to the square mile in British India, against 92 to the square mile in the States. This disproportion is partly due to the large tracts of thinly populated country included in Kashmir, Western Rajputana, and the hills of Central India and southwestern Bengal. The increase in the population of the whole area which came within the operations of the census was 2·1 per cent. in the ten years ending in 1901. But if, for the purpose of comparison, the population of tracts enumerated for the first time in 1901 be deducted from the total shown in that year, the actual rate of increase appears as 1·3 per cent., as compared with 11·2 per cent., the rate of increase between 1881 and 1891. This result is in the main due to the figures in the Native States, which have fallen by 4·34 per cent. in the last ten years. The figures in British India during that period show an increase of 4·44 per cent.

The Native States will be treated in a separate chapter. With regard to the British Provinces, some brief notes on the general features of each may

AREA AND
POPULA-
TION.

form a useful introduction for readers who are unfamiliar with Indian subjects. The following statement gives a few of the leading statistics from the provincial census reports:—

British Province.	Area affected by the Census, in Square Miles.	Population.		Mean Density per Square Mile.	Urban Population.		Occupied Houses.
		1901.	Variation per Cent. in Ten Years 1891-1901.		1901.	Percentage of Urban Population on Total Population.	
Madras	141,705	38,199,163	+7.2	170	4,276,178	11.2	7,125,160
Bombay, excluding Aden	122,984	18,616,387	-1.7	151	3,492,325	18.9	2,463,837
Bengal	181,185	74,744,366	+4.8	494	8,870,268	8.1	14,329,110
Assam, excluding Manipur	83,959	5,841,878	+6.7	110	113,671	1.9	1,249,239
United Provinces	107,104	47,691,782	+1.7	445	5,273,673	11.0	8,664,860
Punjab	97,202	20,330,330	+7.8	209	2,325,467	11.4	3,212,734
North-West Frontier Province	16,466	2,125,480	+7.8	141	263,905	12.7	359,895
Central Provinces	66,489	9,576,648	-8.4	114	820,818	8.8	2,069,817
Bihar	17,710	2,764,016	-5.0	165	419,431	15.2	587,910
Burma, including the Shan States, &c.	238,738	10,490,024	+19.8*	44	989,938	9.4	2,092,811
Ajmere-Merwara	2,711	476,912	-12.1	170	126,314	26.2	107,401
Coorg	1,582	180,807	+4.4	114	16,249	9.4	20,860
Andamans and Nicobars	3,188	24,499	—	8	—	—	2,550
British Baluchistan and administered territory.	36,397	308,216	—	8	40,023	13.0	69,503
Total	1,074,457	231,660,644	+4.7	216	22,031,190	9.5	43,276,277

* Excluding the population of the Shan States and Chin hills, enumerated for the first time in 1901.

Madras

The Madras presidency stands first in rank of the local Governments, as it does in order of acquisition by the British. In point of size it is third, and third also in respect of population. It falls into five natural divisions. In the first place, beginning in the north-east, there is the East Coast Division, which includes the coast line from Ganjam to a point a little north of Madras city. This tract possesses two large irrigated areas in the deltas of the Godavary and Kistna rivers, and has a rainfall which averages between 30 and 40 inches. Although its population is not so dense or so well educated as that of the two divisions to the south, the rate of increase of its inhabitants is the highest of any of the five, and its capacity for further progress is very considerable. Forming a hinterland to the northern portion of this division, lies the Agency division, a sparsely peopled tract, consisting almost entirely of jungle and low hills, and inhabited largely by Animistic tribes, who speak languages peculiar to themselves, live mainly in very small villages, scarcely ever leave their own country, depend almost entirely upon agriculture, and are almost wholly illiterate. It contains no railways, and hardly any roads. Little of the ordinary law of the country is in force in these "Agency tracts," for which special methods of administration are requisite. The annual rainfall is over 50 inches. Behind the southern portion of the East Coast division lies the third natural division, which includes the Deccan districts ceded by the Nizam of Hyderabad at the end of the third Mysore War in 1800. These districts are for the most part unfertile, and are seldom irrigable; the rainfall is nowhere more than 30 inches, and sometimes less than 25 inches, and the people are almost entirely dependent on the land. The density of the inhabitants and the rate at which the population grows are therefore both low. The people are on the whole backward, and education does not flourish. This area is bounded on the north by the Hyderabad State, and on the south-west by the State of Mysore. To the south of Mysore, the British territory falls into two divisions, divided by the Western Ghats. On the east of these hills lies what may be termed the southern division, which contains the eastern or Coromandel coast line from above Madras city to where it joins Travancore territory, near Cape Comorin, and the country which stretches back to the hills of Mysore, the Nilgiris, and Travancore. It is inhabited by Tamils, Hindus, and native Christians. Its annual rainfall is on the whole nearer 40 than 30 inches; it includes the fertile irrigated delta of the Cauvery river, and the area commanded by the Periyar irrigation scheme, and it contains three of the richest districts in the presidency. Its

population is more urban than that of any other of the divisions, and in literacy, as well as in number per square mile, its people are only second to those of the west coast. The fifth division, lying on the west, or Malabar coast, is the richest of all. Its annual rainfall is over 100 inches everywhere, and three wet crops a year on unirrigated land are not uncommon. The population is thicker, and the proportion of literates (people able to read and write) is higher than in any other of the five divisions. The principal languages of the west coast division are Malayalam, Tulu, and Canarese.

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TION.

There are thus at least four climates within the presidency, five tracts with vernaculars and castes of their own, and five divisions which differ greatly in essential characteristics.

The Bombay presidency stands second in rank among the provinces of India. Bombay proper includes the coast line from the Malabar coast to the Gulf of Cambay, broken only by the Portuguese settlements of Goa and Damaun. Further north, the protected States of Cambay, Kathiawar, and Cutch occupy the seaboard up to the province of Sind, which since the year 1847 has formed a part of the presidency. The districts of the presidency can be grouped into five natural divisions, according to the differences of climate and soil. In the northern province, Sind, the lower valley of the Indus, the presidency possesses a tract of country entirely dependent on irrigation. Where the soil is not fertilised by the life-giving waters of the river, its aspect is that of a sandy desert, a dreary plain broken only by an occasional line of sandhills. Much of the province, therefore, is at present unfit for human habitation, and the population is only 68 to the square mile of its total area. It has increased, however, by nearly 12 per cent. in the last ten years, compared with a decrease of 4.3 per cent. in British territory in the rest of the presidency. South of Sind, between the feudatory States bordering on Rajputana and the sea, the usually fertile and well-cultivated plains of Gujarat stretch southwards to the Konkan. This has always been regarded as the "garden of the presidency," yielding abundant crops, and supporting a population of 267 to the square mile. It is this tract, however, which has suffered most disastrously from the famines of 1899-1900 and the succeeding years. The rest of the presidency falls into three other natural divisions. Below the walls of the Ghats which run in a continuous chain from Gujarat to the south of Kanara, where Bombay touches Mysore and Madras, a coast line of rice-bearing areas, known as Konkan, sure of a regular rainfall in the first contact with the south-west monsoon, maintains a well-distributed population of 221 to square mile. Secondly, the Deccan tableland, protected by the hills from the first onset of the monsoon, which often surmounts their crest only to hurl its heavy clouds across the continent, and to leave the plains unwatered and untilled, with difficulty maintains 159 where Gujarat provides for nearly twice that number. In the extreme south of the presidency, above the Ghat line, a favoured tract known as the Karnatak, more fortunate than the arid plains of the Deccan, finds support for an average population of 190 to the square mile with little risk of crop failure in the greater part of its well-watered valleys.

For administrative purposes the presidency is divided into four commissionerships, or divisions, namely Sind, and the Northern, Central, and Southern divisions.

There is a distinction which must not be overlooked between the Bengal presidency and the province of Bengal. The former expression belongs rather to constitutional history than to present administration. For certain purposes, such as the survey of India or the forest administration, where a distinction is to be drawn between Madras and Bombay on the one hand, and the rest of India on the other, the term "Bengal presidency" is still required. But ordinarily by Bengal is meant the province of Bengal only. Broadly speaking, this province includes Bengal proper, Behar, Orissa, and the Chota Nagpur plateau. Taken as a whole, it is by far the most populous charge in India, and the density of the population corresponds very closely to that of England and Wales; but there are great differences in this respect in its component parts. Behar and Bengal proper include the lower portion of the valley and the delta of the Ganges and Brahmaputra

AREA AND
POPULA-
TION.

rivers, and a density of 775 to the square mile is found in central Bengal, and of 636 in north Behar. In the alluvial portions of Orissa also the density of the population is very high. But there is a large area in the south-western part of the province, where the rugged hills and jungles of the Chota Nagpur plateau, containing besides British territory the tributary States of Orissa and Chota Nagpur, maintain only 152 persons to the square mile. In the north, the sub-Himalayan district of Darjeeling has a population of 214 to the square mile; and Hill Tipperah and the Chittagong hill tracts in the extreme east of the province have only 42 and 24 persons respectively to the square mile. But the province is, on the whole, a very fertile tract. The rainfall is heaviest in Eastern Bengal and on the slopes of the Himalayas, where it often exceeds 100 inches in the year; and it is lowest in the southern districts of Behar, where the annual average is only about 41 inches.

For administrative purposes the province is divided into nine large tracts officially called divisions, of which five are within Bengal proper and two in Behar, while Orissa and Chota Nagpur each forms a separate division.

Assam.

The territory which was placed in 1874 under the administration of the Chief Commissioner of Assam consists of two valleys, separated from one another by a wall of hills which project towards the delta of Bengal from the mountain system of Upper Burma and Western China. To the north it is bounded by the Himalayas; the eastern end of the Brahmaputra valley is closed by mountain ranges, while the Surma valley is imbedded in the hills which separate the district of Cachar from the State of Manipur and form part of the Lushai and Tipperah ranges, the southern boundary of the province. Assam therefore falls into three natural divisions, the Surma valley, the Brahmaputra valley, otherwise known as the Assam valley, and the hill districts, the latter including the Garo hills, the Khasi and Jaintia hills, the Naga hills, and the Lushai hills in the south. The Sylhet district of the Surma valley formed part of Bengal as acquired by the English by the Moghul grant of the *diwani* after the battle of Buxar, in 1765, and it resembles that province in fertility and density of population. This district contains 412 persons, and the valley as a whole 353 persons, to the square mile. The Brahmaputra valley is much less densely populated, containing only 108 persons to the square mile, and there is a vast area of land awaiting cultivation. The hill districts vary in the character of the soil, but, generally speaking, they carry a very sparse population, which is as low as 11 to the square mile in the Lushai hills.

United
Provinces.

The United Provinces of Agra and Oudh, known until the year 1902 under the title of the North-Western Provinces and Oudh, constitute, with Delhi on the one side and part of north Behar on the other, the tract usually spoken of by natives of India as Hindustan. The territory has been classed in eight natural divisions. In the first place there is the thinly populated Himalayan region in the north-west, between the States of Tehri (Garhwal) and Nepal. Next comes the strip of sub-Himalayan country, classed in two natural divisions, west and east, the former having a density of 409 persons, the latter of 561 persons, to the square mile. The Indo-Gangetic plain falls into three natural divisions, with density increasing from west to east; the western portion contains 512 persons to the square mile, the central portion 549, and the eastern portion, adjoining Behar, has a density of 718 to the square mile. In the southern part of the province the land rises to the Central India plateau, forming a part of the tract known as British Budelkhand, where the soil is chiefly of the type known as black cotton soil, and differs entirely from the alluvial earth found in the Indo-Gangetic plain. In this region the density of the population falls to 198 to the square mile; while the remaining natural division, lying chiefly on the slopes of the Satpuras, and including much hilly and jungly country, maintains only 192 to the square mile.

For administrative purposes, the 48 districts are grouped into nine revenue divisions, of which seven, including Kumaun, make up the province of Agra (North-Western Province), and two constitute the province of Oudh. The latter province has an area of 23,966 square miles, with a population of 12,833,000 in the year 1901.

The Punjab is by no means confined to the tract to which its name refers, namely, the area traversed by the five tributaries of the Indus from the east, for it includes a considerable tract in the south-east which was transferred from the United Provinces after the Mutiny. Its districts have been classed in four natural divisions, corresponding generally with their physical features. In the first place there is the western extremity of the Indo-Gangetic plain, which embraces the Delhi division and many of the Native States. This area is the most densely populated, with 316 persons to the square mile. Next in point of density come the districts classed as sub-Himalayan, which form a belt running along the lower slopes of the range. These have a population of 300 to the square mile. Far below these follow the districts lying in the area traversed, though not watered, except by artificial aid, by the great tributaries of the Indus. These carry 97 persons to the square mile. In the Himalayan districts in the north-east of the province the number of persons to the square mile is only 77.

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TION.
Punjab.

The constitution of the North-West Frontier Province, by separation of border districts and trans-frontier charges from the Punjab, will be described below. It need only be said here that the British districts included in the new administration all come within the third class, or North-West dry area.

North-West
Frontier
Province.

The Central Provinces are generally described as a hilly and forest-clad country, with a sparse and backward population; but great varieties of country and people are to be found there. Broadly speaking, the province may be divided into five main tracts. The northernmost is situated on an outlying portion of the Central Indian plateau, and belongs to the Vindhyan system. Next comes the fertile but narrow valley of the Nerbudda, south of which again is the great plateau of the Satpura hills, the leading feature in the geography of the province. To the south of these uplands are the two main plains of the province, divided from each other by a southerly extension of the Satpuras and an intervening strip of feudatory territory. The western, which forms the basin of the Wainganga river and its chief tributary, the Wardha, is generally designated the Nagpur country. The eastern tract, forming the drainage area of the Mahanadi, constitutes Chhattisgarh, the central plain being hemmed in on all sides by Zamindaris and feudatory States, consisting chiefly of hills and forests. This natural division does not, however, coincide with the administrative divisions with any close accuracy, and every district contains a proportion of hill and forest. The population of the whole is sparse; the highest proportion is 196 to the square mile in the Nagpur district, and in several districts the number is below 100. The chart of population density corresponds closely to the physical variations described above.

Central
Provinces.

Berar, otherwise known as the Hyderabad Assigned Districts, is a part of the dominions of the Nizam of Hyderabad, which has been administered by the British Government since the year 1853, under conditions which will be described hereafter. It is naturally divisible into three distinct tracts almost parallel to each other: first, the Melghat, or the rugged mountainous tract on the north; second, the Payanghat, or the wide plain in the middle running from west to east; and third, the Balaghat, or the upland and hilly tract on the south. The middle tract contains soil of remarkably fine quality, and the province is famous for the cotton which it produces. The population of the province as a whole has a density of 155 to the square mile, or rather more than Scotland or Ireland, but the districts of Amraoti and Akola, which lie in the rich central plain, have proportions of 228 and 218 persons respectively.

Berar.

Burma consists of two parts, Upper and Lower Burma, which differ from one another in the nature of the country and the character and density of the population. In addition, Upper Burma has only formed part of the British dominions since the year 1886, and the methods of administration differ in many respects. The deltaic part of Lower Burma is superior to the greater part of the upper portion of the province in fertility and other

Burma.

AREA AND POPULATION. agricultural advantages, and though some parts of Lower Burma are hilly and very sparsely populated, it contains on the whole a much denser population than the upper portion. Upper Burma falls into two natural divisions, namely, the rugged tracts, interspersed with fertile and populous stretches, which lie on the north and east, and, secondly, the districts lying along the valleys of the Chindwin and the Irrawaddy, or watered by the streams of the neighbouring highlands. These districts have a light rainfall, and include the area which is most liable to famine; but they come next to the subdeltaic portion of Lower Burma in the density of their population, which amounts to 79 to the square mile. It will be seen from the table given above that Burma as a whole has a very sparse population. No district has a greater density than 169 to the square mile (Henzada district); and the whole of the mountainous part of Upper Burma, comprising nearly half the area of Burma, contains a population of only 15 to the square mile.

Ajmere-Merwara. The small province of Ajmere-Merwara consists of two districts, which form an island in the centre of Rajputana. Ajmere, the larger district, consists chiefly of an open sandy plain; Merwara is a hilly country, where cultivation can only be carried on in the valleys and openings between the hills. The rainfall is precarious, and the unfavourable seasons which have prevailed since 1895 have caused a considerable fall in the population.

Coorg. The province of Coorg, the smallest of the Indian provinces, lies at the top of the Western Ghats, and is cut off by them from easy communication with the Madras west coast districts of South Kanara and Malabar, which form its western and southern boundaries, while on its other sides it is surrounded by the Native State of Mysore. Situated on this high level, it has a very heavy annual rainfall. About one-third of its area consists of reserved forests, and if this be excluded the density of the population in the inhabited parts amounts to 184 to the square mile.

British Baluchistan. British Baluchistan, that is to say, the area ceded by the Afghans at the treaty of Gandamak, comprises 9,403 square miles, and has about 13 persons to the square mile. But, in addition to this, a considerable area is directly administered by the Government of India,* and the total area of British and administered territories is 46,800 square miles, of which about 9,400 square miles were excluded from the census operations in 1901. The character of the country is mountainous and barren, and the rainfall is exceedingly irregular and scanty.

The Andamans. The Andaman Islands, together with the Nicobars and the Cocos and Preparis, lying on the eastern side of the Bay of Bengal, are covered for the most part with jungle, and inhabited by wild tribes in a primitive stage of civilisation. They are chiefly remarkable for containing the penal settlement of Port Blair.

II.—FAMINE, PLAGUE, AND NATURAL CALAMITIES.

FAMINE, PLAGUE, AND NATURAL CALAMITIES. The decade, 1892-93 to 1901-02, has been marked by an unexampled series of calamities, and this review must necessarily be throughout little else but an exposition of the effects of famine, plague, earthquake and floods, war, and the currency difficulty, but above all of famine, upon the administration of the State and the resources of the people. It is therefore proposed in this chapter to give, in outline, a sketch of the occurrences under the first three heads, with special reference to dates and areas.

FAMINE.

Famine. In the year 1892, various parts of India were recovering from the effects of scarcity, which had nowhere deepened to famine, though the distress in portions of Madras and of the Bombay Deccan was severe. The harvests of that year, however, and those of the two succeeding years were on the whole good, though in the Central Provinces the autumn crops were poor owing to excessive and untimely rain, and there was a decrease in the crop area. It was in the part of the Allahabad division of the United Provinces known as British Bundelkhand that famine first made its appearance. A deficient south-west monsoon in 1895, and the failure of the winter rains, caused a

serious deficiency in the crops, and by the end of May 1896 more than a quarter of a million persons were in receipt of relief in the four districts of which that tract is composed. The experience gained in that year was of great value in the far more serious famine of 1896-97. The monsoon of 1896 opened weakly and ceased early in September. The rainfall was in large defect over by far the greatest part of India, and was in excess only in east and south Bengal, south India, and Lower Burma. The early withdrawal of a

weak south-west monsoon was followed by a still weaker north-east monsoon, on which the eastern and central districts of Madras chiefly depend. The extent of the deficiency for the south-west monsoon period may be seen in the marginal table. Even more important than the actual amount of rainfall is its distribution. The total for the Central Provinces was above the normal, but it occurred in the early part of the monsoon. September and October are in that province the most critical

	Rainfall of Monsoon Season, June to October 1896.	Average Rainfall of the Period in Former Years.	Percentage of Excess or Defect.
	Inches.	Inches.	
Burma	111.40	117.57	- 5
Assam	64.52	80.02	-19
Bengal	54.29	67.64	-20
Chota Nagpur	47.15	47.65	- 1
Behar	31.03	43.86	-33
United Provinces	25.50	36.61	-30
Punjab	14.86	19.43	-24
Central Provinces	52.87	45.80	+15
Central India	23.75	34.16	-30
Rajputana	13.95	18.32	-26
Berar	24.09	39.81	-26
Bombay	41.58	40.15	+ 4
Madras	45.69	34.30	+27

months of the year, and the rainfall in those months failed disastrously. With the exception of Assam, Sind, and Lower Burma, every province shared to a greater or less degree in the ensuing famine. In Madras two distinct areas were affected, the Deccan and the northern districts known as the Circars. The former area, where distress was severe, included 15,000 square miles, with a population of two millions; in the Circars, 8,600 square miles, with a population of three millions, were less severely affected. The whole of the Bombay presidency, with the exception of Sind, suffered to some extent; but actual distress was confined to a belt of country lying above the Ghats, and comprising the Deccan and South Mahratta districts, where 33,000 square miles, with a population of 5½ millions, were officially described as distressed. In Bengal the severely distressed area included 10,035 square miles, with a population of 1½ millions, in hilly tracts in Chota Nagpur, inhabited by indigenous races who had little recourse to Government relief. The chief famine operations took place in Behar, where 11,466 square miles, with a population of 7½ millions, were severely affected. Other parts of the province also required a limited amount of relief. In the United Provinces distress was severe in two areas, aggregating 3,500 square miles, with a population of 14 millions, lying respectively to the south of Jumna (Bundelkhand), and in the centre and south of Oudh. But there were few parts of the provinces which did not suffer to some degree.

No less than three-fifths of the Central Provinces was included in the severely distressed area, the estimated figures being 52,000 square miles, with a population of 6½ millions; and of the remainder there were few tracts which entirely escaped. The Punjab suffered less severely, and relief on a large scale was only necessary in the Hissar district; but 13,000 square miles, with a population of 3½ millions, are returned as distressed. The whole of Berar was stated to be affected; but the actual distress was not so great as this would lead one to suppose. In Upper Burma, the whole of the Meiktila district and parts of two others suffered distress. For the whole of British India, the distressed area is given as 194,000 square miles, with a population of 45½ millions; but there was also a further area on which some Government relief was necessary. The affected area in the territories of Native States was returned at 82,000 square miles, with a population of 7 millions. It included Bikanir in the north of Rajputana, besides other States of that Agency which were less severely affected, Gwalior, Bundelkhand and Baghelkhand in the Central India Agency, and the western portion of the Hyderabad State.

FAMINE,
PLAGUE,
AND
NATURAL
CALAMITIES.

It is outside the scope of this review to attempt a history of the famine, even in the scantiest form. For this the reader may be referred to the narrative

	Persons in Receipt of Relief in June 1896.
Madras	449,000
Bombay	353,000
Bengal	845,000
United Provinces	1,529,000
Punjab	99,000
Central Provinces	677,000
Burma	16,000
Berar	80,000
Total	3,998,000
<i>Native States.</i>	
Hyderabad	26,000
Central India	178,000
Rajputana	23,000
Total	227,000
Grand Total	4,225,000

of the famine by Mr. T. W. Holderness, C.S.I., and to the report of the Famine Commission of 1898, which were presented to Parliament in 1898 and in 1899 respectively.* It is sufficient for the present purpose to give, as a further guide, though not a very accurate one, to the comparative incidence of the famine, a table of the numbers of persons on relief at the time when the distress was at its height. It may be added that the percentage of persons on relief in June, upon the total population, was about 30 per cent. in Bundelkhand, 22·8 in the Damoh district, and 17·7 per cent. in the Balaghat district of the Central Provinces, 22·8 per cent. in Bellary (Madras), and about 10 per cent. in the Bijapur and Sholapur districts of Bombay.

The monsoon of 1897 was a good one, and the harvests of 1898 were generally satisfactory. But after a short interval of two years the country was plunged, by the short rainfall of 1899, into an even worse famine than that of 1896-97. The most disastrous feature of this famine was that it involved many regions which were just beginning to recover

1899-1900, from the previous calamity. This was the case in the Central Provinces, and in portions of Rajputana, Central India, the south-east Punjab, and the

	Rainfall of Monsoon Season, June to October, 1899.	Average Rainfall of the Period in Former Years.	Percentage of Excess or Defect.
	Inches.	Inches.	
Burma	93·56	98·30	-5
Assam	85·03	73·23	+16
Bengal	71·63	60·05	+19
Chota Nagpur	40·32	47·36	-15
Behar	57·89	43·27	+34
United Provinces	36·50	34·67	+5
Punjab	7·58	15·24	-50
Central Provinces	24·85	45·83	-46
Central India	26·36	40·95	-36
Rajputana	8·12	18·67	-57
Berar	10·75	37·48	-71
Bombay	16·61	41·24	-60
Madras	27·82	34·49	-19

Bombay Deccan. But new areas were also included, such as the northern or Gujarat districts of Bombay, which had been regarded as being secure from famine. Over part of the affected areas the conditions were rather those of scarcity than of famine; but in both scarcity and famine areas the difficulties were aggravated, by the fact that the failure of the crops was attended, in many parts of the affected provinces, by a failure of the water supply, and also by a failure of fodder, which in parts of Bombay was practically complete. The area of famine in British India was esti-

estimated roughly at about 175,000 square miles, with a population of 25 millions, besides 14,000 square miles, containing 3 millions of inhabitants, less severely affected. In Native States it is said that an area of 300,000 square miles, with a population of more than 30 millions, was stricken with famine. In Bombay the areas covered by the famine, in the Deccan and in Gujarat, comprised some three-fourths of the presidency, and the population affected is returned at 9½ millions. Practically the whole of the Central Provinces and of Berar lay under intense famine, and the population affected in these two provinces is estimated at 10½ and 2½ millions respectively.

In the Punjab the chief effects of the famine were confined to the south-eastern districts which had suffered in 1896-97, and the population of the area affected is returned as 1½ million. The only other part of British India which suffered heavily from this famine was Ajmere-Merwara, where the whole population of about half a million inhabitants was to a greater or less degree involved. In Bengal, Madras, and the United Provinces the effects of the drought were comparatively slight, and relief was given only on a small scale. Excepting the southern States, almost all the internal Native States of India suffered from famine, which spread over Rajputana, the Central India Agency, a large part of Hyderabad, Baroda, the Native States under the

* Parliamentary Papers, C. 8,812 and C. 9,178.

Bombay Government, several of the Punjab States, and nearly all the Feudatory States in the Central Provinces.

The monsoon of 1900 broke weakly, and the pressure of distress was not alleviated until a later date than would otherwise have been the case. The numbers on relief did not, in fact, attain their maximum until the first week in

	Number on Relief at beginning of August 1900.	Proportion to Affected Population.
Central Provinces	2,270,000.	22.23
Bombay	1,595,000	16.44
Punjab	179,000	9.9
Berar	475,000	12.8
Ajmere-Merwara	102,000	16.2

August, when they amounted in the aggregate to 6½ millions. The figures for British provinces, with the proportion borne by them to the population affected, are shown in the margin. The monsoon as a whole was favourable everywhere but in parts of Bombay and of the Hyderabad State. The winter rainfall was also unusually good in Upper

India, Rajputana, the Central Provinces, and Central India. But in the districts of Gujrat, the Deccan, and the Karnatak in Bombay, through early cessation of the monsoon in September and absence of winter rains, the crops were deficient, and a considerable amount of relief was required during the first half of 1901. This attained its maximum at the end of July, when 457,000 persons were receiving relief in the British districts of Bombay, 32,000 in Baroda, and 42,000 in the Bombay Native States, besides less important numbers in adjacent parts of other provinces and states. The setting-in of the monsoon was again delayed in 1901, and the rainfall of the year was deficient in parts of central and western India. As a result, the northern part of the Bombay presidency, with Baroda, and several of the Bombay Native States, suffered from famine for a third year in succession, and parts of Rajputana, Central India, and the Hissar district in the Punjab shared in the distress. The number of persons on relief at the beginning of July 1902 amounted to 495,000, of whom 277,000 were in British districts of Bombay. The distress was most severe in Gujarat, where the figures for the Panch Mahals, Ahmedabad, and Kaira districts show that about 24, 12, and 6 per cent. respectively of their total population were in receipt of relief at that time.

In further illustration of this matter, a table is given below of the rainfall during the last seven calendar years of the decade, together with the normal rainfall, i.e., the average of a series of years preceding 1901.

Meteorological Division.	Area, Square Miles.	Normal Rainfall.	Actual Rainfall.						
			1895.	1896.	1897.	1898.	1899.	1900.	1901.
		Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Punjab Plains	120,000	21.96	19.30	13.35	18.41	18.67	8.93	24.48	18.08
United Provinces	83,500	39.03	38.11	23.69	41.39	43.33	35.48	36.07	39.81
Rajputana, East	67,000	23.29	22.13	24.13	24.43	19.28	11.90	28.69	12.47
Rajputana, West	58,000						1.32	10.61	
Central India States	81,000	44.26	34.52	36.22	37.53	46.36	24.29	42.18	41.51
Bihar	30,000	44.38	41.48	32.52	50.48	54.92	62.65	43.64	38.02
Western Bengal	38,000	52.75	42.62	45.59	52.50	55.19	50.71	61.93	48.54
Lower Bengal	54,000	65.09	59.41	52.86	64.53	70.38	70.08	71.66	64.88
Assam and Cachar	61,000	95.17	90.03	78.26	94.48	89.80	103.57	82.23	89.34
Orissa and Northern Circars	27,000	52.89	52.16	38.36	52.10	47.85	42.18	54.79	46.33
Central Provinces, South	61,000	53.18	48.15	56.77	50.21	48.49	26.11	58.63	59.38
Berar and Khamlesh	43,000	36.41	31.76	31.97	32.72	28.30	14.79	34.40	34.47
Gujarat	54,500	33.62	25.63	36.67	33.08	29.30	7.83	29.82	16.03
Sind and Catch	68,000	9.43	5.98	8.74	9.87	5.44	.77	6.13	2.00
North Deccan	48,000	30.81	31.97	30.51	33.12	35.40	18.79	27.55	30.53
Konkan and Ghats	16,000	135.29	121.34	160.41	152.23	150.62	71.96	155.79	134.41
Malabar and Ghats	18,000	114.61	108.50	134.92	146.33	107.79	89.98	126.69	119.76
Hyderabad	74,000	34.51	37.69	23.36	28.72	30.57	16.53	30.77	31.06
Mysore and Bellary	53,000	29.27	31.50	25.78	32.19	31.93	31.57	26.90	24.42
Karnatic	72,000	36.88	42.61	38.23	32.25	47.65	31.00	33.08	39.00
Arakan	31,000	145.85	121.99	137.21	144.47	142.15	180.49	131.41	150.62
Pegu	32,500	78.14	64.08	75.94	72.91	71.25	74.52	78.65	78.79
Tenasserim	10,500	173.31	156.96	199.78	177.55	178.30	162.29	179.15	175.17
Upper Burma		37.70	41.55	33.31	35.67	37.81	44.93	44.19	37.21

Some particulars of the action of the Government and of the cost of the famines are given in a later chapter.

FAMINE, LAQUE, AND NATURAL CALAMITIES. 900-01.

1901-02.

FAMINE,
PLAGUE
AND
NATURAL
CALAMITIES.

BUBONIC PLAGUE.

The plague epidemic which broke out in Bombay in the year 1896 in the Bombay presidency, and has in more recent years taken a firm hold of most other provinces, has had effects disproportionate to the number of deaths which are ascribed to it in the reports. The total number of deaths from the first outbreak up to March 1902 is reported as 820,000, and even if it be assumed, as the Bombay Plague Commissioner thinks might be done in Bombay, that half as many more deaths have occurred without coming into the returns, the addition to the death-rate of India generally is small. In the year 1901-02, when the recorded deaths were about half the total quoted above, and when plague was widely distributed, the plague death-rate for the whole population of British India was about 1·8 per mille, or if allowance on the above scale be made for unreported deaths, 2·7 per mille. Plague death-rates have been high in particular places and provinces, but these figures show that so far as actual diminution of the population is concerned the effect of the plague has been serious, but not calamitous. But the moral and economic effects of the epidemic cannot be measured in figures. The first results were the exodus from Bombay city in 1896, soon after the outbreak of the epidemic, which paralysed the industries of the city, and the similar but less general movement in the succeeding year. The appearance of the plague in Calcutta in 1898 was the signal for a great exodus of the population from that city also. About a quarter of the inhabitants left the city, mainly owing to fears regarding the measures which might be taken. The panics, however, were a temporary matter, and the suffering caused by the disease, and still more by the measures necessary to combat it, has been a more serious factor in the economic history of the decade. This is well described in the following extract from a Bombay report in 1902 :—

“ Before the power of its insidious infection was recognised, the people were unable to comprehend the value of the measures of segregation, disinfection and medical treatment enforced by the Government, and in their fear of domiciliary interference moved restlessly from place to place to conceal their sick. Now, however, they fully recognise and themselves enforce segregation and removal from the infected locality as necessary measures, and villages, and even cities, are, at the height of an epidemic, almost deserted, while the population camp out in the surrounding fields and open country. The cost of providing temporary huts and shelters, the disorganisation of business, and in many cases the loss of their customary means of livelihood, have constituted a severe drain on the resources of all persons of moderate means, and must have frequently reduced the struggling shopkeeper and artisan to indigence. If to the distress arising from this cause be added the sickness and mortality resulting from the unwonted exposure to the inclemencies of the weather during the winter and rainy seasons, when the epidemics increase their intensity, with the terror of the mysterious strokes of the plague itself overshadowing all, the period of misery and desolation through which the presidency has been passing may faintly be imagined.”

From Bengal it is reported that the outbreak in 1900 and 1901 in Behar prevented immigration, and even, to a large extent, the temporary migrations from one district to another, and was thus indirectly the cause of considerable hardships to the labouring classes.

An account of the plague mortality and of the measures which have been taken to beat down the outbreaks will be found in its appropriate place, the chapter on Vital Statistics and Sanitation. The following paragraphs show the spread of the epidemic during the period from 1896 to 1902 :—

The existence of plague in Bombay city was first recognised in September 1896. It was rapidly communicated to Karachi by sea, and thence spread to Hyderabad and Sukkur and the other principal towns of Sind. At the same time it spread to most of the sea-coast districts and states of the presidency, and to the districts of Thana, Kolaba, Satara, Poona, and others adjacent to Bombay. The south of the presidency escaped during the first year. In the second period, June 1897 to June 1898, both the intensity and the area of the epidemic increased. It spread into the Ahmednagar and Khandesh districts in the central portion of the presidency, and to Belgaum and Sholapur in the south. The Satara district returned the greatest number of plague cases in this year. In the third period, 1898-1899, six of the ten districts which had hitherto escaped were numbered among the infected. Those were Bijapur, Dharwar and Kanara in the south, and Broach, Kaira and Panch Mahals in Gujarat. The districts which had been infected in previous years, though many had been free of plague during the hot weather,

again had outbreaks of greater or less intensity, and the disease as a whole made a great advance in this year. In the following year much less plague was reported from nearly all districts, but at the end of 1901 the number of plague deaths rose to an unprecedented figure, Satara, Dharwar, Belgaum, and Kolhapur districts in the southern portion of the presidency, being most seriously affected. It was stated in a report on the subject published in 1900,* that plague had been mainly confined to the large towns, and that with some exceptions the districts as a whole had not suffered severely. This is also true of the more recent years in the sense that the greater number of lives are lost in the outbreaks of plague in large towns, and that such outbreaks are most difficult to combat. But the list of villages included in recent plague returns is a heavy one, and shows that plague is by no means confined to definite centres.

It has been suggested that cases of plague occurred in Calcutta as early as 1896, but the first record of undoubted plague cases was in 1898. In the succeeding year there was a rather more serious outbreak in the city, and some districts also became affected; but the total plague mortality was still small. But in 1900 and 1901 plague obtained a great foothold in the Patna division of Behar, where the number of reported deaths rose from 269 in 1899 to 27,666 and 64,178 in 1900 and 1901. The total number of recorded deaths from plague in the province up to 31st March 1902 was 134,920. Up to the present, the disease has not prevailed in Calcutta to an extent in any way comparable to its ravages in Bombay city and other towns of the Bombay presidency; and during 1900 and 1901 there was no advance in the number of deaths, which amounted to about 8,000 in each of those years.

Plague first appeared in the Punjab in 1897; in the following year about 1,500 deaths are reported as having occurred from that cause in the Jullundur district, and a smaller number in the district of Hoshiarpur. The epidemic was, however, held in check during 1899 and 1900, and it was not until towards the end of 1901 that, aided by the enforced withdrawal of the strict repressive measures which had up to then held it back, it assumed the large proportions which have called for the general extension of inoculation in 1902. In the year ending in September 1902, the epidemic was virulent over a considerable area to the north and east of Lahore city, including the Sialkot, Gurdaspur, Hoshiarpur, Lahore, Jullundur, Ludhiana and Amballa districts and the Kapurthala State. The chief cities of Lahore and Delhi have not had epidemics, but Amritsar and Jullundur towns were both affected in 1902.

There has been plague in the Mysore State since August 1898. In that month Bangalore city and the military station at that place became infected, and it was soon carried into the adjoining villages. It appeared in Mysore city towards the end of the same year, and has continued, with a few remissions, up to the present date. The returns for the year 1901 showed a smaller number of plague deaths in the State as a whole than those of 1900; but in 1902 the epidemic has largely increased in virulence, as has been the case in most other parts of India. Some of the western portions of the Hyderabad State, neighbouring on infected parts of Bombay, received the infection in 1897, and showed a considerable number of plague deaths in 1898 and 1899, amounting to about 4,000 in each year. This number was not, however, maintained in the succeeding years, though here too there has been a change for the worse in 1902.

In the Madras presidency plague first appeared in August 1898. Up to the end of 1901 there had been continual outbreaks, chiefly of a minor character, in the portions of the presidency adjoining Mysore. The Salem district suffered most. But in 1902 there was a serious epidemic in Bellary. Madras city has as yet escaped. The United Provinces also, though Hardwar town was found to be affected in April 1897, had little plague until 1901. In the spring of that year the number of deaths from plague numbered nearly 5,000, and though plague died away during the summer it returned with increased violence in the autumn. In 1902, epidemics in Allahabad and

* "The Bombay Plague," by Captain Condon, I.S.C.

FAMINE,
PLAGUE,
AND
NATURAL
CALAMITIES.
Cyclones.

Cawnpore cities and widespread plague in various districts have raised the figures far above any previously recorded in the province. Of the other parts of India, Rajputana has been almost, though not completely, free from plague, and the same was true of the Central Provinces until 1902; when there was a short epidemic, followed by a much more serious outbreak in the current year, 1903. The only other tract in which plague has been active is the Jammu province of Kashmir, adjoining the infected Sialkot district of the Punjab. In this tract there have been many deaths in 1902.

NATURAL CALAMITIES.

On the 12th June 1897, an earthquake of exceptional severity visited Assam and the north-eastern portion of Bengal. Its extent and severity may be gathered from the following extract from a report on the subject printed among the memoirs of the Geological Survey of India:—

“At about a quarter past five in the afternoon of the 12th June 1897, there burst on the western portion of Assam an earthquake which, for violence and extent, has not been surpassed by any of which we have historic record. Lasting about two and a half minutes, it had not ceased at Shillong before an area of 150,000 square miles had been laid in ruins; all means of communication interrupted, the hills rent and cast down in landslips, and the plains fissured and riddled with vents, from which sand and water poured out in most astounding quantities; and ten minutes had not elapsed from the time when Shillong was laid in ruins before about 1½ millions of square miles had felt a shock which was everywhere recognised as one quite out of the common.”

Owing to the hour at which the shock occurred, the loss of life was fortunately inconsiderable. At Shillong and other towns every masonry building was levelled to the ground. But masonry buildings are comparatively few in Assam, and the single-storied huts of the villagers suffered little. Much damage was done to bridges and railway lines. As regards the effects of the earthquake on the condition of the people, the most noteworthy facts are the destruction of crops and the overwhelming of large areas of valuable rice land by deposits of sand, and the damage done to river banks and levels, which resulted in exceptionally serious floods in Lower Assam in 1897 and the following years, and the silting up of water-channels.

Certain parts of the Indian coast-line, especially in the Gulf of Bengal, are liable to suffer from storm waves caused by cyclones. The most notable cyclone was that which occurred between the 21st and 24th of October 1897, and is known as the Chittagong cyclone. It was followed by a wave which submerged two islands and a strip of the mainland. The exact number of deaths caused is not known, but taking into account those caused directly and indirectly it is estimated that they amounted to about 50,000. The area of cultivated land affected was fortunately small, but much damage was done within its limits. Other calamities of a similar but less important character occurred during the decade. Much damage is occasionally done inland by cyclones such as that which wrecked several villages in the Dacca district of Bengal in the early part of 1902. The Gohna landslip in 1894, by which an immense dam was thrown across a Himalayan valley in the Kumaun division of the United Provinces, and a lake formed by the impounding of its river, created great interest at the time, and gave rise to grave apprehensions as to what might happen in the lower valleys on the bursting of the barrier. But the calculations and precautions of the Public Works Department proved accurate, and on the anticipated date a great flood passed safely down to the Ganges without loss of life and with little damage to property. These calamities, the list of which might be considerably amplified, had only local effects, and though much distress is frequently caused by such occurrences, and special measures of relief are sometimes necessitated, it is not necessary to dwell further on them in a general survey such as the present Statement.

CHAPTER II.

THE FRONTIERS AND PROTECTED STATES.

THE
FRONTIERS
AND
PROTECTED
STATES.

The numerous States and peoples not under British jurisdiction with whom the Government of India has relations may be most conveniently classed under two categories, namely, those which lie on the frontier, and those which are surrounded on all sides by British territory or by the sea. It is with the latter class that this Statement is more particularly concerned, not only because they form an integral part of India, but because their well-being is of great importance to the British districts with which they are in contact. But before entering upon a description of their progress, it is necessary to deal briefly with the territories which come under the first class.

I.—THE FRONTIERS.

Relations with Afghanistan have been peaceful throughout the decade. Although there is reason to believe that Afghan influence among the turbulent tribes on the North-Western frontier was at times the cause of restlessness and disorder, the Durand Agreement of 1893, followed by the demarcation of the southern and nearly all the eastern Afghan boundary, set a definite limit to the legitimate interference of Afghanistan with the tribes included in the British sphere of influence. Under that Agreement the annual subsidy paid by the British Government to the Amir was increased from £80,000 to £120,000. A further demarcation, which affected alike Afghanistan and the British sphere, was that which resulted from the Pamir Agreement concluded with Russia in 1895. Russia agreed to accept the River Oxus as her southern boundary as far east as the Victoria Lake. Thence to the Chinese frontier a line was fixed by a demarcation commission. This arrangement involved an interchange of territories, lying on the north and south bank of the Oxus respectively, between Afghanistan and Bokhara, which was carried out in 1896. The Amir of Afghanistan also undertook to conduct the administration of Wakkhan, lying between the new boundary and the Hindu Kush, in return for an increase to his subsidy.

Afghanistan.

Under the strong rule of the late Amir the country for the most part enjoyed internal peace; but this was broken by the revolt of the Hazaras in 1892, which was severely suppressed. In 1895-96 Kafiristan, a region which the delimitation included in the Afghan sphere of influence, was subjugated. Political relations of the Government of India with the late and with the present Amir have been friendly, and were undisturbed by the murder of the British Agent at Kabul by one of his servants in 1895, an incident which had no political significance. In the year 1894-95, His Highness sent his second son, Shahzada Nasrulla Khan, to visit England as the guest of Her Majesty's Government. The Amir Abdur Rahman, G.C.B., died in October 1901, and was peacefully succeeded by his eldest son, Habibulla Khan, G.C.M.G.

Baluchistan is a sparsely populated tract including 132,000 square miles, or a larger area than any Indian province save Burma, Madras, and Bengal. It consists largely of mountains and sandy deserts, and before the British entered it the nomadic inhabitants were continually engaged in internecine conflicts. Twenty-six years have now passed since Sir Robert Sandeman, the founder of the Baluchistan Agency, arrived in the country. In that period the primitive condition of the people has been modified, perhaps, but has not disappeared, and inveterate prejudice and pugnacity are still factors which have to be constantly reckoned with. Baluchistan is divided into two main divisions, viz., British Baluchistan, which is a portion of British India under the Chief Commissioner, and the foreign territories under the administration

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or superintendence of the same officer as Agent to the Governor-General. The former portion, with an area of 9,403 square miles, consists principally of tracts ceded to the British Government by Afghanistan under the treaty of Gandamak (1879), and formally declared to be part of British India in 1887. The second class comprises three subdivisions, namely, areas directly administered, Native States, and tribal areas. The directly administered districts include areas acquired in various ways. Some portions are held on lease from the Khan of Kalat; while others are tribal areas in which it has been decided for various reasons that revenue should be taken. They include the whole of the Zhob and Chagai Political Agencies, the eastern portion of the Quetta tahsil, and other tracts, among which may be mentioned the Bolan pass, 36,401 square miles in all. The whole of the northern boundary, with the north-eastern corner, and the railway which traverses Baluchistan through Quetta up to Chaman on the Afghan-Baluch frontier, are therefore in one form or other under direct British control. The remainder of the territory (79,382 square miles) belongs to the Native States of Kalat (including Makran and Kharan) and Las Bela. Tribal areas, in the possession of the Marri and Bugti tribes, cover 7,129 square miles.

Among political events of importance may be briefly mentioned the resignation of the Khan of Kalat in 1892-93, after a long course of oppression culminating in the murder of his minister, and the recognition of his son; various changes in the administration of Makran; the completion of the organisation of the Zhob Levy Corps, the formation of which had been suggested by Sir Robert Sandeman in 1889; the reform of the Kalat military forces, which were, however, disbanded at the beginning of 1899; the demarcation of the Afghan-Baluch frontier in 1896-97, and of the hitherto undefined northern portion of the frontier with Persia in the same year; the opening of the caravan route from Quetta through Nushki to Seistan, rendered possible by the settlement of the Afghan boundary; the leasing of various areas from Kalat in 1899-1900, including Chagai, through which the trade route runs; and the resultant development of trade by that route to a value of £80,000 in 1901-02. Since the end of the decade under review the construction of a railway from Quetta to Nushki at an estimated cost of £467,000 has been sanctioned.

Every year is marked by some disturbances among the tribes, by fanatical outrages, or by incursions of raiders from Persian, Afghan, or Waziri territory. The outbreak in Makran, where a survey party under British officers was attacked in January 1898, rendered necessary a small punitive expedition. The intervention of the Political Agent is often, however, effectual in settling tribal disputes.

The Agency has suffered from a series of bad seasons, culminating in a great drought in 1899-1900. Owing to the failure of the rains, the area of cultivation was restricted, there was an unprecedented mortality among sheep and cattle, and much revenue had to be remitted or suspended in the British area. But the population, owing to the small annual rainfall, is scant and hardy, and in scarcely any part of the country were famine conditions established, though much State relief was given. The revenues of the Agency in the year 1901-02, including an allotment from Indian revenues of £86,000, amounted to £150,000 and the expenditure to £151,000. A complete census of Baluchistan was taken for the first time in 1901, and the report by Mr. R. Hughes-Buller, I.C.S., contains much valuable information respecting the province.

North-West
Frontier
tribes.

From the north of Baluchistan up to the Hindu Kush, a belt of tribal country divides the territories under direct British administration from Afghanistan, save only in one spot, where a narrow neck of British territory runs up the Kurram valley to the Paiwar Kotal. This tribal country has been the scene of many important events during the ten years, on which detailed information is to be found in the various Frontier Bluebooks presented to Parliament.* A list of the frontier and other expeditions which have taken place in the ten years is given below

* Parliamentary Papers:—Hunza Nagar Expedition, C. 6621 (1892); Chitral Correspondence, C. 7864 (1895) and C. 8037 (1896); Frontier Delimitation, Durand Agreement at end of C. 8037, final Agreement-C. 8042 (1896); Military Operations during 1897-98, C. 8713 and 8714 (1898), 120 of 1898; Relations with the Tribes, and Constitution of North-West Frontier Province, Cd. 436 (1901); Mahaud Waziri Blockade, Cd. 1177 (1902).

in the chapter on Military Services. It is unnecessary, therefore, to attempt a historical review of these events, and it will be of more service to mention briefly the various tribes inhabiting the country, and the recent changes in the arrangements for their control.

The southern block of tribal territory, known as the Derajat frontier, extends from the Gomal river, which is the boundary of Baluchistan, to the Kurram valley, and includes the two political charges of Wana and Tochi. The most important of the tribes in this area are the Waziris, with their five divisions into Lali, Gurbaz, Mahsud, Utmanzai, and Ahmadzai, the two latter being better known under the name of Darwesh Khels. The outrages and raids by various sections of this tribe resulted in a punitive expedition in 1894, when a British official had been murdered. This was followed by a period of unrest, ending in an attack on the Political Officer in Tochi by the Madda Khels, a section of the Utmanzai Waziris, in June 1897; the first of the outbreaks on the frontier which occurred in that year. In 1900 it was found necessary to institute a blockade against the Mahsud Waziris, in consequence of the non-payment of fines for various outrages which they had committed. Besides the Waziris, the chief tribes inhabiting this lower section of the frontier are the Dawaris, along the valley of the Tochi river, the Batannis on the hills along the British border, and the Shirannis on the Suliman mountains in the south-east.

The Kurram valley is inhabited for the most part by the Turi tribe, at whose wish its affairs were taken under British administration in 1892. During the general outbreak in 1897, the inhabitants of Kurram, and the neighbouring Zaimukts, showed an excellent spirit in face of the attacks of the Orakzais. From Kurram, northwards and eastwards, stretches what is known as the Peshawar frontier. Immediately on the east, and bounded on the north by the Safed Koh range, lies the tract inhabited by the Zaimukts, Orakzais, and Afridis, in that order from west to east. It was in this region that the most important of the frontier risings of 1897 took place, beginning with the capture of the Khyber forts; and the expression "Tirah campaign," which has sometimes been used loosely to cover the whole of the seven separate expeditions of that year, applies exclusively to this part of the frontier. These tribes are divided into various clans or sections, and some confusion may occasionally be caused by the use of the section name without any indication of the tribe to which it belongs. It should therefore be explained that the Afridis are divided into the following eight sections:—The Kuki Khel, Sipah Khel, Kamarai Khel, Malikdin Khel, Kamar Khel, Zakha Khel, Aka Khel, and Adam Khel; the Orakzais into Daulatzai, Ismailzai, Lashkarzai, and Hamsaya. The whole of the tract known as Tirah is occupied by Orakzais, with the exception of two villages inhabited by Afridis. To the north of the Afridi country, where the Peshawar district approaches within 20 miles of the Afghan frontier, come the Mohmands, who also made an attack on a British post and had to be punished in 1897. The names of their sections are Tarakzai, Halimzai, Baizai, Khavaizai, Utmanzai, and Dawezai. Above the Mohmand tract the tribal area widens as the red line of the British districts falls back to, and ultimately beyond, the Indus. In the western part of this region are situated Bajaur and Dir, while the centre and eastern portions are occupied by the country of the Yusufzais, including Swat and Buner, and the Utman Khel. In the northern part, bounded by Chitral, Dard, and Kohistan, and including the Black Mountain country on the left bank of the Indus, are various sections of the Yusufzai tribe, and that section of the former inhabitants of Swat who still retain the name of Swatis, and were apparently a non-Pathan tribe of Indian extraction. The Yusufzais are divided into two principal sections, called Mardan and Yusuf, and these again have a large number of divisions and subdivisions. In the Yusuf section there are five main subdivisions, namely, Isazai, Iliaszai, and Malizai (Bunerwals), Ranizai, and Akazai. The names of the Hassanzai, Akazai, Chigarzai, and Mada Khel sections of this tribe were brought into prominence in the course of the Black Mountain expedition in 1888. The advance to Chitral in 1895 was opposed by the Pathan inhabitants of Swat. The attack on the Malakand post in 1897 was made by the same tribe, assisted by the Bunerwals and the Utman Khel, who are distinct from the Yusufzai tribe. Three separate expeditions were engaged in the repression of these disorders. To the north of this

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region again lies Chitral, a protected State under the suzerainty of Kashmir. The murder of the Chief, or Mehtar, of Chitral, the advance of Umra Khan of Jandol into the State, the arrival on the scene of the refugee Sher Afzal, who had been living in Kabul, and the siege of Dr. (now Sir George) Robertson, Political Agent at Gilgit, in Chitral fort, led to the Chitral expedition of 1895. The fort was relieved after a brilliant defence; a new Mehtar was established, part of the Chitral territory being separated and placed under the control of the Gilgit Agent, while the Chitral agency itself was brought under the direct control of the Government of India, which was rendered possible by the opening of the road over the Lowarai pass. A garrison was left in Chitral, and a road was opened through the territories of Dir and Swat, to whose levies the maintenance of its security was entrusted.

The Kurram, Tochi, and Wana political charges have been affected by the formation of the North-West Frontier Province as a Chief Commissionership and Political Agency under the Government of India. The separation of this province from the Punjab was mentioned in the Statement for 1900-01, which included a map of the province, and particulars are given in another chapter* of the British frontier districts which it comprises. From the present point of view, the effect of the measure is to bring under the immediate control of the Supreme Government all the frontier relations, which are an Imperial rather than a provincial concern. The Khaibar, Dir, Swat, and Chitral Agencies have been joined to the three southern groups which were under the Punjab Government, and the whole frontier from Chitral to the Gomal is now under the direction of the Chief Commissioner and Agent to the Governor-General. As regards frontier policy, the most important pronouncement is contained in the Secretary of State's despatch of the 28th January 1898.† The keynotes of the policy are concentration of force, avoidance of unnecessary interference with the tribes, and the control of the traffic in arms and ammunition. Troops have been, or are being, withdrawn from isolated posts, and have been replaced, when necessary, by tribal militia. Various railway lines have recently been, or are being, constructed on the frontiers. Beginning in the north, a branch of the Peshawar line has been made to Dargai, below the Malakand pass (40 miles); and that line itself has been extended to Jamrud (11 miles). A line from Khusalgarh via Kohat to Thal, at the neck of the Kurram valley, has been sanctioned and is being constructed (92 miles). The two lines from Campbellpur to Basal, and from Jand to Daud Khel (18 and 54 miles respectively) were opened in 1899, and completed a straight connection between Mari (for Kalabagh) and Attock (for Peshawar). In Baluchistan the Sind-Pishin railway was extended to Chaman on the Afghan border (29 miles) in 1892, and the Mushkaf Bolan line, joining Quetta to Sibi by the less circuitous route, was opened in 1897 (87 miles). It is said in the report on the North-West Frontier for 1901-02 that the frontier lines are daily growing in popularity, and that eventually their political and commercial will be hardly less than their military value.

At the close of the year 1901-02 the relations with the tribes on the north-west frontier were generally satisfactory. The blockade of the Mahsud Waziris had been raised, and arrangements for the future were being discussed with the tribal jirga or council. There had been small disturbances in the Shiranni country and on the Kurram border, but the relations with the tribes on the rest of the border were friendly.

Kashmir.

Kashmir extends to the external frontiers of India, and may therefore be treated in this place; but its actual status is that of a Native State under British suzerainty. It included an area of 80,900 square miles, but the Jammu and Kashmir provinces, with areas of 5,223 and 7,922 square miles respectively, constitute the really important possessions of the State. The population of the whole State in 1901 was 2,905,578, or 14 per cent. more than in 1891. The State has been administered throughout the decade by a Council, of which the Maharaja is President. The Government of India is represented by a Resident. No general reports on the affairs of the State are published, but the financial returns show that its position in this respect has been very much improved by a reduction of the expenditure on the Gilgit Agency and the military forces, and by improvement in the receipts. At the end of the year 1900-01 there was an invested balance* of

£330,000 and a working balance of £270,000, the whole amounting to more than a year's revenue. The railway from the State frontier to Jammu, constructed at the cost of the Durbar and opened in 1890, is 16 miles long, cost £61,000, and returns 2.4 per cent. on the capital in 1901. This is at present the only railway in the State, but the question of extending the line to the Kashmir valley has been under consideration, and surveys have been made. Trade with Chinese Turkestan by the Leh route declined when a heavy duty was levied on *charas* imported into the Punjab, on the recommendation of the Hemp Drugs Commission; but it has since shown some tendency to revive. Trade with India has shown a great development; the value of the merchandise exported into India has risen from £398,000 in 1891-92 to £893,000 in 1901-02, and that of imports from India from £438,000 to £824,000. Kashmir adopted British coinage in place of the local currencies in the year 1897. The silk industry has made good progress under the control of the State authorities, who have established a silk factory at Srinagar, and engaged a British officer as Director of Sericulture. Seed is supplied to villagers free of cost, and the cocoons are purchased by the State. The factory employs some six or seven thousand persons. Settlement operations have made good progress under British officers. Considerable areas have been reclaimed during the decade; in the Kashmir valley facilities for irrigation are abundant, and the average prosperity of the agriculturists is high.

The correct name of the State is Jammu and Kashmir. It comprises the provinces of Jammu (including the jagir of Poonch), Kashmir, Ladakh, Baltistan, and Gilgit; the Chitral State is a feudatory of Kashmir, and the Shin States of Yaghistan, of which the most important are Chilas, Darel, and Tangir, are also nominally subordinate to it, and the two former pay a tribute of gold dust. In Gilgit there have been no noteworthy commotions during the ten years, and the settlement of the principalities of Hunza and Nagar made after the campaign of 1891 has remained undisturbed. There is a Political Agent of the Government of India at Gilgit, supported by a British Indian escort of 200 rifles and troops belonging to the Kashmir State. The construction of the road to Chitral through the Malakand gave an opportunity for the reduction of the Gilgit garrison, with a highly beneficial effect on the finances of the Kashmir State. The Kashmir troops in the Gilgit command are concentrated at Gilgit, Chilas, and Bunji, the outlying posts being entrusted to local levies. Roads have been constructed to Chilas and to Gilgit.

The States of Nepal and Bhutan are under various commercial and other engagements with the Government of India. Nepal pays no tribute to the British Government. It is in the habit of sending one of the nobles of the Court with messages and presents to greet a new Viceroy on his arrival at Calcutta. Complimentary missions are sent quinquennially to China. The late prime minister, Sir Bir Shamsheer, after holding power for more than fifteen years, died in March 1901, and was succeeded by his brother, Deb Shamsheer Jang. But in June of that year there was a palace revolution which placed the present prime minister, Maharaja Chandra Shamsheer Jang, another brother, in power. A British Resident resides at the capital, but does not interfere in the internal affairs of the State. The history of the relations of the State with India during the ten years has been entirely peaceful, and the important matter of recruitment of Gurkhas for the Indian army has been on a satisfactory footing, new Gurkha regiments having been raised from time to time. There has been a great extension of the trade between Nepal and British India; the value of the goods imported from Nepal (chiefly rice and other grains) has grown from £1,038,000 in 1891-92 to £1,647,000 in 1901-02, and that of exports to Nepal (chiefly cotton goods) from £889,000 to £1,081,000, treasure transactions being excluded in each case. Nepal was not included in the census operations, so there is no trustworthy information regarding its population, which has been variously estimated at two and at five millions, and is probably nearer the former figure. Its area is about 54,000 square miles, and its resources are considerable. The revenue is estimated at about £1,000,000, and the effective military force numbers some 35,000 men. With regard to Bhutan little need be said, and very little information is available.

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It receives an annual subsidy of £3,333 from the Indian Government, with whom its relations have been satisfactory during the ten years. Its trade connexions are rather with Tibet than with India. The value of its import and export trade with British India amounted to no more than £57,000 in 1901-02.

Sikkim.

The above two States are separated by the territory of the Maharaja of Sikkim. Since the Sikkim expedition of 1838-90, undertaken by the Government of India for the purpose of expelling Tibetan invaders from the country, the administration of the State has been under the control of a British Political Officer, with the aid of a representative council of notables. The Maharaja left his State in 1892, and took no part in its government until the year 1895. By the Sikkim-Tibet convention of 1890 between Great Britain and China, the boundaries were defined and the British protectorate over Sikkim was acknowledged. But the questions as to trade, communication, and pasturage were reserved for subsequent settlement, which was effected by an agreement signed in 1893, under which a trade mart open to British subjects was established at Yatung, in Tibet, and it was agreed that goods of most descriptions should be allowed to enter Tibet free of duty for five years. This arrangement, though not fully carried out by the Tibetans, has continued, but has not resulted in any considerable increase of trade, and the total value is still unimportant, amounting to £147,000 only in the year 1899-1900, when the figures were the highest on record. In 1901-02 the total value was £101,000. Endeavours have been made to secure a demarcation of the Sikkim-Tibet frontier on the spot, in accordance with the convention of 1890, but no progress has been made, as the Tibetans have obstructed any action.

The State covers an area of 2,818 square miles, and has a population of 59,000 according to the recent census. Its financial position is satisfactory, but reform is required in some branches of the administration. The son of the Maharaja has received a good education and has made a tour in Burma, Ceylon, and India.

Assam
border
tribes.

The principal tribes on the frontier of Upper Assam, taking them from west to east, are the Aka, Dafia, Miri, Abor, Mishmi, Khampiti, Singpho, and Naga tribes, while the territory of the Lushais also touches the south-eastern corner of Assam, to the south of Manipur. Among the seven tribes on the north and north-east, there have been several minor disturbances or frontier offences during the decade, and the Abors have been the chief offenders. Small expeditions were sent against this tribe in 1893 and 1894, and a blockade was instituted against them in 1894 and was continued until the year 1900. The management of the South Lushai hill country was transferred from Bengal to Assam in 1897, and the whole of the Lushai country now forms one district under the Chief Commissioner of Assam, and is a part of British India. Good progress has been made with the pacification and organisation of this tract. Disarmament has been steadily carried out, with little friction except for the small expedition which operated against the Khairuma Chief in 1896. Courts of justice have been established, and it is reported that the non-Lushai portion of the population is becoming unduly litigious; six dispensaries and a station hospital, besides the military police outpost hospitals, provided for the medical treatment of 19,730 Lushais in the year 1901; and work is being done on several lines of road. With a view to exercising more efficient control over the chiefs, and strengthening the hold over the country, the district has recently been divided into eighteen circles, each in charge of an interpreter, through whom all orders will be transmitted. These officers will be responsible for the orders being carried out, and will also make periodical reports on the condition of their circles.

Manipur.

The murder of Mr. Quinton, Chief Commissioner of Assam, at Manipur in the year 1891, and the British occupation of Manipur which resulted from it, led to the installation of a minor as Chief of the State, in the position of a tributary prince, and to the direction of the administration by the British Political Agent during the minority. The opportunity was seized for abolishing slavery and unpaid forced labour, a house tax of Rs. 2 being imposed in lieu of the latter form of State dues. One of the first steps to be taken was the establishment of a force of frontier police. The

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boundaries of the State were demarcated, disarmament was carried out, and the construction of roads was pushed forward. With some exceptions the seasons have been favourable, and the State revenues have benefited by the increased prosperity of the country. The financial position has much improved; in the year 1901-02 the receipts amounted to £26,400, and though the expenditure amounted to £30,900, owing to the cost of special State ceremonials, the balance at the end of the year was £16,700. The chief has been undergoing education at the Mayo College at Ajmere.

The delimitation of the Burma-Chinese frontier south of latitude 25° 35' has been carried out in accordance with the Convention of 1894, modified by the Agreement of 1897, under which certain additional border tracts were transferred to Great Britain, and the West River was opened to trade. North of the above-mentioned limit the boundary is still undefined. Further to the south, the Burmese boundary was fixed at the Mekong river by the Anglo-French Agreement of 1896; and the boundary between Burma and Siam has been demarcated. Of the tribes on or within the borders the most northerly are the Kachins and the Chins, the latter of whom inhabit the hills between Bengal and Burma, and may be considered in this place as a border tribe, though the Chin hills are now British territory.

Burma.

Fresh arrangements were made early in the decade for the administration of the Kachin hills, and it was decided to accept administrative responsibility on the left bank of the Irrawaddy for the country south of the Nmaika, and on the right bank for the country south of a line drawn from the confluence of the Malika and Nmaika through the northern limit of the Laban district, and including the jade mines. It was announced to the tribes on the north of this line that so long as they abstained from raiding to the south of it they would not be interfered with. South of that line, peace was to be enforced and a small tribute exacted, with a minimum of interference in their private affairs. The form and degree of the administration were defined by the Kachin Hill Tribes Regulation of 1895. The chief objects have been the disarmament of the tribes and the construction of frontier and internal roads. A light tribute is exacted, and the tribes within the border are protected as far as may be from frontier raids. Law and order are being steadily introduced into the tracts within the border line.

Kachin hills.

The Chin hills were declared to be a part of British Burma by proclamation in 1895-96, and they were constituted a scheduled district. The Chin Hills Regulation passed in 1896 provided for their administration, the chiefs being allowed to administer their affairs, for the most part, in accordance with their own customs. The control of British officers was placed on a legal footing, and they were invested with powers to enable them to keep the peace and to exercise suitable supervision over the chiefs. The history of the tract during recent years has been peaceful and progressive, though some operations have been required for the punishment of Chins living outside the borders of the territory under administration. It is reported that the attitude of the people is on the whole satisfactory, and that the younger generation appreciate British rule, though there are still some who cherish the idea that the hills will eventually be evacuated.

Chin hills.

The Shan States passed under British protection at the annexation of the kingdom of Upper Burma, of which they formed an integral part. Strictly speaking, they are to be classed in three divisions, those west of the Irrawaddy river, those between the Irrawaddy and the Salween, and those east of the Salween. But of the first group the two largest, Wuntho and Kale, were incorporated into British Burma in 1891, as a result of disloyalty and rebellion, and the others, though maintaining their position, are unimportant. The States generally known as the Shan States consist of those of the two other groups, divided, for administrative purposes, into the Northern and Southern Shan States. The large State of Mong Mit (Momeik) which has been under British administration since 1892 owing to the minority of the Chief, is administered as a subdivision of the Ruby Mines district of Upper Burma. The Northern Shan States include five large States, the southern some 40 States, for the most part of little importance. Since 1893 peace and prosperity have been maintained throughout the Shan States, and the only troubles

Shan States.

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which have occurred have been on the frontier. Indeed, it may be said that from the very first the Shans accepted British authority loyally, and that the few disturbances there have been arose either from disputed successions, from the restless and predatory habits of the hill tribes, or from the machinations of outlaws driven out of Burma. The garrison in the States has always been very small; the number of British posts can almost be counted on one hand, yet the amount of serious crime has always been less than in Burma, and tends to decrease, except where there is an alien population. This is the more noteworthy since the country is so extensive—the two groups together cover an area of 57,915 square miles—and so difficult to get about in that even after the lapse of more than ten years since the British occupation there were parts which no British officer had ever visited. As regards the methods of government, the criminal and civil as well as the revenue administration is vested in the Chief, subject to the limitations laid down in their *sanads*, and to restrictions imposed by the extension of enactments and the issue of orders under the Shan States Act of 1888. The superintendents exercise general control over the administration of criminal justice, and have power to call for cases and to exercise wide revisionary powers. In the part of the Southern Shan States charge known as the Myelat, a closer approach to the law in force in other parts of India has been prescribed, as this tract had always been administered according to the law in force in the rest of Upper Burma.

The progress in the Southern States has been great under the superintendence of Mr. A. H. Hildebrand, C.I.E., who has held charge from the time when their administration was taken over by the Government in 1887 until the year 1901, in which he retired. The loyalty of the chiefs is undoubted; the material prosperity of the people has been largely increased; the

	1891-92.		1901-02.	
	Exports to Burma.	Imports from Burma.	Exports to Burma.	Imports from Burma.
Northern Shan States -	£ 128,345	£ 98,117	£ 199,861	£ 271,116
Southern Shan States -	11,753	12,877	209,757	249,489

cultivation of wheat and potatoes promise them wealth when a railway furnishes them means of getting the produce out of the country. In the Northern States also there has been much peaceful development, which the construction of the railway to Lashio may be expected to increase. During the ten years the value of the trade with Burma has increased very largely, as is shown in the margin. The construction of cart roads and mule tracks has been carried on with diligence, and it is said that a spirit of pride and emulation has grown up among the chiefs and the people, which leads them to vie with one another in the possession of the best bridges and roads.

Karenni.

Karenni, which lies on the Salween river below the Southern Shan States, is not included in British territory, and is not subject to any of the laws in force in the Shan States, but the Superintendent of those States exercises some judicial and other powers in respect of Karenni. In a report on a tour in this region in 1899-1900, Mr. Hildebrand gives an unfavourable account of the condition of the indigenous Red Karen population, which is rapidly diminishing. "The race," he says, "seems to have run its course, gone to seed, and is now dying out." Its place is being taken by a mixed population of cultivators and traders, who are more law-abiding and energetic and doubtless of greater value to the State.

II.—THE INTERNAL STATES.

Excluding the frontier States which have been reviewed above, the territories under Native rule may be said to fall into five main blocks.* The Rajput States under the Rajputana Agency, with a population of 9½ millions, stretching from the Punjab on the north to the northern division of Bombay on the south, and from Sind on the west to the United Provinces on the east,

* The general description of the Internal States given in this paragraph, and the following quotation, have been adapted from "The Protected Princes of India," by Sir W. Lee Warner, K.C.S.I.

lie right across the line of communication between Bombay, which is the most important sea base of British rule, and the North West Frontier, whence throughout her history danger has threatened the people of India. Adjoining them on the south-east lie their hereditary foes, the Maratha States of Gwalior and Indore, which with others under the Central India Agency claim $5\frac{1}{2}$ million subjects. Leaving a narrow strip of British jurisdiction to connect the western presidency of Bombay with the Central Provinces and Bengal beyond them, and with the Madras presidency on the south, lie the extensive dominions, covering 82,698 square miles and containing over 11 millions of population, of our oldest ally the Mahomedan Nizam of Hyderabad. In the southern presidency, Mysore detaches 29,444 square miles and more than $5\frac{1}{2}$ million souls from subjection to the British Government of Madras. Finally, Baroda and the neighbouring groups of States consolidated under the Kathiawar and other Agencies fill a large space in the Gujarat province of the Bombay presidency. But the enumeration of these five massive blocks of foreign jurisdiction, barring the road from one province of the Empire to another, leaves out of notice a vast number of smaller States engulfed in the presidency of Bombay and in the provinces of the Punjab, Bengal, the Central Provinces and Burma. The Government of India directly controls the intercourse of its agents with 170 separate States, two of which are nearly as large as Italy without Sicily and Sardinia. The Governor of Madras has relations with five, and the Governor of Bombay with 363 separate rulers, some of whom are very petty, ruling States no larger than the republics of Lübeck or Hamburg, but none the less tenacious of their sovereign rights. The Lieutenant-Governors of the Punjab, Bengal, and the United Provinces deal respectively with 34, 30, and two States; whilst the Chief Commissioners of Burma, of the Central Provinces, and of Assam control the rest of the 690 States which lie beyond the reach of the Indian legislatures.

The last decennial issue of this Statement contained a brief summary of the history of each of the more important States. It is not proposed on the present occasion to repeat this information, except so far as is necessary for the appreciation of their present condition and recent progress. But attention may again be called to two very striking facts. First, that with remarkably few exceptions these States, certainly in their present dimensions, rank and position, are of more recent origin than the British Power in India. Secondly, that had it not been for the protecting arm of that Power there is hardly a single State that would not have long since been absorbed by a more powerful neighbour, or dismembered by fratricidal rivalry or internal sedition. The rise of the greater number of the States in the north and centre of the country took place during the decadence of the Moghal Empire and the general anarchy and confusion that prevailed everywhere in India, during the last half of the 18th century and attended the downfall of the Maratha rule in the early years of the 19th. We thus find in power descendants of the successful freebooter, the favoured minister or general, and the rebellious deputy of his sovereign. Kashmir is a Hindu State, in spite of the fact that three-quarters of the population are Moslems. In Hyderabad the position is reversed, and a population among whom Hindus form 90 per cent. is under a Mahomedan Government. In Baroda, the Marathas, who are foreigners in race and language, are one in 50 of the population subject to them, and similar instances on a smaller scale are to be found all over the country. This state of affairs was stereotyped by the British Government, and it is to that Power alone that is due the entire absence of the disorder that the experience of former times would lead one to anticipate would result from such incongruity. The history of the relations between the British Government and the Native States falls into three well-marked periods, described by Sir William Lee Warner in a passage which deserves to be quoted at length:—

"Each period is the expression of an idea, which has left its mark as much on the form and language of the treaties as upon their extent and their objects. Up to the year 1813, which may be fixed as the closing year of the first period, the pressure of Parliament and the prudence of the Merchant Company operated in the direction of a policy of non-intervention. The Company was barely struggling for its existence, and it recoiled from the expense and the danger of extending its treaties of alliance and self-defence beyond the ring-fence of its own

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territorial acquisitions. In the next period, which lasted from 1811 to the Mutiny of 1857, larger schemes of empire dawned upon its horizon and dominated the policy of its Governor-Generals. The exclusion of any States from the Protectorate was proved by experience to be both impolitic and cowardly. Empire was forced upon the British rulers of India, and the bitter fruits of a policy of leaving the States unprotected were gathered in the Pindari War, in the revival of schemes of conquest in the minds of the Malhatta chiefs, and in the humiliation of the Rajput houses. Surrounded on all sides by the country princes, the Company's officers saw that no alternative remained except annexation, which they wished to avoid, or a thorough political settlement of the Empire step by step with the extension of their direct rule. Without order on their frontier, peace in their own territories was impossible; and the only prospect of order amongst the Native States was to undertake arbitration in all their disputes with each other, and to deprive all alike of the right to make war or to enter into any unauthorised conventions with each other. The policy of the period was one of isolating the Native States, and subordinating them to the political ascendancy of the British power. The expressions of 'mutual alliance' and 'reciprocal agreement' are exchanged for the phrases 'subordinate alliance,' 'protection,' and 'subordinate co-operation.' But whilst the States are deprived of all control over their external relations, the traditional policy of non-interference is still for a while preserved in their internal affairs. Here the phrases of international law maintain their last stronghold, and it is deemed inconsistent with a sovereignty to introduce a foreign agency for effecting any reforms. No remedy for continued misrule is yet known except a declaration of war, or, at a later date, annexation. At last a further change occurs—with the suppression of the Mutiny, 'the Crown of England stands forth the unquestioned ruler in all India.' Annexation is found to be needlessly drastic. International law is wholly out of place, and the new conception of Indian sovereignties not only justifies, but requires, intervention to save the State. A different set of engagements are taken, which bring to light the union of the States with the British Government in the extension of railways and in the common promotion of works of public benefit. The relations which to-day subsist between the protected States and their protector are the resultant of these three periods, and of these several ideas, namely non-intervention, subordinate isolation, and union."

Relations
with the
States.

Various arrangements have been made between the States and the Paramount Power with reference to the mutual extradition of criminals and the assimilation of systems of regulating the production and distribution of salt, drugs, and intoxicating liquors. Trunk lines of road and railway have been constructed and continuity of jurisdiction along the whole length ensured. The Imperial system of postage and telegraphs has been extended nearly all over the country, and trade has been largely freed from the vexations and onerous duties that used, by antique custom, to be levied on goods in transit at each State frontier which had to be crossed. The States are prohibited from having any diplomatic or political relations with other States or with foreign Powers, and are required loyally to carry out the arrangements made by the British Government on their behalf with other States and countries; but on the other hand their subjects abroad are as much entitled to the protection of the British flag as the inhabitants of British territory. The duty of providing for the common defence is undertaken by the Paramount Power; the States co-operate when necessary to the full extent of their resources, but they are free from the necessity of maintaining a large army, and are required to regulate the amount of their military forces so as to avoid embarrassment to their neighbours and danger to the peace of their own territories. The management of internal affairs vests wholly in the rulers of the most important of the States. But, in the words of Lord Canning's Minute of 1860, the Paramount Power "is not debarred from stepping in to set right such serious abuses as may threaten any part of the country with anarchy or disturbance, nor from assuming temporary charge of a Native State when there shall be sufficient reason to do so." The limits of this right of intervention are not susceptible of precise definition. It rests not only on treaties and engagements, but also on the royal prerogative, Acts of Parliament, the law of natural justice, and usage, and it has on occasions been exercised not only to settle disputed successions, or to stop gross misrule or rebellion, but also to suppress sati, infanticide, and mutilation, or such cruel practices as are held to be contrary to natural law.

British
control.

Such intervention frequently results in the administration of the State being placed for a period under the more or less direct control of the British Resident. During the decade under review notable instances are the Jhallawar and Cambay States. But maladministration is not the only cause which imposes on the Supreme Government the obligation to intervene in the administration of Native States. When the recognised ruler is unable, owing to his being a minor or from any other cause, to undertake the responsibilities of his position, it devolves on the Paramount Power to make

arrangements for the administration of the State in accordance with the circumstances. In such cases, the opportunity is taken where necessary to lay the foundations for the management of the State on more progressive lines than would generally recommend themselves to a chief of a former generation, and special attention is paid to the education of the young chief. This training is given either by European tutors or at institutions specially provided for the purpose, under a European principal with Native assistants. The Gaekwar, Sindhia, and the Nizam may be cited as examples of chiefs who have been trained for their high duties under the first system; of those who

Institution.	Number of Pupils in 1901.
Mayo College, Ajmere	56
Rajkumar College, Rajkot	49
Dair College, Indore	24
Aitchison College, Lahore	68

have recently completed or are undergoing similar training, mention may be made of the Maharajas of Mysore and Patiala. The principal chiefs' colleges are named in the margin, with the number of pupils in 1901. They are attended by chiefs who have not yet attained their majority, and by sons of ruling chiefs and of other noble houses. A few instances have occurred in which the

chief has sent his son to be educated in England.

In this connection reference may be made to the scheme which was sanctioned in the year 1901 for the formation of an Imperial Cadet Corps, with the main object of providing a military training for selected members of the aristocracy of India. At present the experiment is in a tentative stage, and some time must elapse before the scheme is in full working order. It rests upon the periodical selection of a small number—about 20 to start with—of scions of aristocratic houses, drawn for the most part from the chiefs' colleges mentioned above. The youths are placed under a specially selected commandant and adjutant, and pass through a two years' course of military training in the cold weather. For a portion of them, for whom such an extension is considered desirable, a third year's course in a garrison class is to be instituted. Upon such as emerge successfully from this test and satisfy the requisite standard of efficiency, it was proposed to confer the rank, position, and duty of a British officer in staff or other extra-regimental military employment, as suitable vacancies occur. The cadets are treated in every way as soldiers, and discipline is strict. The education is strictly military.

Imperial
Cadet Corps.

Nothing has been more noteworthy in the history of the Native States than the deep and enthusiastic loyalty evinced by their chiefs on the many occasions which have tested their sentiments in recent years. At the two Jubilee celebrations of Her late Majesty's reign, on the occasion of Her lamented death, and again at the Coronation Durbar, their attachment to the British Crown has been expressed in no uncertain tones. Nor have more practical proofs been wanting. By the movement which originated in the Nizam's offer of assistance on the North-West Frontier in 1887, and which resulted in the formation of the Imperial Service troops in 1890, the contributing States manifested their anxiety to take an active part in the defence of the Empire. These troops have seen service on the North-West Frontier and in China, and though, to the great disappointment of the chiefs, no Imperial Service troops were included in the forces sent to South Africa, they contributed a number of horses, with some 400 men and followers who were found to be most useful. The troops have shown keen desire for active service, while the morale and state of discipline among the members of the corps has been excellent. The Jodhpur troops in China were commanded by Colonel Sir Pratab Singh (now Maharaja of Idar), and the camel corps led by the Chief of Bikanir in person. The Maharaja Sindhia of Gwalior, who presented a hospital ship as a contribution to the expedition, also accompanied the force to China. The chiefs have given liberal assistance to the various funds raised for public objects, including the Transvaal War Fund, and the endowment of the Indian Peoples' Famine Relief Trust by the Maharaja of Jaipur, with a gift of 16 lakhs (nearly £107,000), deserves special mention.

It has been said above that the protective obligations undertaken by the Paramount Power render it unnecessary for the States to maintain a large

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army, but there are besides the Imperial Service corps a considerable number of troops belonging to the States, for the most part of no very high military value. The strength of these forces is in many cases restricted by treaty or engagement, and generally it may be said that they may not exceed in time of peace what is required for the maintenance of the reasonable dignity of the Chief, the enforcement of internal order, and the requirements of any special engagements with the British Government. In the course of the recent negotiations with the Nizam of Hyderabad with reference to the lease of Berar to the Government of India, His Highness has undertaken to effect a reduction in the number of his troops as soon as practicable. In all States, the British Government has asserted, by treaty or by usage, the right to forbid or restrict the recruitment of mercenaries foreign to the State; and a further restriction is maintained on the fortifications and military equipment of the States. In the smaller States, the line between military and police is very indefinite, and even in most of the larger ones the proportion of irregulars is high. The total number of local military forces, in addition to the Imperial Service troops, is returned as 132,400 in 1900-01; but this figure takes account only of troops who are uniformed and drilled and bear firearms. It includes Nepal, with 35,000 troops, and the Frontier States.

Famine.

The famine of 1896-97 affected a large area in the Native territories of Rajputana, Central India, and Hyderabad. In 1899 almost all the internal States suffered more or less acutely. The manner in which the emergency was met in the latter year is summarised in the following quotation from the statement made by the Governor-General on the 19th October 1900.

"In a few States the duty of succouring their subjects has been so neglected by the Durbars as to need strong interference; and in others the good intentions of rulers have been frustrated by the dishonesty and peculation of subordinate officials, who could not resist turning even the starvation of their fellow creatures to their own profit. But in the majority of cases the chiefs have shown a most laudable disposition to accept our methods of relief, in so far as their resources and the agency at their command permitted. In some of the Rajputana States, especially in Jaipur, Jodhpur, Bikaur, and Kishengarh, the arrangements have been admirably planned and carried out by the rulers themselves, and have aroused the admiration of persons familiar with the famine system of British provinces. Surveying the Native States as a whole, we may say that there has been an awakening to the call of philanthropic duty, which has been most gratifying.

"Nevertheless, the difference of the standards in vogue may be judged from a comparison of the figures on relief in the two areas. In Bikanir and Jodhpur, for instance, the numbers relieved in any month never exceeded 6 per cent. of the nominal population, while in the British districts of Ajmer-Merwara 25 per cent. of the population were for months on relief. Even in the States under the Bombay Government, in which for various reasons the initiative and supervision of the Political Officers were more in evidence than in Central India and Rajputana, the scale of relief was very different from that in Gujarat. In Kathiawar the numbers on relief never exceeded 13 per cent. of the population. In Palanpur they reached, but did not exceed, 15 per cent. in one month alone. In the same month (July 1900) one-third of the aggregate population of the four distressed districts of Gujarat was on relief. The two great States of Baroda and Hyderabad flank the Bombay territory on the north and east. In Hyderabad and Baroda the numbers on relief never rose to 5 per cent. of the nominal population; and yet both States were visited by drought and famine not less severely than the adjoining districts of the Bombay Presidency. Meanwhile, the difference in the standards of relief was further testified by the eagerness with which thousands of fugitives streamed across the border from Native States into British territory, where they passed themselves off as British subjects, in the hope of enjoying the superior wages and comforts of our relief-works, our poor-houses, and our hospitals.

"I do not dwell on this point in order to disparage the efforts, in many cases most praiseworthy, made by Native States to relieve their people; but simply because the difference between the standard of relief at which we have by degrees arrived, and the standard of relief recognised as liberal in the best managed Native State, is one of the elementary facts of famine-experience. We may gladly admit that more has been done for their people by the chiefs and rulers of Rajputana on this occasion than in any other historic famine. There are many bright examples of benevolence and humanity. The Maharaja of Jaipur has extended his princely munificence not only to his own people, but to India at large. There is the instance of the late Maharaja of Kishengarh, who, though suffering from a mortal illness, took the keenest interest in the relief arrangements of his State, and never once alluded to his own ill-health. There is also the case of the wife of Maharaja Pratab Singh of Jodhpur, who, not content with opening an orphanage, resided there herself in order to superintend it. These instances—and their number might easily be increased—show the spirit with which the famine has been faced in Rajputana by some, at least, of its rulers. As for the people, they have borne their trials, as the Indian people always do, with exemplary fortitude and resignation."

The Government of India aided the States by tendering constant advice, by lending competent famine officers, and by liberal loans. The aggregate amount of the sums so advanced in consequence of the famine of 1899 and subsequent years, up to the 30th June 1902, was £2,762,000, of which £232,600 had been repaid by that date. This includes a loan of two crores (£1,333,000) to the Hyderabad State. The rate of interest is generally 4 per cent., and the instalments in repayment of principal are adjusted in proportion to the means of the indebted States.

The suppression of dacoity in the Native States is often a matter of Imperial concern, and necessitates interference on the part of the paramount Power. For the State of Hyderabad and the large Agencies of Rajputana and Central India there has long existed a special department under the Government of India charged with the duty of suppressing thugges and dacoity. The former crime has been almost stamped out; dacoity, however, received a great impulse from the famines, as is shown in the marginal table. The conditions of the work of the department differ according to the locality. In Rajputana, where the States are for the most part large and the police administration organised, the operations are generally conducted through and with the State's own police. In the large States of Central India, Gwalior, Bhopal, and Indore, the conditions are much the same, while in the numerous small States the local police in cases of importance work to a certain extent in subordination to, and under the superintendence of, the department. In Hyderabad the department works by arrangement side by side with the Nizam's police. This co-operation is generally carried out without friction, especially since the reorganisation of the department in 1893 and the following years.

	Dacoities reported in		
	Rajputana.	Central India.	Hyderabad, including Berar.
1891	139	104	206
1892	124	230	210
1893	105	185	178
1894	90	119	150
1895	96	175	177
1896	120	245	321
1897	121	479	552
1898	81	194	324
1899	684	643	465
1900	1,086	1,051	620
1901	345	627	222

There was a serious outbreak of dacoity in the year 1892-93 in Bundelkhand, and also in Kathiawar, which is not within the sphere of the department. In both cases energetic measures were taken, in Kathiawar by the Agency police assisted by the Durbars, and the most dangerous gangs of dacoits were suppressed. Owing, however, to the beginning of famine pressure in 1896, and partly also, it may be, to the increased completeness of the reporting system, the number of these gang robberies and murders increased, with one intermission in 1898, till it reached its maximum in 1900. It is to be noted that many of the additional offences recorded are dacoities only in name, and consist of grain riots or petty robberies committed by persons in want of food. As far as serious crime is concerned, there has not been such an outbreak as the figures given above would seem to indicate. Measures which have been taken in Gwalior and elsewhere for the settlement of the criminal tribes must tend to diminish the amount of dacoity.

Many of the States pay tribute, varying in amount according to the circumstances of each case, to the British Government. This tribute is frequently due to exchanges of territory or settlement of claims between the Governments, and does not represent the value of British protection, or the consequent relief from the necessity of maintaining large military forces for the defence of the States. The actual receipts in the form of tribute and contributions from Native States in the year 1901-02 are summarised in the following table. The relations of the States to one another in respect of tributes are complicated, and it would serve no useful purpose to enter upon the question. It may, however, be stated that a large number of the States of Kathiawar and Gujarat pay tribute of some kind to Baroda, and that Gwalior also claims tribute from many of the smaller States of Central India.

cultivation is confined to unirrigated or to garden crops, the Bombay settlement system has been adopted with few variations. In the districts first surveyed the settlements were made for a period of 30 years; more recently they have been made for 15 years. In the eastern districts where rice is largely cultivated by irrigation from artificial tanks and channels, a departure has been made from the Bombay system, in so far as annual remissions are granted when water is not available for the irrigation of the rice crop. It was chiefly the western portion of the State which suffered from the famines. In 1896 a timely fall of rain in the month of November saved the State from extended famine, though there was some failure of crops, and the poorer classes suffered much distress owing to the high prices of food. The population returned as affected numbered about $3\frac{1}{2}$ millions, in an area of 28,000 square miles, roughly speaking a third of the State. In 1899-1900 there was a complete failure of crops in some of the western districts, and nearly the whole of the State was to a less degree affected. The distressed areas and population were given in March 1900 as 23,000 square miles with $3\frac{1}{2}$ millions of inhabitants seriously affected, and 51,500 square miles with $6\frac{1}{2}$ millions partially affected. The Government of the Nizam met the demands for relief with great liberality, and during July 1900 the average daily number of persons in receipt of famine relief rose above half a million. To meet this expenditure and to provide funds for carrying on the administration, the Government of India granted a loan of two crores of rupees (£1,333,000) at 4 per cent. interest, repayable by the State in annual instalments.

The Hyderabad Government does not publish annual reports on the administration of the State; but a report issued in 1899, relating to the four years ending in October 1898, showed that in each of those years there was a considerable excess of expenditure over income. Since then the financial position of the State has continued to cause apprehension, and in the year 1901 the Nizam appointed a member of the Indian Civil Service to be Financial Secretary with adequate authority to introduce reforms and to reduce expenditure. The railway system of the Hyderabad State has received a large extension by the completion and opening in the years 1899 and 1900 of the Hyderabad Godavery Valley line, 391 miles in length. The length of the lines owned by the Nizam and worked by the Nizam's Guaranteed State Railway Company in 1901 was 742 miles. The total outlay up to the close of 1901 was £2,338,000, and the net traffic earnings of the year amounted to $6\frac{1}{4}$ per cent. on this capital.

In dealing with Berar, or the districts of Hyderabad assigned to British Government by the treaty of 1853, for the maintenance of the Hyderabad Contingent, it is impossible to pass by the new agreement concluded on the 5th November 1902, although that date is, strictly speaking, outside the period with which this Statement is concerned. Under the treaty of 1853, the British Government undertook to maintain an auxiliary force of 5,000 infantry and 2,000 cavalry, with four field batteries, in place of the contingent which the Nizam was bound to furnish under the treaty of 1800. The new force was styled the Hyderabad Contingent. For the purpose of providing for the cost of the contingent, as well as for certain other purposes specified, the Nizam assigned the Berar districts; the British Government undertaking to pay over to the Nizam all the surplus from the administration after payment of the cost of the contingent. During the forty years between 1860 and 1900 the average of the annual surpluses was slightly less than £60,000. The largest surplus in any one year was £131,500, paid in 1887-88; but in several years, owing to famine or other causes, there has been no surplus at all. An investigation into the civil and military expenditure of Berar in 1901 showed that there was no great scope for further economy under the system stereotyped by the treaty, by which a small territory was administered on principles applicable to a large province. As a result of friendly negotiations with the Nizam, a new arrangement was made in 1902. This agreement is not a lengthy document, and is given in full below:—

“Whereas by the Treaties concluded between the British Government and the Hyderabad State on the 21st May, 1853, and the 26th December 1860, the Berar districts were assigned to the British Government for the maintenance of the Hyderabad Contingent, the surplus, if any, from the Assigned Districts being paid to His Highness the Nizam.

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"And whereas the British Government and His Highness the Nizam desire to improve this arrangement.

"And whereas it is inexpedient in the interests of economy that the Assigned Districts should continue to be managed as a separate administration or the Hyderabad Contingent as a separate force.

"And whereas it is also desirable that His Highness the Nizam should receive a fixed instead of a fluctuating and uncertain income from the Assigned Districts.

"The following terms are hereby agreed upon between the Viceroy and Governor-General of India in Council and the Nawab Mir Sir Mubub Ali Khan Bahadur Fatah Jung, Nizam of Hyderabad :—

"(i.) His Highness the Nizam, whose sovereignty over the Assigned Districts is reaffirmed, leases them to the British Government in perpetuity in consideration of the payment to him by the British Government of a fixed and perpetual rent of 25 lakhs of rupees per annum :

"(ii.) The British Government, while retaining the full and exclusive jurisdiction and authority in the Assigned Districts which they enjoy under the Treaties of 1853 and 1860, shall be at liberty, notwithstanding anything to the contrary in those Treaties, to administer the Assigned Districts in such manner as they may deem desirable, and also to redistribute, reduce, reorganise and control the forces now composing the Hyderabad Contingent, as they may think fit, due provision being made as stipulated by Article 3 of the Treaty of 1853 for the protection of His Highness's Dominions."

It is only necessary to add, first, that the full rent of 25 lakhs (nearly £167,000) will not accrue to the Nizam until the outstanding indebtedness

*Balance of Loans outstanding in 1902.	
	£
Berar Famine Loans	773,041
Hyderabad Loan	1,233,334

of the Hyderabad State and Berar to the Government of India has been liquidated, and that for the first fourteen years approximately the net amount payable to His Highness is 10 lakhs (about £67,000), and thereafter for about fifteen years 17 lakhs (about £113,000), after which the debts will have been liquidated, and the full rent will be payable ; and secondly, that the Govern-

ment of India have handed over to His Highness, as an aid to the liquidation of the loans, a sum equivalent to the entire working balance of 41 lakhs (£273,000) which stood to the credit of the Berar administration in October 1902. Further particulars are contained in the papers presented to Parliament on the subject.†

Mysore.

The Mysore State was taken under the direct administration of the Government of India in the year 1831, in consequence of a course of misgovernment which had culminated in the rebellion of the subjects of the Maharaja. After about 50 years of British administration the State was restored in 1881 to the deposed Maharaja's adopted son, His Highness Sir Chamarajendra Wadiar Bahadur, G.C.S.I., under a deed of transfer which laid down conditions in accordance with the general principles

Area in square miles -	29,444
Population (1891) -	4,943,604
" (1901) -	5,589,899

governing the relations of Native States with the British Government. This ruler died at the end of 1894, and was succeeded by his eldest son, His Highness Krishnaraja Wadiar Bahadur, a minor. During the minority the administration was conducted by the Maharani, as regent. In 1902 the Maharaja arrived at the age of 18 years, and was formally installed by the Viceroy. The post of Diwan had been held for 18 years by Sir K. Sheshadri Iyer, K.C.S.I., until his retirement on the ground of ill-health in 1901, when he was succeeded by Mr. P. N. Krishnamurti, C.I.E. By the subsequent death of Sir K. Sheshadri Iyer in the same year, India lost one of her most distinguished statesmen.

When the State was handed over to its Native rulers in 1881, the administrative system had been brought up to the standard obtaining in British provinces, and that standard has been on the whole worthily maintained. Financially the State has been highly prosperous, in spite of expenditure on plague measures in 1898-99 and the following years, and some outlay necessitated by seasonal failures.

The revenue and expenditure of the year 1901-02, excluding railways, amounted to £1,222,000 and £1,193,000 respectively, compared with £1,103,000 and £898,000 in the exceptionally prosperous year 1892-93.

† Parliamentary Paper Cd. 1,321, 1902

In almost all the earlier years of the decade there has been a substantial surplus, and the Durbar has now entered upon a policy of large works, which swells the expenditure in 1901-02, given above, to an abnormal figure. It may be mentioned that this expenditure includes the annual payment of 35 lakhs (£233,000), due under the deed of transfer to the British Government in respect of its undertaking the military defence of the State. This took the place of the annual subsidy of £165,000 paid before the Rendition of 1881, but the increase was postponed for 15 years, and until the year 1896 the payment was made at the lower rate. The revenue from Government lands in Mysore is levied on the ryotwari system, but other and various tenures are found in the *inam* or grant lands. Revenue from the land constitutes about one-half of the income of the State; and about one-fifth is contributed by excise receipts. Next to these headings, the most important of the resources of the Government at the end of the decade was the receipts under mining leases, which amounted to £92,500, against £34,600 in 1891-92. Some account of the gold production of the Mysore gold mines will be given in a later chapter.* Here it need only be noted that a Geological Survey Department was formed in the State in 1894, and that the inspection of mines, with a view to introduce a regular system of supervision over mining work, forms an important part of the department's duties. A Mysore Regulation of 1897 provides for the protection of mining property, the authorised inspection of mining work, and the framing of rules for the conduct of such work and for the sanitation of mines.

At the end of the year 1891-92 the railways open in the State had a mileage of 367 miles, of which 311 miles, belonging to the State, were on the metre gauge (3 feet 3½ inches), and the remainder, the Bangalore Branch of the Madras Railway, on the standard gauge (5 feet 6 inches). By the end of the ten years the mileage of the lines belonging to the State had grown to 411 miles, owing to the opening of the Hindupur line (51 miles), which completes the connection between Bangalore and Guntakal, the Birur-Shimoga line (38 miles) and the Kolar Gold Fields line (10 miles), all of which belong to the Mysore State, the latter being on the standard gauge. The total capital expenditure on the lines belonging to the State is shown as about £1,500,000, and the net earnings in 1901-02 yielded about 2·2 per cent. on this amount. There is therefore a deficit if the interest on the borrowed capital, at the rate of 4 per cent., be taken into account.

An institution of much interest is the Mysore Representative Assembly, which dates from the year 1881. It comprises deputed members of local fund boards, municipalities, and public associations, and representatives of the wealthier and more enlightened classes, chosen under an elective system which was introduced in the year 1891. There were 273 members in 1901-02. In some recent years it has not been called together in consequence of the plague; in other years its meetings fill a space of about five or six days, during which time a budget statement and an account of the administration of the State are read by the Diwan, the members of the Assembly having a right of interpellation, and a large number of subjects is discussed, amounting in some years to 500 or even 600. The Assembly has no power to record a decision on any subject of discussion. It may be noted that the elective system is in force in respect of a part of the municipal committees of Mysore city and of the Bangalore Civil and Military Station, of which the latter is under the management of the Government of India by the terms of the Deed of Transfer of 1881; but not in any other of the towns. The Local Fund Committees consist of *ex-officio* members or of members appointed by the Government, except that one member of each Committee is elected by the holders of alienated villages. In the matter of education, the Mysore State will bear comparison with the most advanced among British Indian provinces. The ratio of boys under instruction to the male population of school-going age was 23·28 per cent. in 1901-02, that of girls 4·02 per cent., and that of boys and girls combined 13·74 per cent., compared with 24·21, 2·22, and 13·27 per cent. respectively in 1890-91. Of the 3,992 schools of all classes, containing

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112,298 pupils, 1,765 were private institutions, in which the teaching is not of a modern character, but English secondary schools for boys numbered 106.

During the minority of the present Gaekwar of Baroda, Sir Sayaji Rao, G.C.S.I., that is to say between April 1875 and December 1881, the administration of the State was thoroughly reorganised. In more recent years the frequent absences of His Highness from the State caused some inconvenience, and it was decided in 1893 that the administration should be conducted in his absence by a council composed of the Diwan and four other officials of the State, important matters being reserved for His Highness's decision. The State consists of four distinct blocks, known as *prants*, divided from one another by large tracts of British or other territory; and each block again is interlaced in the most intricate fashion with lands not under the Baroda administration. The efficiency of the administration is therefore to a peculiar degree a matter of concern outside the limits of the State itself, in view of the many and complex questions which must arise in connection with extradition, excise, the maintenance of boundary marks, the realisation of revenue from inhabitants of frontier villages, and the like. A conspicuous instance is the series of disputes respecting rights over alienated or rent-free lands, known as *giras* or *wanta*, possessed or claimed by persons living outside Baroda over lands within the State. After considerable discussion a revised set of rules was drawn up in 1897, and the Baroda Giras Department was reorganised, since which the settlement of these complicated questions has made good progress.

During the nine years ending in 1899-1900, the receipts almost exactly equalled the expenditure, in spite of the disastrous circumstances of the year 1899-1900, when the land revenue receipts fell 57 per cent. below the amount collected in the previous year, and when nearly 47 lakhs were spent on famine relief and advances by the State. Considerable sums have also been expended in the two following years, and the total famine expenditure of the State to March 1902 amounted to 87½ lakhs of rupees. A temporary 4 per cent. loan of £503,000 was raised by the State to meet this additional expenditure. The above rupee figures include sums stated in Babashai rupees, the currency of the State. The value of this rupee in exchange with the British rupee fell greatly after the closing of the Indian mints. By their assay value, 114½ Baroda rupees were equal to 100 British rupees; but a considerable number of Baroda rupees was coined, and their value did not maintain this level. The average proportion in 1899-1900 was 136¼ Baroda rupees to 100 rupees, and there were violent fluctuations, owing to the circumstances of the year. The Baroda Government therefore decided to adopt the British rupee, and steps have been taken to introduce it in place of the Baroda rupee.

The land revenue, which amounts in an ordinary year to rather more than a crore of Babashai rupees, is administered under a ryotwari system. The census shows that of the million persons supported by agriculture, two-thirds are landlords or tenants and their dependents, about 370,000 persons being supported by agricultural labour on the lands held by others. The famines of the last three years, though met with liberality and energy by the State, supplemented by private generosity, have resulted in a very great decline in the population engaged in agricultural and pastoral occupations. Their number was returned as 1,057,000 in 1901, against 1,446,000 in 1891. As in the case of the Bombay presidency,* the heading of landholders and tenants shows a very great fall in numbers, amounting to 46 per cent. The population as a whole is 19 per cent. less than in the year 1891, owing partly to the famines, partly to the epidemics of cholera and fever which accompanied them, and partly to the plague, which attacked the State in as great a measure as the surrounding territory of the Presidency.

Special attention is paid to education in the Baroda State. In a small part of the Amreli division a system of compulsory education of boys between the ages of 7 and 12, and of girls between 7 and 10 was introduced in the year 1893, and it was in force in 50 villages in 1899-1900. No fees are charged, and attendance is enforced by means of fines. This is the only part of India in

which the experiment has been tried. In other respects also the administration of the State has been of a progressive character, notably in respect of railways. The length of the three opened lines belonging to the State in March 1902 was 204 miles, and another line 42 miles in length was under construction. The open lines are worked by the Bombay, Baroda, and Central India Company, and are directly as well as indirectly profitable to the State. The northern section of the Petlad-Cambay line returned 4.36 per cent. on the capital in 1901, and has given a much larger yield in some other years. The Mehsana line paid 6.44 per cent., and the Dabhoi line 3.47 per cent. in 1901.

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In the three States of Hyderabad, Mysore, and Baroda, and in the frontier States of Nepal and Kashmir, the relations with the Paramount Power are conducted through a resident appointed to each, communicating immediately with the Government of India. Elsewhere, there are two intermediaries. The agent or resident, as the case may be, is subordinate either to an agent to the Governor-General, as in Rajputana, Central India, or Baluchistan, or to the Local Government or Administration, as in the case of the States under Bombay, the Punjab, Madras, Bengal, and the United Provinces, and those connected with Assam, Burma, and the Central Provinces.

Agencies and the Smaller States.

First of these collections of States comes Rajputana, with an agent to the Governor-General, having his headquarters at Mount Abu in the Aravalli hills. The States which he superintends are grouped into eight subordinate charges, two of which are residencies, and the six others agencies. The following table gives the names of the States, with their area and population, and some details as to their estimated revenue.

Rajputana.

The chief political events of the ten years have been the deposition of the Maharaj Rana of Jhalawar on the ground of persistent misgovernment and

	Area.	Population.		Estimated Revenue so far as recent figures are available.
		In 1901,	Increase or Decrease per cent. in the 10 Years.	
<i>Mewar Residency.</i>	Sq. Miles.			£
Udaipur (Mewar) -	12,753	1,030,212	-40	200,000
Dungarpur -	1,447	100,103	+ 2	15,100
Partabgarh -	886	52,025	-41	26,760
Banswara and Kushalgarh (estate) -	1,946	165,350	-11	—
<i>Western Rajputana States Agency.</i>				
Jodhpur (Marwar) -	34,963	1,935,565	-23	231,600
Sirohi -	1,984	154,544	-18	12,110
Jaisalmer -	16,062	73,370	-37	—
<i>Jainpur Residency.</i>				
Jainpur -	15,570	2,658,666	- 6	406,300
Kishangarh -	858	90,970	-27	—
Lawa (estate) -	10	2,671	-20	—
<i>Eastern Rajputana States Agency.</i>				
Bharatpur -	1,032	626,665	- 2	—
Dholpur -	1,155	270,973	- 3	—
Karauli -	1,242	156,786	+ 0	—
<i>Harauti and Tonk Agency.</i>				
Bundi -	2,220	171,227	-43	—
Tonk -	1,114	143,330	-24	—
Shahpura (estate) -	405	42,676	-33	—
<i>Alwar Agency.</i>				
Alwar and Niurana -	3,141	828,487	+ 6	—
<i>Kotah Agency.</i>				
Kotah -	5,634	644,373	-24	—
Jhalawar -	810	90,175	-40	—
<i>Bikanir Agency.</i>				
Bikanir -	23,311	584,627	-30	—

proved unfitness, followed by a division of the State into two parts, of which the larger lapsed to Kotah and the smaller, including the capital, was entrusted to Bhiwani Singh, a relative of the ex-chief; and secondly, the deposition of the Maharaja Ram Singh of Bharatpur in 1900 on the ground of the wanton murder of one of his personal attendants. The Maharaja, who succeeded his father in 1893, had been deprived of powers of government in 1895, on the ground of his intemperate conduct, the State being administered by a native Diwan responsible to the Political Agent. He was succeeded by his infant son Kishen Singh. Other important States which were to a greater or less degree under the control of the Political Agent through the medium of a State Council, owing to the minority of the chief, were Kotah until December 1896, Bikanir, until December 1898, and Alwar throughout the nine years ending with 1900-01. By the death of Maharaja Sir

Jaswant Singh Bahadur, G.C.S.I. in 1895 the Jodhpur State lost a highly

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respected and successful ruler, who had done much for the welfare of his State. The heir to the *gukh* being a minor, the administration was entrusted to the hands of Maharaj Dhiraj Sir Pratab Singh, aided by a State Council. During the absence of Sir Pratab Singh in China it was carried on by a committee with the Maharaja as president.

The financial position of most of the Rajputana States was satisfactory until the great famine of 1899-1900 strained the resources of them all. The unfavourable seasons commenced from the beginning of the decade. In 1891-92 severe scarcity was felt in Jodhpur, Bikaner, and Jaisalmer, and also in Kishangarh in the eastern division. In 1895 there was a deficiency of over 30 per cent. on the average rainfall of the western division, and relief operations were started in Jaisalmer. During the following year the relief works in Jaisalmer had to be continued, there was scarcity in Marwar, and famine conditions prevailed in Bikaner. In that year the rainfall was also unfavourable in the eastern division; there was considerable distress in Dholpur, and distress, though to a smaller extent, in Bharatpur. In 1898 the rainfall throughout Rajputana was deficient, and the outturn of the spring crops was small, except in the minor southern States and in Jhalawar. The climax was reached in 1899, when the rains terminated practically by the end of July, and there ensued a period of abnormal heat, which withered the autumn food crops and the fodder crops, and caused many of the tanks and wells to dry up. This resulted in the restriction of the irrigated area, on which alone sowings for the spring crops could be made; and the province entered upon an even more severe famine than that of 1868-69, which still lives in the memory of the people. Some failure of the crops is not unusual in Rajputana, especially in the arid western States, Bikaner, Jaisalmer, and part of Marwar, whence the people are accustomed to emigrate in large numbers, with their families, their flocks and their herds, whenever the rains have been deficient and scarcity is apprehended. But in 1899-1900 the afflicted area included a portion of the Punjab on the north, Sind on the west, and Gujarat and Malwa on the south. The usual channels of emigration were therefore blocked, and the Darbars of the States were face to face with a calamity with which neither their organisation nor their finances were fit to cope. The difficulties were, however, met by the Native States generally in a liberal and humane spirit. It was much to the credit of the Rajputana chiefs that they should thus have recognised their obligations, and should have opened works and poorhouses on a scale as new to themselves as it was unexpected by their people.

	Amount of Loan.	
	Applied for.	Sanctioned.
	£	£
Bundi - - -	30,422*	20,000
Dungarpur - - -	13,333	13,333
Jaisalmer - - -	3,333	3,333
Kishangarh - - -	10,000	-10,000
Kotah - - -	130,000*	82,824†
Lawa - - -	1,333	1,333
Jodhpur - - -	235,667	235,667
Mewar - - -	33,333	33,333
Mewar Hill Tracts - - -	13,147	13,147
Paritabgarh - - -	13,333	13,333
Shahpura - - -	10,000*	6,667
Sirohi - - -	13,333	13,333
Tonk - - -	50,000*	40,000
Whole Agency - - -	10,000	10,000
Total - - -	567,234	496,303

* Differences represent amounts disallowed as excessive. In the case of Shahpura, the Agent to the Governor-General has since admitted that the additional £3,333 is not needed.

† £14,490 = suspension of tribute. Payment of first instalment of loan and tribute deferred till 1905.

At the beginning of June 1900, when the distress was at its maximum, 534,000 persons were in receipt of relief in these States, or about 5.5 per cent. of the population shown in the census of 1901. The expenditure entailed by relief measures was very heavy; in Udaipur alone it amounted to nearly £100,000, and the total famine expenditure of the States is given in the Famine Report as £691,000. Besides this sum, loans to the amount of £161,600 were made by the States to landholders, and land revenue to the aggregate total of £185,800 was remitted; and the loss of revenue must also have been serious. The loans granted by the Government of India to the States are shown in the marginal table. They are repayable in periods varying between three and ten years, and bear interest at the rate of 4 per cent. It may also be remarked that assistance was given to distressed cultivators in Rajputana from the Indian Famine Charitable Fund to the amount of £70,000.

It will be seen from the table of the States with their area and population given above, that the greatest proportional loss in population has been sustained by the Udaipur, Partabgarh, Jaisalmer, Bundi, and Jhalawar States. The population of the whole area is 19 per cent. below that shown in the census of 1891. An epidemic of cholera and an exceedingly virulent outbreak of fever help to account for the loss. As regards the mortality from famine, it is believed that the Bhils suffered most, owing to their repugnance to regular work on famine relief works. It is true that the census showed a decrease of only 10 per cent in the decade; but the enumeration of the Bhils in the census of 1891 was very defective.

The recovery from this famine has been retarded by a deficiency in the rainfall during the monsoon season of 1901, which caused crop failures in western States and in some parts of Jaipur, Udaipur, and other States. Attention has been called by the famine to the desirability of extending irrigation as far as possible in the various States. Investigation has, however, shown that it is only in a few of the States lying in the western portion of Rajputana that much advance in this respect is to be attained. The Ghaggar inundation canals have been prolonged into Bikanir, from the Punjab, but irrigation by perennial canals is precluded by the height of the country above the water supply. In the three desert States of Jodhpur, Jaisalmer, and Bikanir, the scanty rainfall and the sandy soil combine to discourage the construction of tanks, except in isolated instances, and the wells are generally so deep as to make irrigation from them impossible. In the north-eastern States, including Jaipur, much has been done by the public works departments of the States to provide storage tanks. In Udaipur, on the other hand, there is still much scope for improvement in this direction. The total provincial area secured from drought by tanks or by wells is and must be comparatively small, especially as so many of these protective works are themselves dependent on the rainfall of each year. But in spite of these circumstances, the reporter on the Rajputana famine draws the general conclusion that, so far as the food supply in grain is concerned, Rajputana produces sufficient to maintain its population in ordinary years, and has even an appreciable surplus for export.

The main line of the Rajputana-Malwa railway traverses the States along the western base of the Aravalli hills. With its branches from Ajmere to Khandwa and from Bandikui to Agra the Rajputana section has a length of 719 miles. The Jodhpur and Bikanir Darbars have shown much activity in the construction of railways. The total length of railways owned and worked by them was 824 miles at the end of 1901, including 88 miles under construction. The interest earned on the capital outlay of the whole system was at the rate of 5 per cent. in 1901, and has been considerably higher in other years. Railway communication has been established between Rajputana and Sind. The only other railway belonging to the States which was open during 1901 was the Udaipur-Chitore line, 67 miles in length, which paid 4½ per cent. in 1901. Various other lines are under construction, and much progress was made with the earthwork as a means of famine relief. The metalled roads constructed and maintained by the States were 984 miles in length at the end of 1900-01, against 641 in 1892. The length of unmetalled roads, practicable for cart traffic except in the three rainy months, had grown from 897 to 1,728 miles.

It says much for the police administration of the States, which was reinforced by patrols of the Imperial Service troops, that although there was an increase in crime in the earlier period of the famine, it never assumed alarming proportions. When the relief campaign was fairly started, robberies and dacoities decreased in numbers, and the only State in which special repressive measures were needed during the famine period was Dungarpur, where the Bhils were turbulent until repressed by the Mewar Bhil Corps.

A considerable number of the States had mints of their own during most of the decade, at which a considerable quantity of silver was coined. But the famine period, during which there was a keen demand for British rupees in order to pay for imports, and a consequent depreciation of the local rupee in terms of the British, has shown the inconvenience of the existing system, and arrangements were being made or had already been made in 1900-01 for the

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conversion into British rupees of the Akleshahi rupees current in the western States and the Salimshahi rupees of other parts of Rajputana.

The term "Central India" is a purely conventional one, used to denote the collection of States which it has been found convenient, for administrative purposes, to place under the supervision of a single Agent to the Governor-General. The States have no general ethnological affinity such as exists in Rajputana. Their territories are in many cases neither compact nor continuous, consisting of a number of villages here and there, with a nucleus of more or less importance round the chief town. Lastly, their relations to the Government of India and to each other present many variations. Ten of them are under direct treaty with the Government of India; others are held under sanads and deeds of fealty and obedience; while a third class, known as the Mediatized States, are held under agreements mediated by the British Government between them and their superior chiefs, by which the latter virtually surrendered their supremacy, the financial arrangements then made being supported by the guarantee of the Permanent Power. There is much diversity in the tenures, but the guaranteed chiefs may be divided into two classes: (1) those in the administration of whose affairs the interference of the superior State is excluded by the express terms of the guarantee; (2) those whose sanads contain no such stipulation. The relations of the British Government to the guaranteed chiefs varies with the nature of the engagements concluded; but the multiplicity of petty chiefs and the peculiarity of the tenures necessitate more interference in their affairs than it is usual or expedient to exercise in the States of Rajputana. The same circumstances are said to have caused great difficulty in the establishment of uniform relief systems during the famines.

The Agency is sub-divided as regards its historical relations with the British Government into two main sections. First, Central India properly so called, comprising the western States, and secondly, Baghelkhand and Bundelkhand, the eastern portion, divided from the rest by a thin strip of British territory. For the purpose of political supervision, there is a cross division of the western section into the Residencies of Gwalior and Indore, and the

—	Area.	Population.		Estimated Revenue.
		In 1901.	Increase or Decrease per cent. in the 10 Years.	
	Sq. Miles.			₹
Gwalior -	25,041	2,938,001	-15	984,000
Indore -	8,075	850,690	-29	570,000
Bhopal -	6,900	—	—	250,000
Dewas Senior -	155	77,922	-6	23,000
Dewas Junior -	134	65,723	-6	24,000
Dhar -	1,739	167,504	-1	53,000
Jaora -	581	—	—	64,000
Bundelkhand:				
Orchha -	Information not available.			
Datia -				
Samthar -				
Rewah -		12,676	1,325,307	-14
Central India -	78,772	8,628,781	-20	—

Agencies of Malwa, Bhopawar, and Bhopal; Baghelkhand and Bundelkhand have their respective Agents at Satna and Nowgong. The Agent to the Governor-General has his headquarters at Indore. The particulars given in the marginal table are incomplete, as the census report of the Agency was delayed in transit from India and was not received in time for the incorporation of full details. In any case, only approximate areas can be given for the different States in Central India, owing to the number of detached and isolated villages scattered amongst the different agencies, in many

cases far from the main tract, and merely enclaves in other States. It may also be mentioned that within the political charge of Central India there are certain detached portions of the Tonk State in Rajputana. Similarly, in Mewar, there are several villages belonging to Gwalior and Indore, respectively.

The large Maratha State of Gwalior was governed by a Council of Regency until December 1894, when H.H. the Maharaja Madho Rao Sindhia, G.C.S.I., came of age and was invested with full ruling powers. During the eight years of his minority the administration was energetically conducted, and, under the energetic and intelligent direction of His Highness, satisfactory progress has been recorded in the succeeding years. It is hardly necessary to say that Gwalior is a very rich State, not only by reason of the surplus revenue which accrues in

ordinary years, but also through the fund of £4,000,000, the result of the savings of the late Maharaja. The State lent £2,333,000 to the Government of India in 1887 at 4 per cent., repayable by yearly payments of £80,000, beginning in 1895-96; and two further sums aggregating £1,000,000 were advanced by the State for the construction of the Gwalior-Agra and Indore-Neemuch Railways. Besides this permanent debt, £300,000 worth of silver was borrowed temporarily from the State by the Government of India in the year 1900. The income of the State in an ordinary year is about £1,000,000, and is more than sufficient to meet the ordinary expenditure. The police administration has been defective, but improvements have recently been introduced, and many gangs of dacoits suppressed. Much progress has been made in land revenue survey and settlement, which is practically completed, and also with education, though the number of pupils in all institutions still amounts to no more than 4 per cent. of the population of school-going age. The currency is being reformed by the introduction of British rupees.

Among the other important States of Central India the chief political events were the investiture of the young Chief of Rewah, Maharaja Sir Venkatesh Raman Singh, G.C.S.I., in 1895-96, after a minority during which the finances of the State were brought into a satisfactory condition. The progress of this State has since been satisfactory. A change was made in 1899 in the relations of the Government of India with the Indore State, by the appointment of a Resident. At the same time a great change was made in the system of administration, which was from that date carried on by a Council appointed by the Maharaja Holkar, acting in all important matters under the advice of the Resident. Under the new arrangements a good record of useful work has been accomplished, including the reorganisation of the police; but the lax administration of the earlier years of the decade had made much reform necessary. Although it falls outside the decennial period, an allusion must be made to the abdication of Maharaja Holkar in favour of his son, a minor, in the beginning of 1903. This may be expected to furnish a happy solution for the difficulties which have been experienced in connection with this State. The Begum of Bhopal died in 1901 after a long rule which has contributed much to the advantage of that important State; she was succeeded by her daughter, the Nawab Sultan Jahan Begum, the State having now had three female rulers in succession. Among important States which came under the control of the Agency owing to the minority of their chiefs may be mentioned the two Dewas States, and Rutlam. The Maharaja of Panna, a State in Bundekhand, was deposed in the year 1902 on the ground of complicity in the murder of his uncle.

Central India has suffered severely from each of the great famines of the decade. The seasons were generally bad in the first four years of the decade, as is shown by the fact that the imports of grain during those years exceeded the exports by an aggregate total of 121,000 tons, compared with an aggregate net export of 5,600 tons in the four years immediately preceding. The famine of 1896-97 therefore found the people in possession of diminished food stocks. The areas affected included large parts of Gwalior and the whole of the Baghelkhand and Bundelkhand Agencies, with a total area of 28,790 square miles, and a population of 4,000,000 people. The greater part of Malwa, a fertile tract which had long enjoyed the reputation of being exempt from famine, was untouched. With one or two exceptions, the most prominent being Indore, the chiefs proved themselves equal to the occasion; they readily accepted and generally acted upon the advice given by the Government of India through the medium of the political officers. An organised system of relief works and poorhouses, unknown before in the Agency, was adopted, and though there was some delay at first, the relief given in the later stages of the famine was adequate. The Maharaja Sindbia sanctioned the expenditure of large sums on these objects, and showed himself anxious to do all in his power to assist his distressed subjects. The chief administrative difficulties, in this and the succeeding famine, were the migration of starving people from State to State, and the reluctance of the Bhils and other jungle tribes to accept the relief offered them with the attendant condition of work.

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The famine of 1899-1900 affected a larger portion of the Agency, consisting of about 38,000 square miles, with a population of 4½ millions, in each case nearly half the figures for the whole Agency. It was a redeeming feature that the parts which suffered in 1896-97 were more or less exempt from the later famine, the stress being chiefly felt in the Malwa and Bhopawar Agencies. Speaking generally, nearly all the Darbars made gallant efforts to

meet the trial. The promptitude displayed, especially by some of the smaller States, was most praiseworthy; and the Maharaja Sindhia again came, as he had done in the previous famine, to the assistance of the poorer Darbars with loans of large sums on liberal terms. The cost of feeding their starving subjects and the sudden loss of revenue came very heavily on the smaller States and petty chiefships, most of which exist from hand to mouth, and have no reserves to meet such a calamity. Many of these must, for years to come, be crippled by the obligations which they have incurred, and would have been ruined financially if they had not been helped by the Government of India, and by the Gwalior and Indore Darbars. The total amount of famine loans sanctioned for Native States in Central India between October 1899 and March 1902

State.	By the Government of India.	By the Gwalior State.	In the Open Market or by other States, under the Guarantee or Permission of the Government of India.
	£	£	£
All Rajpur	3,333	—	13,333
Barwani	10,000	—	6,667*
Dewas (Junior)	—	13,333	13,333*
Dewas (Senior)	—	13,333	33,333
Dhar	—	—	15,000
Jaora	25,667	21,667	—
Jhabua	8,000	6,667	—
Jobat	3,333	1,667	—
Kamodla	—	333	—
Multhan	1,467	—	—
Nagode	—	4,000	—
Patbari	—	133	—
Piploda	—	5,000	—
Rutlam	—	6,667	—
Sailana	—	6,667	—
Sohawal	133	467	—
Total	52,933	79,934	81,666

* By the Indore State.

is shown in the marginal table. The rate of interest on loans of the first two classes is 4 per cent., in the last class it ranges between 4 and 5 per cent. The period of repayment varies between three and ten years:

A deficiency in the rainfall in the western States in 1901, though not so serious as was at one time apprehended, caused some distress in the ensuing year, and delayed recovery from the effects of the famine. The fall in the population, as compared with that returned in 1891, is not due directly to want of food. Fever, cholera, dysentery, and other diseases, the concomitants of famine, are to a large extent responsible for it. But it may be hoped that the recovery will be rapid in view of the fertility of much of the soil. The autumn crops, which have been called the "poor man's crop," consist of the food grains consumed by the people. The spring crops are of a more valuable character, including wheat and cotton. The opium crop is of great value to the States, as the drug is subject to home taxation in addition to the pass duties levied by the British Government. It is not possible to say with much accuracy what is the condition as regards irrigation in the Agency; but in the Gwalior State the irrigated area may be taken at about 10 per cent. of the three million acres on which crops are grown. A large proportion of Bundelkhand is under pasture. Irrigation has received a considerable impetus by the construction of tanks as famine relief works; and the same may be said of railways, on which a large amount of earthwork was done, and of roads. Of the latter, the length of metalled and bridged roads maintained by the States of Central India in 1900-01 was 1,990 miles. The railway development has been considerable. In addition to the Jhansi-Agra branch of the Indian Midland Railway, which crosses the Gwalior State, and was constructed in the preceding decade, feeder lines, known as the Gwalior Light Railway, have been made, and 126 miles were open for traffic and 57 miles were under construction in 1901, further extensions being in contemplation. The broad gauge line from Bina to Guna was opened in 1895, and an extension to Baran in Rajputana was completed in 1899; the length of the whole being 145 miles. Further south, Bhopal and

Ujjain have been connected by a line which was opened in 1896, with a length of 113 miles. These new lines are owned for the most part by the Gwalior and Indore Darbars, which have contributed much in this manner to the development of the country.

Of the States in connection with the Punjab Government the most important are those under the chiefs of the Phulkian family, Patiala, Jind, and

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Nabha. For these a separate political agent was appointed in 1901. Excluding Bhawalpur, for which there is no political officer, and Chamba, the other States are grouped under the Commissioners of Jullundur and Delhi, and the Superintendent of the Simla hill States. The marginal table shows the area and population of the more important states. The administration of the two largest States, Patiala and Bhawalpur, caused considerable anxiety in the earlier part of the decade. The death of the chiefs of those States in 1900 and 1899 respectively, and the fact that in each case the successor was a minor, gave an opportunity for re-organisation under the more or less immediate control of the British authorities. But the task is no light one in the case of Patiala, where the finances and the general administration were in great disorder, though the real resources of the State are ample. Jind was under a council of regency up to the year 1899, when the young Raja came of age, and was invested with ruling powers, subject for the time to the con-

Punjab
States.

	Area.	Population.		Esti- mated Revenue.
		in 1901.	Increase or Decrease in ten Years.	
<i>Phulkian States.</i>	Sq. Miles.			£
Patiala	5,412	1,590,892	+ 1	440,000
Jind	1,259	282,008	- 1	88,300
Nabha	928	297,949	+ 5	90,000
<i>States in charge of Commissioner of Jullundur.</i>				
Kapurthala	630	214,351	+ 5	133,000
Mandi	1,200	73,045	+ 4	23,530
Maler Kotla	167	77,506	+ 2	30,100
Faridkot	642	24,912	+ 9	28,300
Suket	420	51,676	+ 4	8,800
<i>States in charge of Commissioner of Delhi.</i>				
Sirmur (Nahan)	1,198	185,687	+ 9	34,100
Kalsia	168	67,181	- 2	12,900
Pataudi	52	21,933	+15	5,700
Loharu	222	15,229	- 24	4,800
Dujana	100	24,174	- 9	5,200
<i>Simla Hill States.</i>				
Bilaspur	448	90,873	- 1	10,500
Bashahr	3,862	84,636	+12	5,700
Nalagarh	255	33,551	- 3	8,600
Keonthal	359	42,192	+13	4,400
Baghal	124	25,730	+ 5	3,300
Baghat	36	9,490	+ 2	2,000
Jubbah	320	22,242	- 1	10,100
Remaining 12 Hill States.	513	61,646	+ 9	—
Bhawalpur	15,000	720,877	+11	146,700
Chamba	8,216	127,824	+ 3	23,300
Total	36,532	4,424,898	+ 4	—

dition that in exercising them he should follow the advice of a British officer appointed for the purpose. The State is in a sound financial condition, and is wisely and carefully administered. Nabha has continued to prosper, in spite of bad seasons, under the excellent government of the venerable Raja, Sir Hira Singh, G.C.S.I. The Raja of Kapurthala takes little interest in the administration of his State, which is now conducted with efficiency and success by a council appointed by His Highness in the year 1901. On the other hand, the Raja of Sirmur (Nahan), who succeeded his father Sir Shamsheer Prakash G.C.S.I., in 1898, is following the example set by that ruler, and exercises strict personal supervision over each department, the conduct of affairs being in every way highly satisfactory. Most of the other States are favourably reported on, but Bilaspur and Suket are in an unfavourable condition.

True to their traditions, the chiefs of the great Punjab States have been foremost on the many occasions which have occurred during the decade for the display of their loyalty. They furnish a large proportion of the Imperial Service troops, including some who served in China, and they have responded with alacrity to the suggestion that the troops should be utilised for garrison duty in British India. The commencement of hostilities in the Transvaal evoked a great outburst of loyalty, and offers were made on all sides, and in many cases accepted, to supply horses, since no Indian troops were required. Her Majesty the Queen Empress expressed her appreciation of the spirit of

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loyalty to herself and devotion to the Empire by which these offers were prompted.

Several of the States, especially those in the south-eastern portion of the Province, have suffered from famine during the decade. In Loharu the distress was specially severe, and resulted in a diminution of 24 per cent. in the population, partly owing to migration caused by the failure of water. The resultant expenditure and loss of revenue have severely crippled the finances of this State, as well as those of some other States, and the Government of India lent to the three States of Loharu, Dujana, and Pataudi sums amounting to £11,000. But the general financial condition of the more important States, with the above-mentioned exception of Patiala, was satisfactory in 1901-02. There are branches of the Sirhind Canal in the Patiala, Nabha and Jind States, which irrigated an average area of 341,000 acres in each of the three years ending in 1901-02. These canals yield a profit of about 5 per cent. on their capital. There is a considerable number of metalled roads and bridges, and the Grand Trunk Road runs through Patiala, Nabha, and Kapurthala. A wire-rope suspension bridge over the Sutlej at Rampur is being constructed at the expense of the Bashahr State. The Patiala State is traversed by several railways, of which one, the Rajpura-Bhatinda line, belongs to that State. An important addition to the railway facilities was made by the opening in 1901 of the Ludhiana-Dhuri-Jakhal Railway, which has been constructed at the cost of the Jind and Maler-Kotla States. The three Phulkian chiefs have now consented to cede to the British Government jurisdiction over the lines of railways which traverse their States.

United
Provinces.

There are two States under the political control of the Government of the United Provinces. Tehri, or Native Garhwal, lies in the Himalayan region, and though its area extends over 4,180 square miles the population numbers no more than 268,900. The Raja was installed at the beginning of the decade and has shown ability and interest in the conduct of his State. The financial condition of the State is good, as there is a balance nearly equal to two years' revenue. There has been a marked improvement in the disposal of judicial work; but education is very backward. The State has experienced some unsatisfactory seasons during the decade, but not such as to cause serious distress. Rampur (area 899 square miles, population 533,200, decrease 1891-1901 three per cent.) is situated in Rohilkhand, and is a fertile and well-administered State. Up to the year 1894 it was under British control, owing to the minority of the Nawab, and it was not until 1896 that His Highness was invested with full powers. The system of land revenue in the greater part of the State, based on the auction sale of leases or farms of the revenue for ten years, gave rise to great exactions on the part of the farmers, who frequently bid a higher sum than the amount of revenue due to be collected. Some steps were taken in 1896 to check excessive bidding at the auctions, and a settlement department was created. The latter, however, did nothing until the year 1900, when it was resuscitated. Other measures are also said to have been taken for the protection of the cultivator, and the relations between landlords and tenants should therefore be less strained in the future. The income of the State in 1900-01 was £229,000, which is ample for the ordinary needs of the administration, and there is a reserve of about £1,450,000. Irrigation is highly developed. Seven canal systems were in working at the beginning of the decade, and steady progress has been made in adding to the length; but the chief work recently done in this direction is the construction of masonry weirs in the place of the dams which formed the headworks of the Betulla and Kosi canal systems. The other systems await a similar improvement. Rampur is now secure against famine unless the rivers run dry, which has never yet happened. The State is amply provided with roads. The Moradabad-Bareilly chord of the Oudh and Rohilkhand Railway runs through its territory. This line was constructed by the British Government with the assistance of a four per cent. loan of £312,700 from the State. In education, Rampur does not, on the whole, compare unfavourably with the neighbouring British districts.

The internal States which are under the Bengal Government are shown in the marginal table. The Maharaja of Kuch Behar has throughout the

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Bengal.

	Area.	Population.		Esti- mated Reve- nue.
		In 1901.	Increase or Decrease per cent. in Ten Years.	
Kuch Behar	Sq. Miles. 1,307	566,974	- 2	149,915
Hill Tipperah	4,086	173,325	+26	104,981
Orissa Mahals:				
Moharbbanj	4,243	610,383	+15	25,883
Keonjhar	3,096	285,753	+15	22,000
Dhenkanal	1,463	273,662	+16	16,862
Boad	1,264	89,350	- 1	3,770
Thirteen other States.	4,269	689,749	+17	54,524
Chota Nagpur States:				
Sirgaja	6,055	351,011	+ 3	2,897
Gangpur	2,518	238,896	+25	5,897
Jashpur	1,963	132,114	+16	2,116
Six other States.	5,518	279,408	+10	21,127

decade employed as Superintendent of his State a retired British officer or an officer lent by the British Government for the purpose. The revenue of the State has increased steadily, but the large sums required for the Maharaja's personal expenditure, including the liquidation of debts, form a heavy burden on the budget, as they absorb about one-third of the revenues. The crops were poor and food prices high in 1896-97, and great damage was done by the earthquake of 1897, but the three succeeding seasons were uniformly good, and the condition of the people was reported to be excellent. Short rainfall in the year 1900 caused a poor crop in the ensuing year, but the people were not seriously affected. The Kuch Behar State Railway was constructed at the cost of the State and opened in 1893, and has since been extended. The capital expended was £93,300, and the net traffic earnings returned a

profit at the rate of 5.35 per cent in 1901. The funds were raised by a loan from the Government of India, which is being repaid by the State at the rate of £6,666 per annum.

The Maharaja of Tipperah died in 1896, and was succeeded by his eldest son, who had taken a large share in the administration for some years previously. Included among the resources of the State are the receipts from the large Chakla estates, situated in British territory but belonging to the Raja. A revenue survey of these estates has been executed during the decade.

Some doubt existed up to the year 1888 as to the actual position of the Tributary Mahals of Orissa, but in that year the Secretary of State accepted the view that they did not form part of British India, and it therefore became necessary to take steps to define the powers which the chiefs of those Mahals or States could safely be left to exercise within their territories in accordance with existing treaties, past legislation and established custom, and the residuary jurisdiction, in matters Civil, Criminal and Revenue, required to be reserved to the British Government. By a notification dated 26th March 1891, the Superintendent of the Mahals for the time being, was given the powers of a Political Agent, under Chapters IV. and V. of the Foreign Jurisdiction and Extradition Act XXI. of 1897, for the 17 Native States in Orissa. Another notification, dated 5th September 1892, provided for the exercise by British officers of jurisdiction in the Mahals. In 1893 an Act was passed to repeal certain enactments relating to the Orissa Mahals, to indemnify certain persons, to validate acts done by them in, or in relation to, the said Mahals and to admit of certain sentences passed in those Mahals being carried into effect in British India. In 1894 new *sanads* were issued to the Orissa chiefs, laying down the position assigned to them in consequence of the decision that the Mahals were not British India, and prescribing their duties and the powers of the British officers connected with their States. Under the terms of the *sanads* the chiefs can try in their Courts all criminal cases occurring in their States

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excepting those in which Europeans are concerned, and heinous offences, such as murder, homicide, dacoity, robbery, &c. These cases they are required to refer for disposal to the Superintendent. The chiefs are bound to consult that officer in all important matters of administration, and to comply with his wishes. Several of the States, including Dhenkanal, have been under British management during the whole or part of the decade, and their finances have benefited greatly. Of the other Orissa States, Moharbhaj, which is the largest, most populous, and richest of them all, has a Raja who is described as a model ruler. The administration was put on a good footing by the period of British control terminating in the year 1890, and it is said in 1902 that it would compare favourably with that of any British district. Most of the other chiefs are well disposed. But the country is a rugged tract of hill and jungle, the people are backward, many of them belonging to aboriginal tribes, and the administration of most States lacks method. The material condition of the people is on the whole satisfactory, in spite of several bad seasons, and considerable distress in 1896-97. The Chief of Moharbhaj writes:—

"The material conditions of the people of this State are steadily advancing. The normal expansion of revenue, under all the heads, that has taken place in the last ten years, affords striking illustration of the increasing prosperity of the ryots. An improved system of judicial and revenue administration, opening of roads and bridges, gift of occupancy right in lands, increased activity of trade and commerce, and, above all, a feeling of confidence in security of property have contributed to this result."

The chiefs are averse to emigration, and cooly-recruiting for the Assam labour districts is strictly prohibited. But the Moharbhaj State puts no obstacle in the way of people who of their own free will emigrate to the Duars, where the free labour system prevails.

The Chota Nagpur States, also, have since the year 1891 been recognised as not belonging to British territory, and steps have been taken, similar to those described above in the case of the Orissa States, to define their actual powers. There is little that need be said regarding these primitive States. Some of them suffered severely from the famine of 1896-97 and by epidemics of cholera and small-pox; but the condition of the inhabitants is reported to be as good apparently as that of the people in the neighbouring districts of Bengal. The opening of the Bengal-Nagpur railway at the beginning of the decade has had a beneficial effect on the States in the eastern portion of the tract, and the increase in the population of Gangpur, shown in the above table, is ascribed to this cause.

Central
Provinces.

The feudatory States of the Central Provinces cover an area of 29,435 square miles, of which a large portion, especially in the Bastar State which occupies

	Area.	Population.		Estimated Revenue.
		In 1901.	Increase or Decrease per cent. in 10 Years.	
	Sq. miles.			£
Bastar -	13,062	306,501	- 1	22,468
Kalahandi -	3,745	350,529	+ 7	10,184
Patna -	2,399	277,748	-16	12,887
Bamra -	1,988	123,378	+18	8,832
Balgarh -	1,486	174,929	+ 4	7,884
Kanker -	1,429	103,536	+26	9,467
Khairagarh -	931	137,554	-24	19,279
Nandgaon -	871	126,356	-31	19,117
Seven other States	3,524	395,852	-16	30,000

the southern angle of the province, is unproductive and sparsely populated. The States have suffered in varying degrees from the famines, but in all of them there has been a great strain on the finances. The demand for famine relief was met, almost without exception, with vigour and efficiency. This is specially satisfactory, because it forms a justification of the steps taken in the earlier part of the decade to reduce the number of the States under British administration. In the year 1892-93 the number so administered was eight; by 1897 it was reduced to three, but the death of the chiefs of Kalahandi and Nandgaon, and the succession of young heirs in each case, have involved the addition of those States to the list. Another

State was added in 1899 for a similar reason, and the number under administration in 1901 was, therefore, six. The unsatisfactory condition of affairs in the Patna State led to the Maharaja's investing his minister with special powers in that year.

The western States suffered from famine in 1896, reaped only a fair harvest in 1897, had poor crops in 1898, and experienced an almost complete failure of the crops in 1899. Among these the small but well situated States of Nandgaon and Khairagarh suffered most, as may be seen from the decline in population. Land went out of cultivation, tenants deserted, villages became depopulated, and the people were impoverished. But there has been much recovery, and in the year 1901-02 it is reported that the full normal area was cultivated in Khairagarh and other States, while there had been substantial improvement in Nandgaon. Assistance was given by the Government of India to the extent shown in the marginal table. Investigations made when the famine of 1899 was threatening showed that in normal years the financial position in most of the states is quite sound. The strain caused by the famine has rendered necessary the strictest economy, but the report for 1901 shows a substantial

Loans or Suspensions of Tribute granted by Government of India between October 1899 and March 1902.

	£
Sonpur - - - - -	600
Khairagarh - - - - -	8,000
Nandgaon - - - - -	16,700
Sakti - - - - -	1,667
Jatna - - - - -	1,900

improvement in the financial position generally, and particularly in the States which are under British control.

The States under the control of the Madras Government are five in number, and their area, population, and revenue are shown in the margin. Travancore,

Madras.

	Area. Sq. miles.	Population.		Estimated Revenue. £
		In 1901.	Increase or Decrease per cent. in 10 Years.	
Travancore - - - - -	6,730	2,952,167	+15	616,300
Cochin - - - - -	1,362	812,026	+12	153,000
Pudukottai - - - - -	1,100	380,410	+2	73,000
Banganapalle - - - - -	255	32,264	-9	6,400
Sandur - - - - -	161	11,200	-2	3,500

which stands sixteenth among the native States of India in respect of area, and third in respect of population, was admirably governed throughout the period under review by the Maharaja, Sir Rama Varma, G.C.S.I., with the assistance of a Legislative Council formed after the model of the Indian Councils Act. A large part of the State has been surveyed for revenue purposes, and settlements are being gradually introduced. The

information collected in the course of the operations in the coast districts, where the staple industry is the cultivation of the cocoa-nut tree, shows a high state of prosperity. The State demand on a cultivator in Travancore is said to be very light. A large share of the revenue is obtained from the salt monopoly, administered with much profit to the State and without prejudice to the consumption of salt by the people, who are said to use 20 lbs. per head per annum. The financial condition is very good, and the reserve consists of £680,000, or more than a year's revenue. The police is efficient, and the population peaceful. The reserved forests now amount to 1,522 square miles, besides 779 square miles of reserved lands, and it is understood that this includes practically all the forests suitable for reservation. The development of cardamom planting in the high ranges in the north-east of Travancore, under the management of Messrs. Finlay, Muir & Co., deserves special mention. Education is in an exceptionally advanced condition. The number of boys under instruction amounted in 1900-01 to 45 per cent. of the male population of school-going age, while the corresponding proportion for girls was 15.2 per cent. These figures, which are very much higher than those usually obtaining in India, are partly due to the presence of a large Christian element in the population.

A railway is being constructed between Quilon, the capital of Travancore, and Tinnevely, on the South Indian line; the length within the State, 58 miles, is being constructed under the financial guarantee of the Durbar.

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A large irrigation scheme, known as the Kotayar project, is in progress, and nearly £110,000 has been expended on it since its commencement. The length of cart roads has been extended from 1,733 miles in the year 1892-93 to 2,171 miles in 1900-01. The State has been free from famine and plague, and trade has developed steadily. The total value of the external trade by land and sea in 1900-01 amounted to £1,821,700, of which 62 per cent. consisted of exports, 48 per cent. of these being products of the cocoa-nut tree. The chief imports are rice and tobacco.

In the Cochin State, which marches with Travancore on the north, the last few years have seen much improvement in the various departments of administration. A survey has been instituted, and useful progress has been made; the salt and excise departments have been set in order, the police improved, the forest revenue augmented, and a tramway marked out through the most impenetrable country, for the most part under the guidance of special officers borrowed for these purposes by the Cochin State from the Government of Madras. A railway line has been constructed by the Madras Railway, at the expense of the State, to connect Cochin with Shoranur (65 miles), and has been opened since the end of the decade. Its cost has been met for the most part out of accumulated savings, with the aid of a loan of £87,000. Education is even more widely extended in Cochin than in Travancore; the proportion of boys undergoing instruction to the male population of school-going age is 46 per cent.; the corresponding figure for girls is 19 per cent.

The Pudukottai State was under British administration between 1886 and 1894, owing to the minority of the Chief. Since his installation in the latter year, the administration has been conducted in a satisfactory manner. The Political Agent suggested in 1901 that with increasing cash balances and improved efficiency of administration the time has come to consider seriously the question of extending irrigation with a view to famine protection. Nothing, however, had been done in this direction at the end of 1901-02, and the balance had increased to £71,000, or little short of a year's revenue. The construction of a line from Tanjore *via* Pudukottai to Ramnad by borrowed capital is under consideration.

The two other States, situated in the Deccan districts, have suffered to some extent from the bad seasons, and in the larger of them, Banganapalle, the excessive expenditure of the Nawab and the general inefficiency of the administration have caused much anxiety in recent years.

Bombay.

More than one-third of the Bombay presidency consists of Native States under the control of the Bombay Government, embracing an area of 65,836 square miles. This does not include the Baroda State, which is under the direct control of the Government of India. In this area there are 363 separate units, of which a large number are very small divisions of territory. This will be more evident when it is added that nearly one-half of the Native territory is covered by the seven first-class States in the Kathiawar Agency, with the Cutch, Khairpur, Kolhapur, Sangli, and Bhor States—twelve States in all. The smaller and less important States are either grouped together under the general supervision of a Political Agent, or are looked after by the Collectors of the districts within the local limits of which they are situated. The position of the Agent varies, roughly speaking, with the importance of the State. In some cases he does little more than give advice and exercise a general surveillance. In other cases Agents are invested with a direct share in the administration; while States in which the ruler is a minor are directly managed by Government officers. In connection with the administration of the two last named classes of States, a large amount of judicial work devolves on the Governor in Council, in criminal cases as a Court of Reference and Appeal, and in civil matters as a Court of Appeal.

The marginal table gives particulars of the area, population and estimated revenue of the States, classed in their geographical groups.

The earlier years of the decade were marked by notable progress in the administration of the States, and by considerable financial prosperity, in spite of unfavourable seasons in some Agencies. The general features were an expansion of trade, a decrease in the amount of serious crimes, and a growth in civil litigation.

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	Area.	Population.		Estimated Revenue.
		In 1901.	Increase or Decrease per cent. in Ten Years.	
	Sq. Miles.			£
Group 1.—North Gujarat.				
Catch - - -	7,616	488,022	-13	126,322
Kathiawar - -	20,882	2,329,196	-15	1,064,193
Palanpur Superintendency.	8,000	467,271	-28	66,460
Mahi Kantha - -	3,528	361,545	-38	60,150
Bewa Kantha - -	4,980	479,065	-35	100,032
Cambay - - -	350	75,225	-16	27,189
Group 2.—South Gujarat, Surat Agency.				
Dharampur - - -	794	100,430	-17	25,612
Bansda - - -	215	40,382	- 2	19,508
Sachin - - -	42	20,530	+ 6	13,287
Group 3.—North Konkan, Nasik and Khündesh.				
Khandesh Political Agency.	1,623	33,272	-44	5,134
Surgana - - -	360	11,532	- 7	2,043
Jawhar - - -	310	47,538	-10	10,479
Group 4.—South Konkan and Dharwar.				
Janjira - - -	324	85,414	+ 4	34,243
Savantvadi - -	926	217,732	+18	28,704
Savanur - - -	70	13,446	+ 9	6,760
Group 5.—Deccan-Satara Jagirs.				
Akalkot - - -	498	82,047	+ 8	26,586
Bhor - - -	1,491	137,263	-12	21,437
Aundh - - -	447	63,921	- 2	9,422
Phaltan - - -	397	45,739	-31	12,445
Jath - - -	981	68,665	-14	24,575
Group 6.—Southern Mahratta Country States.				
Kolhapur - - -	2,855	910,011	- 2	310,795
Other States - -	3,022	626,084	- 2	264,557
Group 7.—Sind, Khairpur				
Khairpur - - -	6,050	193,313	+ 55	90,475
Group 8.—Aden				
Aden - - -	75	43,974	- 0	248,387

Since the year 1896 the States have borne a share in the plague and famine which have afflicted the Bombay presidency. The famine of 1896-97 affected some of the Kathiawar States and the States in the Deccan and Southern Mahratta country, and relief measures were adopted by Bhaunagar and Gondal in Kathiawar, and by Kolhapur and all the Southern Mahratta States. In the meantime the plague was advancing by stages which have already been described; trade was restricted, and crime grew more prevalent, although the Kathiawar States had succeeded in repressing dacoity by energetic measures. Again, after one good year, famine was established by the failure of the rains of 1899. But on this occasion the distress was greatest in Gujarat, which includes the most important group of States. These States were visited by a famine of a hitherto unrecorded severity, which resulted in many cases in the doubling of crime and the death rate, and the halving of civil litigation. As the famine

became less severe further south, the plague took its place, the number of plague deaths in Kolhapur and Sangli being nearly 4,000 and 8,000 respectively. A very large expenditure was incurred on public works and other famine relief operations. The chiefs generally shared the burdens of their people by reducing their private expenditure. A large number of loans were made by the Government, amounting to about £728,000; and the sums borrowed from other sources under the guarantee of the Government brought the total of the famine loans of the States to £1,019,000. The following seasons were also, though to a less extent, unfavourable, and the finances of most of the Gujarat States were still in a very unsatisfactory position at the end of the decade.

The great diversity in the climatic conditions of the States and their wide geographical distribution—for Khairpur is on the 27th degree of north latitude, while Kolhapur touches the 16th—make it desirable to refer to their progress in blocks rather than as a whole.

Khairpur, the only Native State in Sind, affords a striking example of the development of an unprogressive State by the application of modern ideas.

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Khairpur.

As has already been said, the Mir who ruled the State up to the year 1894 was content with a government of a patriarchal and unprogressive character. His son, the Mir Sir Faiz Muhammad Khan, Talpur, G.C.I.E., has effected a remarkable change, which he has summarised in the following words:—

"In conclusion, I have the pleasure to say that during my régime of the last eight years I have neither borrowed any money nor does my State owe any debts to any one. The results of my administration have been vividly and faithfully given in my annual Administration reports, including the present one, from which the following facts are quite evident:—

"(a.) That the revenue of my State (exclusive of jagirs) has increased by over 100 per cent. ;

and

"(b.) the population by 51·25 per cent.

"(c.) That the cultivation of lands has been largely extended by means of the construction of new canals and the improvement of old ones.

"(d.) That as compared with 200 boys of the old régime, 5,685 pupils are at present receiving education in my schools free of charge, out of whom 349 boys are learning various useful handicrafts in my industrial schools.

"(e.) That I have opened seven medical institutions, wherein both medicines and advice were dispensed gratis to 144,553 patients during the year under report, as compared with 107,719 who were treated last year.

"(f.) That great improvements have been effected in the Public Works Department of my State by the construction of canals, roads, permanent bridges, wells, resthouses for travellers, tanks, &c.

"Last, but not the least, that crime for which this State was notorious in the old régime, has been considerably suppressed, and an adequate number of courts of justice has been established, where justice is meted out impartially."

The currency of the State was in a most unsatisfactory condition in 1902, when the Mint had been closed and the value of the "Chalan" or local rupee had fallen to 158 per 100 British rupees. In that year it was decided to purchase all the local currency by giving British coin at the rate of Rs. 100 per 140 Chalan rupees, with a view to the British rupee being declared the sole legal tender in the State. This operation is being carried through with the assistance of the British Government.

Cutch.

Cutch is an island separated from the mainland by the great salt waste of the Runn, which is flooded by the sea from June to September. The rainfall is always light, and in 1899-1900, when there was practically no rain at all, and in 1901-02, when only 3½ inches of rain fell, compared with an average of about 10 inches, severe famine distress was felt. The unstinted liberality of the Rao, and the large amount of private charity, went far to mitigate the sufferings of the people. The surface water supply is not good, and though there are some irrigation canals, agriculture depends largely on wells, the number of which has been much augmented during the decade. Credit must be given for the good financial position of the State after a series of bad seasons. The Diwan, Mr. Motilal Lalbhai, who retired in 1902, had occupied that post for more than 16 years.

A considerable portion of Cutch territory is held by subordinate chiefs, known as the Bhayad, from the fact of their being descended, with few exceptions, from the same ancestor as the Rao. The Bhayad not only receive the revenues of their estates, but also take cognisance of all minor offences committed within their limits; and their rights are guaranteed to them by the British Government. Their estates do not descend by the law of primogeniture, but a system of subdivision prevails. These circumstances have led to many difficult questions, for the settlement of which a special court, known as the Jadeja Court, was established in 1874-75. The court was not found to work smoothly, and a revised list of the holders of the British guarantee was framed in the year 1895. The crime of infanticide, which was at one time very prevalent among the Jadeja clan of Rajputs, the founders of the Cutch State, has been kept in check, if not altogether suppressed, by the infanticide rules. The rules provide for the registration of Jadeja children; and the Darbar, which now has control of the operations, gives pecuniary and other assistance towards the marriage of the girls. A passing reference may be made to the territorial disputes between the States of Cutch and Morvi, which led to the temporary establishment of British management in the disputed territories in 1892-93, with a view to an inquiry into the claims. A final decision was arrived at, and the management relinquished, in 1900.

Cutch has been severely afflicted by the plague, which appeared at Mandvi early in 1897 and has continued at that town with little intermission up to the end of the decade. The rest of the State was less severely affected, but

the number of deaths returned in the country districts was greater in 1901-02 than in the preceding years. Vigorous efforts were made to combat the epidemic, but the sanitary condition of the municipalities is not good.

There are no railways in Cutch, though the contemplated line which will link Ahmedabad with Karachi is to run through Bhuj, the capital of the State, and will include branches to ports on the Gulf of Cutch. The survey of the line from Bhuj to Tuna on the Runn has been begun by the State. The length of the roads on which tolls were levied had increased from 84 miles in 1892-93 to 152 miles in 1901-02. The State still maintains its own mint. But the local currency, known as *Koris*, has depreciated, so that about six *Koris* went to the rupee at the end of the decade.

The trade of the Cutch ports, consisting very largely of imports of grain and other food and exports of cotton, is returned as £606,500 in 1891-92 and £710,000 in 1900-01. The trade of the last two years had, however, been upset by the crop failure, which caused an abnormal demand for imported food grains and very severely restricted the exports of cotton, especially in the latter year.

In the peninsula of Kathiawar, of which the area is rather less than 21,000 square miles, there are no less than 188 chiefships of various degrees of importance. But three-fourths of the area, with a population of more than two millions, belongs to 32 chiefs arranged, according to the nature of the jurisdiction which they exercise, in the first four classes. The remaining area consists of some 156 territorial tracts, each under some guarantee from the British Government. These again are subdivided into small holdings or estates through the system of partition which prevails among them, and the civil and criminal jurisdiction is to a large extent exercised by an official directly under the Political Agent. The large number of claims by descendants of former chiefs or by proprietors of villages held on disputed tenures (*Bhayads* and *girassias*) led to the creation in the year 1872, by agreement with the chiefs, of a court known as the Rajasthanik Sabha Court, under the presidency of a British officer, for the settlement of such claims. The measure was at the time regarded as a temporary one, and although successive extensions prolonged its existence for 26 years, it came to an end in 1898 at the request of the States concerned, the jurisdiction which it had exercised being resumed by the courts of the States. Much progress had been made by the court in the settlement of these complicated questions; but new cases arise from time to time.

Kathiawar.

The area, population and revenue of the principal Kathiawar States are given in the following table.

Of the four largest and richest States, Junagadh, Bhaunagar, and Navanagar have experienced a change of rulers in the course of the ten years. The latter came under

British administration in 1895 owing to the death of the chief and the minority of the heir, and continued to be so administered during the rest of the decade. During the last three years, including the year, 1899-1900 in which there was a famine of unprecedented severity, the Kathiawar States have experienced much distress and financial difficulty. Some of the larger of them even are embarrassed by the serious diminution in their incomes, while a considerable proportion of the smaller chiefs are now he involved in debt. With- out pecuniary assistance which the Government of

	Area.	Population.		Estimated Revenue.
		In 1901.	Increase or Decrease per cent. in Ten Years.	
<i>First Class.</i>	Sq. Miles.			£
Junagadh -	3,284	394,887	-18	177,777
Navanagar -	3,791	336,779	-11	140,760
Bhaunagar -	2,860	412,664	-12	256,800
Porbandar -	686	82,090	-7	30,000
Dhrangadhra -	1,156	70,746	-32	24,999
Morvi -	822	67,496	-17	48,245
Gondal -	1,024	182,859	+1	100,000
<i>Second Class.</i>				
Vankaner -	414	27,883	-31	12,189
Palitana -	289	52,856	-13	31,700
Dhrol -	283	21,906	-19	7,523
Limbdi -	344	31,221	-35	9,656
Rajkot -	282	49,795	-0	20,631
Wadhwan -	236	34,753	-18	20,700
Jafarabad -	42	12,097	-2	3,950

Bombay afforded to those who were in need of it, the condition of Kathiawar

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would indeed have been deplorable. As it is, economy and reduction of expenditure have been the keynote of the policy of every State.

Good progress has been made in the matter of education, and the number of pupils attending the schools in Kathiawar is now about 70,000. The proportion of boys at school, compared with the male population of school-going age, was 39·28 per cent. in 1901-02, that of girls 7·65 per cent., figures which compare very favourably with the similar statistics in other parts of India. The first and second class States assumed complete charge of the educational arrangements within their territories in the year 1900. This opened a new epoch in the history of education in Kathiawar, which had up to that year been controlled by an Educational Inspector belonging to the Bombay Education Department.

In the early part of the decade many dacoities and risings were recorded in parts of Kathiawar, and strong measures were taken to repress them. It is, therefore, satisfactory to note that in the famine year 1899-1900, although there was a marked increase of crime, there was no outbreak of organised dacoity, a result which reflects great credit on the police belonging to the more important States and on the police maintained by the Agency.

The railways of Kathiawar have a length of 582 miles, including 32 miles of the Bombay, Baroda, and Central India line. Of the remainder, the Morvi Light Railway, opened before the commencement of the decade, contributes 94 miles; and the Bhaunagar-Gondal-Junagadh-Porbandar system contains 455 miles, of which 121 miles were opened during the ten years. The latter lines belong to the States whose name they bear. All of them return a fairly satisfactory interest on the capital expended, though the circumstances of 1901-02 caused a reduction as compared with some previous years.

The statistics of the trade of the Kathiawar ports, excluding those belonging to Baroda, show great fluctuations during the decade. Starting from £2,700,000 in 1891-92, the value of the total trade rose to £3,600,000 in 1896-97; but it has not again touched that figure, though showing an upward tendency. The trade of the last two years has, however, been much affected by the crop failure, which resulted in a heavy decline in cotton exports. In 1900-01 this was balanced by an exceptional importation of food grains; but in 1901-02 this feature was not present, and the total of the trade has therefore fallen to £2,070,000.

Gujarat
States.

The next group includes the Palanpur Superintendency, the Mahi Kantha and Rewa Kantha Agencies, and the States of Cambay, Dharampur, Bansda and Sachin. Particulars of the four latter have been given in the table above. The

	Arca.	Population.		Estimated Revenues.
		In 1901.	Increase or Decrease per cent. in Ten Years.	
<i>Palanpur Superintendency.</i>	Sq. Miles.			£
Palanpur - - -	3,177	222,627	-19	65,460 (particulars not reported).
Radhanpur - - -	1,150	61,548	-37	
Tharad - - -	940	16,087	-33	
Wao - - -	880	8,289		
Six Thana circles -	2,475	158,720		
<i>Mahi Kantha Agency.</i>				
Idar - - -	1,900	168,557	-44	29,000
Other States, &c. -	1,628	192,988	-31	31,000
<i>Rewa Kantha Agency.</i>				
Rajpipla - - -	1,514	117,175	-32	100,032 (particulars not reported).
Chota Udepur - - -	878	64,621	-31	
Bariya - - -	813	81,579	-37	
Lunavada - - -	388	63,967	-39	
Balsasor - - -	189	32,618	-39	
Sunth - - -	394	39,956	-47	
Other States - - -	809	79,149	-43	

other more important States in this group are shown in the margin. Among the political events in connection with these States may be mentioned the restoration to the Nawab of Cambay in 1893 of the administrative powers which had been assumed by the British Government in the year 1890 in consequence of the disorders in the State. During the intervening period the finances were put in a satisfactory position and a new survey settlement was introduced. The Rajpipla State, which was taken under British administration in 1887 owing to the mis-government of the State, was handed over on the death of the chief in 1897 to his son, whose administration during the recent period of famine has been praised. Radhanpur has been administered by a British officer

since the death of the Nawab in 1895, owing to the minority of his successor. Blasior also lost its ruler in 1899, and has since that year been under British administration, which will continue for some years, as the chief is only nine years old. Many other States have had a similar fortune, but it is not necessary to enter into further detail. The chief event in the year 1901 was the death of the Maharaja of Idar, which was followed by the death of his posthumous son. The successor to the chiefship is H. H. Colonel Sir Pratab Singh.

The extent to which the States have suffered by the succession of bad years, and especially by the famine of 1899-1900, may be gauged to some extent by their losses in population, whether caused by starvation or by emigration.

	Government Loans, 1899-1902.	
	Advanced by the Government.	Other Loans guaranteed by Government.
	£	£
<i>Palanpur Superintendency :</i>		
Palanpur -	56,667	—
Radhanpur	37,000	—
Other States, &c.	41,791	—
<i>Mahi Kantha Agency :</i>		
Idar	30,054	—
Other States, &c.	23,264	2,193
<i>Rewa Kantha Agency :</i>		
Rajpipla	41,667	—
Blasior	11,667	—
Other States, &c.	7,261	—
<i>Surat Agency :</i>		
Dharampur	9,338	—

Under the direction of the political officers, most of the States took such measures as were within their resources to relieve their subjects, and the Government loans detailed in the margin put them in a position to do much more than would otherwise have been possible. But the important State of Idar formed an exception in this respect at the beginning of the famine, and there was a regrettable delay in the initiation of relief measures. Most of the States are now deeply in debt. Idar has for the present to face annual deficits as well as a considerable debt, but retrenchments are being made under the new administration. Palanpur owed, at the end of 1901-02, about £75,000, or twice the annual

revenue. The financial position of Radhanpur is referred to as precarious. The larger Rewa Kantha States are in a better condition, though strict economy is necessary. Cambay suffered severely from the famine, but there was a surplus in 1900-01. The smaller States and thana circles have been most severely affected. The Palanpur Superintendency, containing some of the most famous cattle-breeding grounds in India, felt the effect of the fodder famine. Writing at the beginning of 1901, the Palanpur Superintendent said : "It must take years and years for the country to recover any approach to its former prosperity." Of the Radhanpur State it is said in the report for 1901-02 that "owing to the successive bad years the condition of the ryots is very bad."

The port of Cambay has been provided with a railway by the opening in 1901 of the 11 miles, constructed by the Darbar, which were required to connect with the Gaekwar's line through Petlad. The State proposes now to undertake the improvement of the harbour and the construction of waterworks. Other railways opened during the ten years in the Gujarat States are the Palanpur-Deesa line (17 miles), owned jointly by the Government and the Darbar, and the Rajpipla line (37 miles), owned by the Rajpipla State, opened in 1897 and 1899. The Ahmedabad-Parantij line has also been constructed to Idar, and the Rewa Kantha States are crossed by the Godhra-Rutlam line opened in the early part of the decade.

Cambay and Radhanpur have recently closed their separate mints, in consequence of the depreciation of the local coinage as compared with the British rupee.

It is unnecessary to extend the length of this account by a detailed reference to the Konkan States enumerated in the third and fourth groups of the statement on page 45. The Dangs and the Mewas estates in the Khandesh Agency suffered very heavily from famine in 1899-1900, and all were more or less affected by unsatisfactory seasons and high prices. The Savantvadi State has been under British administration since 1869, owing to the unfitness of the Chief for the exercise of his powers. He died in the year 1899, and was succeeded by his cousin, but the administration is still carried

Konkan
States.

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*Deccan and
Southern
Mahratta
States.*

on by the Political Officer, in the name of the Chief, and is in a high state of efficiency. The Janjira State is efficiently administered, and progress is satisfactory.

The remaining two groups of the Bombay States include the Mahratta States lying above the Ghats in the southern division of the Presidency. Their names and comparative importance have already been shown in the table given on page 45. The Maharaja of Kolhapur came of age in 1894, and was invested with full powers. The State had been under British administration since 1866, the last year in which a chief of full age had held the title. During that period its affairs had been brought into a prosperous state, and the administration of the present Maharaja, who was granted that title in 1900 as an hereditary distinction, has been excellent. Jath came under British administration in 1892-93, owing to the minority of the Chief, and remained in that position during the remainder of the ten years. The Akalkot State was also administered under the direct control of the Political Agent from 1896 to the end of the decade. The question of the succession in this State, which formed the subject of prolonged discussion, was settled by the adoption of a young son by the Rani in 1898. Aundh experienced a change of rulers in 1901-02, owing to the death of the Chief.

These States have experienced several bad seasons, notably that of 1896-97, when a large measure of relief was required, and liberally supplied by the chiefs. The rainfall of 1899 was deficient, and much distress ensued in parts of the States, but Kolhapur did not suffer so much as the adjoining British districts. Plague appeared in the States in the year 1898, and has caused very great loss of life, and much expenditure on preventive measures. In Sangli, with a population of 226,000, 7,700 deaths from plague were returned in the year 1899-1900. In Kolhapur the energetic measures which were taken, at a cost of £16,500, appeared to have succeeded in checking the first outbreak, but a severe recrudescence of plague in 1901-02 resulted in the death of 19,380 persons, or nearly 3 per cent. of the population. The financial position of the more important States is satisfactory, in spite of the unusual demands for famine and plague expenditure. But the minor States of Aundh, Jath, and Phaltan are in an embarrassed condition.

The Southern Mahratta Railway passes through this group of States, and a branch line from Miraj to Kolhapur (29 miles) was constructed at the expense of the Kolhapur State, and opened in 1891.

CHAPTER III.

ADMINISTRATION.

India is governed by and in the name of the King. The authority of the Crown over Indian affairs in England is exercised by the Secretary of State, who inherits, subject to the rights of the Council of India and to the powers reserved to itself by Parliament, all the powers and duties of the Board of Control and of the East India Company with respect to the government and revenues of India. As a member of the Cabinet he is responsible to and represents the authority of Parliament. His Council, the Council of India, conducts under his direction the business transacted in the United Kingdom in relation to the government of India, and the correspondence with India. In certain matters, including the expenditure of Indian revenues and the raising of loans in Great Britain, the orders of the Secretary of State require to be supported by a majority of votes in the Council. But on all other matters the determination of the Secretary of State is final. He has the power of giving orders to every officer in India, including the Governor-General; but all such orders, unless they are urgent or deal with secret matters, must first be communicated to his Council.

ADMINIS-
TRATION.
The Secre-
tary of
State.

The Council now consists of twelve members, though the number may be reduced to ten; nine members must be persons who have resided in India for ten years and left it less than ten years before appointment. For the most part they are retired members of the Indian Civil Service, but military officers, and non-officials with financial experience, are also included. The Council is divided into seven Committees, composed of four or more members, by which matters connected with the various branches of the administration are considered before being laid before the Secretary of State in Council. A corresponding division is made in the establishment of the Secretary of State at the India Office, which includes six Secretaries, dealing respectively with financial, political, military, public works, revenue and statistics, and judicial and public questions, a Director-General of Stores, an Accountant-General, and a Registrar. Matters connected with the Home Accounts come before the Finance Committee.

The Council
of India.

At the head of the Government in India is the Governor-General, who is also Viceroy, or representative of the King. He is appointed by the Crown, usually from among English statesmen of high rank, for a period which is not legally defined but is in practice limited to five years. In strict theory the Governor-General is merely President of a council, with a casting vote in case of equality. He has, however, the power to overrule his Council, or a dissentient majority of it, in respect of measures "whereby the safety, tranquillity, or interests of the British possessions in India are, or may be, in the judgment of the said Governor-General, essentially affected"; but in such cases any two members of the majority may require that the circumstances be notified, and that copies of dissent be forwarded to the Secretary of State. He is also empowered in "cases of emergency" to make ordinances "for the peace and good government" of the country, which shall have the force of law for six months. He has also by law, apart from the influence which his position as head of the Government gives him over his colleagues, certain powers of control over the legislation of his own and the provincial councils. His assent is required for every Act passed by any of the legislative councils, or he may reserve the Act for the expression of the pleasure of the Crown. On certain questions also, such as loans, religious usages, military or political matters, no measure may be introduced into any of the legislative councils without his previous sanction.

The Go-
vernor-
General.

His Government, known as the Government of India, has its head-quarters at Calcutta ("Fort William") from November to April, but for the period between April and October it migrates to Simla in the Punjab hills. The period occupied by the transference of the establishment and of such records

**ADMINIS-
TRATION.** as are required is generally utilised by the Governor-General and the members of his Executive Council in short tours and visits to different parts of the country. If he should visit any part of India unaccompanied by his Council, he is empowered to appoint some ordinary member of it to be President in his place, and there is a further power in such case for the Governor-General in Council to make an order authorising the Governor-General to exercise alone all the executive powers vested in the Governor-General in Council.

He has a personal staff, consisting usually of a private secretary, an assistant private secretary, a military secretary, about six to nine aides-de-camp of whom one or two are native officers, and a surgeon.

**The Execu-
tive Council.**

The Executive Council of the Governor-General consists at present of five ordinary members, with the Commander-in-Chief in India as an extraordinary member if the Secretary of State in Council thinks fit to appoint him. Power is given under the law for the appointment of a sixth ordinary member for "public works" purposes, but this power has not of recent years been used, the public works portfolio being entrusted to some one of the five ordinary members. The Governor of Madras or of Bombay could also be added if the Council were to meet within the limits of either of those Presidencies. But this, as a matter of fact, it never does. The ordinary members are appointed by the Crown for a period of five years. Three of them must at the time of their appointment have been ten years in the Indian service, and one must have been a member of the Bar in the United Kingdom for at least five years. In practice, one is always a military officer and another is appointed with reference to finance. Two, and often three, are selected from the Indian Civil Service. The presence of only a single member besides the Governor-General (or President named by him in his absence) constitutes a quorum. The meetings, which are not open to the public, are held usually once a week, though special meetings may be summoned at any time. In accordance with the rules made by the Governor-General, he and his Council apportion between them the several departments of administration somewhat in the same manner as they are divided among the Ministers of an European Cabinet. The legal, finance and military members have been already mentioned; the Governor-General usually retains Foreign Affairs in his own hands; one member takes the Public Works Department, and the fifth is in charge of the work of the Home and the Revenue and Agriculture Departments. These are the seven departments into which the Secretariat is at present divided; but all important papers are seen by the Viceroy, besides the member in charge; and whenever the Viceroy so directs they are circulated to the other members and discussed in the weekly meetings of the Council. Despatches to the Secretary of State are circulated to and signed by all the members of Council as well as the Viceroy.

**The Legis-
lative
Council.**

For legislative purposes the Governor-General's Council is expanded into a Legislative Council by the appointment of not less than ten nor more than sixteen persons resident in India as additional members. These additional members are nominated by the Governor-General for a term of two years, under rules approved by the Secretary of State.—Not more than six of them can be officials, and five are nominated as follows:—One each on the recommendation of the non-official additional members of the provincial legislatures of Madras and Bombay respectively, one each by the non-official members of the legislatures of Bengal and the United Provinces, and one by the Calcutta Chamber of Commerce. The Governor-General can decline to accept a recommendation thus made, and in that case a fresh recommendation is submitted to him. The remaining five non-official members are nominated by him "in such manner as shall appear to him most suitable with reference to the legislative business to be brought before the Council, and the due representation of the different classes of the community." The Legislative Council meets at Calcutta or at Simla, and the Lieutenant-Governor of the province in which it meets is an additional member of it. The law of 1892, by which it was brought into its present shape, was a great advance on the previously existing law in respect of the representation of various interests on the Council, for not only was the number of additional members increased,

but the principle of recommendations, as described above, was introduced, and it was declared to be the object of the Government to secure the due representation of various classes in making the other non-official appointments. In the absence of elective representation, which is considered to be inapplicable in the present condition of public life in India, the nomination of representative members is the best means of securing the discussion of Indian questions in the light of all the interests affected. The list of additional members of the Council for the purpose of making laws and regulations at the end of the year 1901-02 was as follows :—

ADMINIS-
TRATION.

Officials.—Mr. F. A. Nicholson, C.I.E., representing Madras.

„ D. M. Smeaton, C.S.I., representing Burma.

„ C. W. Bolton, C.S.I., representing Bengal.

Non-officials.—Rai Sri Ram Bahadur, recommended by the non-official members of the Council of the United Provinces.

Mr. G. K. Gokhale, recommended by the non-official members of the Council of Bombay.

M. R. Ry Ananda Charlu, Rai Bahadur, C.I.E., representing Madras.

Mr. L. P. Pugh, representing the Calcutta Bar.

Sayyid Husain Bilgrami, Director of Public Instruction in the Nizam's Dominions.

Mr. R. P. Ashton, Merchant, Calcutta.

Rai Bahadur B. K. Bose, C.I.E., representing the Central Provinces.

The Maharaja of Darbhanga, recommended by the non-official members of the Council of Bengal.

Mr. M. C. Turner, recommended by the Calcutta Chamber of Commerce.

It follows from what has been said above on the subject of the supreme authority of the Secretary of State that the Imperial Government retains the right, if necessary, of requiring the Governor-General to introduce a measure into his Legislative Council, and of requiring also all the members of his Government, whether ordinary or additional official members of the Council, to vote for it, with the alternative of resigning their seats. But subject to this necessary reserve the Governor-General in Council at these meetings has power to make laws for all persons and places within British India, for British subjects and officials within native States, for native Indian subjects in all parts of the world, and for persons serving in the Indian Marine Service, with certain exceptions relating to parliamentary law and authority and to the raising of loans in England. The meetings of the Legislative Council are open to the public.

The Secretariat of the Government of India is divided into departments, which have varied greatly both in number and in the subjects assigned to them from time to time, as the sphere of government widened. The present system dates from the time of Lord Ellenborough, and has been in existence, therefore, some sixty years. At the outset there were four departments—Home, Foreign, Finance, and Military. Lord Dalhousie added a fifth for Public Works, and in Lord Mayo's time a Department of Revenue, Agriculture, and Commerce was formed, to be abolished again in 1879 and reconstituted two years later, at the suggestion of the Famine Commission, in its present form of a Department of Revenue and Agriculture, the subject of Commerce being transferred to the Finance Department. It is to be noted that "revenue" does not bear the same meaning in this connection in India as in England: matters of excise, opium, income tax, customs, and the like are dealt with in the Finance Department; the revenue in question is the revenue from the land. A seventh Department, the Legislative, was separated from the Home Department in 1869.

The Secre-
tariat.

There are also departments of the Government of India which are distinct from the Secretariat, though the work of each of them has to pass through one or other of its branches. These departments deal with certain matters which, for various reasons, it is advisable to regard as Imperial, in respect to which the Supreme Government represents, as it were, the federal element

The Special
Depart-
ments.

ADMINIS-
TRATION.

among a collection of provinces and states. All the functions not expressly devolved on the provincial Governments, together with all the matters in which more than one of them may be interested, belong explicitly to the Government of India. The difference in the position of the various provinces with regard to the Supreme Government somewhat complicates these relations. As will be more particularly shown below, Madras and Bombay stand apart; and, of the rest, the Chief Commissionerships are more subordinate than the Lieutenant-Governorships to the Government of India. The result of such distinctions may be seen in the administration of the Public Works Department of the Government of India. The executive staff here is divided into a branch (State Railways), in which practically the whole of the railway work is concentrated, though Madras and Bombay have each a small staff in this connection; and two other branches, dealing with irrigation and with buildings and roads respectively, for which each of the larger provinces, Bombay, Madras, Bengal, the United Provinces, Burma, and the Punjab, have separate establishments. On the other hand, the public works establishments of the Central Provinces, Assam, Central India, Berar, and Rajputana are controlled by the central Department. The Political Department also, in its dealings with external relations, is concerned with every part of India in which such questions may arise, but it has duties of a more localised nature in the administration of British Baluchistan, the North-West Frontier Province, Coorg, and Ajmere-Merwara, besides the Hyderabad Assigned Districts (or Berar); and as far as relations with native States are concerned some of its duties devolve on the provincial political establishments. The ecclesiastical establishments are under the Government of India, save as regards the two presidencies of Bombay and Madras. The Post Office of India has its representative at headquarters in the person of the Director-General, and its revenues are classed as Imperial, the provincial Postmasters-General being directly subordinate to the Director-General, not to the local Government. There are other matters, such as currency, or the topographical, geological and archæological surveys, which are under the direct control of the Government of India, as is also the telegraph system and, since the Presidency Army system was abolished in 1895, the Army. Such matters as customs, excise, stamps, police, jails, education, registration, and many others are purely provincial.

The Pro-
vincial
Govern-
ments.Bombay and
Madras.

It will appear from the particulars already given that the supreme authority of the Governor-General in Council is not everywhere exercised in the same manner. For reasons which are mainly historical, the control of the Government of India over the Governments of Bombay and Madras is less complete than that which it exercises over other local governments. These two provinces were, until the Regulating Act of 1773 constituted a central government in India, presidencies governed by a president, or governor, and council, responsible directly to the Company in England. They still keep the name, and are under governors who do not derive their authority from the Governor-General in Council, but are appointed by the Crown and subordinated to the Governor-General in Council by express Acts of Parliament. The governors are generally, though not necessarily, chosen from among British statesmen. They have the privilege of communicating directly with the Secretary of State (save in regard to certain excepted subjects), though a copy of such communications is furnished to the Government of India. The executive authority in these two presidencies is vested in the Governor and a council consisting of two ordinary members, also appointed by the Crown, and selected from members of the Indian Civil Service. Before the Presidency Army system was abolished the Commander-in-Chief in the presidency also joined the council as an extraordinary member. But the chief military officer of the command under the new system does not have a seat in the Council. The Governors have the same power as the Governor-General of overruling their councils in cases of emergency. For legislative purposes the council of the presidency is reinforced by additional members, whose number under the Act of 1892 must be not less than eight and not more than 20, including the Advocate-General of the province, at least half of them being non-officials. As a fact their number has been fixed at 20, of whom 11 at least are non-officials. The term of office is two years. The system of nomination

adopted is intended to give a representative character to the members. In Bombay eight non-official members are nominated on the recommendation of various bodies and associations, including one by the Corporation of the city and one by the University, six by groups of municipalities, groups of district local boards, classes of large landholders, and associations of merchants, manufacturers, and tradesmen. The particular groups, classes, or associations are prescribed by the Governor from time to time by notification. The remaining non-official members are nominated by the Governor "in such manner as shall, in his opinion, secure a fair representation of the different classes of the community." The same principles obtain in respect of the legislative councils of Madras and those of Bengal, the United Provinces, the Punjab, and Burma, except that in the last two provinces the members are all nominated without "recommendation." The four last-mentioned provinces are under Lieutenant-Governors, who are appointed for five years by the Governor-General in Council, with the approval of the King; generally from the ranks of the Indian Civil Service. They possess legislative but not executive councils. The members of these legislative councils number 20 in Bengal, 15 in the United Provinces, and 9 each in the Punjab and Burma. There is a Board of Revenue in Bengal, Madras, and the United Provinces, and Financial Commissioners in the Punjab and Burma; and in all the important provinces, except Madras, there are Commissioners in charge of divisions, each division consisting of three or more districts. It is to be observed that the last decade has seen the creation of a legislative council in the Punjab and a lieutenant-governorship and legislative council in Burma. There is no clear line of demarcation between the subjects reserved to the Governor-General's legislative council and those with which the local legislatures deal, but, generally speaking, the latter make laws on all matters which are under provincial management. Their legislation must not affect any Act of Parliament in force in the province or, without previous sanction, touch any of certain forbidden subjects, such as public debt, army services, religious rites, post office or telegraph, and others, including, of course, foreign relations. Their acts require the sanction of the Governor-General, and may be disallowed by the Crown. But subject to these conditions they can repeal or amend, as regards their own province, laws and regulations made by any other authority in India. The two other provinces, Assam and the Central Provinces, have Chief Commissioners, appointed by the Governor-General in Council, with powers but little less than those of the Lieutenant-Governors. They have no councils. In the minor charges of Coorg, Ajmere-Merwara, British Baluchistan, the North-West Frontier Province, and the penal settlement of the Andaman Islands there are also Chief Commissioners, who, however, have less independent power of government than those of Assam or the Central Provinces. These offices are often combined with some other post under the Political Department of the Government of India. This is the case with Berar, or the Hyderabad Assigned Districts, administered by the Government of India on behalf of the Nizam of Hyderabad, the Chief Commissioner of which is the Resident at Hyderabad. Similarly the Chief Commissioner of Ajmere is the Governor-General's Agent in Rajputana, and the Chief Commissioner of Coorg the Resident in Mysore.

ADMINIS-
TRATION.The Lieu-
tenant Go-
vernors.The Chief
Commis-
sioners.

The constitution of the North-West Frontier Province in 1901 deserves separate mention. Some change of this description had been proposed on more than one occasion since the Mutiny, but without result, owing chiefly to the fact that the plans either included too much or divided the responsibility for the government of the new province between the Government of India and the Government of the Punjab. The project as it was finally shaped by Lord Curzon, and approved by the Secretary of State, avoids both these errors. In the first place it is limited to (1) certain portions of the districts lying, for the most part, across the Indus and on the administrative border of British India, between, roughly speaking, the 31st and the 35th parallels of north latitude, and (2) the five trans-border political charges of the Malakand (including Dir, Swat and Chitral), the Khaibar, Kurrum, Tochi, and Wana, the whole embracing as nearly as possible the Pathan parts of the frontier and no more. In the second place it severs the administration of this province entirely from the Punjab. The officer in charge is appointed by, and directly responsible to, the Government of India; as Agent to the

North-West
Frontier
Province.

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TRATION.

Governor-General he controls the political relations with the tribes, in direct communication with the local political officers, and as Chief Commissioner he exercises in the settled districts taken from the Punjab the functions which the Punjab Government relinquish. The change has already been treated in its political aspect in an earlier chapter. From an administrative point of view the new province may be ranked with British Baluchistan, with which it has much in common, and from which it is only separated by a small portion of the frontier left in the hands of the Punjab. The officers for the administration have been drawn almost entirely at the outset from the Punjab services, and are in fact to a large extent the officers who were already on the spot. The exact details of their future position had still to be determined at the end of the year 1901-2. In the meantime, a list of appointments for the new administration had been sanctioned, including three Assistants to the Chief Commissioner, a Revenue Commissioner, and a Judicial Commissioner, the latter of whom takes the place hitherto filled by the Punjab Chief Court. The total yearly cost of the change is estimated at about 3½ lakhs of rupees (£23,700).

Provincial
Secretariats.

There is a Secretariat in each province manned according to the administrative requirements, and several special departments organised on a uniform system and managed by a special staff under the control and supervision of a chief at the headquarters of the Administration. For example, there are departments of Public Works, almost exclusively concerned in the provinces with irrigation and with roads and bridges. The other branches enumerated above as being under provincial control are also managed by separate departments; and special officers are in charge of such matters as experimental farms, botanical gardens, horse-breeding, and the like, which require special qualifications but do not demand the attention of a large staff.

Non-regula-
tion and
scheduled
tracts.

In the wide range of circumstances with which the Government of India has to deal there have always been certain parts of the country which, owing to their unsettled or uncivilised state, it has been advisable not to bring at once under the general system of administration adapted to more peaceful and advanced communities. To meet these conditions, such tracts or provinces, as occasion arose, were usually exempted from the operation of the Bengal regulations, which were the code of laws passed by the Governor-General and Council of Bengal under the Regulating Act of 1773 and before the year 1833; and instructions were given to the officers in charge to conduct the procedure in accordance with the spirit of these regulations so far as they were suitable to the circumstances of the country. On the annexation of the Punjab the view was taken that the Governor-General in Council had power to make laws for the new territory, not in the forms prescribed by the Charter Acts for legislation, but by executive orders. The second distinctive mark of these provinces was that executive and judicial functions were originally combined in the same hands. The provinces in which these conditions prevailed, the principal of them being the Punjab, Oudh, Burma, Assam, and the Central Provinces, were called "non-regulation" provinces. The distinction, so far as the system of legislation is concerned, was practically abolished in 1861 by the Indian Councils Act, by which all doubt as to the validity of rules previously framed for non-regulation provinces was removed, while the summary power to make such rules was withdrawn. There still survives to some extent, however, in the non-regulation provinces, the union of executive and civil judicial functions, though that feature is tending to disappear as the resources are developed and business relations become more complex. Throughout India the district officers have, and to a varying extent exercise, magisterial as well as executive functions. There are also other slight differences between these and the older provinces. In the first place, the superior staff is a commission by itself, though often manned in the present day from the larger divisions of the services; and the district officers are known as "deputy commissioners" instead of "collectors" as in the regulation provinces. Secondly, the qualification for administrative posts differs. In what were the regulation provinces these posts were reserved by statute to members of the Indian Civil Service; but in the non-regulation provinces officers were locally recruited, either from nominees of the authorities in India or from the Indian Staff Corps. The former practice is now in abeyance, and such appointments can only be made in special circumstances with the

previous sanction of the Secretary of State; but the circumstances in Assam and Burma are still such as frequently to render military experience of considerable value in the administration, and until the constitution of the North West Frontier Province the Punjab was also included in this category.

But though the term "non-regulation" province is obsolete, provision has been made for the special treatment of backward and unsettled tracts by the Act of Parliament of 1870, which restored, in respects of such tracts, the power of summary legislation taken away by the Act of 1861. The tracts to which the statute is to apply are determined by the Secretary of State in Council; whereupon the Local Government may propose to the Governor-General in Council drafts of regulations for the government of the tract, and these drafts, when approved by him and duly gazetted, have the force of law. The Local Government is required to submit, with the draft, the reasons for proposing it; the Governor-General in Council may refuse his sanction to a proposed regulation, but has not by law the power of altering it. Under an Indian Act passed in 1874, the tracts which have not been brought within, or have been removed from, the operation of the ordinary law and jurisdiction were enumerated, and power was given to the Local Government to declare what enactments are or are not in force in them. These are known as Scheduled Districts, and the provisions of the Government of India Act of 1870 have been applied to some, but not all, of them. The most important of the scheduled districts are the province of Sind, Aden, Coorg, Assam (including the Lushai Hills), Chota Nagpur, the hill tracts of Arakan, Upper Burma, Kumaun and Garhwal, Baluchistan, and the frontier districts of Hazara, Peshawar, Kohat, Bannu, and Dera Ismail Khan, which are included in the North-West Frontier Province, and three other tracts of the Punjab. The list includes also many estates and hill tracts scattered throughout India.

Apart from the surviving remnants of the distinction between the regulation and the non-regulation systems, the administration is conducted on uniform lines throughout the country. The administrative unit is the district, of which there are 249 in India, although there are in all provinces but Madras, as has been said above, "Divisions" consisting of three or more districts, under a Commissioner. The district varies widely in different parts of India, both in respect of size and population. The table in the margin shows the provincial means. The Madras charge is the heaviest in India, taking into account both factors.

Districts.

Province.	Mean District.	
	Area.	Population.
	Sq. Miles.	
Madras	6,748	1,795,242
Bombay	4,220	807,043
Sind	9,401	642,562
Bengal	5,286	1,606,458
United Provinces	2,283	993,579
Punjab	3,699	724,381
Central Provinces	4,812	648,708
Upper Burma	5,141	226,461
Lower Burma	4,272	288,679
Assam	4,617	353,136
General Mean	4,064	928,151

Note.—The exceptionally populous district of Sylhet is omitted from the Assam figures, as it tends to give a false idea of the Assam districts. The presidency towns are not included.

of which constitute a district, the extremes in point of area are the Simla district in the Punjab, with its 101 square miles, and the Upper Chindwin in Upper Burma, which covers more than 19,000 square miles. The range of population is equally wide, for, against the hill district of Northern Arakan, with its 20,680 inhabitants, there has to be set that of Maimansingh in Bengal, with 3,915,000.

The district is placed under an officer known as the Collector and Magistrate in Bengal, the Agra province, Madras, and Bombay excluding Sind; and elsewhere, as above mentioned, the Deputy Commissioner. He is the local representative of the Government, and, with the exception of the highest judicial authority, which is, as a rule, vested

in a judge, he exercises all administrative functions or is responsible for their due exercise by others. As implied by his title of Collector, his primary duty is that of a revenue officer, in which capacity he superintends the administration of the land so far as the State rights in it are concerned, and the collection of the State dues from excise, stamps, and other sources. In addition to his functions in connection with the revenue, he is the chief magistrate in his district, and as such, besides having himself a criminal jurisdiction, which he rarely exercises except as an appellate authority, he supervises the exercise of that jurisdiction by the magistrates subordinate to him, as well as the action of the police in respect to crime

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and their other duties. All the departmental work carried on within the jurisdiction of the district officer is subject to his supervision in its local branches, so that he has to look into the condition of the jails, schools, roads, hospitals and dispensaries, forests, registration, and anything else that may be undertaken in the district. If he be not the presiding officer of the municipalities and local boards, he has to exercise a general supervision and control over their procedure. He is the political agent for any small States that may be surrounded by or adjacent to his charge, and is the medium of communication between them and the Local Government. Besides all this, he has to supply that Government with all the information that may be called for regarding the condition of his district, economic, social, sanitary or political, and, indeed, on any other subject in regard to which the views of the illiterate nine-tenths of the population have to be taken into consideration. In order to keep touch with the masses, and to see that the machinery of the administration is working efficiently and with no undue friction, the district officer is required, as a rule, to travel about his charge for some portion of the year. He is aided in the fulfilment of his functions by a staff of assistants and deputies, varying in number, title and rank according to the province. Their duties also are distributed differently, as in some the judicial element predominates, in others the element of inspection. Everywhere, however, their subordination to the head of the district is complete, and they have to perform such duties as he may allot to each.

The district is subdivided for administrative purposes into the charges of subordinate officers, constituted mainly with reference to the land revenue, except in Bengal, where, owing to the existence of a permanent settlement, magisterial and police considerations predominate. Throughout the rest of India the subdivision is generally known as a Tahsil, or Taluka, under a Tahsildar, or Mamlatdar, or in Sindh, a Mukhtiarkar, who has both revenue and subordinate magisterial powers. To him is attached, to a great extent, the responsibility in matters of detail, so that, next to the district officers, his post is that which touches most nearly the rural population. In Bengal the subdivision, as there known, is larger than the Tahsil, and has no revenue significance, and the Thana, or police unit, ranks next in administrative importance. In Burma, the tract under a Myo-ök, which is known as a township, corresponds, from an administrative point of view, with the subdivision, or Tahsil, but it is again subdivided, not into villages like the latter, but into revenue circles under a Thugyi, comprising, it may be, a number of villages. In the village is found the unit of revenue and police administration. It differs, like all other Indian institutions, from tract to tract, but its tendency is towards the status of a self-sufficing community of agriculturists with the simple subdivision of labour that suffices for their daily life. It has its headman, who in some provinces holds small police powers; its accountant, who keeps the records of the State dues on account of assessment, and other items of revenue, and maintains the revenue and rent rolls of the village; and its watchman, and other menials. In Bengal, the village system has not been thoroughly established east of Bihar, except as regards the watchman.

Administra-
tive Ser-
vices.

The scheme of the public services in India divides the machinery for the civil administration into (1) the "Civil Services," in charge of the general and judicial administration, and (2) several special services or departments concerned with the public works, forests, survey, telegraphs, posts, education, police, jails, accounts, Customs, salt, opium, registration, and a few other miscellaneous or scientific departments.

(1.) Civil
Services.The Indian
Civil Ser-
vice.

The Civil Services have grown out of the staff of merchants, factors and writers employed by the East India Company. They conduct the executive and judicial administration and other subjects of business not assigned to any special department. They comprise, since the reorganisation effected as a consequence of the report of the Public Service Commission of 1886-7, (1) the Indian Civil Service; (2) the provincial services, executive and judicial branches; (3) the subordinate civil services. The Indian Civil Service, formerly known as the Covenanted Civil Service, is recruited in England by an examination open to all natural-born British subjects, a term which includes natives of India and the Colonies, as well as persons born in

the British Islands. The minimum and maximum ages for entrance to the examination were 17½ and 19½ years before the year 1892, when they were altered to 21 and 23 years. The candidates have therefore, under the present system, had the benefit of a full education, generally at one of the Universities. Before going to India, those successful at this examination are required to pass a year on probation, at the close of which they are examined in subjects specially connected with their future duties. In the ten years 1892-1903 the number of natives of India who passed into the Indian Civil Service by this examination was 37 in all.

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TRATION.

In connection with the employment of natives in the Indian services, it is necessary to refer briefly to events prior to the institution of the system now being described. The Proclamation issued by Queen Victoria on the assumption by the Crown of the Government of India in 1858, contained the following promise:—"And it is our further will that, so far as may be, our subjects, of whatever race or creed, be freely and impartially admitted to offices in our service, the duties of which they may be qualified by their education, ability, and integrity duly to discharge." Natives of India had already been admitted to compete for the "Covenanted Service" since 1853. But the necessity of their attending for examination, and practically also of their receiving their education in England, was a bar to their freely availing themselves of the permission. Other arrangements have therefore been made from time to time for utilising their services. To the lower branches of the administration they had been admitted from an early date. In 1861 it was enacted, after reciting the posts reserved to the Indian Civil Service, that the authorities in India might, under special circumstances and restrictions, appoint to some of these reserved posts persons resident in India other than members of that Service. Not much use was made of this statute, and in 1870 another was passed, which provided that the Government of India might appoint natives of India to the reserved posts under rules to be sanctioned by the Secretary of State in Council. The rules finally approved in 1875 permitted such appointments in the case of natives of India "of proved merit and ability." But these also remained practically inoperative. In 1879 the question was re-opened by Lord Lytton's Government, with the result that fresh rules under the Act of 1870 were made providing that a proportion not exceeding one-fifth of the total number of covenanted civilians appointed in any one year should be natives selected in India by the local governments, subject to the approval of the Governor-General in Council. The grounds of selection were either general merit or meritorious service in a lower rank. This plan, however, also proved unsatisfactory, although it secured the appointment, on an average, of about six natives of India to the higher posts in each of the years 1879-90. The persons so nominated and appointed constitute what is commonly, though somewhat incorrectly, called the "Statutory Civil Service."* The Public Service Commission which sat in 1886-88 to consider the question of the employment of natives of India, condemned the Statutory system *in toto*, and suggested an alternative plan, based on their proposed division of the services into "Imperial" and "Provincial." The Imperial service was to consist of the covenanted service (now known as the Indian Civil Service), recruited in England, and reduced to such numbers as would suffice to fill the chief administrative posts, allowing for a sufficient reserve of juniors in training for such appointments. By this reduction a good many posts up to then reserved for members of the higher service could be given to native members of the provincial services, or to other natives of proved merit; such posts are known as "listed" appointments, and it is the policy of the Government of India to transfer posts when possible, or to add new executive and judicial posts, when created, to the provincial services, so far as may be done without sacrificing the principle that a certain minimum of officers recruited in England must be maintained. The number of such "listed" posts was fixed at first at 93, but some additions have subsequently been

Employ-
ment of
Natives in
the higher
posts.

The Statu-
tory Ser-
vice.

"Listed"
posts.

* The Statute of 1870 does not provide for the constitution of a body of officers having a recognised right to succeed to a class of offices, which is what is implied by a "Service," but for the appointment of particular persons to particular and individual posts.

ADMINIS-
TRATION.

made. Although, in accordance with accepted principle, the salaries of officers thus appointed in India are lower than those of their fellows recruited in England, in every other respect the status and functions of the holders of such posts are identical with those of the Indian Civil Service. It has been frequently urged by Indians that the examination for the Indian Civil Service should be held simultaneously in England and in India. The Public Service Commission of 1886-87 reported adversely to this proposal. In June 1893 a resolution was passed in the House of Commons in favour of it, and the result was that a careful inquiry was held in India as to its feasibility. Papers showing the particulars of that inquiry were presented to Parliament, and published as a Bluebook in 1894, and it is not proposed to enter into detail here. It is enough to say that the Government of India did not support the proposed change, partly on the grounds that an irreducible minimum of persons having the best possible European education is required in the higher ranks, and that open competition is not the best way of selecting natives for the higher ranks of the service. Sir Henry Fowler, then Secretary of State, agreed that the existing system was based on just and wise principles, and should, subject to necessary alterations in detail, be maintained; and in a debate held on the 15th August 1894, the advocates of simultaneous examinations held it to be useless to challenge a further division on the subject.

The number of the higher administrative posts, as sanctioned in 1899, is 606, including 99 previously sanctioned for Burma, but exclusive of the "listed" posts mentioned above. In order to provide the requisite number of officers of sufficient standing to fill these posts, with the necessary allowance for absence on leave or deputation, a total cadre of 1,227 has been fixed. This number consists for the most part of members of the Indian Civil Service, but it also includes a few military officers in Bengal, Bombay, and the United Provinces, and a larger proportion of such officers, amounting to something like 25 per cent. of the provincial total, in Assam, Burma, and (until 1902) the Punjab.

(2.) The
Provincial
and Subordi-
nate Ser-
vices.

The Provincial Service, which includes some of the posts formerly reserved for the Indian Civil Service, together with the higher appointments in the Executive and Judicial Departments of the old "Uncovenanted Service," is recruited in India under the orders of the Provincial Governments. This and the Subordinate Service are essentially native services. No person other than a native of India may be appointed to any office in them carrying a salary of more than Rs. 200 per mensem (£160 per annum) without the special sanction of the Government of India, and such appointments are rarely made. Selection is made partly by competition, but it has been found necessary to limit the application of the competitive principle. The lower grades, executive and judicial, of the old uncovenanted service now constitute the subordinate service, with the privilege of promotion to the provincial service in case of conspicuous merit.

(2.) The
Special
Depart-
ments.

The arrangements for the manning of the various special departments differ in accordance with the requirements of the case. Some special posts in them are reserved to be filled by members of the Indian Civil Service. It has not been found possible to lay down any comprehensive rule in respect of the employment of natives of India, on account of the divergent circumstances. But in the more important departments the division between the posts filled by recruitment in England and those filled in India, to a larger or smaller extent by natives, is marked by a separation of title. There is, for instance, in the Forest Department one "Indian Forest Service" recruited from men trained at Cooper's Hill College, and provincial forest services filled locally. There is a similar distinction in the Educational, Public Works, Survey, and other departments. It can only be said in this brief review that the general principle as regards the employment of natives is that in each department such a proportion of Europeans is maintained as is considered to be indispensable for efficient administration and control.

Summary of
changes.

To recapitulate the chief administrative changes made during the decade:—The number of the members of the Secretary of State's Council has been reduced from 15 to 12. The number of the additional members of the

legislative councils has been increased and steps taken to secure the representation of important interests. A legislative council has been created for the Punjab, and Burma has been constituted a Lieutenant-Governorship instead of being under a Chief Commissioner, and has received a legislative council. A new province has been created on the North-West Frontier, consisting of certain trans-Indus tracts taken from the Punjab and of the political charge over the Pathan tribes across the border. Effect has been given to the recommendations of the Public Service Commission in regard to the employment of natives of India in the higher appointments, and the special departments have to a large extent been reorganised in view of the Commission's conclusions. Mention must also be made of the change by which the Army in India was placed under the direct control of one Commander-in-Chief, and the military commands in the minor presidencies reduced to those of a Lieut.-General without a seat in Council.

SUMMARY of the Heads of the Administration during the Nine Years ending on the 31st March 1901.

Name.	Assumed charge of Office.	Name.	Assumed charge of Office.
SECRETARY OF STATE.		<i>C. C. Stevens</i> - - - -	23 June 1897
Vicount Cross - - - -	4 Aug. 1886	Sir John Woodburn - - -	7 April 1898
The Earl of Kimberley - -	19 Aug. 1892	LIEUTENANT-GOVERNOR OF THE UNITED PROVINCES.	
The Rt. Hon. Henry H. Fowler	10 Mar. 1894	Sir Auckland Colvin - -	21 Nov. 1887
Lord George F. Hamilton -	5 July 1895	Sir Charles Crosthwaite -	29 Nov. 1892
PERMANENT UNDER-SECRETARY OF STATE.		<i>Alan Cadell</i> - - - -	10 Jan. 1895
Sir Arthur Godley - - -	30 Sept. 1883	Sir Antony P. MacDonnell -	6 Nov. 1895
PARLIAMENTARY UNDER-SECRETARY OF STATE.		<i>J. J. D. La Touche</i> - -	6 May 1898
The Hon. G. N. Curzon - -	9 Nov. 1891	LIEUTENANT GOVERNOR OF THE PUNJAB.	
G. W. E. Russell - - - -	19 Aug. 1892	Sir Dennis Fitzpatrick -	5 Mar. 1892
Lord Reay - - - - -	11 Mar. 1894	W. M. Young - - - - -	6 Mar. 1897
The Earl of Onslow - - -	5 July 1895	CHIEF COMMISSIONER OF THE CENTRAL PROVINCES.	
The Earl of Hardwicke - -	17 Jan. 1901	A. P. MacDonnell - - -	28 Jan. 1891
GOVERNOR GENERAL.		J. Woodburn - - - - -	25 May 1893
The Marquis of Lansdowne -	10 Dec. 1888	C. J. Lyall - - - - -	21 Dec. 1895
The Earl of Elgin and Kin-cardine.	27 Jan. 1894	D. C. J. Ibbetson - - -	11 July 1898
Lord Curzon of Kedleston -	6 Jan. 1899	<i>A. H. L. Fraser</i> - - -	27 Nov. 1898
GOVERNOR OF MADRAS.		CHIEF COMMISSIONER OF BURMA.	
Lord Wenlock - - - - -	23 Jan. 1891	Sir Alexander Mackenzie -	10 Dec. 1890
Sir Arthur E. Havelock - -	18 Mar. 1896	<i>D. M. Smeaton</i> - - - -	2 May 1892
Lord Amphill - - - - -	28 Dec. 1900	<i>F. W. R. Fryer</i> - - - -	23 May 1892
GOVERNOR OF BOMBAY.		Sir F. W. R. Fryer (Lieutenant-Governor from 1 May 1897).	3 April 1895
Lord Harris - - - - -	12 April 1893	CHIEF COMMISSIONER OF ASSAM.	
<i>H. M. Birdwood</i> - - - - -	17 Feb. 1895	W. E. Ward - - - - -	27 May 1891
Lord Sandhurst - - - - -	18 Feb. 1895	<i>C. J. Lyall</i> - - - - -	4 July 1894
Lord Northcote - - - - -	17 Feb. 1900	W. E. Ward - - - - -	4 Oct. 1894
LIEUTENANT-GOVERNOR OF BENGAL.		H. J. S. Cotton - - - -	28 Nov. 1896
Sir Charles A. Elliott - -	17 Dec. 1890	<i>J. B. Fuller</i> - - - - -	1 May 1900
<i>Sir Antony P. MacDonnell</i>	30 May 1893	H. J. S. Cotton - - - -	1 Aug. 1900
Sir Alexander Mackenzie -	18 Dec. 1895		

Italics signify officiating appointments.

ADMINIS-
TRATION.

LIST of the holders in 1901-1902 of the more important appointments connected with the Administration of India, those appointed during the year being shown in *italics*.

OFFICE.	—	Date of Appointment or Assumption of Charge of Office.	REMARKS.
Secretary of State - - -	The Right Hon. Lord George Hamilton.	5 July 1895	
Permanent Under Secretary of State.	Sir Arthur Godley, K.C.B. -	30 September 1883	
Parliamentary Under Secretary of State.	The Earl of Hardwicke -	17 January 1901	
Members of the Council of India	Sir James B. Peile, K.C.S.I.	12 November 1887	Re-appointed 12 November 1897.
	Sir Alfred C. Lyall, K.C.B., G.C.I.E.	17 January 1888	Re-appointed 17 January 1898.
	Sir Charles H. T. Cross-thwaite, K.O.S.I.	3 March 1895	In succession to Sir R. H. Davies.
	Sir Stuart C. Bayley, K.C.S.I., C.I.E.	16 September "	In succession to Sir H. C. Rawlinson.
	F. C. Le Marchant -	27 February 1896	In succession to Bertram W. Currie.
	General Sir J. J. H. Gordon, K.C.B.	1 January 1897	In succession to Sir O. T. Burne.
	Sir Dennis Fitzpatrick, K.C.S.I.	24 April "	In succession to Sir John Strachey.
	Sir J. L. Mackay, K.C.I.E. -	27 April "	In succession to Robert Hardie.
	Sir John Edge, K.C. -	30 March 1898	In succession to Sir C. Turner.
	Sir Philip P. Hutchins, K.C.S.I.	1 August "	In succession to Sir A. J. Arbuthnot.
Sir James Westland, K.C.S.I.	8 August 1899	In succession to Sir A. Allison.	
Governor-General - - -	Lieut.-Gen. Sir A. R. Badcock, K.C.B., C.S.I.	26 March 1901	In succession to Sir D. M. Stewart.
	The Right Hon. Lord Curzon of Kedleston, G.M.S.I., G.M.I.E.	6 January 1899	
	General Sir A. P. Palmer (extraordinary), Commander-in-Chief.	22 April 1901	Commander-in-Chief from 19 March 1900.
	Major-General Sir E. H. H. Colten, K.C.I.E., C.B.	27 April 1896	
	Sir A. G. Trevor, K.C.S.I. -	2 May "	
Members of Council - - -	Sir C. M. Rivaz, K.C.S.I. -	9 April 1898	And temporarily from 18 October 1897 to 19 February 1898.
	Thomas Raleigh - -	3 April 1899	
	Sir E. F. Law, K.C.M.O. -	31 March 1900	
	Sir E. R. Eltes, K.C.B. -	11 April 1901	In succession to Sir E. H. H. Colten.
	A. T. Arundel, C.S.I. -	18 May "	In succession to Sir A. C. Trevor.
Lieutenant-Governor of Bengal -	D. C. J. Ibbetson, C.S.I. -	5 March 1902	In succession to Sir C. M. Rivaz.
	Sir John Woodburn, K.C.S.I.	7 April 1898	
Lieutenant-Governor of the United Provinces of Agra and Oudh.	Sir Antony P. MacDonnell, G.C.S.I.	6 November 1895	
	Sir James John Digges La Touche, K.C.S.I.	14 November 1901	
Lieutenant-Governor of the Punjab.	Sir William Mackworth Young, K.C.S.I.	6 March 1897	
	Sir Charles Montgomery Rivaz, K.C.S.I.	6 March 1902	
Lieutenant-Governor of Burma -	Sir Frederic W. R. Fryer, K.C.S.I.	1 May 1897	Formerly Chief Commissioner.
Chief Commissioner of Central Provinces.	D. C. J. Ibbetson, C.S.I. -	14 July 1898	Officiating Member of Governor-General's Council from 4 December 1899.
	A. H. L. Fraser, C.S.I. -	6 March 1902	Officiating since 28 November 1899
Chief Commissioner of Assam -	H. J. S. Cotton, C.S.I. -	28 November 1896	
Agent to the Governor-General in Rajputana and Chief Commissioner of Ajmer-Merwara.	A. H. T. Martindale, C.S.I.	9 March 1898	
Resident in Mysore and Chief Commissioner of Coorg.	Lieutenant-Colonel D. Robertson, C.S.I.	10 February 1897	
Resident, Hyderabad - - -	Lieut.-Col. D. W. K. Barr, C.S.I.	21 February 1901	

OFFICE.	—	Date of Appointment or Assumption of Charge of Office.	REMARKS.
Agent to the Governor-General in Central India.	<i>C. S. Bayley</i>	3 November 1901	Officiating from 8 March 1900.
Resident in Kashmir - - -	Lieutenant-Colonel H. A. Deane, C.S.I. <i>L. W. Dano</i> - - -	19 November 1900 5 November 1901	
Resident and Agent to the Governor-General, Baroda.	Lieutenant-Colonel E. W. Ravenshaw. <i>Lieut.-Col. M. J. Meade</i> , C.I.E.	1 April 1900 3 November 1901	
Agent to the Governor-General for Baluchistan and Chief Commissioner of British Baluchistan.	Colonel C. E. Yate, C.S.I., C.M.G.	24 December 1900	
Political Resident, Persian Gulf -	Lieutenant-Colonel M. J. Meade, C.I.E. Major (temporary Lieut.-Colonel) C. A. Kemball.	10 March 1898 7 April 1900	On leave from 7 April 1900. Officiating.
Governor of Madras - - -	Lord Amptill, G.C.I.E. -	28 December 1900	
Members of Council -	Arundel T. Arundel, C.S.I. - Henry M. Winterbotham, C.S.I. <i>James Thomson</i> - - -	12 June 1898 9 November " 9 May 1901	
Governor of Bombay -	Lord Northcote, G.C.I.E. -	17 February 1900	
Members of Council -	Sir E. C. K. Ollivant, K.C.I.E. J. Montearth, C.S.I. - - -	24 April 1897 6 August 1900	
Political Resident, Aden - -	Brigadier-General O'Moore Creagh, V.C. <i>Brigadier-General P. J. Maitland</i> , C.B.	22 February 1899 25 June 1901	On deputation to China. Sub. pro tem.

CHAPTER IV.

LEGISLATION.

LEGISLA-
TION.

The law of India includes both written and unwritten elements. Its various constituents are summarised as follows by Sir Courtenay Ilbert in his book entitled the "Government of India" :—

"The law administered by the courts of British India consists, so far as it is enacted law, of (1) such Acts of Parliament as extend, expressly or by implication, to British India; (2) the regulations made by the Governments of Madras, Bombay and Bengal, before the coming into operation of the Government of India Act, 1833 (3 & 4 Will. IV., c. 85); (3) the Acts passed by the Governor-General in Council under the Government of India Act, 1833, and subsequent statutes; (4) the Acts passed by the local legislatures of Madras, Bombay, Bengal, the North-Western Provinces and Oudh (United Provinces), the Punjab, and Burma, since their constitution under the Indian Councils Act, 1861 (24 & 25 Vict. c. 67); (5) the regulations made by the Governor-General under the Government of India Act, 1870 (33 Vict. c. 3); (6) the ordinances, if any, made by the Governor-General under section 23 of the Indian Councils Act of 1861, and for the time being in force.

"To these may be added (7) Orders in Council made by the King in Council and applying to India; (8) statutory rules made under the authority of English Acts; (9) rules, orders, regulations, by-laws, and notifications made under the authority of Indian Acts; (10) rules, laws, and regulations made by the Governor-General or the Governor-General in Council for non-regulation provinces before 1861, and confirmed by section 25 of the Indian Councils Act, 1861.

"These enactments are supplemented by such portions of the Hindu, Mahomedan, and other native laws and customs as are still in force, and by such rules or principles of European, mainly English, law as have been applied to the country, either under the direction to act in accordance with justice, equity, and good conscience, or in other ways, and as have not been superseded by Indian codification.

"Native law has been wholly superseded, as to criminal law and procedure and as to civil procedure, by the Indian Penal Code, the Indian Codes of Criminal and Civil Procedure, the Evidence Act, and other enactments, and has been largely superseded as to other matters by Anglo-Indian legislation, but still regulates, as personal law, most matters relating to family law and to the law of succession and inheritance among Hindus, Mahomedans, and other natives of the country."

Acts of
Parliament.

The Imperial Parliament has always refrained as much as possible from legislating directly for India. Scarcely one Act passes in a session that would properly be called a law for India. But, indirectly, the effect of Parliamentary legislation upon India has been very great. In the first place comes the long series of constitutional enactments which have given the Government of India the form described in the last chapter. It is from these enactments that the Councils in India derive their own legislative power. In the second place, by a curious process of legal interpretation, the entire body of English law existing in 1726, both written and unwritten, so far as applicable to local circumstances, was introduced at one stroke into the three Presidency towns, as the result of the establishment of Mayors' Courts in that year by Charter from George I. The jurisdiction of the Mayors' Courts passed to the Supreme Courts established at Calcutta in 1772, at Madras in 1800, and at Bombay in 1823, and was enlarged by Act of Parliament from time to time. It is now exercised in the three Presidency towns by the High Courts of Justice, which superseded the Supreme Courts in 1862, and has been specially applied to Rangoon as "the law administered by the High Court in the exercise of its ordinary original civil jurisdiction." As may be readily imagined, it is not always an easy question to decide whether these old statutes are indeed "applicable to local circumstances." Mr. Whitley Stokes, in his "Collection of Statutes relating to India," published in 1881, gives a list of nine statutes passed before 1726 which have been expressly held not to apply to India; and he also prints at length 34 other statutes passed before 1726, which he believes, with more or less certainty, to apply to India; only four such statutes, however, appear in the edition of "Statutes relating to India," published in 1899. As regards the statutes passed since 1726, there is less difficulty. The recognised rule of construction is, that only those statutes apply which extend to India either expressly or by necessary implication. A few have been directly applied to India by the local legislature.

All the Acts of Parliament relating to India, directly or indirectly, up to 1881 will be found in Mr. Whitley Stokes's collection. A list of the statutes republished by the Government of India as having reference to that country up to 1892 was given in the last decennial number of this Statement. The following table brings the information down to the end of 1901 :—

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TION.

Year.	Reign.	Chapter.	Subject.	Year.	Reign.	Chapter.	Subject.
1892	55 & 56 Vict.	6	Colonial probates.	1897	60 & 61 Vict.	10	*E.I. Co.'s officers' superannuation.
"	"	14	*Indian councils.	"	"	11	*Regular and Elder Widows' Funds.
"	"	23	Foreign marriages.	"	"	59	†Merchant shipping.
"	"	40	Superannuation.	"	"	9	Reserve. Forces and Militia.
1893	56 & 57 Vict.	5	Regimental debts.	1898	61 & 62 Vict.	9	*East India Loan.
"	"	58	Trustees.	"	"	13	†Merchant shipping (shipowners' liability).
"	"	62	*Madras and Bombay Armies.	"	"	14	†Merchant shipping (Mercantile Marine Fund).
"	"	70	*East India Loan. Trustees.	1899	62 & 63 Vict.	40	Reserve forces.
1894	57 & 58 Vict.	10	*Indian railways.	1900	63 & 64 Vict.	14	Colonial solicitors.
"	"	12	Estate duty.	"	"	32	†Merchant shipping (shipowners' liability).
"	"	30, a. 20	Prize courts.	"	"	42	Reserve forces.
"	"	39	Uniforms.	"	"	62	Colonial stocks.
"	"	45	†Merchant shipping.	1901	64 & 65 Vict.	15	Royal titles.
1895	58 & 59 Vict.	9	Documentary evidence.	"	"	25	*East India Loan.
"	"	33	Extradition.				
"	"	43	Naturalisation.				
"	"	44	Judicial Committee.				
1896	59 & 60 Vict.	12	†Derelict vessels.				
"	"	14	Short titles.				
"	"	28, a. 37	Finance Act.				

The Acts passed with sole reference to India have been marked in the above table with an asterisk; those marked with a "dagger" relate to shipping, and have a closer relation to India than the rest of those named, the connexion of which with India is generally remote. There were in addition ten annual Army Acts and five Statute Revision Acts; of the eight which referred more especially to India, three were Loan Acts, and of the rest two only were of primary importance. These were the Indian Councils Act, which will be noticed elsewhere, and the Bombay and Madras Armies Act, which abolished the Presidential Army system and placed all the Indian Army under one Commander-in-Chief.

The Charter of Elizabeth in 1601, incorporating what afterwards became the East India Company, gave power to make "laws, constitutions, orders, and ordinances," and to inflict fine or imprisonment for disobedience. A similar power is contained in the series of charters which renewed the first. No rules made in pursuance of this power are known to exist; but they may be presumed to have had reference to the internal organisation of the company's factories and to mercantile business. The need for legislation proper was not felt until the company became a territorial sovereign by the cession of the *diwani* of Bengal in 1765; and the regulations promulgated by Warren Hastings in 1772 for the administration of civil and criminal justice are to be regarded as the first attempt at British legislation for India. Meanwhile the affairs of India had come under the consideration of the House of Commons. The statute passed in 1773, known as the Regulating Act (13 Geo. III., c. 63), besides establishing a Governor-General and founding a Supreme Court, conferred an express power of legislation upon the Governor-General and Council of Bengal. Regulations made in pursuance of this power were not valid unless registered in the Supreme Court; and this proviso led to serious difficulty. The earliest regulation bears date 17th April 1780. In 1781 a second Act of Parliament was passed (21 Geo. III., c. 70), empowering the Government to frame regulations for the Provincial Courts of Justice without reference to the Supreme Court. It was under this statute that the greater number of the so-called "regulations" were passed; and so far as they exceeded the limited authority thus conferred, the defect was cured by a subsequent statute (37 Geo. III., c. 142). The special object of the last-mentioned statute was to recognise the Bengal Code of Regulations, itself known as Regulation XLI of 1793. It was thereby required that all regulations should be registered in the Judicial Department, that they should be printed, that they should be translated into the vernacular languages, that the grounds of each should be prefixed to it, and that all should be formed into a Code,

The Regula-
tions.

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TION.

The power of legislation at Bengal remained substantially as thus settled down to 1833. The Governor and Council of Madras first received power to frame regulations by 39 & 40 Geo. III., c. 79, and the first Madras regulation dates from 1802. At Bombay the power was assumed as early as 1799, but was not confirmed by statute until 1807 (47 Geo. III., Sess. 2, c. 68). Excluding certain enactments referring to the settlement of the land revenue, it may be said, in the words of Sir James Stephen, that "the regulations are now almost entirely swept away by more modern legislation."

Indian
Legislation.

In 1833 the Indian Legislature was reconstructed by Act of Parliament (3 & 4 Will. IV., c. 85). The Governor-General in Council was empowered to legislate for the whole of India, leaving to the Governors of Madras and Bombay the right only of proposing draft schemes. Acts thus passed were liable to be disallowed by the Court of Directors, and were also required to be laid before Parliament, but no registration in India was necessary. It was expressly enacted that they should have the force of Acts of Parliament. A fourth member was added to the Council, who might only sit and vote at meetings for making law. At the same time an Indian Law Commission was appointed, composed of the legislative member of Council, another English member, and one civil servant from each of the three Presidencies. The Law Commission drafted the Penal Code, which did not receive legislative sanction until 1860, and compiled many volumes of reports. The laws passed since 1833 are known as Acts, not Regulations. The mode of citation is to give the calendar year and the number of the Act.

The constitution of the Legislative Council of the Governor-General, as it existed during the period under report, was regulated by the Indian Councils Act of 1861 (24 & 25 Vict. c. 67) as amended by an Act passed in 1892 (55 & 56 Vict. c. 14). By the Act of 1861 the power of legislation had been restored to Madras and Bombay; and local legislatures have been established, under the powers given by that Act, for Bengal (in 1862), for the United Provinces (in 1886), for the Punjab and for Burma (both in 1897). But the Act of 1892 was passed within the decade under review, and as it very materially affected the position of these legislative bodies, some account of its provisions will be not out of place. It affected both the powers and the composition of the Councils. Under the Act of 1861 they had no right of criticism in financial matters, excepting only in regard to the imposition of new taxation. Unless, therefore, the introduction of a new tax was contemplated, the Budget statement could not be discussed by the Legislative Council of the Governor-General; and a similar disability applied also to the Provincial Councils. Further, in none of the Councils was there a right of interpellation by the members. Both of these disabilities were removed by the new Act, by which the Government of India or the Provincial Governments were empowered to make rules for the discussion of their annual financial statements in their respective Legislative Councils, and for the asking of questions. No resolution may be moved, nor may the Council be divided, in respect of any such financial discussion or of the answer to any question. Questions must be submitted some time beforehand to the President, who may disallow them if he thinks fit. The Act also conferred on the Local Legislatures the power of repealing or amending, with the previous sanction of the Governor-General, Acts of the Governor-General's Council affecting their province. So much as to powers; the change in the composition was no less important. Under the Act of 1861 the number of additional members of the Governor-General's Legislative Council was fixed between 6 and 12; in Bombay and Madras it was fixed between 4 and 8; in Bengal the members of the Council numbered 12, and in the United Provinces 9. Of the two latter bodies one-third was non-official; in the rest the non-official proportion was required by the Act to be at least one-half. All were appointed on the nomination of the Governor-General, the Governors, or the Lieutenant-Governors, as the case might be. The intention of the Act of 1892 was to add to the numbers of native gentlemen employed on the Councils, and to secure as might best be done some representative character in the members selected. The numbers were therefore fixed as follows:—Governor-General's Council, between 10 and 16 additional members; Councils of Bombay and Madras, between 8 and 20; Bengal Council, a maximum of 20 members; United Provinces Council, a maximum of 15.

Further, the Governor-General in Council was empowered to make regulations as to the conditions under which nominations should be made by himself, the Governors and the Lieutenant-Governors respectively. It has already been described, in the preceding chapter, how advantage has been taken of the latter provision to introduce a system of nomination which, though it is short of election, secures to all Councils a representative character.

The Legislative Council of the Governor-General can make laws for all persons, courts, and places within British India, for all British subjects and servants of the Government in other parts of India, for native Indian subjects in all parts of the world, and for members of the Indian Marine Service. But such laws must not repeal or affect certain Acts of Parliament relating to the Government of India, any Act of Parliament passed since 1860, any Act authorising an Indian loan in the United Kingdom, or the Army Act; nor must they affect the authority of Parliament, or any part of the unwritten laws or constitution of the United Kingdom, whereon may depend in any degree allegiance to the Crown or the sovereignty of the Crown over British India. The powers of the local legislatures are more limited. They cannot make any law affecting any Act of Parliament for the time being in force in the province, and they may not, without the previous sanction of the Governor-General, make laws affecting the public debt or taxes, currency, post office or telegraphs, religious usages, discipline of the naval or military forces, foreign relations, patents, or copyright, or involving an alteration of the Indian Penal Code.

The actual work of legislation in the Council of the Governor-General is conducted as follows. Though any member may introduce any measure, subject to the prohibitions already mentioned, the formal part of the process of lawmaking is generally left to a special department of the administration, which was formed out of the Home Department in 1869. This Legislative Department consists of a Secretary, who is *ex-officio* Secretary to the Legislative Council, with a subordinate staff. It is his duty to prepare all Bills required, in consultation with the member of Council in charge of the Bill. After being printed and introduced into Council, the Bill is then circulated among the Provincial Governments, and also among others whose opinions ~~on it may be~~ desired. It is also translated into the main vernacular languages of each Province to which it has been referred, and published in the Gazette. When the replies of those consulted have been received, the Bill is then submitted to a special committee of the Council, who examine it in private, clause by clause. If many alterations are made in committee, the Bill is sometimes printed and circulated a second time. Finally, the Bill is taken into consideration at a public meeting of the Council, when amendments may again be introduced, and is there passed after open debate. There are no definite sessions of the Council according to English usage, so that the passage of a Bill cannot be interrupted by anything except its defeat, even though that passage may be protracted over years. The procedure in the Local Councils is conducted on the same lines.

The subject-matter with which Indian legislation is most concerned has been arranged by Sir James Stephen under five heads: (1) Acts which embody the fundamental principles of the British Government, such as the suppression of *sati*, infanticide, and slavery, and the regulation of marriage and inheritance in cases of conversion to Christianity; (2) Acts which codify parts of the unwritten law; (3) Acts relating to judicial procedure; (4) Acts relating to the revenue, especially the land revenue; (5) Miscellaneous Acts. The Penal Code of 1860, the Succession Act of 1865, and the Contract Act of 1872, may be mentioned as examples of the second of these classes, and the great Civil and Criminal Procedure Codes as examples of the third.

The work of the Legislative Department is not confined to the drafting of Bills. Ever since its formation it has also been engaged in reducing the existing body of law to an intelligible form. This process has two sides; first, the expurgation of the Statute Book by the repeal of obsolete enactments; second, the arrangement of the remaining enactments according to their source and their local application. The result is a series of 30 volumes, known as the revised edition of the Indian Statute Book. Two of these volumes contain all the Imperial Statutes relating to India from 1698 to

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TION.

1899; six other volumes, with chronological tables and index separately published, contain the general Acts of the Indian Legislature from 1834 to 1898; 16 volumes contain the Codes for each of the several provinces, *i.e.*, so much of the old regulations as are unrepealed, together with subsequent Acts of only local application; and six volumes give the British Indian enactments in force in various groups of native States. Though the above volumes are not published "by authority," their accuracy is guaranteed by the Legislative Department.

The chief Acts passed by the Legislative Councils in the nine years 1892 to 1900 inclusive have been summarised in the annual numbers of this Statement. Legislation in India has to deal with a large and varied assortment of subjects. The Acts passed by the Governor-General's Council in the nine years include amendments of the Rent and Tenancy Acts for the Central Provinces (1898), the Alienation of Land Act for the Punjab (1900), and Acts relating to partition of estates (1893), encumbered estates in Sind (1896), and agricultural relief in the Deccan (1894). Besides these laws affecting the land, there were five important Acts bearing upon Customs Duties, and two upon Excise; two Cantonment Acts, in 1895 and 1897 respectively; three Acts relating to paper currency and coinage; a revision of the Criminal Procedure Code in 1896; an amendment of the Penal Code in respect of seditious utterances and writings (1898); and various Acts dealing with prisons, police, judicial matters, criminal tribes, pilgrim ships, epidemic diseases, lepers, fisheries, and many other matters. The range of legislation in the provinces is naturally not so large. In Bombay the chief Acts were the Bombay District Vaccination Act of 1892 and the City of Bombay Improvement Act of 1898. In Madras the legislation related chiefly to village officials, municipalities, local boards, and registration of births and deaths in rural tracts; and in 1900 a short but important Act was passed on the subject of payments for irrigation. The Bengal legislation during the nine years includes laws relating to the maintenance of a record of rights (1895), to district municipalities (1894), and to the Calcutta municipality (1899), as well as others dealing with the recovery of public demands, drainage works in local areas, the protection of Mahomedan pilgrims, and other matters. The chief laws passed in the United Provinces related to municipalities, sanitation, and waterworks; in Burma to municipalities, town and village lands, ferries, and the Rangoon police. In the Punjab the subjects were generally connected with the land, such as riverain boundaries, the preservation of land in certain tracts from deterioration, and the devolution of a certain class of estates. Many of the Acts alluded to are described in the following chapters.

The Indian legislation during the year ending on the 31st March 1902 requires to be mentioned in greater detail. But the more important Acts are also described in their appropriate setting in other parts of this Statement. The following were the chief measures passed during the year.

India Acts.

Act II. of 1902, "to make better provision for securing house-accommodation for military officers in cantonments" was intended to obviate the great difficulties which had been experienced in finding houses, while safeguarding as far as possible the interests of the house-owners concerned.

Act IV. of 1902, "to apply the provisions of the Indian Railway Companies Act 1895, to certain tramway companies," gives power to the Government of India to apply the 1895 Act to companies formed under the Bengal Tramways Act of 1883 or the Indian Tramways Act of 1886, with a view to enabling such companies, formed for the purpose of constructing light railways, to pay interest out of capital during construction, in the manner described in the Public Works chapter below.

Act V. of 1902, "further to amend the law relating to Administrators General and Official Trustees," combined the two offices, and made the incumbent a public servant, remunerated by a fixed salary paid by the Government (instead of by commission as formerly), and under the control of the High Court.

Act VI. of 1902 abolished the "pandhari" tax levied in the Central Provinces. This was practically an income tax on incomes below the minimum fixed by the Income Tax Act.

Act VII. of 1902 recognised and gave effect to the union under one Local Government of the territories of Oudh and the North-Western Provinces, and altered the name of the provinces to "the United Provinces of Agra and Oudh." This change, although it was only made at the end of the year 1901-02, has been adopted in the present issue of this Statement.

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TION.

Act I. of 1902 "to consolidate and amend the law relating to the Court of Wards in the Madras presidency," was needed because of the fragmentary state of the law on the subject. It also affords relief to encumbered proprietors who, although *sui juris*, may under its provisions obtain for their estates the benefits of the superintendence of the Court.

Madras.

Act V. of 1901 amended the Bombay Abkari Act of 1878, with the view of enabling the Government to tax and regulate the traffic in hemp drugs in accordance with the recommendations of the Hemp Drugs Commission of 1894. Some particulars as to this measure are given elsewhere.

Bombay.

Act VI. of 1901, to amend the Bombay Revenue Code, will be dealt with in the Land Revenue chapter below. The most important provision is that which gives, or rather asserts, the power to settle unoccupied lands without conveying the right of alienation.

Act II. of 1902 "to amend the Karachi Port Trust Act, 1886," made various needed changes in the constitution and powers of the Port Trust.

Act I. of 1902 provides machinery for the establishment of the title of Government in land to be acquired for the purpose of colonising portions of the Sind-Sagar Doab.

Punjab.

Act II. of 1902, "to provide for the inspection of steam boilers and prime movers attached thereto in the Punjab," was rendered necessary by the increase in the number of boilers in use in the province. It is modelled on the similar Act in force in the United Provinces.

Acts II., III., and IV. of 1901, the "North-Western Provinces Tenancy Act," the "North-Western Provinces and Oudh Land Revenue Act," and the "Oudh Rent Act Amendment Act," are treated in the Land Revenue chapter below, and need only be mentioned here.

United
Provinces.

Act IV. of 1901 amended the Lower Burma Courts Act of 1900, by substituting an appeal to the Chief Court for the appeal to the Court of Sessions provided by the former Act.

Burma.

Mention has already been made of the Regulations of the Bengal, Bombay, and Madras Governments, made under the powers given by various Acts of Parliament previous to 1833. There is, however, another class of Regulations, which has to be carefully distinguished from them. These are the Regulations made by the Governor-General in Council, on the suggestion of the Local Government, for backward or unsettled tracts, under the Government of India Act of 1870, mentioned in the preceding chapter. Between 1892 and 1901 (both years inclusive) 52 Regulations were made under the provisions of this Act. The tracts so regulated are for the most part the same as the scheduled districts under the Indian Act of 1874; and it may therefore be said that the Regulations provide new legislation for the scheduled districts, while the procedure under the Scheduled Districts Act of 1874 is available for extending to them legislation already in force elsewhere.

Regula-
tions for
scheduled
tracts.

It has already been stated that under an Act of Parliament of 1861 the Governor-General has power, in cases of emergency, to make and promulgate ordinances, which have the force of law for a period not exceeding six months. This power is subject to the same limitations as the power of making laws at legislative meetings. It is a power which in the nature of the case is very rarely used, and there have been only six cases of its exercise, none of which fell within the decade under review.

Ordinances.

As to the remainder of the classes given in the analysis of Indian law quoted at the beginning of this chapter, little need be said. The British Orders in Council under Acts referring to India, the statutory rules made by the Government of India under those Acts, and the rules, orders, and regulations made by that Government under Indian laws, have been catalogued in a list compiled in the Legislative Department, and published in 1901.

Rules and
Orders.

The rules and regulations made for non-regulation provinces before 1861, and confirmed by Section 25 of the Indian Councils Act of 1861, thereby acquired the force of law. They are referred to or reproduced in the Provincial

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TION.
Hindu and
Mahomedan
law.

Codes, or in collections of Local Rules and Orders made under Enactments, which are being published by local governments.

When the East India Company began to acquire control over the administration of tracts away from the Presidency towns, it found the Mahomedan criminal law in exclusive possession of the field, while in civil cases Mahomedans and Hindus respectively were governed by their personal laws. The object of the Company was to make as little change as possible in the existing order, and the courts were therefore instructed to apply the native laws to natives, while Europeans were to be governed by English law. But for various reasons the system soon broke down. The Mahomedan criminal law was finally superseded by the Penal Code of 1860, drawn up by the Indian Law Commission. Civil and Criminal Procedure Codes were also passed in 1859 and 1861 respectively, and these, supplemented by later Acts, have wholly displaced native law on the subjects to which they relate. The law of contract and the law of civil torts are also, subject to some few exceptions, based on English principles. But within the domain of family law natives still retain their personal law, either modified or formulated, to some extent, by Anglo-Indian legislation. The three branches of law in which this holds true are practically the same as those mentioned in the plan of Warren Hastings for the administration of justice in the interior of Bengal. They are (1) succession and inheritance, (2) marriage, (3) caste and religious usages. Instances of the amendment of the native law on these subjects, where special reasons for such amendment exist, are not uncommon; instances are the Caste Disabilities Act of 1850, the Hindu Widows Remarriage Act, and the two Madras Acts of 1898, relating to succession and marriage in Malabar. But the general tendency of the courts and legislatures has been to leave all natives of India, Hindus, Mahomedans or others, in the enjoyment of their own laws in respect of the family and religious matters mentioned above.

European
British
subjects.

Roughly speaking, it may be said that European British subjects are amenable, *so far as regards personal rights*, to the law of England, whether written or unwritten, except where that law has been modified by express enactment. Instances of such modification are the Indian law regarding marriage (including divorce), which applies to European British subjects, and the Succession Act, which has full application in the case of domiciled Europeans, and affects non-domiciled Europeans in respect of immovable property.

CHAPTER V.

LAW AND JUSTICE.

I.—THE COURTS.

LAW AND
JUSTICE.

Civil Courts.

The High
Courts.

The High Courts, established by letters patent, exercise their ordinary original jurisdiction only within the limits of the Presidency towns, but through their extraordinary and their appellate jurisdiction their control is complete over all other courts of justice, whether civil or criminal, within the limits defined in their charters. To the three earlier High Courts of the Presidency towns, that of Allahabad was added in 1866. In the Punjab the same class of functions, though in a somewhat restricted form, is performed by a Chief Court, which owes its origin to an act of the Indian legislature, and is of the same age as the Allahabad court. A Chief Court was also established for Lower Burma by an Indian Act of 1900. It consists of four or more judges, two of whom must ordinarily be barristers. Besides being the highest court of civil and criminal appeal in Lower Burma, and having the principal original jurisdiction in Rangoon town, this court is also a High Court for the whole of Burma, including the Shan States, in reference to proceedings in which European British subjects are involved, and it has power to try such persons, or persons charged jointly with them, as a court of original jurisdiction. It is to be observed that the Calcutta High Court has jurisdiction in Assam. In addition to the civil and criminal work, which alone forms the subject of the present chapter, these courts exercise jurisdiction in matters of insolvency, in testamentary cases and intestacy, and in admiralty and matrimonial suits. The High Courts are composed of a chief justice, always a distinguished member of the English Bar, and of a certain number of puisne judges, which may not exceed 15 in any court, some being barristers, and others selected from the Civil Service or, it may be, from among the pleaders of the court, or subordinate judges. In 1902 the four High Courts consisted of 33 judges, including the four chief justices and one judge added to the Calcutta Bench in that year. Eight of the number were natives of India. There were six judges (one a native of India) in the Chief Court of the Punjab, and four in that of Burma, the chief judge being included in each case. Among the changes relating to the functions of the High and Chief Courts during the decade, besides the Act constituting the Lower Burma Chief Court, may be mentioned, first, the amendment of the Civil Procedure Code in 1895, by which the High Courts were given power to make such rules as they think fit, consistent with their patent, to regulate the procedure in their original civil jurisdiction, and secondly, an Act passed in 1899 with the object of limiting the number of second appeals, from a divisional court to the Chief Court, in the Punjab, where the law of further appeal is wider than that prevailing elsewhere in India.

In the parts of India which are not under the jurisdiction of the above-mentioned courts, namely in Oudh, the Central Provinces, Upper Burma, Berar, and Sind, the highest judicial office is that of Judicial Commissioner. An Act of 1896 provides for the temporary appointment of an additional Judicial Commissioner for the Central Provinces from time to time when required by pressure of business. In Oudh, to which the jurisdiction of the Allahabad High Court does not extend, there is a Judicial Commissioner, who was assisted in 1902 by one permanent and one temporary additional Judicial Commissioner, the latter being appointed under an Act of 1897; cases of importance can be tried by two Judicial Commissioners sitting together, with a reference to the High Court when there is difference of opinion. Most of these appointments are held by members of the Indian Civil Service.

Judicial
Commis-
sioners.

In the case of smaller areas of jurisdiction there is greater diversity of system and nomenclature. The general lines, however, are fairly uniform. Each district, or group of districts, forms the charge of a judge, immediately subordinate to the High or Chief Court or the Judicial Commissioner, as the

District and
sessions
judges.

LAW AND
JUSTICE.

case may be. In the district or group his court is the chief civil tribunal of original and appellate jurisdiction, and it may be added that he also holds periodical Sessions for the trial of the more serious criminal charges, which are committed to him by the magistrates within his territorial jurisdiction. In the Punjab, between the District Judge and the Chief Court, comes the Divisional Judge. In Assam there are only two judges, one for each of the valleys included in that province. In the Central Provinces provision was made in 1891 for the appointment of judicial assistants to the Commissioners of Divisions, to take charge of the civil judicial work. These assistants, who were two in number in 1892, had been increased to four by the year 1901. In that year an Act was passed giving them the title, as well as the functions, of Divisional Judges, and withdrawing from the Commissioners the civil judicial powers which up to then they had possessed. Berar has but one judge in addition to the Judicial Commissioner.

The Lower Burma Courts Act of 1900, to which reference has already been made, and the Upper Burma Civil Courts Regulation of 1896, provided for systems of divisional, district, and other courts which resemble in their general features the system described above. The separation of judicial and executive functions, however, has not yet made much progress in either portion of Burma, though there are three Divisional Judges in the Lower province.

Subordinate
judges.

Next to the District Judges, in the regulation provinces and in the others in which the same system is observed, come in civil matters the numerous class of Subordinate Judges, through whose hands passes the great bulk of the litigation of the country. In nearly all provinces below these there are Munsiffs' Courts, the jurisdiction of which varies from petty village cases in Madras and some parts of the Deccan up to a maximum value of Rs. 2,000 under the Bengal, Assam, and United Provinces Courts Act of 1887. All these are under the control of the District Judge. In the Central Provinces the subordinate judicial work was performed for the most part throughout the decade by officers who were also entrusted with revenue and executive duties; but a reform introduced during 1902 has substituted Munsiffs' Courts in place of the courts of the subordinate revenue officers, thus carrying further the separation of executive from judicial, as distinguished from magisterial, functions in that province. In Assam the lower grades of executive officers are invested with civil judicial powers, and the same is the case in Burma, though the legislation mentioned above has laid the foundation for a separate judicial system. Revenue cases are dealt with as a rule, throughout India by the executive subdivisinal officers, but in Bengal the subordinate civil courts take cognisance of rent suits.

Small cause
courts.

Another important class of courts is that of the Small Cause Courts, first established in the Presidency towns in 1859. Their main object is to facilitate the disposal of cases of a comparatively simple nature, to which the procedure and agency of the High Courts, in the exercise of its ordinary original jurisdiction, are unsuited. They may try cases in which the value of the subject-matter does not exceed Rs. 2,000. The law on the subject was amended by an Act passed in 1895, the chief alterations being three in number. In the first place, it was provided that no person should be appointed to be a judge in these courts unless he has been an advocate or a vakil of a High Court, or a judge of five years' standing in a civil court, and that one-third of the judges in any one Small Cause Court should have been advocates of a High Court. Secondly, the High Court was given power to prescribe the procedure of the Small Cause Court. Thirdly, provision was made for the removal to the High Court, on the application of the defendant, and with the consent of a High Court judge, of any suit instituted in the lower court in which the value of the subject-matter is between Rs. 1,000 and Rs. 2,000. The latter sum is the maximum limit for the jurisdiction of these courts. The decrees and orders of Small Cause Courts are final, and the record is as short as possible. In Madras an additional court, the Madras City Civil Court, was established by an Act of 1892, having a civil jurisdiction in suits of which the value does not exceed Rs. 2,500, and which are not cognisable by the Small Cause Court. The High Court, however, retains a concurrent original jurisdiction in cases of which the value exceeds Rs. 2,000.

The same principle which is involved in the Presidency Courts of this class has been extended to the interior. In some places Small Cause Courts have been specially established, but, as a rule, the special powers conferred on such tribunals have been vested in selected subordinate judges and munsiffs, or in the district judge. The jurisdiction of the courts was defined by an Act of 1887, and the general maximum value was fixed at Rs. 500, with a power for the local Government to increase it by notification to Rs. 1,000. This power has been exercised by the Governments of Bombay and Burma only.

LAW AND JUSTICE.

In regard to the trial of criminal charges, the three Presidency High Courts exercise original jurisdiction within the Presidency towns, and are charged with the control and supervision of the procedure of all the session and magisterial courts throughout the area covered by their letters patent, namely Bengal and Assam, Madras, Bombay, and the Agra province. The Chief Courts in the Punjab and in Burma have much the same powers as regards revision, appeal, and supervision, and so have the Judicial Commissioners in provinces where they hold office. The district judges, as has been remarked above, are also the session judges in their charges, and have plenary jurisdiction, save that sentences of death have to be confirmed by the High or Chief Court or Judicial Commissioner. In the tracts where the office of separate district judge has not been established, the Commissioner of the Division discharges the functions of a court of Session. In criminal cases tried originally in the highest courts of each province there is a jury of nine persons; in the Sessions courts, cases may be tried with a jury or with the aid of assessors, the jury consisting of from three to nine persons, of whom, in the case of non-Europeans, the majority must be non-Europeans. European British subjects may also claim the right of trial by jury if arraigned before a district magistrate, not less than half the jury being, if practicable, Europeans or Americans.

Criminal Courts.
Judges.

It is convenient in this place to refer more particularly to the important question of the separation of judicial and executive functions, which has been frequently discussed both before and during the decade. Two points are involved. Firstly, it is recognised everywhere in India that civil judges, or strictly judicial officers, should have no other functions, and be made as distinct as possible from the executive. It has been shown above that the separation is practically complete in all the older provinces, that it was effected during the decade in the Central Provinces, and that it has made some progress in Burma and Assam. But with regard to magistrates the case is different. All magistrates have both executive and criminal judicial work to perform, the provinces being divided, for the purpose of judicial administration, in a manner which corresponds closely to the executive divisions. The pivot of the whole administrative system in India is the district officer, and his assistants do much the same work, in subordination to him, as he does throughout the district. The police are under his general control, though that control is, to a varying extent, but especially in Madras, delegated to his subordinate, the District Superintendent of Police. He has at the same time magisterial, or judicial criminal, powers. In practice, however, two principles are generally kept in view by magistrates, namely, that an officer should not deal judicially with a case in which he has an official interest, and that the district magistrate should refrain from interference with a subordinate magistrate's disposal of cases, except in the event of appeal. The magistracy is divided into three grades, each with its specified powers. The lowest grade can inflict fines up to Rs. 50, and imprisonment up to one month. The next, or second grade, has power to fine up to Rs. 200 and to imprison up to six months. The limits for the first grade magistrates are Rs. 1,000 and two years' imprisonment. For certain offences whipping is authorised, but the power to order it to be inflicted does not extend to all lower grade magistrates. In the Presidency towns there are magistrates appointed under special rules and with special procedure; and cantonments, as well as most of the larger towns, are supplied with a magistrate of their own. In many towns benches of unpaid magistrates relieve the local officials of much of the petty work in connection with sanitation and municipal work generally. In the rural tracts men of position and intelligence are often appointed honorary

Magistracy.

LAW AND JUSTICE.

magistrates, whilst in some parts of the country restricted powers are conferred on selected headmen of the principal villages. In all such cases the work of every month is recorded and sent up for scrutiny by the district magistrate; that of magistrates of the first class is then forwarded by him to the Sessions' judge, if there be one, and by the latter to the High Court or Judicial Commissioner. The Code of Criminal Procedure was re-enacted in 1898, with the view of consolidating the law, making clear such of its provisions as had given rise to discordant interpretations in different courts, and introducing amendments. The most important of the latter was the adoption of the English rules as to first offenders.

Appeals.

The judicial system in force in most parts of British India includes a very extensive right of appeal and application for revision. Even in magisterial inquiries disposed of summarily, further consideration is not beyond reach when the sentence is of a certain magnitude. With regard to civil cases before the Small Cause Courts, it has already been stated that the decisions are final. The appeals from the lower civil judiciary are generally heard in the first instance by the district judge, or one of his more experienced subordinates, and from him an appeal lies to the High Court or the tribunal that supplies its place. In criminal cases, the magistrate of the district hears the appeals from his subordinates, though as a rule, where the district staff is fully manned, there is one, or even more, of the first-class magistrates duly empowered to fulfil this function within the subdivision.

II.—STATISTICS OF CIVIL JUSTICE.

Number of suits.

The number of civil suits instituted in recent years is shown in the following table:—

	Suits for Money or Movable Property.	Rent Law Suits.			Title and Other Suits.			Grand Total.
		For Arrears of Rent.	For Recovery of Possession.	Others.	For Immovable Property.	Mortgage Suits.	Others.	
1891	1,138,171	336,669	156,841	48,967	100,481	*	69,720	1,851,350
1896	1,242,658	405,145	84,915	41,987	89,273	100,787	50,327	1,989,113
1897	1,246,935	414,520	87,340	43,291	97,009	105,538	49,556	2,044,299
1898	1,276,049	441,490	113,405	47,349	93,105	109,188	50,992	2,140,363
1899	1,212,205	455,054	106,984	42,277	88,087	104,463	46,181	2,072,040
1900	1,201,920	480,068	141,867	55,028	93,502	111,191	47,638	2,136,394
1901	1,213,063	443,315	236,131	66,646	101,781	108,370	53,834	2,228,556

* Not separately returned.

The provincial distribution of the suits was as follows:—

	1891.	1896.	1897.	1898.	1899.	1900.	1901.
Bengal	625,288	613,144	642,306	630,538	657,578	701,833	638,790
United Provinces	410,925	374,857	386,351	432,402	415,936	470,720	545,985
Madras	259,111	335,490	362,512	373,792	371,826	364,785	347,583
Punjab	271,387	252,772	268,031	273,149	255,079	249,005	259,405
North-West Frontier Province							19,514
Bombay	194,681	194,664	178,079	213,034	183,301	169,557	161,823
Central Provinces	95,249	98,791	91,789	97,838	72,514	64,958	78,889
Burma	45,632	48,952	50,995	51,075	54,257	56,096	58,143
Assam	22,712	30,352	27,781	27,863	27,335	29,895	28,370
Berar	22,590	27,149	23,540	28,411	19,728	15,714	27,603
Minor Provinces	3,775	12,942	12,575	12,266	14,485	12,982	15,948

The litigation of Bengal now amounts to about one-third of the total suits instituted in the civil and revenue courts of British India. But, as will be shown below, a large proportion of the Bengal suits, and a still larger share of the suits in the United Provinces, arise under the rent law, whereas in other provinces the number of such suits coming before the civil or revenue courts is comparatively small. If the rent law suits are left out of account, the increase in litigation as compared with 1891 is 15 per cent. in Bengal, while taking the whole number of suits there has been a growth of

25 per cent. There are no indications that the limit of growth has been reached. The tendency is said to be due to a general advance in prosperity and education, to the growth of business, and to improvements in communications. In the United Provinces, rent litigation received a great impetus in 1900 and 1901 from the impending tenancy legislation. Apart from rent suits, the number of civil suits instituted in these provinces in 1901 was about the same as in 1891. In Madras, original litigation increased rapidly during the earlier years of the decade, but since 1898 it has shown a tendency to decline; owing apparently, it is said, to the cumulative effect of a series of more or less unfavourable seasons. In the Punjab, which, judged by the number of suits per thousand of the population, is the most litigious of the Indian provinces, several years have shown a decline, owing doubtless to the prevalence of famine conditions. Including the North-West Frontier Province, there is an increase of 1 per cent. in 1901 as compared with 1891. In the Central Provinces, the earlier famine of 1896-97 had comparatively little effect in reducing the number of suits, but the marked falling off in 1899 and 1900 is attributed to the depression which culminated in the famine of 1900. There has been a similar decline in Bombay in 1897 and in 1899 and 1900. It may be said generally, without neglecting the effect of new revenue settlements and other factors, that the depression caused by famine has restricted the number of suits very materially in the distressed provinces.

Leaving out of account suits under the rent law, which are most numerous, as already stated, in Bengal and the United Provinces, but which also

Proportion of suits to population.

Mean Number of Suits Instituted per 10,000 of the Population.		
	1891.	1901.
Assam	37	39
Bengal	45	49
United Provinces	30	30
Punjab		
North-West Frontier Province	118	112
Central Provinces	78	66
Upper Burma	28	45
Lower Burma	88	76
Berar	78	100
Madras	71	88
Bombay	103	103
TOTAL	60	61

contribute to the total in the Punjab, the Central Provinces, Madras, and Assam, the number of suits instituted in the years 1891 and 1901 respectively per 10,000 of the population was as shown in the marginal table. The Punjab keeps its position as the most litigious province, but the number of suits instituted in that province has not grown with the population. Bombay has the next place, though if rent law suits be taken into account the United Provinces stand second in the proportion of suits to the population. The proportion has increased materially in Madras, owing to the rapid growth in the number of suits for money and movable property in the first five years of the decade. Other noticeable variations are the increase of litigation in Upper Burma, and the decrease in the

Central Provinces, where, however, the year 1901 has shown a recovery from the very low figures of 1899 and 1900.

It has been shown in the first of the tables given above that the greatest increase in litigation has occurred under the rent law. The percentages of

Subjects of litigation.

Percentage of Increase between 1891 and 1901.	
Suits for Money or Movable Property	6.6
Rent Law Suits	44.0
Title and other suits	39.7
ALL SUITS	20.4

variation for India as a whole in the number of suits instituted in 1901, compared with the figures of 1891, are shown in the margin. With regard to the first class of suits, those for money or movable property, which are numerically most important, the rate of increase has been larger, but not very much larger, than the increase of population in India as a whole. But in Bombay, the United Provinces, the Punjab, and the Central

Provinces this class of suits shows a decline in 1901, as compared with 1891, the balance being reduced by increases of 36 per cent. in Madras and 30 per cent. in Burma. In rent law suits, which occur for the most part in Bengal and the United Provinces, the rate of increase has been much more rapid. In Bengal these suits numbered 289,700 in 1901 compared with

LAW AND JUSTICE.

204,200 in 1891, the large majority in each case being suits for recovery of rent. The provisions of the Bengal Tenancy Act are becoming better known, and the tenants are acquiring a good knowledge of their rights, but there is not at present any very large increase in the number of suits instituted by tenants. In the United Provinces there was a very great increase during the two last years of the decade in the number of rent law suits, owing partly to the desire to recover famine arrears and partly to the impending tenancy legislation. Such suits numbered 403,400 in 1901, against 268,500 in 1891; the number fell as low as 227,000 in 1896, when famine distress was great in the province. Of the third class, mortgage suits are numerically the most important. These have shown a steady increase in Bengal and Madras, where they numbered 33,300 and 28,100 respectively in 1901; and they have fluctuated in the United Provinces, with a tendency to increase, though the figures for those provinces in 1901, namely 16,000, were the lowest since the year 1894. In the Punjab the number of mortgage suits rose to more than 11,000 in 1900, owing to the impending legislation to restrict the alienation of land to non-agriculturists, but relapsed to 8,400 in the following year.

Value of suits.

Of the 2,009,000 suits, instituted in the year 1901, of which the value can be estimated in money, no less than 1,949,000 were concerned with values not exceeding Rs. 500 (£33½), the value being no greater than Rs. 50 (£3½) in the case of 1,285,500, or 53 per cent. of the whole number of suits instituted during the year. The number of the suits tried in the Courts of Small Causes, which were specially established to provide a cheap and speedy means of recovering small debts, was 191,900 in the year 1901.

Disposal of cases.

So far the only suits that have been considered are those filed during each year, but when the actual work done by the courts comes under review it is necessary to include the suits that remained undisposed of at the end of the preceding year. These bring up the total number of civil suits for the year 1901 to 2,305,658, compared with 1,991,046 in 1891. The following table shows in proportional form the manner in which the original civil suits were disposed of:—

—	Settled without Trial.		Uncontested.		Contested.				Referred to Arbitration.		Pending at Close of the Year.	
					Judgment for Plaintiff.		Judgment for Defendant.					
	1891.	1901.	1891.	1901.	1891.	1901.	1891.	1901.	1891.	1901.	1891.	1901.
Bengal	14.2	15.2	32.5	64.4	13.3	12.7	3.3	3.0	0.3	0.3	15.3	14.5
United Provinces	12.6	12.2	49.1	46.2	20.3	20.0	6.9	9.3	0.5	0.4	10.1	13.0
Madras	14.3	10.7	40.4	48.0	11.8	10.8	5.0	6.9	1.2	0.3	14.8	13.7
Punjab	10.0	10.8	45.1	44.5	21.2	18.4	8.9	5.2	0.6	0.6	5.3	11.5
Bombay	8.8	8.0	55.1	50.3	16.7	20.2	4.6	3.8	0.5	1.0	14.3	16.7
Central Provinces	18.5	18.1	42.7	45.1	20.3	17.3	7.4	4.7	0.0	0.0	9.9	14.8
Burma	21.1	18.3	38.3	44.6	24.9	18.9	10.3	9.1	1.0	0.2	3.9	7.9
Assam	20.9	22.1	41.3	48.0	16.2	11.4	7.8	4.4	0.2	0.2	13.0	13.9
Berar	0.1	6.0	53.3	49.4	16.0	13.7	5.1	2.5	0.3	0.1	15.3	28.3
British India	14.6	14.2	49.8	49.2	17.1	16.8	5.5	5.3	0.5	0.5	12.6	13.9

The number of pending cases has increased very considerably in the last two years, standing at 320,000 at the end of 1901, against 271,252 in 1899 and 247,871 in 1892. In the Agra province, which is responsible for a considerable part of the increase, the amount of arrears necessitated an application for additional help in 1902.

Appeals.

As has been shown in the first section of this chapter, the Indian judicial system includes abundant provision for obtaining revision of the original order passed by the lower courts. The number of appeals from decrees, and the manner in which they were disposed of, in the two years 1891 and 1901, are indicated in the following table:—

	Total Number of Appeals from Decrees before the Courts.						Percentage of Appeals dealt with during the Year.					
	Actual Number.		Percentage on Cases before the Courts.		Percentage of Appeals dealt with during the Year.		Confirmed.		Reversed.		Rejected, Modified, Transferred, or otherwise dealt with.	
	1891.	1901.	1891.	1901.	1891.	1901.	1891.	1901.	1891.	1901.	1891.	1901.
Bengal - - - - -	40,469	42,068	6.4	6.3	59.0	56.9	59.3	59.6	16.7	15.5	24.0	24.9
United Provinces - - -	34,422	34,448	11.3	8.6	63.9	68.3	61.3	61.1	17.0	17.3	21.8	21.6
Madras - - - - -	17,558	19,518	6.7	6.3	60.3	53.1	58.1	60.3	13.7	15.8	23.3	23.9
Punjab - - - - -	24,381	22,541	8.3	7.8	84.2	77.3	89.4	87.9	19.6	19.2	23.0	23.0
Bombay - - - - -	11,467	8,099	5.0	3.6	52.3	48.6	63.4	63.4	14.1	13.9	20.5	23.7
Central Provinces - - -	8,112	5,466	7.3	6.1	82.4	81.3	57.6	53.3	18.3	20.3	24.1	26.4
Burma - - - - -	2,225	2,013	4.7	8.0	91.4	84.6	65.2	60.4	22.9	23.1	11.9	11.5
Assam - - - - -	2,084	2,166	7.7	6.1	63.6	62.7	61.0	56.9	9.7	9.0	39.3	54.0
Berar - - - - -	1,875	635	5.9	1.8	61.3	80.4	56.8	58.7	14.9	10.9	28.3	30.4
British India - - - - -	148,894	140,341	7.2	6.1	65.6	64.0	59.9	59.3	16.8	17.4	23.3	23.4

III.—STATISTICS OF CRIMINAL JUSTICE.

“Restlessness shown in an increase of crime” was placed by the Famine Commission of 1901 among the danger signals by which the approach of famine distress is to be discerned. In the famines of the decade, the increase showed itself principally in offences against property, mainly thefts of grain or cattle, and a large proportion of these were of a petty character. There were grain riots in some provinces, and raids were made occasionally by bands of villagers, either upon neighbouring villages or upon private stores of grain. These offences are technically classed as dacoities; but of real organised crime, such as is usually meant by that term, there was little. Taking into account the extremities to which many of the people were reduced by famine, the restriction of charity, and the large number of wanderers, it is hardly a matter for surprise that the amount of offences against property was at some times and places large. Generally speaking, it was smaller in 1899-1900 than during the earlier famine. In the Central Provinces, the number of principal offences against property per 10,000 of the population in the 1896-97 famine was 39.7, compared with 15.2 in the normal year 1898. In the famine of 1899-1900 it was 30.7. The same was true also of the Hyderabad Assigned Districts, although the distress was much more widespread in the later year. Further, it has been observed that the increase in crime is often found to disappear directly the first panic of rising prices has passed.

The number of criminal offences reported in each province, with the number accepted, after preliminary investigation, as “true cases,” is shown in the following table. The figures are taken from the returns of Criminal Justice:—

	1892.	1895.	1896.	1897.	1898.	1899.	1900.	1901.
Bengal - - - - -	339,523	338,128	360,751	365,434	362,573	331,118	343,415	313,636
United Provinces - - -	293,461	294,457	293,748	310,250	294,028	274,844	271,080	240,220
Madras - - - - -	201,722	212,483	195,014	196,423	166,629	168,753	181,210	178,330
Punjab - - - - -	158,955	167,157	153,578	159,704	128,601	130,541	138,009	133,445
Burma - - - - -	170,142	184,060	192,852	187,084	174,221	181,965	180,716	178,531
Berbera - - - - -	118,630	124,916	133,232	128,350	110,222	128,524	131,027	120,214
Burma - - - - -	64,801	72,626	66,660	70,415	70,571	77,856	74,372	72,674
Central Provinces - - -	60,901	69,564	64,205	66,572	65,539	72,075	69,378	67,233
Assam - - - - -	30,145	31,509	32,063	35,428	25,709	26,763	31,749	26,023
Berbera - - - - -	26,987	28,478	29,106	33,611	23,441	24,139	30,039	24,036
Assam - - - - -	29,983	32,409	32,047	29,384	32,764	31,732	32,105	30,176
Berbera - - - - -	22,346	22,727	22,199	20,440	22,353	22,447	20,417	19,851
Madras - - - - -	282,184	320,286	319,598	312,670	330,634	333,704	334,188	312,349
Bombay - - - - -	267,847	306,966	307,534	301,304	318,000	331,813	321,513	329,107
Berbera - - - - -	213,625	244,011	263,303	258,610	277,504	277,504	296,256	171,823
Berbera - - - - -	169,872	184,314	220,112	205,616	227,269	260,768	231,207	153,016
Berbera and Minor Provinces -	22,302	21,547	29,451	27,038	30,686	28,290	31,436	31,833
Berbera - - - - -	17,647	16,953	24,019	23,071	26,640	24,897	28,012	28,408
Total - - - - -	1,357,432	1,467,089	1,491,659	1,482,491	1,471,291	1,492,148	1,505,707	1,345,677
	1,130,288	1,205,454	1,263,833	1,249,448	1,225,993	1,260,948	1,243,472	1,121,531

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The figures printed in italics show the "true cases," after the elimination of charges which are absolutely without foundation. The proportion borne by such unsupported charges to the whole varied in 1901 from 35 per cent. in Assam to 4 per cent. in Madras, and it was about 17 per cent. for British India generally. In 1892 the corresponding proportion was 16 per cent., but the table does not indicate any sustained increase in the number of cases struck off the record. Next to Assam, the Punjab shows the largest proportion (29 per cent.) of unfounded charges, and it is remarked in the Judges' report for 1900 that in a province where reckless use is made of the law courts the proportion should be higher. On the whole, it cannot be claimed that the numbers even of "true cases" are any certain indication of the actual amount crime. They suffice, however, to show the important fluctuations from year to year, and they indicate that the variations have in most cases borne some relation to the amount of distress. One of the most remarkable features disclosed by the table is the great fall in the amount of crime in the Bombay presidency in the year 1901. So far as regards the serious crimes, most of which share in the decline, the diminution in the pressure of famine accounts for the lower figures. But there is also a fall of about 60,000 in the number of offences under the Bombay District-Municipal Act, which was due to the introduction of the new Act of 1901, under which municipal bodies can collect their dues without having recourse to the magisterial courts.

It will be seen below that a large share of the offences in all provinces occur under local or special laws, as distinct from the penal code, and that the energy with which the local, and particularly the municipal, laws are enforced is a very important factor in considering the statistics of crime. The figures in the following table relate to true cases; and are taken from the Criminal Justice tables in the annual volumes of Judicial and Administrative Statistics:—

	1892.	1895.	1896.	1897.	1898.	1899.	1900.	1901.
<i>Under the Indian Penal Code.</i>								
Various offences against public tranquillity, public justice, public health, coinage, &c. -	61,798	66,222	62,346	68,961	74,542	71,186	63,892	57,806
Affecting the human body—								
Affecting life -	5,989	6,320	6,337	6,490	6,255	6,358	6,222	6,125
Hurt -	114,590	123,057	127,164	116,040	117,596	118,438	109,897	116,344
Criminal force and assault -	111,848	105,793	92,771	91,209	87,871	83,646	77,539	79,070
Others -	10,799	10,711	10,674	10,454	10,379	10,523	10,211	9,931
Affecting property—								
Theft -	121,023	116,990	118,081	136,738	96,789	91,792	119,058	98,474
Robbery and dacoity -	3,814	3,843	4,309	5,318	4,369	4,396	5,755	4,532
Criminal trespass -	89,242	92,131	103,469	113,760	81,815	78,061	92,148	84,375
Others -	61,233	60,596	61,809	65,095	56,098	55,526	60,241	56,921
Relating to marriage -	12,330	13,119	12,391	10,977	11,957	11,863	10,916	11,518
Intimidation, insult and annoyance -	17,181	21,185	21,808	21,838	22,517	22,696	21,535	22,359
Other offences -	3,578	3,925	3,844	3,360	3,670	3,997	3,635	3,980
<i>Under special and local laws</i>								
	516,911	575,495	626,241	603,581	663,716	702,124	662,425	570,246
Total true cases	1,130,288	1,205,454	1,363,833	1,249,448	1,225,903	1,260,948	1,243,472	1,121,531

The number of "true cases" per 10,000 of the population in 1901, as compared with 1891, is shown in the margin. In Bengal, the United

	1891.	1901.
Bengal -	39	32
United Provinces -	35	28
Punjab -	54	56
Burma -	77	73
Central Provinces -	24	24
Assam -	39	32
Madras -	68	86
Bombay -	85	82
Bihar -	51	62
British India -	49	49

Provinces, Assam, and Burma there has been a decrease. The apparent fall in Bombay is explained by the change in the District Municipal Act mentioned above. In the Central Provinces the proportion is the same as in 1891. In the Punjab there is a slight increase, which may be partly accounted for by the more vigorous prosecution of breaches of sanitary rules. Corresponding figures for the intermediate years would no doubt be much larger in the

famine affected areas, but no accurate comparison is possible, as the real population in those years is not known. In Madras there is a heavy increase, which is due almost entirely to the growth

of prosecutions under the Madras City Police Act of 1888, and the Act passed in 1889 for the control of nuisances in other towns. Offences under the penal code have increased at about the same rate as the population of the presidency, standing at about 28 per 10,000 in 1891 and 1901 alike.

The proportion borne by the number of cases brought to trial to the number of "true cases" varies slightly according to the circumstances of the year. In the five years ending with 1901, taken together, it has been about 90 per cent. The following table shows the number of persons under trial during the year 1901, and the manner in which they were disposed of:—

	Number of Persons under Trial.	Discharged or Acquitted.	Convicted.		Committed or Referred to other Tribunals.	Died, Escaped, or Transferred to other Provinces.	Remaining under Trial at the End of the Year.	Average Number of Days during which each Case lasted.
			On Regular Trial.	On Summary Trial.				
Bengal	268,528	94,913	87,972	70,651	4,162	457	10,373	12
United Provinces	217,125	102,027	80,508	24,385	5,720	162	4,323	16
Punjab	209,080	141,904	51,982	7,293	1,066	213	6,622	12
North West Frontier Province.	36,642	19,055	15,541	1,027	229	25	766	14
Burma	124,986	44,793	45,002	29,423	1,668	593	3,507	10
Central Provinces	40,292	17,034	16,300	4,025	606	117	1,710	19
Assam	23,034	10,031	6,903	4,582	312	42	1,164	15
Madras	490,003	202,667	135,367	138,442	4,665	243	8,619	12
Bombay	306,375	135,769	78,718	44,837	2,846	5,922	38,284	8
Berar	27,940	11,444	6,980	8,588	266	37	625	10
Minor Provinces	17,777	5,540	9,322	2,317	42	193	364	—
Total	1,761,782	786,177	535,095	336,570	21,582	8,002	76,356	—

The bulk of the original criminal work is done by the stipendiary magistrates of the subordinate grades, and a good share of the rest is taken by benches of honorary magistrates and, especially in Bombay and Madras, by district and divisional courts. The time of the superior courts is taken up to a large extent with the disposal of appeals and applications after trial, as well as with the duties of supervision, to which reference has already been made. The table in the margin shows the number of appeals and applications for revision in 1901, and also gives materials for a comparison of the frequency of

	Proportion of Appellants or Applicants for Revision, as compared with Number of Persons Convicted.*		Percentage of Appeals				Actual Number of Appeals and Applications for Revision in 1901.
			Which were Successful in Whole or in Part.		In which a new Trial or Inquiry was ordered, or reference made to High Court for Revision.		
	1891.	1901.	1891.	1901.	1891.	1901.	
Bengal	16.4	34.1	24.0	23.5	4.2	10.0	28,237
United Provinces	27.3	32.5	21.3	17.8	6.1	8.2	34,086
Punjab and N.W. Frontier Provinces.	33.4	36.6	26.8	25.8	3.9	4.7	27,670
Burma (Upper)	57.8	66.7	11.4	7.9	3.8	3.9	18,823
Burma (Lower)	30.4	33.1	12.2	11.7	4.3	3.7	17,763
Central Provinces	20.8	20.1	23.2	20.5	1.9	4.7	4,184
Assam	18.6	25.9	30.0	18.7	17.7	15.3	2,974
Madras	11.7	9.2	31.8	28.3	5.4	4.1	26,319
Bombay	10.4	7.7	23.3	21.9	5.5	4.8	2,669
Berar	12.9	8.9	20.9	22.2	8.8	8.1	1,306
British India†	19.8	20.2	23.1	20.3	5.8	5.9	175,581

* The number of appeals includes some appeals by the Government against judgments of acquittal, but the number of these is too small to affect the table.
 † Including Ajmere-Merwara, British Baluchistan, and Coorg.

appeals and the degree of success obtained in 1891 and 1901 respectively. In British India, as a whole, there was no very striking difference in these respects, save that the proportion of successful appeals is slightly lower. But there have been considerable variations in some provinces. Northern India generally shows a higher proportion of appeals to convictions, accompanied by a rather lower proportion of success; while in central and southern India the proportion of convictions appealed against is much less than in the northern provinces, and shows a decrease.

There remains the question of the sentences passed on conviction. As regards death sentences, imprisonment, and whipping, three of the five chief classes into which the punishments are divided, the year 1897 shows the

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highest figures of the decade, namely 628, and 214,700, and 64,000 respectively. The number of transportations was also high, but that of fines was lower than in the preceding year. The year 1900 also shows exceptionally high figures, especially in respect of transportations, which amounted to 2,200. Whippings and imprisonments were less frequent in that year than in 1897, but the number of fines was 678,500, or nearly 11 per cent. higher than in the earlier year. These, however, were exceptional years. The particulars for 1891 and 1901 are shown in the margin. All headings, save

	1891.	1901.
Death Sentences -	431	500
Transportation -	1,617	1,690
Imprisonment, rigorous	141,834	144,022
" simple -	18,640	16,165
Fine -	595,992	628,065
Whipping -	20,613	25,911
Penal Servitude -	1	17
Forfeiture of property -	122	27

that of simple imprisonment, show an increase in the later year, but this is especially marked in the case of fines, which accords with what was said above as to the larger number of prosecutions for sanitary offences. Prisoners under sentence of transportation are generally sent to the Andamans. Rigorous imprisonment means imprisonment with hard labour. The Whipping Act was amended in 1895, with reference to the infliction of the penalty in the case of second offences. Persons may be whipped for theft, extortion by threat, receiving stolen property, or lurking house-trespass or housebreaking, and, in the case of a second offence, for giving false evidence, for unnatural offences or outrage, for robbery, or for forgery. This applies to India generally; but there are special provisions for outlying tracts. The number of strokes awarded is usually between 10 and 20, the maximum being 30; no females may be thus punished. Of the fines inflicted, the greater part are below ten rupees. In 1901 the actual proportion which fines under this amount bore to the whole was 88·6 per cent.

IV.—FINANCES OF LAW AND JUSTICE.

To conclude this chapter, a statement is given of the net charges of the

	Net Charges of Law Courts	Receipts from Court Fee Stamps minus Discount on Sale	Net Receipts.
	£	£	£
1891-92	1,642,165	1,907,641	265,476
1893-94	1,749,123	2,023,317	274,224
1895-96	1,806,487	2,130,413	323,926
1897-98	1,850,379	2,182,799	332,420
1899-1900	1,844,885	2,250,675	405,790
1901-02	1,925,028	2,371,595	446,567

Law Courts, taken from the Finance and Revenue Accounts of the Government of India. Against these are set for comparison the receipts from Court fee stamps, and the result shows that the revenue from fees has grown faster than the expenses of the Courts. The second column of the table takes into account receipts from fines and other sources, which usually amount to about £250,000 in the year. Of the charges, the most important are those for Sessions Courts and for Criminal Courts, which stood at £910,300 and £822,700 respectively in the year 1901-02. It should be explained, however, that the charges shown are not all which are properly debitable against the receipts from law and justice. The provision and maintenance of court houses and offices, for instance, are not included, nor the pensions payable to officers after retirement; if these were included the surplus of receipts would be much reduced, or might entirely disappear. It is to be observed, moreover, that the receipts from court fee stamps include the stamps on petitions addressed to executive officers, besides the probate duty on succession, which is taken in this shape.

CHAPTER VI.

POLICE AND PRISONS.

I.—POLICE.

The whole question of the police administration has since the close of the decade been referred to a Commission, which has not yet completed its labours. Pending the receipt of the report of this Commission, nothing would be gained by an attempt to review the working of the police during the ten years, and the treatment of the subject will be limited to some brief notes relating to the year 1901. It will be seen, from the terms of reference to the Commission which follow, that the field of the inquiry is a wide one. It was therefore arranged that the local Governments should, where necessary, appoint committees to discuss the questions orally on the spot in advance, and to prepare summaries of the case for inquiry, for the information and assistance of the Commission.

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The matters into which the Commission was directed to inquire were—

(1.) Whether the organisation, strength, and pay of the different ranks of the district police, both superior and subordinate, foot and mounted, whether on ordinary duty or in the reserve, are adequate to secure the preservation of the public peace and the proper investigation and detection of crime, and, if not, what changes are required in them, respectively, in each province with regard to its local conditions, in order to attain these objects ;

(2.) Whether existing arrangements secure that crime is fully reported, or require to be supplemented in any way ; and in particular, whether the village officers and the rural police in each province are efficient aids to the district police in the matter of reporting crime, and, if not, how the relations between the former and the latter can (subject to the condition that the rural police in each province must not be enrolled under the Police Act) be improved ;

(3.) Whether the system of investigating offences now in force in each province, the object being to provide for the full investigation of all serious crime, while avoiding interference by the police in trivial matters, is capable of improvement, and, if so, in what manner ; and whether the institution of fully organised Criminal Investigation Departments, either Imperial or Provincial, is recommended ;

(4.) Whether the form of statistical returns now adopted is satisfactory or capable of improvement, and whether the use to which such returns are now put as tests of police working is appropriate or not ;

(5.) Whether the general supervision exercised by the magistracy over the police, and the control of the superior officers (including inspectors) over the investigation of crime are adequate to prevent oppression on the part of the subordinate police ; and, if not, how they can be made so ;

(6.) Whether the existing organisation of the railway police, its operation as between provinces and states, and its connection with the district police, are in a satisfactory condition, and, if not, what improvements can be effected ; and

(7.) Whether the career at present offered to Natives in the police in each province is sufficiently attractive to induce the proper stamp of men to enter it ; and, if not, what steps can be taken to remedy this evil consistently with the recognised measure of necessity for European control in the district charges.

In laying down these subjects for inquiry, the Government of India added that while in some matters, such, for instance, as those referred to under the third, fourth, and sixth heads, it was important to secure uniformity throughout India ; in others, and especially in those dealt with under the first head, uniformity was neither desirable nor possible ; and that the aim should be not mechanical symmetry, but due proportion with regard to such considerations as the criminality of the people, the number and gravity of the offences to be dealt with, the density of the population, the area to be policed, and so forth.

The superior grades of the police forces in India proper, namely, those of Assistant Superintendent and upwards, are recruited either by a competitive examination in England, or by a competitive examination held in India of candidates nominated by the local Government, or by promotion from the lower grades. To these methods must be added the power which the Government reserves to itself of appointing other persons who are considered best fitted. The examination in England is held simultaneously with that for the Indian Forest Service, in June of each year. Candidates must be British subjects of European descent, unmarried, and above 19 and under 21 years of age on the 1st June in the year of entrance. The number of vacancies varies, but has been about 16 to 18 in recent years. Officers of the civil police of

Recruitment of officers.

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Burma are at present appointed by the Lieutenant-Governor with the Governor-General's approval, but it is intended shortly to introduce there also the system of recruitment from England by competitive examination.

Bengal.

The police of Bengal are divided into four separate bodies: the town police of Calcutta and other towns, the district police, the railway police, and the small number of military police who are kept as a reserve to deal with serious or organised disturbances. There was no material change in the number of the force during 1901. It is said by the local Government to be undermanned, and a close and detailed examination of the facts has led the Lieutenant-Governor to the conclusion that far-reaching and costly changes in the present system are required, both in the direction of strengthening the force and of bettering the prospects of the men. Proposals with these objects have been formulated and submitted to the Police Commission. There were 27,677 members of the civil police forces in the year 1901, and 395 military police. In addition to these, the village watchmen (*chaukidars*) numbered 152,000. The village watch system showed some improvement in 1901, but it is still found difficult to get men of good caste to enlist as village watchmen, whether owing to caste prejudice or to the low rates of pay. An endeavour is being made to improve the efficiency of the watchmen by extending the system of monetary rewards and punishments; and an increasing number (9,900 in 1901) of them are being freed from their ordinary duties of watch and ward, and used as supervisors (*dafadars*).

The conduct of the police during the year, as shown by the punishments inflicted, was on the whole satisfactory. Only one case of torture by the police was returned as true; punishment was inflicted in 26 cases of extortion. The year 1901, like the preceding year, was marked by an exceptional amount of offences against property, and the total of cognisable offences* was 30,000 in excess of the average of the ten years. Riots and dacoities were rather more numerous than in 1900. The percentage of convictions to cases tried by a magistrate during the year was 85.9, against 86.4 in 1900. With regard to accused persons, the returns for 1901 show that 54 per cent. of those sent for trial for offences against person or property were convicted, against 56 per cent. in the preceding year. The result is therefore less favourable, although the percentage of reported cases in which the police refused to investigate was larger, in accordance with the instructions of the Government to use a freer discretion in respect of petty cases.

In Calcutta the returns of serious cognisable crime in 1901 contain no noteworthy divergencies from those of 1900; but under the head of cruelty to animals and of offences under the Police Act, there has been a great decline. This is attributed for the most part to the effects of the strike of cartmen and hackney carriage drivers in June 1901 (which was shown to be due chiefly to the habitual blackmailing of those classes by the police. Since the strike, the number of cases relating to the control of public traffic has been very much smaller than it was in the period preceding the strike, and the local Government draw the conclusion that the police must have erred either by excess of zeal in the earlier period or by neglect of their duties in the later.

United
Provinces.

The sanctioned strength of the provincial police in the United Provinces in 1901 amounted to 24,037 officers and men, besides 2,509 officers and men of the municipal and cantonment police and 947 railway police. There were also 7,230 watchmen of all grades employed in towns and 88,069 rural police. The police arrangements of many of the towns are very defective. In Cawnpore the watch and ward staff was converted into an increased mixed staff of municipal and provincial police, and in Fatehgarh the municipal police were replaced by a smaller body of provincial police. It is desirable that these examples should be followed in other towns. Various schemes for additions and reorganisation were awaiting the recommendations of the Police Commission, and the mounted force, 392 in number, was being reorganised.

The total volume of reported cognisable crime shows a decrease of 18 per cent. on the figures for the preceding year, all the principal offences sharing in the decline; cases reported to, or taken up by,

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

police officers are 17 per cent. lower. The figures for 1901 are the lowest recorded in the past 12 years, and are very satisfactory, as showing not only a return to more normal conditions, but also sound preventive action. The statistics of the branches of cognisable crime which are taken as forming the test of police working show that the proportion of convictions to cases disposed of was 81·6 per cent., that of convictions to cases reported 33·7 per cent., the total reported cases under the heads selected for the purpose being 45,977. The figures are below those for the preceding year; but they must be read in the light of the following remarks by the head of the Department:—“One reason for the steady fall in percentages is, I believe, that now that it is becoming known that work is not judged by statistics alone, the habit of concealing serious crime and selecting easy cases in order to force up the percentages of success is dying out. It is not a difficult task for any station officer to show good statistics if he chooses, and if his work is not properly supervised.” A better test of the value of the work of the police is their success in breaking up numerous gangs of dacoits. The result of these operations in 1901 was that no gang of notoriety was still at work in 1902.

The strength of the police force in the Punjab at the end of the year 1901 was 17,882 officers and men, 3,021 having been made over with the frontier districts to the North-West Frontier Province administration, including most of the military police. A scheme for the reorganisation of the force was under discussion, and had been referred to the Police Commission. The proportion of convictions for cognisable offences against public order, the person, or property, compared with the number of such cases brought to trial after investigation by the police, was 70 per cent. in 1901, rather less than in 1900, but above the average for the last five years. Serious crime showed a marked abatement, which is doubtless due in a great degree to the excellent harvests of 1900-01. But the success attained by the operations for the suppression of dacoity in 1900 must also be taken into account as contributing to lower the record of murders, robberies, and burglaries in 1901. The work of the police in this province is complicated by the inter-mixture of Native territory. The origin of the wave of dacoity which swept over the central districts of the province in 1899 and 1900 was believed to have been the Phulkian States. A special officer was put on duty to deal with dacoity, and was accredited to the States, which have co-operated cordially with all their resources. It is hoped that with the better organisation of the Patiala police, which is being undertaken, dacoity will become less prevalent in that State.

In the Central Provinces the strength of the police force was 8,618 officers and men in the year 1901. Recruits of the right stamp are difficult to get, and it is suggested in the departmental report that the rates of pay are too low; but this is a matter for the Police Commission. The Commissioners of Divisions comment favourably on the working of the force, and the statistics compare satisfactorily with those of other provinces of northern India. Orders have been issued that a larger proportion of the petty cases reported might be left uninvestigated, and the experiment is being carefully watched. If otherwise unobjectionable, it will clear the way for a fuller investigation of serious cases of housebreaking and theft, in which the results obtained by the police have hitherto been unsatisfactory. With regard to dacoities, the position at the end of 1901 was good. Considering the extended frontier of the province and the conditions prevailing in many parts beyond its borders, the comparatively small number (68) of these offences requiring investigation during the year reflects credit on the police arrangements and on the general administration. In the Sambalpur, Bilaspur, Saugor, and Nimar districts, where this class of crime was most prevalent, it was successfully checked by the activity of the police. The amount of cognisable crime of all kinds shows a considerable decline in 1901 as compared with the figures for the famine year 1900; but it is noted that although the famine of 1900 did not induce such an intense degree of crime as that of 1897 at the actual time, yet the effect of the later famine wore off more slowly, and the figures for 1901 are in excess of those for 1898.

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PRISONS.
Assam.

The civil police of Assam numbered 2,779 officers and men, and the military police 3,028. A reorganisation of the civil police was in progress, with a view to strengthening the force, and the amalgamation of the two branches of civil police and armed civil police has given an opportunity for the introduction of better discipline and training. The rural police (or *chaukidars*) are of varying value in the different districts. In Cachar they have been of considerable assistance to the regular police, while in Goalpara and Sylhet they are of little use. The military police are being re-armed with Martini-Henry rifles. Their conduct is reported to have been good in 1901, and their efficiency was maintained, and will doubtless be augmented by the new arm. In spite of the high prices which prevailed during part of the year, the amount of crime remained stationary, and the increase, which has been an almost continuous feature of the past seven years, ceased, if all classes of crime be considered together. A comparison of the crime statistics of different districts appears to indicate that the existence of a large foreign (tea garden) population has an effect in increasing crime generally beyond the extent to which the foreign element actually itself contributes to it.

Berar.

The sanctioned strength of the police force in Berar was 2,847 officers and men. Considerable inconvenience has, however, been experienced lately, especially in the Akola district, by the force being below the sanctioned and necessary strength, owing to the unpopularity of police service. The return of cognisable crime for 1901 is the lowest on record for 35 years, and the remarkable decrease is attributed to the relief felt by the poor after the period of stress through which they had passed. The results of the working of the police, as shown by the various percentages of convictions to cases reported, investigated, or brought to trial, which are usually regarded as the tests, are not so good as usual, and the officiating Commissioner regards this as showing a want of supervision on the part of the district superintendents in directing investigations and preparing cases.

Bombay.

The total police force of the presidency, excluding Bombay city, but including railway and Sind police, stood at 22,147 officers and men in 1901, and an additional force of 879 officers and men was sanctioned for famine and plague work. A report submitting proposals for the reorganisation of the force was submitted in 1902. The police were working under great difficulties in the year under review. The strain of their ordinary duties was severely aggravated by the urgent calls arising from famine and plague, and the estimated reserves were fully engaged on regular duty. In these circumstances, the local Government, in reviewing their operations, does not feel inclined to lay too much stress on the statistics of the year. They are satisfied that the police worked well, and that the results are fairly good. That they are not better is due in great measure to causes beyond the control of the police themselves. The total number of cognisable cases reported to the police was 18 per cent. less than in the preceding year, the decrease being especially noticeable in the northern division and in parts of the central division, especially Khandesh. The graver classes of crimes share in the fall. Dacoities numbered 1,305, against 1,610 in the previous year, 1,101 of them being returned from the central division, where there are several tribes and classes specially addicted to crime. The duties which devolve upon the police in this division, especially in Khandesh, are very arduous, and a special note is made of the cheerfulness and loyalty with which they were carried out by the force. The general fall in cognisable crime is attributed to the early provision of famine relief works, to the large crops of jungle grass seeds which supplied the wants of the thieving classes, and to some extent to the exertions of the police. In the number of cases for disposal, after elimination of unsupported cases, there was a fall of 23 per cent. In view of this substantial drop in the volume of crime dealt with, it is disappointing to find that the police have been less successful in the courts than was the case in the preceding year, the proportion of convictions to cases tried being 79 per cent., against 83 per cent. in 1900. The percentage of undetected crimes, compared with the total cognisable cases for disposal, was nearly 20, against 17 in the previous year. The results obtained by the recently organised Criminal Investigation Branch are very promising, and there can be no doubt that the local police in all parts of the presidency are strengthened by the possibility of obtaining specially skilled detective assistance in difficult cases.

The police in Bombay town and island numbered 2,232. Judging by the result of the year's working, they maintained their standard of efficiency in 1901. There was a slight increase in the number of serious cognisable cases, but theft cases were fewer, and there was a great fall in the number of prosecutions under the Police Acts, owing to the views taken by the magistrates in the matter of obstructions to traffic. The working of the police was, on the whole, satisfactory, and especial note is made of their activity in the matter of receivers and possessors of stolen property. POLICE AND PRISONS.

The district and railway police of Madras numbered 22,692, including the 1,085 police of Madras city. Various proposals for reforming and strengthening them were submitted during the year, and were referred to the Police Commission, with the exception of the reorganisation scheme for the city police, which was sanctioned and was being carried out. A fall in the prices of the principal food grains had the usual effect of reducing the total amount of cognisable crime throughout the presidency. Grave crime also decreased, but the number of dacoities and robberies was higher than in any recent year, excepting 1900. There was a marked falling-off in the detection of crime as compared with 1900, for which no satisfactory explanation is forthcoming; but the paucity of superior officers, and the consequent lack of supervision over the work of the subordinates, was probably responsible in part for the poor results shown. A very satisfactory improvement was noticeable in the action taken by the police under the preventive sections of the Criminal Procedure Code, as well as in the matter of registering and watching habitual criminals and members of gangs. The village police appear to be generally of little use, but it is said that there are signs of improvement, and the experiment of issuing badges and stars has had a good effect in arousing a sense of responsibility, and is to be continued. Village magistrates are far from realising their duty in police matters, and it is alleged that in some places they actually help the criminals. In Madras city the number of "true cases" of cognisable crime showed a noteworthy increase in 1901, and the percentage in which convictions were obtained was rather higher than in the preceding year. The revival of the Madras fair, lasting four days, gave the police some hard work, which was well performed. Madras.

The sanctioned strength of the civil police in Burma, excluding Rangoon, was 12,918 in the year 1901. The conduct of the force was good, and sanction was received during the year for some much needed improvements in the pay and grading of assistant superintendents. The police, on the whole, had to deal with a smaller body of crime than in 1900, but it is reported that they were less successful in dealing with it. Cattle theft and serious hurt cases constitute the bulk of important crime in Lower Burma. The progress made in 1900 in suppressing cattle thefts has not been continued in the province generally; and orders have been issued for the exercise of increasing vigilance in respect of this crime. Cases of hurt by dangerous weapons have decreased, owing, it is said, to the infliction of deterrent sentences; but in the Hanthawaddy and Yamethin districts hurt cases were more numerous, and detection is said to be inefficient. Violent crime increased slightly, chiefly under the head of murders, attempts at murder, and housebreaking. Dacoities and robberies diminished slightly, and numbered 286. The extent to which villagers rendered assistance was not satisfactory; but headmen on the whole did their duty in this respect. The railway police, who numbered 327, continued to work satisfactorily. In Rangoon town the sanctioned strength, including port trust and other police, was 938 at the end of 1901. Their conduct was good, and their work is commended by the local Government. There was a slight increase of serious crime under the head of offences against property. Detection was not so successful as in the preceding year, the proportion of convictions to true cases having fallen from 61 to 65 per cent. Steps are to be taken to increase the strength of the European police force, which seems to be inadequate for the work required of it. Burma.

The military police of Burma numbered 15,053. They are officered by members of the Indian Staff Corps (now Indian Army), and the rank and file are recruited to a large extent in India proper. Most of the 13 battalions have been re-armed with the Martini-Henry rifle. Ten of the battalions are stationed in Upper Burma, one at Toungoo, one at Rangoon, and one in the Arakan hills. Their working during the year is reported to have been on the whole satisfactory, but the health of the force was not good.

POLICE AND
PRISONS.
Cost of the
police.

These provincial paragraphs have not included any statement of the cost of the police, as it will be more convenient to embody this information in a single statement. The table which follows contains figures for the financial year 1901-02, taken from the Finance and Revenue Accounts:—

	India, General.	Bengal.	United Provinces.	Punjab.	North-West Frontier Province.	Burma.	Central Provinces.	Assam.	Madras.	Bombay.	Total.
CHARGES.	£	£	£	£	£	£	£	£	£	£	£
Presidency police - - -	—	54,675	—	—	—	—	—	—	19,560	29,559	102,794
District police:											
Provincial superintending officers - - -	—	10,806	11,025	8,904	754	8,704	8,411	—	10,110	6,996	60,500
Executive force - - -	35,726	318,311	320,943	179,590	10,403	270,221	93,056	43,555	263,035	267,607	1,822,477
Municipal and cantonment police - - -	—	2,867	—	39,073	1,608	1,343	—	—	—	3,178	46,669
Village police - - -	—	29,671	206,230	—	—	1,681	—	112	221	65,374	503,399
Special police, including military - - -	—	10,201	217	23,599	11,159	349,008	—	69,173	990	30,712	495,129
Railway police - - -	2,574	11,207	10,194	18,663	42	1,460	1,444	468	6,998	6,738	60,778
Thuggee and Dacoity - - -	6,570	—	—	—	—	—	—	—	—	—	6,570
Other heads - - -	144	5,549	9,376	3,036	151	2,244	4,655	1,515	13,739	9,467	55,068
Total charges in India - - -	47,014	443,407	557,985	272,665	21,117	634,721	102,766	114,823	318,782	439,622	2,956,072
Charges in England - - -	—	—	—	—	—	—	—	—	—	—	994
RECEIPTS.											
Contributions from municipal, cantonment, and town funds - - -	1,527	550	4,485	38,602	1,644	3,620	87	33	24	4,083	54,525
Fees, fines, and forfeitures - - -	728	26,553	24,019	6,552	160	19,982	10,512	6,542	21,972	15,523	141,673
Other heads - - -	538	37,252	3,982	5,061	431	2,127	995	6,002	16,421	24,279	97,078
Total receipts - - -	2,793	74,355	32,486	50,415	2,235	24,829	11,594	12,577	38,417	45,885	293,276
Net charges - - -	45,221	369,052	525,499	222,450	21,882	609,892	91,212	102,246	280,365	393,737	2,663,496

II.—PRISONS.

Jail administration was put on a new footing by the Indian Act IX. of 1894. At the beginning of the decade, the jails were regulated under local enactments in the case of the two presidencies and Bengal, and by an Act of 1870 in the other Provinces. The result of this decentralisation was a great diversity in the matter of jail rules and discipline, and it was the chief object of the Act of 1894 to secure uniformity so far as possible in respect of the recognised jail offences and the punishments to be inflicted. The Government of India, in the exercise of the power given by the Act, issued in 1896 a series of rules for the regulation of jails in the territories affected by the Act, namely, the whole of British India, including Upper Burma and British Baluchistan. These rules are concerned with the definition of prison offences, the classification of punishments, the award of marks and the shortening of sentences, and a few other points. The local Governments have power to make rules consistent with the Act, subject to the control of the Governor-General in Council, for the classification and government of prisons, and for the dieting, clothing, employment, and general treatment of prisoners.

The jails are classed under three heads, central, district, and subsidiary. The two first classes included 40 and 193 jails respectively in the year 1901. The third class comprises subordinate jails and lock-ups, which are not prisons within the purview of the Act of 1894, though local Governments have power, under the control of the Government of India, to extend any or all of its provisions to such places of confinement. They numbered 494 in 1901, including 304 in the Madras presidency. The general principle is that prisoners sentenced to one year's imprisonment and upwards should be confined, so far as there is accommodation for them, in the central jails. Those sentenced to a term of from 15 days to a year may be detained in the district jail, while the subsidiary jails are reserved for persons under trial or for persons convicted and sentenced to less than 15 days' imprisonment.

There is an Inspector-General under each local Government, who exercises general control over the jails within the province. The Act provides

for four officers in every jail, namely; a superintendent, who manages it in all matters relating to discipline, labour, expenditure, punishment and control, subject to the orders of the District Magistrate in the case of district jails unless otherwise directed by the local Governments; a medical officer, who has charge of the sanitary administration, subject to the control of the superintendent; a medical subordinate; and a jailer. The first two offices may be, and generally are, combined in one person. In central jails the post is filled as a sole charge by a member of the Indian Medical Service or other member of the provincial Jail Department. Most of the district and other jails are in charge of the civil surgeon of the district. The subordinate staff is supplemented by the system of convict-warders, under which 8,219 prisoners were employed as prison officers in the year 1901, and 9,872 in lower capacities as prison servants, out of a total average of 97,285 under sentence of labour.

POLICE AND PRISONS.

One of the most important of the reforms contemplated in 1894 was the gradual introduction of the separate system in jails. The system of jail administration was up to that time, and is still to a very large extent, based on the detention of prisoners in association with each other. They are classified according to the heinousness or the habitual character of their offences, but there is association of the individuals composing this class. A provision was accordingly introduced into the Act to the effect that convicted criminal prisoners may be confined either in association or individually in cells. For financial reasons it was impossible to provide immediately for separate confinement of all prisoners. But all new jails will be constructed on the separate cell system, and a considerable amount of progress has been made, especially in the Madras presidency, in the reconstruction of existing jails with this object. A measure having a similar aim, but involving less expenditure, is the provision of separated cubicles in the sleeping wards, which is being pushed forward in all provinces. The Act of 1894, adopting with little alteration the provisions of the Act of 1870, upon which it was modelled, requires that female prisoners shall be kept entirely separate from males in any jail intended for both sexes; that male prisoners under 18 years of age shall be separated from older prisoners, and a further distinction made between boys and youths; and that unconvicted criminal prisoners shall be kept apart from those who have been convicted, and civil from criminal prisoners.

The mark system, under which convicts can earn remission of sentence by good conduct, is considered to have worked well on the whole. Convicts are now usually well acquainted with its main features, and its benefits are appreciated especially by long-term prisoners. Of the convicts released during the year, 32,786 came under the system, and all but 235 of these had gained some remission under it. The average amount of the remissions gained was considerably higher in respect of all classes of prisoners than the similar figures of 1891. Generally speaking, the remissions earned by convicts in Bengal, the United Provinces, and the Central Provinces were longer than in other provinces. Fresh rules for the working of the system were framed in 1896, and the matter is still in a more or less experimental state.

Reformatory schools have received much attention in recent years. In 1897 the law on the subject was amended in various respects. The maximum limit of age of the "youthful offenders," who are liable to be sent to the schools, was fixed at 15 years, and power was given to magistrates to discharge such offenders with a warning, or to deliver them to their parents' custody, in lieu of sending them to a reformatory school. The working of the schools was reviewed by the Government of India in 1899, and attention was drawn to the questions of the improvement of industrial education, the provision of employment for boys leaving the schools, and the maintenance of a watch over such boys. With a view to avoiding certain defects which were noticed in the working of the reformatories, the Government of India decided that they should be withdrawn from the control of the Jail Department, and put under that of the Department of Education, and this has been effected in all provinces. The number of the schools for which reports were available was seven, and the boys contained in them at the end of the year 1901 numbered 1,227. This does not, however, include the new reformatory school at Delhi, which has recently been completed. In addition to these it may be mentioned that 1,632 juvenile prisoners, under 16 years of age

Reformatory schools.

POLICE AND PRISONS. were admitted to jails in 1901, including 216 who had been previously convicted. The number of juvenile prisoners in 1901 was lower than in any other year of the decade with the exception of the year 1898.

Transportation. Sentences of transportation are carried out, as a rule, at the settlement of Port Blair, in the Andaman Islands. The Prison Committee of 1838 held that transportation should be for life only, and the same conclusion was re-affirmed by the Government of India in 1868, after some experience of the deportation of term-convicts. In 1874, however, the practice of sending term-convicts to the Andamans was re-established, with the declared object of supplying trustworthy men to act as petty officers, life convicts not being considered to come under this description, as they had no hope of release, and, therefore, no incentive to good behaviour. But it was reported in 1888 by two officers who then examined the general subject of jail administration in India that there was a very widely spread feeling among prisoners under sentence in favour of transportation, as compared with a long term of hard labour in an Indian jail; and a Commission consisting of two officers was appointed to inquire into the matter. This Commission recommended that transportation of male term-convicts from all parts of India other than Burma should be discontinued, and orders were passed by the Government of India to this effect in 1891. The Commissioners also made suggestions for increasing the penal character of imprisonment at Port Blair in its earlier stages, and for other measures which would promote the efficiency of the transportation system and the well-being of the settlement, which have been adopted by the Government of India. It should however be noticed here that in consequence of the building of a cellular jail, which permits of close penal discipline being enforced, it has recently been decided by the Government of India to revert to transportation for term convicts from India generally. The number of convicts in the settlement in 1891-92 was 11,376, of whom 2,925 were classed as self-supporters, having received a ticket-of-leave, with a grant of a plot of land on which to build a house. At the end of the year 1901-02 the number was 12,777, including 2,116 self-supporters. The chief classes of offences for which the prisoners were sentenced were murder and dacoity, which accounted for 8,010 and 2,558 respectively of the number of convicts in 1901-02. There were 10,198 convicts undergoing life sentences, most of the remainder being under a sentence of from five to ten years.

Jail statistics. The following table contains the more important figures relating to the jails in 1901 and in some of the other years of the decade :—

	Number of Jails.			Number of Prisoners.				Percentage previously convicted among Convicts admitted in 1901.		Percentage of Convicts Punished on Daily Average Number in Jail.	Percentage of Convicts Sentenced to Labour Employed			Average Number of deaths per 1,000 of Average Daily Strength.
	Central.	District.	Subsidiary.	Total of Year.		Average Daily Number.		Once.	More than Once.		As Officers.	As Ser-vants.	On Manu-factures.	
				Males.	Females.	All Classes.	Convicted Criminals.							
Madras - - -	7	11	304	111,222	6,289	13,020	10,813	9.6	3.6	132	6.9	8.3	34.8	21.7
Bombay - - -	3	14	33	94,714	6,477	11,087	10,422	11.0	6.3	101	10.0	9.0	22.3	35.0
Bengal - - -	8	40	89	122,397	4,559	21,394	19,180	0.3	4.3	213	6.0	11.0	41.8	27.5
United Provinces -	6	44	5	105,015	5,433	20,311	27,527	5.6	5.2	156	7.1	10.2	40.2	24.2
Punjab - - -	4	28	20	60,811	1,874	13,816	12,644	0.8	6.1	301	6.0	10.0	31.0	26.9
N.W. Frontier Pro-vince.	-	6	2	10,376	453	1,234	881	4.8	3.2	176	8.0	14.0	37.0	13.6
Burma - - -	7	26	-	38,009	968	11,915	11,508	13.9	9.4	310	20.5	9.4	42.3	15.2
Central Provinces -	3	15	1	17,074	1,356	4,787	4,465	14.7	10.7	135	8.3	11.5	49.7	27.5
Assam - - -	-	9	15	9,881	383	1,633	1,463	6.0	3.5	104	7.9	12.0	17.6	24.5
Coorg - - -	-	1	28	601	22	113	98	3.9	4.3	273	6.3	7.4	10.2	166.9
Deccan - - -	2	5	-	5,272	365	1,484	1,389	10.7	7.8	66	7.3	12.0	45.2	24.0
Total of above provinces.	40	193	494	575,261	27,172	110,707	100,390	9.3	5.4	193	8.4	10.2	37.2	25.3
Corresponding Total :														
1900 - - -	41	190	561	664,704	32,397	117,186	104,023	8.9	5.2	181	7.9	10.0	37.9	33.6
1899 - - -	41	191	500	562,085	24,460	103,503	93,691	6.7	5.0	199	6.4	10.3	38.9	21.9
1898 - - -	40	191	496	550,904	24,939	106,193	96,853	9.0	4.9	191	8.0	10.7	39.2	25.3
1897 - - -	40	192	494	646,034	32,348	113,010	101,932	9.3	6.0	162	8.1	10.6	38.8	39.6
1895 - - -	40	192	496	531,860	25,111	101,035	93,212	8.9	4.8	158	8.5	11.0	37.0	36.6
1893 - - -	37	200	623	523,104	24,024	94,964	87,554	7.9	4.4	153	6.2	10.3	40.3	24.3
1891 - - -	36	193	505	490,092	24,014	92,069	85,536	7.5	4.1	-	4.7	10.2	39.1	30.2

In the two famine years, 1897 and 1900, the number of persons committed to the jails showed a great increase, and though the additional prisoners were for the most part under short sentences, so that the average daily number did not increase in an equal proportion, there was exceptional pressure on the jail accommodation in those years. Overcrowding is reported from several of the jails during 1901, especially in the Bombay presidency. It is met by the employment of temporary barracks and tents, and by transfer of prisoners, when possible, to less crowded jails. The variations in the numbers of jails are, to a large extent, due to the transfer of jails from one class to another; but new jails have been opened in Burma, and the accommodation at existing jails has been improved. The rise in the number of subsidiary jails in the year 1893 is caused by the employment of a different method of classification in respect of the Punjab jails in that year, and does not represent an actual increase. The Government of India have recently made special grants to several provinces for the improvement of jail accommodation. The daily average number of prisoners of all classes in 1901, including civil prisoners and prisoners awaiting trial, was 19 per cent. higher than the corresponding number in 1891. If convicted criminals only be taken into account, the increase was about 17·4 per cent. In Bengal the total daily average population of the jails reached the highest recorded figure in 1901.

As regards recidivism, it is to be noted that the percentage of the persons admitted to jail who are returned as having been previously convicted has risen. But much, if not all, of the rise may be ascribed to improved methods of identification. At the beginning of the decade the Bertillon anthropometric system had been introduced in Bengal, and its use was extended gradually up to the year 1897, when it had been adopted in almost all provinces. In that year, however, it was decided, on the recommendation of a special committee, that the system of identification by finger impressions should be adopted in place of the anthropometric system, as being simpler and more effective. The change has been fully made in Bengal and in the Madras presidency, and the number of prisoners identified by this method is increasing in other provinces. But some time must elapse, for the accumulation of complete data, before the full effect is discernible.

The percentage of punishments, given in the next column of the above table, shows that there is still considerable divergence in the statistics of the various provinces in this respect. This may be ascribed, in some measure at least, to the differing characters of the races from whom the convicts are drawn. The jail population of the Punjab is less amenable to discipline than that of most other provinces, and the Burman convict has a similar reputation. There has been a decrease in the number of corporal punishments inflicted for jail offences; the number of prisoners whipped in 1901 was 1,364, as against 2,081 in 1892.

Only the three main heads of employment of prisoners are given in the table. The rest of the prisoners are set to work on such tasks as grinding wheat and manufacturing clothing for use or consumption in jail, gardening, jail repairs, additions to jail buildings, or the construction of new jails; and a few are employed by the Public Works or other Departments, and by other outside agencies. The class of manufactures carried on also varies with the circumstances. As a rule, the articles are those which are not made locally, and which will least interfere with the trade of the general population. In the Central Jails the articles produced are those required for the use of Government departments, such as police clothing, tents, &c. In several jails a large staff is instructed in printing, and turns out the supply of jail and other departmental forms and account sheets, and also does text work in certain circumstances.

The question of the health of prisoners will receive treatment in the chapter on Vital Statistics.

POLICE AND
PRISONS.

	1891-92.	1901-02.
<i>Charges:—</i>	£	£
Jail manufactures	121,526	151,867
Other jail charges	401,877	520,817
Convict charges at Port Blair and Nicobars	75,896	97,799
Other charges	522	270
Total charges	599,821	770,753
<i>Receipts:—</i>		
Sale proceeds of jail manufactures	163,489	207,564
Other receipts	44,043	42,958
Total receipts	207,532	250,522
Net charges	392,289	520,231

The jail charges are shown in the marginal table. The receipts which are set against them consist almost entirely of the sale proceeds of jail manufactures. The figures are taken from the Finance and Revenue Accounts of the Government of India. From the Departmental Accounts, which relate to the calendar year, it appears that the gross average cost of maintenance in 1901 was Rs. 65½ per head of the average jail population, that the cash earnings per head amounted to Rs. 10¾, and that the net cost per head of average strength was therefore Rs. 54½ for the whole of

British India; the provincial figures ranged between Rs. 74½ in Assam and Rs. 42½ in the United Provinces.

CHAPTER VII.

LOCAL SELF-GOVERNMENT.

Local self-government, municipal and rural, in the legally constituted form in which it now prevails in India, is essentially a product of British rule. It is true that from time immemorial rudimentary institutions for the conduct of local affairs have existed in the country in the form of village communities and of trade guilds in towns, and have familiarised the people with the principle of co-operative action for such objects. But between these primitive organisations, drawing their powers from prescription and relying on social sanctions, and the municipality or local board of the India of to-day there is a wide gulf. Nor is it historically the case that the one is a development from the other. The beginning of municipal government occurred in the Presidency towns. Apart from these, the first step towards its introduction was made by an Indian Act of 1850, respecting "improvements in towns," which authorised the local Governments to appoint the magistrate of any town, and such number of the inhabitants as appeared necessary, to be commissioners to prepare rules for levying and expending money for any special purpose. But the committees so formed were consultative only, and the final control lay in the hands of Government officials. It was not until after 1870 that much progress was made. Lord Mayo's Government then recognised 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," and in the succeeding years much was done by the provincial Governments to delegate to local committees, municipal or rural, the control over such funds. Outside the municipalities, funds partly voluntary and partly due to official initiative had been established for local improvements or for the development of education; and in Madras, Bombay, and Sind local cess-funds controlled by Government officials had come into existence between 1865 and 1869; but before 1870 there was no organised attempt to introduce rural self-government. In 1882 Lord Ripon's Government laid down some common principles for the guidance of the local Governments in the matter. They wished for more thorough organisation of non-official agency, both with a view to relieving Government officers of duties which could be otherwise performed, and also as an "instrument of political and popular education." They did not anticipate an immediate improvement in municipal administration; on the contrary, they realised that at first there would doubtless be many failures. The main lines of the scheme which they sketched were, firstly, that a network of local boards should be formed in county areas, in addition to the municipal committees, the area included under each board being so small as to ensure local knowledge and interest on the part of each of the members; secondly, that all the local boards, urban or rural, should everywhere have a preponderance of non-official members; thirdly, that the members should be chosen by election wherever it was, in the opinion of the local Government, practicable to adopt such a plan; fourthly, that there should be a district board of some kind which should meet periodically to settle matters, such as the rate of the land cess, in which the smaller boards have a common interest; fifthly, as to the necessary government control, they considered that it should be exercised rather from without than from within, and that the chairmen of the local boards should, as a rule and whenever practicable, be non-official persons. These rulings were adopted, with the necessary variations to correspond to local conditions, by Acts passed in 1883 or 1884 relating to the district municipalities and the local boards in each province. This legislation forms the basis of the various provincial systems at present in force. The Government of Lord Elgin in 1896 reviewed the progress of local self-government up to that date in two resolutions, which were published as appendices to the thirty-third number of this Statement (1896-97). They noted, with regard to municipalities, "the marked advance in self-government . . . and the activity, intelligence, and general economy with which the municipal bodies have improved the conservancy services, the water supply, the drainage, the street paving, the lighting, and the many conveniences of the towns in their charge." As to the local boards, the verdict was not so generally favourable. In the Madras presidency there had been more progress than elsewhere, but

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in Bombay, Bengal, the United Provinces, and the Punjab the results had not been so good, the reason alleged being generally that the responsibilities assigned to the board were not sufficient to engage their interest. On the other hand, the larger or district boards, entrusted with powers and duties large enough to interest them, had not only done their work well, but had proved to be a valuable agency for supplying the Government with information as to local wants and conditions.

It may be observed here that, from a financial point of view, the various funds for special purposes which exist in India, and which are managed generally by special bodies created for that purpose, are classed either as

Receipts, excluding Loans and Advances.

Excluded Funds,	1891-92.	1901-02.
	£	£
Presidency Corporations -	821,132	1,032,414
District Municipalities -	1,442,597	2,114,696
Presidency Port Funds -	651,153	959,380
Other Port Funds -	216,351	306,676
Cantonment Funds -	118,885	195,515
Town and Bazar Funds -	52,802	68,231
Miscellaneous Funds -	91,060	147,593

“included” or as “excluded” funds, according as they are or are not incorporated in the Government accounts. Rural board funds are “included,” as they consist to a large extent of cesses which constitute a part of the Government revenue. There are other included funds, such as the Patwari Fund in the United Provinces, Police, and Watchmen Funds, which do not call for description. Of the excluded funds, the most important are the municipal funds; then come the port trust funds in the presidency and other important harbours; then the port funds of minor ports, cantonment funds, town or bazar funds, and miscellaneous funds. The incomes of these excluded funds in the years 1891-92 and 1901-02 are shown in the margin, the amount of the receipts under loans, deposits, and advances being omitted.

I.—MUNICIPALITIES.

Constitution. The following table exhibits the constitution of the municipal committees at the beginning and end of the decade:—

	Number of Municipalities.	Total Number of Members.	By Qualification.			By Employment.		By Race.		
			Ex Officio.	Nominated.	Elected.	Officials.	Non-Officials.	Europeans.	Natives.	
<i>District Municipalities.</i>										
Madras	1891-92	88	55	408	407	302	689	158	718	
	1901-02	60	905	66	415	424	184	711	155	750
Bombay (including Karachi).	1891-92	174	2,421	—	1,512	908	696	1,726	205	2,216
	1901-02	166	2,278	441	853	878	620	1,658	231	2,097
Bengal	1891-92	145	2,131	—	977	1,154	372	1,739	192	1,938
	1901-02	167	2,204	110	942	1,152	384	1,670	271	1,935
United Provinces	1891-92	103	1,555	37	283	1,236	287	1,268	136	1,399
	1900-01*	104	1,392	144	220	1,028	343	1,049	266	1,124
Punjab†	1891-92	149	1,656	227	624	805	314	1,342	125	1,531
	1901-02	137	1,498	230	473	796	268	1,280	93	1,409
Central Provinces	1891-92	37	640	5	190	448	187	488	51	589
	1901-02	45	570	20	150	400	130	440	73	497
Assam	1891-92	12	126	17	58	51	50	76	25	101
	1901-02	14	140	21	68	51	49	91	30	110
Burma (including Rangoon).	1891-92	41	514	149	254	111	185	329	143	371
	1901-02	42	539	169	279	111	208	364	164	398
Berar	1891-92	8	128	—	38	90	36	92	17	111
	1901-02	12	178	—	108	71	53	126	28	151
<i>Presidency Towns.</i>										
Calcutta	1891-92	1	77	2	15	60	24	63	27	80
	1901-02	1	80	—	25	25	Full particulars not available.			
B. bay	1891-92	1	72	—	16	56	12	54	16	56
	1901-02	1	72	—	16	56	7	65	12	69
Madras	1891-92	1	35	3	8	24	9	26	9	38
	1901-02	1	33	1	8	24	10	23	8	28

* The latest year for which particulars for these provinces are available.

† Excluding notified areas, which numbered 46 in 1901-02. Ten municipalities and one notified area were transferred to the North-West Frontier Province in 1901.

The Corporations of the Presidency towns stand, both historically and by reason of their superior importance, in a different position to other Indian municipal bodies, and they will be noticed separately before a review is given of the general progress of municipal government in the provinces.

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dency towns.
Calcutta.

In Calcutta an abortive attempt was made in the year 1810 to introduce an elective municipal constitution. It consisted in an offer to entrust to the ratepayers the collection and management of the rates if two-thirds of them, in any of four districts into which the city was divided, should combine to apply for the privilege. The required proportion was a large one in the circumstances, and the failure of the scheme is not inconsistent with a wish, among some sections of the population, for elective self-government. The only alternative was government by some nominated body, and various experiments were tried in the ensuing years, with seven, with four, and with three such commissioners, and finally with a salaried chairman and the justices of the peace resident in Calcutta, many of whom were natives. But none of these plans were quite satisfactory, although great improvements had been made in the condition of the city; and it was considered advisable in 1876, when a consolidation law was under discussion, to adopt the elective principle which was already in force in Bombay. By the act of 1876, as amended in 1888, the Corporation consisted of a chairman, a vice-chairman, and 75 municipal commissioners, of whom two-thirds were elected by the ratepayers, 15 appointed by the local Government, four nominated by the Chamber of Commerce, four by the Calcutta Trades Association, and two by the Port Commissioners. The qualifications for electors were payment of rates and taxes to the amount of not less than Rs. 2½ per annum, the holding of a license to practise certain trades and professions, or occupation or ownership of land of a specified value, with a proportionately increased number of votes for larger holders of property. At the election of 1889, the first in which personal attendance of voters was required, 42 per cent. of the voters on the list came to the poll in the wards where there was a contest; in 1892 the proportion was 53; in 1895 it was 75; in 1898 it fell again to 64 per cent. This notable interest in municipal elections* was equalled by the keenness with which the commissioners attended to their duties. Yet in spite of great assiduity on the part of many of the elected, and of the nominated members, the constitution, under which the executive power was vested in the Corporation as a whole, was found by the Bengal Government to be radically defective. Action was often paralyzed by discussion, and powers were so distributed as to be incapable of being exercised. It was especially necessary to provide an executive which should be of a size fitted for energetic action, in view of the disclosures as to the sanitary state of the city which had recently been made. A case of plague had occurred in Howrah, and six medical officers, deputed by the Plague Medical Board to make a sanitary survey of the town and suburbs of Calcutta, had shown in their report that the condition of many parts of Calcutta violated every sanitary law. To meet the necessity the Government of Bengal brought in a bill in 1898, and after discussion and revision it resulted in a new municipal law being passed in September 1899. Under this law the number of the commissioners was reduced to 50, of whom half are elected at ward elections, and half appointed by the local Government, or nominated by special bodies in the same way as before. Within this Corporation there was established a general committee consisting of 12 members and the chairman of the Corporation, four of such members being elected by the ward (or elected) commissioners, four elected by the nominated and appointed commissioners, and four appointed by the local Government. The chairman receives a salary, and is appointed or removed by the local Government; it being provided by the Act that he is to be so removed on a request to that effect supported by not less than two-thirds of the commissioners. Subject in specified cases to the approval or sanction of the Corporation, or of the general committee, as the case may be, the entire control of executive operations is given to the chairman by the Act. The Corporation, reduced to a less unwieldy size than before, is given those powers which can properly be exercised by deliberative assemblies. The general committee is entrusted with the special control which cannot well be exercised by the larger body.

* *Note.*—In the London County Council election of 1901 the percentage of voters to electors on the register varied between 23·6 in the City of London and 56·8 in Stepney.

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The first election under the new Act was held in March 1900. It resulted in the election of 21 commissioners, and the appointment of four by the Government in wards in which the candidates withdrew. In only three wards were there contested elections, and in these very little interest was shown by the ratepayers. The total number of registered voters in the whole city was 13,422, of whom 2,317 were Europeans, and nearly three-quarters were Hindus. The 25 representatives included 17 who had served on the Corporation before. The elected commissioners consisted of eight Hindus, two Mahomedans, and 11 Europeans.

The two years during which the newly constituted Corporation has been at work have been largely occupied with the reorganisation of the administrative departments. Defects of previous years and old obstructions to good administration are being cleared away. But though good progress was made in strengthening the organisation for the improvement of Calcutta, the actual expenditure on the main schemes was comparatively small, and the demands in the near future will be very great. It is therefore satisfactory that the finances of the Corporation are in a sound condition. The valuation of the town has increased by nearly £350,000 in the last ten years, and since the introduction of the new Municipal Act the increase has been little less than £100,000. During 1901-02 four wards were assessed, the total increase in the valuation being over £60,000, and the income from the general rate was larger by £14,000, owing to new assessments and better collections. The income of the municipality was £415,500 in 1901-02, against £304,300 in 1891-92, the expenditure being £390,800, compared with £299,900 in the earlier year. The incidence of taxation per head of population was Rs. 6·3·2 in 1901-02, the consolidated rate remaining at 19½ per cent., against a legal maximum of 23 per cent. But the Suburban Sewerage scheme, with which some progress has been made, and the necessity for extending the water supply throughout the town and suburbs, will make serious demands on the municipal finances. Not only is the drainage question an urgent one, but the congested condition of many parts of the city makes special measures necessary. The powers given by the Municipal Act in respect of the improvement of "bustees," or collections of huts, do not meet the requirements. During the last few years a discussion has been carried on with a view to the inauguration of a Calcutta development scheme, on the lines of the similar scheme now being worked by the Bombay City Improvement Trust. No definite decision had been made by the end of the period under review, but the scheme embraces the construction of 15½ miles of roads, at a gross cost of £3,190,000, of which about £1,940,000 might be recouped by the sale of properties. The estimates are based on the experience gained in the construction of the Harrison Road, which had been practically completed by the beginning of the decade. The liabilities of the Corporation stood at £2,146,000 at the end of 1901-02, against £1,549,000 in 1891-92. They are limited by the legal provision that the cost of interest and sinking funds shall not exceed 10 per cent. of the valuation of the city; the charge in 1901-02 equals 7·4 per cent. of such valuation. During that year loans were raised to the amount of £140,000, for plague, drainage, and miscellaneous works.

Bombay
City.

Bombay City has the distinction of having been the subject of the first effective experiment in government by election in India. Up to the year 1872 the affairs of the city were controlled by a Commissioner and a bench of Justices, the Commissioner having, under the Government, almost uncontrolled power over the finances. But in that year the city received a constitution providing two representative bodies, one within the other, the Corporation and the Town Council. The Corporation was composed of 64 commissioners, of whom half were elected by the ratepayers, one quarter by the Justices of the Peace, and one quarter nominated by the local Government. The Town Council consisted of twelve of the commissioners, four of whom were nominated by the local Government, and the rest elected by the Corporation. The chairman of the Corporation was elected by the commissioners; the chairman of the Town Council was appointed by the Government from the 12 members chosen in the manner described above. It will be observed that the main differences between this Act and the Calcutta Municipal Act of 1876 were precisely the points in which the Calcutta law has been recently amended; the Bombay Act provides an

inner body of moderate size to secure due administration of the municipal fund, and it leaves the Municipal Commissioner in possession of "the entire executive power and responsibility for the purposes of the Act." This constitution was altered in certain respects in the Consolidated Act of 1888, but so far as the main principles of it are concerned the practical success which it had attained was an ample justification for their continuance. As now constituted, the Corporation contains 72 members, of whom 32 are elected by the ratepayers at ward elections, 16 by the Justices, two by the Fellows of the University, and two by the Chamber of Commerce, while the remaining 16 are appointed by the local Government. The amount of rates payment of which formed the voters' qualification has been reduced from Rs. 50 to Rs. 30 per annum. The Town Council was left unchanged by the Act of 1888, except that the election of the chairman was put in the hands of the 12 members. The Municipal Commissioner is appointed by the Government, but he is to be removed from his office by the Government if a proposition to that effect is supported by 45 votes in the Corporation. The Act provides that, generally speaking, the municipal government of the city vests in the Corporation, which is a deliberative assembly, having discretion to form out of itself consultative committees. Neither the Corporation nor its committees have executive functions. The entire executive power vests in the Municipal Commissioner, subject in certain cases to the approval or sanction of the Corporation or its committees. A Joint Schools Committee of eight members, appointed in equal proportions by the Corporation and by the local Government, is in charge of primary education in the city; and the establishment of similar joint committees was permitted by the Act, for the control of secondary technical education, or of medical institutions, but they have not been found necessary.

The main factors in the financial situation of the municipality are shown in the margin, with the changes in the ten years. The increase in

	1891-92.	1901-02.
	£	£
Income	405,647	517,782
Expenditure against income	378,046	518,430
" on loan works	228,036	47,084
Liabilities	2,169,809	3,105,536
Assets	3,319,520	4,129,037

the revenue arises largely from the receipts from the general rate, of which the incidence was 8 per cent. in 1891-92, against 10 per cent. in the later year; receipts from water tax also show a considerable increase. The apparent contrast in the amount spent out of loan funds on public works is due partly to the inclusion

in the earlier year of expenditure on the Tansa waterworks, which were opened in March 1892, and partly to the fact that the operations of the Bombay Improvement Trust are not included in the figure for 1901-02. This Trust was constituted in November 1898 to carry out the comprehensive scheme for the improvement of the city, which had been suggested by the outbreak of plague in 1896-97. It consists of 14 members, of whom four are elected by the Corporation and one each by the Chamber of Commerce, the Port Trustees, and the Millowners' Association, the remainder being ex-officio or nominated members. Lands belonging to the Government or to the Corporation, to an aggregate value of about £607,000, were vested in the Trust, and loans amounting to £533,000 were raised in the open market at 4 per cent. The Corporation makes an annual contribution to the Trust, £32,700 being entered under this head in 1901-02. The special objects in view are the better ventilation of the densely populated parts of the city, the removal of insanitary dwellings, and the prevention of overcrowding. Eight schemes had been notified up to March 1902; three of them and parts of two others had already received the sanction of Government, and £119,960 had been spent on the Nagpada Improvement scheme, and £20,200 on the Queen's Road scheme. The liabilities and assets show a great increase, owing for the most part to the raising of loans for drainage and other works, besides a loan of £133,000 for plague expenditure. The loans raised during 1901-02 amounted to £113,000. The plague has formed a great burden on the resources of the municipality. The total expenditure on plague operations from the commencement up to the 31st March 1902 has been £368,000, which has been met as follows:—£80,000 from the plague loan, £96,700 by the Government contributions,

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£104,800 from loan fund balances, and £36,500 from the municipal general fund. The municipality decided in 1900-01 to purchase the Bombay tramways, but their decision was contested at law, and nothing was actually done during the decade. The incidence of municipal taxation per head of the population of the city was Rs. 8-9-7.

Madras City.

It was not until 1878 that an elective principle was introduced into the municipal government of Madras City. Under the Act of 1867 the Corporation consisted of 32 commissioners, appointed by the Government; and a president, also appointed by the Government, held all executive powers. In 1878 no change was made in the numbers, except that two vice-presidents were added, one to collect the revenues and the other for sanitary and public works purposes; but 16 of the commissioners were to be elected by inhabitants who paid rates to the amount of Rs. 25 or more per annum. A later Act of 1884, which consolidated the law, increased the number of elected commissioners to 24, "unless the Governor in Council otherwise directs." The remainder were, as before, to be nominated by the Government, without restriction as to residence in any particular ward of the city. In 1892 the two vice-presidents were abolished, and their duties assigned to salaried officers who are not members of the commission. In other respects the constitution of the commission remains as in 1884. The control of the local Government is specially strong in the case of this municipality, and intervention is not infrequent. The roll of qualified electors contains 5,698 names, compared with 4,433 in 1891-92; and in the year 1900-01, when 14 elective seats fell vacant and seven of them were contested, about 33 per cent. of the voters came to the poll.

The City of Madras covers an area of 27 square miles, and contained a population in 1901 of 509,346 inhabitants, against 452,518 in 1891. There is a densely inhabited "Black Town," with two or three equally densely populated suburbs, a road of some miles in length lined by shops and houses, and a great number of villages, including what are known as "parcherries," *i.e.*, groups of huts collected in gardens or waste spaces, which it is an almost hopeless task to keep sanitary. The Act of 1892, although it grew into a revising Act with copious detail, originated in a proposal, made in 1886, to secure fuller control over the building of parcherries. The progress made during the decade in the important matters of sanitation and water supply will be described in the later chapter relating to that subject.* Very little is spent from municipal funds on education. The number of pupils in primary schools is returned as 8,865 in 1901-02, and that of pupils receiving elementary education in secondary schools as 2,273, compared with 7,906 and 2,790 respectively in 1891-92. The percentage on the population of school-going age was 28·3 in the case of Hindu boys, or slightly higher than at the beginning of the decade. Among improvements which have been instituted, may be mentioned the construction of a system of electric trams by a company, and the building of the "Moore market" by means of a municipal loan. A dispensary constructed by a private gentleman was handed over in 1899 to the charge of the Municipality, which also keeps up the Triplicane Hospital and the Black Town Dispensary, besides contributing to the support of other institutions of the kind.

The income of the Municipality from all sources except loans in 1901-02 was £116,880, compared with £77,500 in 1891-92. A considerable share of this increase has occurred in the receipts from taxation, which amounted to £70,300 in 1901-02. The rates of taxation have for the most part remained unchanged, though there have been increases in the rates of the tax on vehicles and animals, and an abortive attempt early in the decade to levy a duty on tobacco. The greater part of the taxation receipts arises from taxes on buildings and lands, levied throughout the ten years at rates aggregating 15½ per cent. of the assessed annual value; and increase under these heads has been due to the growth of the total assessment value of the property in the town. The incidence of municipal taxation, excluding tolls, per head of the city population was Rs. 2 in 1901-02, against Rs. 1½ in 1891-92. Most of the increased revenue has been expended on new works or repairs in connexion with the drainage or water supply.

* See page 122.

The amount of the outstanding loans rose during the decade from £191,000 to £350,000, owing to fresh loans for waterworks, drainage, and plague. On the other hand, the sinking funds aggregated £103,200 at the end of the decade, against £57,200 at the beginning. The municipal debt now amounts to about three times the annual income.

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DISTRICT MUNICIPALITIES.

The income and expenditure of the municipalities of British India in the year 1901-02 as stated in the Finance and Revenue Accounts are shown on the next page. The figures differ to some extent from those given in the text, which are taken from the municipal reports. The sources of municipal income, apart from loans and contributions from the Government, are usually divided under the two heads, "Taxation" and "Municipal property and powers apart from taxation." Of the taxes, the most important are the octroi duties, and the taxes on buildings and lands. The former have the advantage of being an indirect form of taxation, little noticeable by the people, since they are paid in the form of increased prices. They are only levied in the municipalities of the United Provinces, Bombay, the Punjab and the Central Provinces, and some minor administrations; but in those provinces their yield constitutes a large proportion of the receipts. In other provinces the principal source of the municipal revenues is the tax on buildings and lands. The octroi duties are levied on various classes of goods according to the circumstances of each town, with a general reservation against the taxation of the raw material of important local industries. The chief concern of the Government has been to see that they do not operate as transit dues, and for this purpose drawbacks are given on such goods taken out of municipal limits as have already paid duty on entry. With the same object it has been provided that no articles of which the local consumption is in low proportion to the amount which enters the town, or on which Imperial taxation has been already levied under the Sea Customs Act, shall be included in the octroi schedule of any town. The working of the system in any particular town is tested in a rough way by applying certain standards of consumption of the chief staple commodities of local trade. If the amount taxed is seriously in excess of the local consumption so estimated, there is a presumption that the duties are acting as a tax on through trade, and that goods passing through the town on a main route of communication, or destined to supply the neighbouring country, are contributing to the municipal revenues. In such a case the Government prescribes the establishment of bonded warehouses or the abolition of the duties, or takes any other measures which seem to be required.

The tax on houses and lands forms a large percentage of the municipal income where octroi is not levied, in Madras, Bengal, Burma, Assam, Berar, and Coorg. In each province the maximum percentage which may be levied on the annual value is fixed by law; and it has been found necessary to raise the limit in some cases. In Bengal this tax sometimes takes another form, appearing as a tax upon occupiers, according to their circumstances and property. The tax also plays an important part in the revenues of the Bombay district municipalities, and is levied to a greater or less extent everywhere. There has been a tendency in Bombay to substitute direct for indirect taxation, and while the revenue from octroi duties has been nearly stationary, the receipts from the tax on houses and lands have shown an expansion which is only partially due to the increase in rateable values. In Madras, the United Provinces, Coorg, and Berar a tax on professions and trades forms a considerable portion of the income from municipal taxation, and a similar tax is levied in several other provinces on a small scale. Generally speaking it takes the form of a license tax, or fee; in the Madras district municipalities the amount of the fee is graduated according to the income of the payer, the maximum fee being Rs. 100. Besides these taxes there are in almost all provinces taxes on vehicles and animals, tolls on ferries, bridges and roads, and a few minor taxes. All the above revenues are expended on the general purposes of municipal administration, but there are also in the larger towns special rates for water

STATEMENT showing the Number of Municipalities in British India, their Receipts and their Expenditure, for the Year 1901-02.

Note.—These figures are taken from the Finance and Revenue Accounts of the Government of India, and do not strictly tally with those given in the text, which are borrowed from the annual reports.

	Bengal.		United Provinces.	Punjab.	North-West Frontier Province.	Birma.	Central Provinces.	Assam.	Madras.		Bombay.		Minor Provinces.	TOTAL.*
	Presidency Corporation.	District Municipalities.							Presidency Corporation.	District Municipalities.	Presidency Corporation.	District Municipalities.		
Number of Municipalities - - - -	1	157	104	137	-	42	52	14	1	60	1	166	9	744
Population within municipal limits - - -	807,358	2,839,764	3,290,426	2,071,970	-	886,866	679,766	94,982	509,846	1,903,890	776,006	2,369,768	127,429	16,357,571
Receipts:	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Octroi - - - - -	-	-	208,555	210,628	24,458	-	58,891	-	-	-	82,101	208,709	23,202	816,479
Other Taxation - - - - -	351,768	222,494	76,248	20,852	328	147,637	20,897	8,132	70,297	123,081	962,758	122,088	2,205	1,528,285
Revenue sources other than Taxation - - -	49,562	60,876	79,332	86,721	19,851	162,985	20,211	8,225	43,004	67,174	72,923	123,688	7,895	802,847
Extraordinary and Debt - - - - -	260,822	20,453	17,254	14,194	-	122,706	5,855	70	34,005	48,927	1,748,017	60,219	1,144	2,328,166
TOTAL (1901-02) - - - - -	£ 662,152	£ 303,823	£ 381,389	£ 331,890	£ 44,687	£ 339,278	£ 105,294	£ 16,427	£ 147,306	£ 284,182	£ 2,265,799	£ 614,654	£ 34,446	£ 5,475,277
CORRESPONDING TOTAL (1891-92) - - - - -	£ 510,234	£ 193,615	£ 396,890	£ 295,207	-	£ 223,315	£ 114,384	£ 10,408	£ 93,777	£ 165,642	£ 4,253,918	£ 289,689	£ 87,270	£ 6,584,249
Expenditure:	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Cost of Collection and Administration - - -	38,202	28,052	43,020	48,997	3,805	30,143	28,688	1,211	7,579	16,566	88,508	129,482	7,190	421,438
Public Health and Convenience - - - - -	262,297	191,639	184,701	140,316	14,512	251,814	44,828	12,904	89,981	150,504	273,909	152,776	11,777	1,781,908
Public Safety - - - - -	38,799	19,215	43,819	48,840	5,343	21,458	1,571	608	4,363	7,685	57,702	15,478	3,256	258,637
Public Instruction - - - - -	969	8,823	14,507	38,000	3,147	17,230	9,555	530	1,802	123,766	7,501	49,313	1,719	177,522
Interest and Miscellaneous - - - - -	120,017	25,717	52,415	40,240	2,926	27,986	6,787	418	20,579	15,621	205,573	61,859	5,909	596,047
Extraordinary and Debt - - - - -	159,397	30,298	18,372	10,458	3,279	65,447	10,418	61	25,400	40,798	1,895,019	81,017	2,430	2,142,419
TOTAL (1901-02) - - - - -	£ 614,681	£ 308,744	£ 356,834	£ 322,506	£ 38,012	£ 414,108	£ 101,847	£ 15,732	£ 150,154	£ 254,940	£ 2,278,207	£ 489,926	£ 32,281	£ 5,367,971
CORRESPONDING TOTAL (1891-92) - - - - -	£ 464,743	£ 191,341	£ 351,446	£ 200,294	-	£ 240,391	£ 92,514	£ 9,884	£ 98,623	£ 146,113	£ 4,263,689	£ 295,621	£ 87,418	£ 6,483,097

* Berar municipalities are not included; and particulars of the number and population of the municipalities in the Province are not available.

supply, scavenging, and, in Bengal and Burma, for lighting. The income from municipal property and powers apart from taxation in the district municipalities in 1901-02 was equal to nearly one-fourth of the taxation revenue; it accrues from the proceeds of municipal lands, buildings, markets and slaughter houses, municipal fines, payments for municipal services rendered to individuals, and realisations under special Acts.

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The duties which fall within the province of the municipal committees have not been materially changed during the decade. But the tabular statement on the opposite page shows how great an expansion has occurred in the expenditure. Taking the heads separately, it is to be noted in the first place that the charges of administration and collection bear a smaller percentage to the total in 1901-02 than they did in 1891-92. The heading "public safety" includes fire brigades, lighting, and police establishments. The municipalities in most provinces were relieved of the main police charges in 1881, when an equal amount of expenditure on education and other objects was transferred to their control. But in the Punjab and the United Provinces a considerable proportion of the municipal incomes is still spent on police services. The duties of the municipalities in connection with the public health and convenience include not only such matters as the conservancy of streets, bridges and drains, but also a large number of functions specified in the Acts of each province, e.g. provision of pure water supply and of drainage, registration of births, marriages and deaths, vaccination and medical charities, control of fairs and industrial exhibitions, establishment of markets and of slaughter-houses, provision and care of open spaces, and the like. The other main heading of the municipal functions is public instruction, which has been regarded as one of the duties of the municipalities since the arrangement made in 1881. In that year the total assistance rendered by the district municipalities to education was less than £29,000, the Punjab being the only province where liberal grants were made. In the year 1901-02 the amount thus expended, not including Berar, was £507,600 or 24 per cent. of the total income of the district municipalities, against which may be set off £41,100 received as school fees. A branch of the municipal functions, which has not received notice above, is the administration of relief in times of famine, but this does not form a large share of the expenditure of the municipalities. The expenditure was also swollen very largely in many provinces by the plague, which prevailed for a great part of the decade in Bombay, and for the last two years in most other parts of India. The municipal funds have been assisted in these matters by grants from Government revenues; but the expenditure on the prevention of or the fight against plague has proved a severe tax on municipal resources in most parts of India.

Municipal
expenditure.

The Act of 1884 which governs district municipalities in Madras was under consideration for a large part of the decade, and as a result an amending Act was passed in 1897. Under the law thus amended, nearly all the municipal committees have a proportion (fixed by the Government) of elected members; and the Government may authorise the election of a chairman. Provision is also made for the election of a vice-chairman and for the appointment of a paid secretary. The Government may remove a chairman, vice-chairman, or councillor for stated reasons. A very large number of corrections and amendments in matters of detail were included; but the most important change in the law was in relation to the limit of taxation. Since the Act of 1884 was passed, an enormous advance had been made in every branch of municipal administration, and taxation, which then was quite sufficient to meet the requirements of municipalities, had been found inadequate in the new conditions. The original proposal was to increase the limit of the tax on buildings and land from 7½ to 10 per cent., and to fix the maximum rate of the water and drainage tax at 6½ per cent. After careful consideration, extending over more than two years, this was modified to some extent, and the schedule of permissible taxes (subject to the approval of the Government in each case) includes a graduated tax on professions, trades, and callings, a tax on buildings and lands, not exceeding 8½ per cent., a further tax on buildings and lands, not exceeding 8 per cent., for water and drainage purposes, as well as taxes on vehicles, &c., and tolls.

District
Municipalities.
Madras.

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There are no octroi duties in Madras. The number of the municipalities has risen from 55 in 1891-92 to 60 in the last year of the decade, and their population within municipal limits from 1,636,000 to 1,903,900. The incidence of municipal taxation per head of the population has grown from 12 $\frac{3}{4}$ annas to 15 $\frac{1}{2}$ annas, or, excluding tolls, from 9 $\frac{1}{2}$ annas to 12 $\frac{1}{8}$ annas. The income has increased from £148,000 in 1891-92 to £187,600, excluding debt heads. Their aggregate debts amounted to £123,900 in the year 1901-02.

Bombay.

An Act which was under discussion for some years, and which was finally passed in the year 1901, consolidates the law relating to district municipalities in the Bombay presidency, which was previously contained in the laws of 1873 and 1884, and effects some changes in the powers and the constitution of the municipal councils. It revives the distinction, embodied in the Act of 1873, but omitted from that of 1884, between large cities, such as Karachi or Ahmedabad, containing not less than 15,000 inhabitants, and the smaller municipalities. In the city municipalities, a chief officer may be appointed to exercise executive functions; and provision is also made for the appointment of a health officer or an engineer. The proportion of elected councillors remains at not less than one half in every municipality, except those to which the elective franchise shall, for special reasons, not be extended. Councillors are to be elected by the ratepayers, or by sections of the inhabitants, or by public bodies or associations, in the proportions settled by the Government in each case. The Act also provides for the establishment of "notified areas," on the lines of the system in force in the Punjab, in places where improved arrangements are required in respect of municipal matters, but where it is not expedient to constitute a municipality. In such "notified areas," the Government may apply any part of this Act, impose any tax provided by the Act for municipalities, and appoint a committee to collect and manage the fund.

The district municipalities in Bombay and Sind numbered 166, including four temporary municipalities, in 1901-02, against 174 in 1891-92; and their population is given as 2,370,000, compared with 2,280,000 in the earlier year. The aggregate income in 1901-02 was £414,900, and the incidence of taxation varied from 27 annas in Sind to 13 $\frac{3}{4}$ annas in the southern division, against 30 annas and 11 $\frac{1}{4}$ annas respectively in 1891-92. The indebtedness of the municipalities at the close of 1901-02 amounted to £276,900.

P. al.

The chief constitutional change in the Bengal district municipalities during the decade was the introduction of a lodger franchise, which was given to occupants under specified conditions, if they hold appointments worth not less than Rs. 50 a month. The same Act of 1894 which made this innovation also included certain other provisions, for facilitating drainage and water supply schemes, which it is not necessary to detail; but for the most part it left the Act of 1884 in force. An amending Act was also passed in 1896. The 1884 Act provides that two-thirds of the commissioners of each of the municipalities, with certain stated exceptions, shall be elected by the ratepayers, the qualification of the latter being payment of rates to the amount of Rs. 3. All the municipalities, with the same exceptions, have the privilege of electing their own chairman, who may be removed from his office by a resolution of the commissioners, supported by not less than two-thirds of their number. The same applies also to the vice-chairman. Special provisions are included in the Act regarding the control of the district officer over the proceedings of the municipality; but the powers of the latter are extensive. The local Government may, when a water supply or drainage scheme is considered necessary, called on the commissioners to show cause why it should not be executed; but a municipal resolution against such a scheme, if supported by two-thirds of the commissioners, is final. An Act passed in 1900 gave special powers to the Darjeeling municipality in respect of buildings on hillsides and the like, rendered necessary by the character of the town and its surroundings.

The municipalities in Bengal numbered 157 at the end of 1901-02, exclusive of Calcutta, as compared with 145 at the beginning of the decade, and the aggregate income of the district municipalities, excluding debt heads, had grown from £176,900 to £283,400. This included £222,500 from various forms of taxation, of which the most important are the rate on holdings or the

alternative tax on persons according to their circumstances and property within the municipality. The expenditure amounted in 1901-02 to £273,500 excluding debt heads, of which 31 per cent. was for conservancy, 6 per cent. for water supply, 4 per cent. for drainage schemes, and 16 per cent. for the maintenance and construction of roads. The expenditure on education is small, and orders have been issued for the application of a proper share—3.2 per cent. is the prescribed proportion—of the municipal revenues to primary education.

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MENT.

In the United Provinces an Act has been recently passed (I. of 1900) to consolidate and amend the law relating to municipalities. The previously existing law contained no definite provisions as to the powers and duties, especially in respect of sanitation, which should belong to the municipal boards; and clearer statement of the serious municipal offences was also required. The new Act supplies these desiderata, and in addition makes various minor amendments. The boards generally consist of members elected by the ratepayers or appointed by the local Government, the number of the latter not exceeding one-fourth of the total; but in four towns, of which Naini Tal is the most conspicuous, the elective principle is not applied. The qualifications for voters are left to be determined by rules made by the local Government. The members elect their own chairman, except in such towns as are by notification exempted from this provision. The vice-chairmen are also elected by the boards. These officers, or members of the board, are removable by the local Government on certain specified grounds. Their powers of taxation include, with the sanction of the local Government, a tax on buildings and lands not exceeding $7\frac{1}{2}$ per cent. of the annual value, or 10 per cent. in towns in the hills, taxes on professions or on vehicles, tolls, octroi dues, or charges for scavenging and water supply. The duties assigned to the boards by the Act are, generally speaking, the same as those of the Punjab Act, and include the control of buildings and streets, conservancy, sanitation, restraint of infection, and the like. The Act also provides for the case of towns or local areas, other than agricultural villages, with a population of less than 10,000 inhabitants, which it may not be desirable to treat as a municipality. In such "notified areas" the local Government has power to levy taxes, and to spend the proceeds through the agency of a committee of two or more persons.

United
Provinces.

The new Act was in force throughout the year 1901-02. A new account code has been compiled, with a view to introducing order into municipal accounts and correcting abuses, especially in the octroi administration, and has resulted in a great improvement in the technical details of municipal administration, and in a marked development of municipal income. The number of the municipalities was 104, or one more than in 1891-92. Octroi duties were levied in 82 towns, and those in which such duties have not been instituted are for the most part unimportant. In Cawnpore the place of octroi duties is taken by a terminal tax on imports and exports by road, river, or rail, collected in the latter case by the railway authorities. The income of the municipalities, excluding debt heads, amounted to £367,000 in 1901-02, compared with £278,700 in 1891-92. Of this increase the additional receipts from octroi duties account for £67,500. The incidence of municipal taxation was $20\frac{1}{2}$ annas per head of the population in 1901-02, against $11\frac{1}{2}$ annas at the beginning of the decade.

The municipal committees in the Punjab are regulated by an Act passed in 1891. The main principles as regards the constitution of the municipalities were not affected by the change, and the aim was to render the law less complex and more easily adaptable to the widely differing circumstances of municipalities in hill stations, in large commercial centres such as Delhi and Amritsar, or in small and backward country towns. The local Government has power to fix the number of members in each committee, and determine how many of them may be elected, with the proviso that, unless the Governor-General in Council shall otherwise direct, not more than one-third of the members may be officials. The committees may elect their own presidents and vice-presidents, subject to the approval of the local Government. Power is reserved to the Government to remove commissioners, and also to remove

Punjab.

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presidents, on a requisition to that effect supported by two-thirds of the members of a committee. Provision is also made by the Act for the constitution of towns not considered fit for municipal government as "notified areas," with a nominated committee. Forty-seven such areas had been notified by the end of the year 1901-02, including some minor towns in which municipalities had previously existed. Ten municipalities and one notified area were transferred to the North-West Frontier Province, excluding which, the municipalities numbered 137 and the notified areas 46; the aggregate income was £317,700, including £210,600 raised by octroi duties in force in 142 towns, and the expenditure was £299,900; which may be compared with the income of £264,100 and the expenditure of £281,200 in 149 municipalities in 1891-92. The aggregate balances at the end of 1901-02 amounted to £107,500, and none of the towns showed an adverse balance.

Central
Provinces.

In the Central Provinces the constitution of the Municipal Committees was not revised during the decade, and it continued to be regulated by the Act of 1889, which is in all essential principles the same as the Punjab Act of 1891. The number of the municipalities has been reduced from 56 to 45 during the decade, the chief reduction having occurred in 1901-02, when seven towns were struck off the list on the ground that their size and population were not such as to make municipal administration appropriate. There are still some municipalities which are little more than large villages. Instructions have recently been issued that Assistant Commissioners should interest themselves more largely in municipal work, and this accounts for an increase in the number of European members of the municipal committees. Octroi duties are levied in 25 of the more important towns, and accounted for about 59 per cent. of the receipts, excluding debt heads, in 1901-02. The reduction in the number of municipalities has had the effect of reducing the aggregate income and expenditure, but they had risen to £99,900 and £91,400 respectively in the last year of the decade, against £96,100 and £85,500 in the year 1891-92. In Nagpur the financial position of the committee is satisfactory; fresh taxation has recently been introduced, and a further loan is to be taken for improvement of the water supply.

Assam.

Assam was severed from the Lieutenant-Governorship of Bengal in the year 1874; but the Bengal Municipalities Act of 1876 was applied to the new province, and 10 out of the 14 Assam towns of importance are now regulated by that Act. The remaining four, Dibrugarh, Gauhati, Sylhet, and Dhubri, have been brought, the latter town only in the year 1901, under the Bengal Act of 1884 of which an account has already been given. Under the 1876 Act there is power to permit the introduction of the elective principle into any municipality in which a petition to that effect is made and supported by one-third of the ratepayers. This has been done in two of the municipalities which are under that Act. The district magistrate is usually the chairman of the municipal committee, and the commissioners usually elect a vice-chairman. Generally speaking, the form of municipal government in Assam is not so advanced as in other provinces; and of the 10 towns under the Act of 1876 only five are municipalities properly speaking, the remainder being either "unions," in which certain powers are entrusted, subject to close control, to panchayats, *i.e.*, councils of three or five persons appointed by the magistrate; or else "stations," in which the district magistrate, together with some ratepayers appointed by the local Government to be commissioners, exercises certain municipal functions.

The towns are all small, the largest being Sylhet with a population of less than 14,000 persons; and the total population of the 14 municipal areas amounts to 95,000 all told. The finances are on a correspondingly small scale, the aggregate income amounting to £16,400 only in 1901-02, against £10,300 at the beginning of the decade. Almost half this amount is raised by direct taxation, either on holdings or on persons, or by water rates and the like; and the incidence of direct taxes is slightly more than Re 1½ per head of the inhabitants.

Burma.

The decade saw a revision in Lower Burma of the law relating to municipalities. After long discussion an Act was passed in 1898 defining their powers and duties, but leaving untouched their constitution. The latter, which was fixed by the previous Act of 1884, is laid down as consisting of

elected members and members appointed by the Government, the latter not exceeding one-fourth of the whole, unless the circumstances of the municipality are held by the local Government to require a larger number. At present, however, only 10 of the 42 municipalities of Burma have elected members of their committees. The Act applies to all the municipalities of Lower Burma, including Rangoon, and to Mandalay in Upper Burma. It is also being extended by degrees to other towns in the Upper Province, but 12 towns of Upper Burma are still administered under a Regulation of 1887, which enables committees to be formed, but leaves the appointment of their members and the imposition of municipal taxes in the hands of the local Government. A special Act for the Rangoon municipality was in contemplation at the end of the decade. The growing importance of Rangoon renders it desirable that it should be put upon a footing more nearly approximating to that of the Presidency towns. Excluding Rangoon, the municipalities of Upper and Lower Burma numbered 41 at the end, against 40 at the beginning, of the decade. Their income, excluding debt heads, was £152,800, compared with £99,400 in 1891-92. Octroi duties are not levied, and the most important source of income is the revenue from markets and slaughter-houses, which has increased by 67 per cent. in the ten years. The expenditure has grown from £106,300 to £155,400.

The Rangoon municipal committee consists of 25 members, of whom 19 were elected and six nominated. The town has grown both in size and importance during the decade; its population numbered 218,600 in 1901, compared with 180,300 in 1891, and the limits of the municipal area have recently been extended. The income, less debt heads, had grown from £87,600 in 1891-92 to £150,500 in the last year of the decade, and the expenditure from £86,300 to £186,300. The chief source of income is the tax on buildings and lands, levied at the rate of 9 per cent. This yielded £42,300 in 1901-02; and £14,700 also accrued from the water rate, and £24,200 from conservancy receipts. Much has been done during the ten years towards the improvement of the water supply, and a further extension was projected at the end of the decade. The reclamation of low lying quarters of the town has also been carried on vigorously. The results of these measures from a sanitary point of view will be noticed elsewhere; financially, the result has been to increase the outstanding balance of loans from £242,100 in 1891-92 to £383,400 in 1901-02, against which are to be set sinking funds amounting to £26,300. Taking into account other liabilities, the net amount of debt outstanding on the 31st March 1902 was £364,500.

There was no change in the law affecting municipal government in Berar Berar. during the decade. Under the law of 1886 elected members must ordinarily constitute three-fourths of each municipal committee. The system of representation and election is debated, in the case of each new municipality, at a meeting convened by the district magistrate, and attended by honorary magistrates and leading residents; rules being finally made by the Resident. Six of the 12 municipalities of Berar were still, however, at the end of 1901-02 excepted from the elective system, and all the members of their committees were nominated. The number of municipalities was increased by four during the decade, but none of the existing 12 are large, and in one the population is little over 4,000. Their income is therefore small, and though it has increased considerably since 1895-96, the first year in which the full number of 12 was at work, it amounted only to £21,600 in 1901-02.

II.—DISTRICT AND LOCAL BOARDS.

It has already been said that the systems of rural local government differ considerably in the various provinces. But with some exceptions the provinces agree in taking the taluka or other recognised subdivision of a district as the territorial unit. The exceptions are, in the first place, the Central Provinces, where the local board areas are formed by an aggregation of "circles," which are themselves an aggregation of villages. Secondly, there is the more important exception of Madras, where the village union is the unit of administration. Groups of villages are constituted as "unions" District and local boards.

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governed by a council, or "panchayat," consisting of the headmen of the villages, and other members appointed by the Government; above these unions are the taluk boards, above the taluk boards are the district boards. Thirdly, the Bengal Government has power to create village committees or unions; but the power has only been used in the years 1895 and 1896, and the number of unions is not large. Elsewhere (and this applies to the Central Provinces) there is no organised body below the local or taluk boards, which are subject to the control of the district boards. The precise relations between the local and the district boards vary to some extent in each province. Generally speaking, the local boards are regarded as the "agents" of the district boards, employed to do work which the latter delegate to them, or do not themselves undertake. The district boards control the local boards, and administer the major part of the revenues, and such branches of expenditure, including generally the educational charges, as are of more than purely local importance. In each province power of supervision and control has been reserved to the Government through the district officer, who in Madras is ex-officio president. The local boards contain a proportion of elected members, varying from three-quarters to a half of the whole number in all provinces excepting Assam, where the elective system has not been generally introduced, and Madras, where the system is only applied to members of district boards. The latter are to a large extent chosen, either by election or appointment, from the ranks of the local board members. The general term of appointment of members of the rural boards is three years. The following statement shows the constitution of the district and local boards in 1901-02. There are no local boards in Burma or Coorg.

	Number of District and Local Boards.	District Boards.		Total Number of Members of the District and Local Boards.	By Appointment.			By Employment.		By Race.	
		Area.	Population.		Ex-officio.	Nominated.	Elected.	Officials.	Non-officials.	Euro-peans.	Natives.
Madras	{ 21 80 }	Square Miles. 124,677	34,042,410	1,764	82	1,372	310	586	1,178	180	1,384
Bombay	{ 33 207 }	122,700	17,389,240	3,569	22	1,238	1,509	766	2,811	192	3,377
Bengal	{ 42 106 }	133,229	68,326,938	2,113	261	1,141	711	441	1,672	224	1,829
United Provinces*	48	Not available.		978	272	106	600	Not available.		99	878
Punjab†	{ 27 43 }	88,691	17,251,851	1,670	239	802	829	275	1,595	70	1,800
Central Provinces	{ 17 54 }	67,540	8,768,010	1,213	38	294	911	141	1,072	24	1,189
Assam	19	32,877	5,275,706	365	60	172	133	70	295	124	231
Bezar	{ 6 21 }	16,078	2,815,384	524	—	180	265	57	467	8	516

* Figures for 1900-01; those for the later year not received.
† Excluding the North-West Frontier Province.

The revenues of the rural boards are necessarily less elastic than those of municipalities, since agricultural rates and cesses constitute the major share of them. The following table shows the proportion derived from each of the more important sources in 1901-02. There is a general resemblance in this respect in most provinces, allowance being made for the variations caused by local circumstances. The only province in which there is any marked divergence is Bezar, where a license tax on non-agricultural incomes above Rs. 100 is levied. This is classed under "miscellaneous," and accounts for the large percentage under that heading.

These headings of income for the most part need no explanation. The income forms a district fund belonging to each council, and the balance is carried on from year to year. This was not the case in the United Provinces up to 1897, local finance being managed by budget allotments from provincial revenues. In that year, however, the United Provinces system was assimilated to that prevailing in other provinces. It is to be observed that the revenues other than provincial rates have for the most part been made over to rural boards on the condition that equivalent expenditure is

incurred on specified objects. The part of the district fund which admits of an extension of their general usefulness is that accruing from provincial rates.

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	Total Boards' Income, excluding Loans and Advances.	Percentage of Total Income, excluding Loans and Advances, derived from							
		Provincial Rates.	Cattle-pound Receipts.	Educa-tional Receipts.	Medical Receipts.	Civil Works Receipts and Tolls and Ferries.	Contributions.		Other Items.
							From Provincial Funds.	From other Boards.	
Madras - - -	£ 626,089	62.9	—	2.7	.6	12.6	3.4	5.9	11.9
Bombay - - -	295,689	61.0	1.8	2.9	.4	10.7	31.9	.2	1.1
Bengal - - -	459,794	61.2	7.0	1.2	.7	17.7	8.0	.2	4.0
United Provinces* -	865,983	60.3	6.3	5.4	2.9	10.4	11.8	—	2.9
Punjab† - - -	207,832	77.9	1.6	3.5	1.0	10.1	.5	.1	5.3
Central Provinces -	65,607	59.4	16.0	1.1	.2	5.7	14.8	.2	2.6
Assam - - -	73,826	60.0	6.6	—	—	9.6	22.0	—	1.8
Berar - - -	48,319	44.1	.8	4.9	—	1.2	10.2	1.1	37.7

* Year 1900-01. † Excluding North-West Frontier Province.

A similar table is now given showing the relative importance of different heads of expenditure in 1901-02, and the corresponding proportions for the year 1895-96 are added in italics, in order to show the effect of the famine and other conditions upon the various branches of expenditure.

	Total Boards' Expenditure, excluding Loans and Advances.	Percentage of Total Expenditure, excluding Loans and Advances, devoted to								
		Education.	Medical.	Civil Works.	Refunds and Draw-backs.	Administration (General Establishments of Local Funds).	Cattle-pound Charges.	Miscellaneous.	Contributions.	Other Items.
Madras - - -	£ 894,355	11.7 <i>13.5</i>	17.0 <i>15.4</i>	47.3 <i>46.7</i>	.1 <i>.2</i>	4.9 <i>4.3</i>	—	3.3 <i>3.5</i>	9.0 <i>13.5</i>	6.7 <i>.7</i>
Bombay - - -	370,833	37.3 <i>37.7</i>	7.4 <i>5.3</i>	43.0 <i>55.6</i>	.1 <i>—</i>	3.5 <i>3.7</i>	—	1.6 <i>2.4</i>	2.6 <i>1.4</i>	3.6 <i>1.0</i>
Bengal - - -	480,400	18.5 <i>19.3</i>	6.1 <i>3.0</i>	65.0 <i>70.4</i>	— <i>.0</i>	4.1 <i>4.7</i>	.3 <i>.3</i>	.8 <i>1.2</i>	3.1 <i>.1</i>	3.1 <i>1.0</i>
United Provinces* -	353,476	37.8 <i>34.4</i>	11.3 <i>14.0</i>	45.8 <i>49.1</i>	— <i>—</i>	1.7 <i>1.5</i>	2.6 <i>—</i>	— <i>.8</i>	10.4 <i>—</i>	.4 <i>.4</i>
Punjab† - - -	210,459	20.1 <i>20.9</i>	21.6 <i>11.3</i>	22.2 <i>35.4</i>	.1 <i>1.9</i>	4.1 <i>4.0</i>	.8 <i>.7</i>	.8 <i>1.2</i>	22.4 <i>18.2</i>	6.9 <i>6.6</i>
Central Provinces	52,590	24.4 <i>30.7</i>	11.0 <i>5.2</i>	33.8 <i>44.6</i>	.2 <i>.4</i>	5.2 <i>4.3</i>	3.2 <i>7.2</i>	1.2 <i>1.4</i>	2.7 <i>1.7</i>	3.4 <i>1.4</i>
Assam - - -	70,300	21.3 <i>17.8</i>	9.3 <i>6.3</i>	61.3 <i>63.2</i>	.2 <i>.4</i>	.3 <i>.3</i>	—	1.9 <i>2.3</i>	.4 <i>—</i>	5.0 <i>.1</i>
Berar - - -	37,376	24.1 <i>30.4</i>	2.5 <i>1.2</i>	35.8 <i>45.7</i>	— <i>.2</i>	7.2 <i>6.4</i>	1.0 <i>—</i>	3.3 <i>3.2</i>	.1 <i>.1</i>	10.0 <i>4.3</i>

* Year 1900-01.

† Excluding North-West Frontier Province.

One of the most important functions performed by the rural boards is the care of education. The amount so spent varies, not only with the province but also with the circumstances of the year. But generally speaking, the proportion of the revenues which is devoted to education, including contributions from other sources, ranges between 15 per cent in Madras and 35 per cent. in the United Provinces; and of this amount rather more than one-half is assigned to primary education. In Bombay, one-third of the local rates levied for the rural boards is set apart for educational purposes by law. In other provinces, as in Bengal, the law imposes on the district funds the duty of maintaining and managing primary and middle schools, to which other schools may be added with the assent of the district boards. But the local funds are generally augmented for this purpose by special Government grants. Elsewhere than in Bombay, the claims of education rank with, or possibly below, those of other branches of local administration. Chief among such other branches are the care of hospitals and dispensaries, leper asylums, vaccination and sanitation, and the construction and maintenance of roads

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and bridges, and works connected with drainage or water supply. The expenditure on the latter purposes, under the heading "Civil Works," includes in every province the greater share of the rural boards' revenues. In some provinces, as in Madras and Bengal; the local funds maintain engineer establishments for this purpose; elsewhere, as in Bombay, the important works are carried out, at the expense of local funds, by the Public Works Department. Among other heads of expenditure by the rural boards is famine relief, which has been unhappily prominent in several of the last ten years. But the sums spent under this head fall ultimately on the Imperial revenues. A further source of embarrassment to the local funds of some provinces has been the necessity of considerable expenditure on plague precautions.

In the following paragraphs an account is given by provinces of the constitution and working of the boards as formed under the legislation which resulted from the resolution passed by Lord Ripon's Government in 1882.

Madras.

It has already been pointed out that in the possession of "union" councils or panchayats, Madras stands virtually alone among the provinces, though a few union committees exist in Bengal. The panchayat consists of the headmen of the villages comprising the union, and of other members, who may be in part elected if the local Government thinks it advisable. As a matter of fact the elective system has not been introduced into the union panchayats or into the local boards. The main duties of the panchayats are the cleansing of the village streets, drains, tanks and wells, though in some of the larger unions they are also entrusted with their construction and repair, and in some cases with the management of primary education, court buildings (choultries), and markets. The local or "taluk" boards consist of a president, who is the revenue officer in charge of the area concerned, and not less than twelve nominated members. They exercise financial and executive authority over the unions, besides having additional powers and duties in respect of other matters and property transferred to them by the district board. Their expenses are met from grants made by the district boards, from fees, and the like, which constitute the "taluk funds." The district board, which exercises authority over the taluk boards, consists of the collector of the district, as ex-officio president, and not less than 24 members. About one half of these members are elected, the choice being restricted to persons who are already members of a taluk board. It will be seen from a comparison of these details with those relating to the other provinces, given below, that Madras is behind most of the other important provinces in the matter of elective representation on the local boards. An Act was passed in 1900 to correct certain minor defects, without making any radical alteration or departing from the main principles and provisions of the existing law. The Nilgiris district forms an exception to some of the above-mentioned provisions, as it contains no taluk boards, and the district board is smaller in numbers. In the year 1901-02 there were 21 district boards, 80 taluk boards, and 381 unions, compared with 21, 86, and 270 respectively in the year 1891-92. The receipts in 1901-02, excluding debt heads, amounted to £626,000, and their expenditure, excluding debt and capital account, to £596,300, against £472,800 and £530,000 in 1891-92. The boards maintain their own engineering establishments. The Tanjore District Board originally provided half the funds for the construction of the Mayavaram-Mutupet railway, and have recently (in 1900) taken over the other half, from the Government, the purchase money being treated as a loan at 4 per cent. The open line at the end of 1901 was 54 miles in length, had cost £170,000, and returned 5.3 per cent on the capital. Further extensions are under construction.

Bombay.

The Bombay system takes the taluka, a subdivision of the district, as the territorial unit instead of the village union. Under the Bombay Act of 1884, which is the operative law on the subject, not less than one half of the members of each district and taluka board are elected, save in special instances, and not more than one quarter of them may be Government officials. The elective members of taluka boards include one member for each municipality within the taluka containing more than 5,000 inhabitants, one member for each of the groups into which for this purpose the villages are divided, and one member to represent the holders of revenue-free or "alienated" villages. The elective members of the district boards include a

member from each taluka board, selected by his colleagues, one member for each municipality containing more than 18,000 inhabitants within the district, to be selected by the municipal commissioners from among themselves, and a member to represent the holders of alienated villages. The presidents are members of the board, nominated or elected as the Government may decide. The representation of municipalities on the boards is a point which is peculiar to the Bombay system. The number of district and taluka boards in Bombay and Sind in 1901-02 was 230, against 221 in 1891-92; their aggregate income had declined from £307,300 to £295,700. The closing balances of the boards at the end of 1901-02 amounted to £100,000, which is much below the figure at which they stood before the financial disorganisation caused by plague and famine. The Government has recently made to the district boards of the Central Division and to some of those in the Northern and Southern Divisions special grants totalling £50,000 for expenditure on medical and educational objects. The depressing influences of plague and famine have hindered the progress of the boards in Bombay. In Sind more favourable seasons have led to the accumulation of large balances. On the whole, the boards may be said to have discharged their ordinary duties satisfactorily in view of the conditions.

The districts of Bengal vary greatly in respect of capacity for self-government, and in the more backward of them it has not yet been considered possible to organise a system of local boards. There are district boards in 42 districts; but it is only in 34 districts that the local Government has exercised its power of creating local, or subordinate, boards. In the other districts, where there are no local boards, all the members of the district boards are nominated by the Government. In the most advanced districts local boards have been constituted throughout, and at least one half of the members of the district board are elected by the local board members from among their own number. In such districts, at least two-thirds of the members of local boards are elected. In other districts, less advanced, but still capable to some extent of performing these public duties, the Government has established a certain number of local boards, and in these cases the members are appointed, not elected, but generally have the privilege of electing from their number some members for the district board. Village committees or unions are, as in Madras, recognised in the Bengal Act, but whereas they are created by the Madras Act, the Bengal Act only empowers the local Government to create them. It was not until 1895-96 that unions were constituted in a few districts in the south-western part of the province, and the number of such unions has not been augmented since the year 1896, when it was brought up to 56. The union committees are elected by the residents in the union, unless the Government sees fit to direct otherwise. The amendment of the Act was under consideration during the decade, but it was delayed owing to the famine and plague, and had not been enacted by the end of the ten years. The number of district boards in 1901-02 was 42, as above stated, and that of local boards was 106, compared with 38 and 103 respectively in 1891-92. The income of the boards had increased from £362,900 to £459,800, excluding deposits and advances in each case, and the expenditure from £378,600 to £480,400. It is reported in 1901-02 that the district boards continue to administer these large funds with care and efficiency; their members show interest in their work, except in Orissa, and co-operate loyally with the executive. The reports as to local boards is less favourable, except in the Patna division; and, generally speaking, the problem of devolution to these smaller local bodies has not yet been satisfactorily solved.

In the United Provinces the Act of 1883 provides for the establishment of district and local boards in all districts, the former consisting either of all the members of the latter or else of a proportion of their elected and appointed members respectively. There are, however, district committees in four districts, consisting of nominated members. The local boards consist of elected and of nominated members, but the latter class may not exceed one-fourth of the number of each board. The presidents of the boards are elected or appointed, as the Government determines, from among the members of the board. There are no union committees or panchayats. The district boards exercise little authority in the United Provinces, as compared with other provinces. There were 44 district boards and 4 district committees in the

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United Provinces in the year 1901-02; these numbers are the same as in 1891-92. The income had risen from £270,100 to £373,600, part of the increase being due to the inclusion of cattle-pound charges and ferry receipts, handed over to the boards in the last two years. The expenditure was also affected by this cause, and amounted to £366,100 against £267,100 in 1891-92. A scheme was under consideration for reorganising the system of financial control, and it is hoped that the greater responsibility and autonomy which it is proposed to give to the boards will be met by increased activity.

Punjab.

In the Punjab, the Act of 1883 requires a district board to be established in each district, but leaves the establishment of subordinate boards, as well as the question whether the members of the boards are to be elected or appointed, to the discretion of the local Government. There is no provision in the law recognising village panchayats. The number of district boards was reduced from 31 to 27 in the year 1901-02 by the separation of certain districts which now form part of the North-West Frontier Province. The number of local boards stood at 43, which is little more than half the number in existence at the beginning of the decade. These boards were found to be useless in many parts of the province and were accordingly abolished. There are now none of them in the Delhi division, and further abolitions are probable. The income of the district boards, omitting debt heads, amounted to £207,800 in 1901-02, and their expenditure to £210,500. The working of the boards is generally satisfactory, though the actual work is chiefly done by the official element. The non-official members often render good service as a consultative and reporting agency.

Central
Provinces.

The system prescribed by the Act of 1883 for the Central Provinces resembles in some respect that in force in Madras, but it differs by the absence of panchayats in the village unions. The local board areas are formed by the aggregation of villages into circles and of circles into groups, for each of which a local board is constituted. Municipal areas are not, as they are in Bombay, represented on the local boards. The latter are constituted of elected and appointed members in the proportion of at least two to one. The elected members consist of representatives of the circles, who must be headmen of villages within those circles, and representatives of the local mercantile classes or professions. The district council, which is constituted in the same way as the boards, excepting that representatives of the boards are substituted for representatives of the circles, assigns to each local board limits for expenditure, and supplies the money from the district fund. Both bodies elect their own chairmen.

Members of the local boards do some useful work, acting individually, in the way of school inspection, and in assisting the revenue officers in their inquiries into the outturn of crops and the condition of the people, but it is reported that in their corporate capacity the boards have achieved little success. The reason ascribed is the uninteresting character of the business which comes before their meetings. "Their proceedings," it is said, "are a somewhat dreary record of appointment of school committee members and sanction to local auctions, with an occasional recommendation to the district council to undertake some local work." Instructions have been issued with a view to the transfer of any suitable powers from the district council to the local boards.

The number of the district councils has remained at 17, but that of local boards has risen from 48 to 54. The income of the councils, excluding debt heads, has expanded from £49,500 in 1891-92 to £65,600. Some of them have been in financial straits in some years, owing to the reduction of their receipts by famine, but all had a surplus balance at the end of 1901-02.

Assam.

In Assam, local funds are administered under a Regulation of 1879, modified by executive rules. A special feature of the constitution of the boards is the large proportion of Europeans among their numbers. They are chiefly elected members of the planting community, and form 37 per cent. of the total number of members. Native non-official members are nominated by the Deputy Commissioners, except in the Sylhet, Kamrup, and Sibsagar districts, where a modified system of election prevails. The number of the boards was 19 in 1901-02. Their income, less debt headings, amounted to £73,600, and they expended £43,200 on civil works, chiefly roads and bridges, and £15,000 on education.

In Berar, district and taluk boards have been established in all districts. The taluk boards consist of elected and nominated members, the latter amounting generally to one-third of the total members of each board. The district boards are composed partly of members elected from among the elected members of taluk boards and partly of nominated members, who form generally between one-sixth and one-fourth of each board, and are limited to one half by the law. There has been no change in the number of the boards since 1893-94, the first year for which report is available. The income, excluding debt heads, has risen from £43,200 in that year to £48,300 in 1901-02. It has been much restricted by famine, owing not only to the decreased receipts from cesses, but also to a decline in the receipts from the Town Fund or license tax mentioned above. The latter head has, however, shown a satisfactory recovery in 1901-02. The balances at the credit of the boards at the end of that year amounted in the aggregate to £50,000, or more than a year's revenue.

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III.—PORT TRUSTS.

The Calcutta Port Commission consists of 15 members, of whom seven, including the chairman and vice-chairman, are appointed by the Government, five are elected by the Bengal Chamber of Commerce, and one each by the Calcutta Trades' Association, the Municipality, and the Bengal National Chamber of Commerce. They receive a small fee for attendance at each meeting of the board or of its committees. A committee was appointed in the year 1900 at the instigation of the mercantile community of Calcutta, to inquire into the working of the Trust. Its report, received in 1901, expressed the unanimous opinion that, as a whole, the work of the Trust had been well done. They made a large number of recommendations under various heads, including suggestions that the rates on goods should be assimilated to those in force at Bombay, and that no capital expenditure should at present be incurred on the docks, which are sufficient for all probable requirements, and capable of gradual extension. The great feature of the decade has been the opening of the Kidderpore docks in September 1892, and the rapid expansion of the amount of goods shipped from the quays, which aggregated 2½ million tons in 1901-02. In addition to this, the greater part of the shipments of jute, gunnies, and cotton, and much of the tea shipments, are brought into the docks by barges and loaded overside without any payment to the Commissioners; practically the whole of the foreign exports are shipped in the docks. The shipping arrangements of the quays are being improved with a view to providing accommodation for shipping all the exports by this means, and this was effected so far as regards wheat and seeds by the action taken during 1901-02. The dry dock gives a good return on capital; but though the wet docks have yielded a small net income on their working in the last two years, the liability in respect of interest and sinking funds results in a deficit in respect of those docks amounting to £58,770 in the year 1901-02. The total capital debt of the Commission at the end of that year was £3,149,000, of which £2,180,000 was due to Government and £969,000 to debenture holders. A sum of £99,000 was spent during 1901-02 on capital works, including a second dry dock, which is approaching completion; the funds being obtained from the balance of previous loans and from the cash balance. Against the above liability are to be set the value of Commissioners' properties, aggregating £4,064,000 exclusive of the valuable Strand Bank lands, and the amount of the accumulated sinking funds, £228,000. The income of the Commissioners has advanced rapidly; it amounted to £184,000 in 1891-92, to £359,000 in 1896-97, and to £482,500 in 1901-02. A large part of this increase is due to the growth of revenue from the docks, but there has also been a general expansion in other departments. The receipts of the year include £66,500 obtained from a special toll of 4 annas a ton on all goods landed from or shipped into any vessel lying within the limits of the port, in addition to the other dues, excepting only coal, which paid 2 annas a ton up to 1898-99, and has been relieved of the toll altogether since that year. The toll was imposed at the beginning of the year 1893 as a set-off to the annual charge caused by the construction of the docks. Much of the revenue earned is for services rendered, and the expenditure, especially at the docks, has

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increased proportionately, and until 1900-01 the surpluses were very small. In that year, however, the surplus amounted to £19,900, and it was decided to reduce the rates charged to trade, the amount of the reduction in 1901-02 being estimated at £10,700.

Bombay.

The Bombay Port Trust consists of a chairman and 12 members, of whom five are elected by the Chamber of Commerce and seven nominated by the Government; eight of them represent the commerce of the port, while the other four places are filled by three Government officials and the Municipal Commissioner of Bombay. The law requires that three of the members should be Native inhabitants of Bombay city. Like the Calcutta Port Commissioners, they receive a fee for attendance at meetings of the board, and since the year 1899 they have also been paid for attending special meetings of the board or its committees. The Bombay Port Trust Act of 1879 was amended in 1899 in several respects, including provisions legalising the position in respect of the levy of fees at the dry dock, and with regard to water supply, fire brigade, and other matters. The plague and famines in recent years have caused great fluctuations in the volume of trade passing through the port, and, therefore, in the revenues of the Trust. The receipts from wharfage fees on goods landed and shipped at the Bunders and Docks together amounted to £158,350 in 1891-92, but fell to £142,400 in 1896-97, and to £138,170 in 1897-98. Since that year the figures have been higher, and amounted to £176,000 in 1901-02. The Merewether Dry Dock, opened in 1891, yielded a revenue of £9,700 in 1901-02. Other heads of revenue, such as rents, pilotage, and port dues, have shown a development, and the total revenue of the Trust had grown from £318,870 in 1891-92 to £370,600 in 1901-02. The debt had grown from £3,288,000 in 1891-92 to £3,638,000 at the end of the decade, owing to expenditure on various improvements, such as shed accommodation, paving of wharves, and deepening of channels. Of this amount, £2,017,000 was due to the Government, the remainder consisting of Foreshore securities and the various debenture loans raised in the market. The capital expenditure on the two wet docks, the Prince's and the Victoria Dock, has been £671,300 and £826,200 respectively up to the end of 1901-02, or £1,497,500 in all; and the average net receipts from the docks for each of the last three years amounted to £78,600, or 5½ per cent. on the capital cost, whereas the rate of interest payable by the Trustees on the dock loans as a whole is rather less than 4 per cent. The present docks are not suited for the larger modern vessels, and the construction of a new dock is under consideration.

Karachi.

The port of Karachi is under the management of a Port Trust, consisting of a Chairman and Vice-Chairman and seven members, of whom three are nominated by the Government, two elected by the local Chamber of Commerce, and two elected by the Karachi municipality. The income shows generally a substantial surplus over the expenditure of the Trust, and this was especially the case in 1898-99, when the grain exports attained an exceptional figure, and in the exceptionally prosperous year 1901-02. The receipts and expenditure in the latter year were £104,400 and £72,300, compared with £63,800 and £34,300 in 1891-92. The total of the debt at the end of 1901-02 was £358,500. A dry dock has been constructed, and opened in the year 1901, with an area of 260½ feet by 89½ feet at the coping, and a depth of sill of 12½ feet in ordinary tides. In addition to this, and to other improvements, each year sees the execution of a large amount of dredging work, made necessary by the annual deposits of silt.

Madras.

The Harbour Trust at Madras consisted in the year 1901-02 of a Chairman and ten members, of whom four were elected by the Chamber of Commerce and one by the Trades Association, and six, including the Chairman, were appointed by the Government. As in the case of Bombay, three of the members of the Port Trust must always be Native inhabitants of the city. The revenue and expenditure in 1901-02 amounted to £56,000 and £40,600 respectively, against £38,300 and £32,600 in 1891-92. The debt due to Government on the 31st March 1902 stood at £297,000; there is no debt due to the public, such as exists in respect of the ports of Bombay and Calcutta.

The shoaling of the harbour mouth by drift sand, which is said to have been proceeding at the rate of about one foot a year, has made it necessary

to come to a decision on the question of the improvement of the harbour. The Trustees decided unanimously in favour of a scheme for closing the present entrance which faces east, and opening a north-east entrance, protected by an arm running northwards. The scheme, which was supported by the local Government, was referred by the Secretary of State to a committee of experts in 1902 for a report on its general feasibility and suitability. Their report was favourable; but action has not yet been taken in the matter.

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The Commissioners for the port of Rangoon are nominated by the Govern- Rangoon.
ment from among the leading merchants of Rangoon, with whom four Government officials are associated. None of the members are Natives of India. In the year 1900 an engineer was engaged in England for the post of salaried chairman, and at the same time an assistant engineer was appointed, these measures being rendered necessary by the expansion of trade and the growth of the duties of the Trust. Since that date further additions to the staff have been found necessary. The port derives little benefit from exports, as they consist mainly of rice which is shipped by cargo-boats in the river. It is anticipated that, with railway development and the provision of hydraulic machinery at the wharves, this will in time be altered. The revenue has, however, been found ample for the requirements of the Trust. It has grown, excluding the debt account, from £75,200 in 1891-92 to £99,800 in 1901-02, and in spite of the expenditure of considerable sums out of revenue on improvements which might otherwise have been financed by a loan, the closing balance at the end of the decade amounted to £42,850. One loan only has been raised, and that will be paid off by 1907. The condition of the port has been described in a note by the newly appointed chairman, in which it was pointed out that the accommodation was insufficient and the appliances obsolete. To remedy these defects, a scheme was drawn up, and has since been approved, for the construction of deep river water wharves, at a total cost of £617,000, to be raised by loan at various periods up to the year 1908, by which time the whole work is to be completed.

CHAPTER VIII.

VITAL STATISTICS AND SANITATION.

VITAL
STATISTICS
AND SANI-
TATION.

A Report on Sanitary Measures in India, presented each year to Parliament, embraces all the subjects which would fall to be dealt with under this heading, and it is usual to omit any but the briefest reference to these matters in the annual numbers of this Statement. This practice will be followed here, in so far as the particulars of the year 1901 are concerned. But it is necessary to give some account of vital statistics and of the progress of sanitation and medical institutions during the ten years ending in December 1901.

A sketch of the great strides made during recent years in respect of preventive medicine in India is contained in Section IX. of the Report of the Sanitary Commissioner with the Government of India for 1900, which section is reproduced in the Report on Sanitary Measures for that year.* From an administrative point of view the chief steps have been the establishment of a Pasteur Institute for the treatment of rabies, and of research laboratories. The Pasteur Institute was founded in 1900, and is maintained at Kasauli by a Central Committee from funds contributed by private subscribers and local Governments, supplemented by an annual grant of £633 from the Government of India, which also places at the disposal of the Committee the services of a selected medical officer as superintendent, and of an assistant surgeon on specified terms of payment. In return for this assistance the Institute undertakes the treatment of civilians as well as soldiers. A Central Research Laboratory has been sanctioned, and work has been commenced, in the first instance, at Bombay under the direction of M. Haffkine, C.I.E., who has hitherto conducted the work of the Bombay Plague Research Laboratory. He will be assisted by a specially selected staff, and it is in contemplation to transfer the site of the laboratory to some suitable hill site. The work already accomplished in the Bombay Plague Research Laboratory has not been confined to the manufacture of the plague prophylactic, but investigations into various diseases have been carried out by its officers. The proposals of the Government of India contemplate the establishment of a laboratory on similar, but rather less elaborate, lines in some central station of each province, which will work to some extent in touch with the central institution, but be specially devoted to the diseases prevalent in the province. The United Provinces have a small laboratory at Agra under the control of Mr. Hankin; the Pasteur Institute is situated at Kasauli in the Punjab; the Madras Government has submitted proposals for the establishment of a Bacteriological Institute. Bengal has at present only the small laboratory, which is under the control of the Sanitary Commissioner with the Government of India. Lastly, mention must be made of the laboratory at Muktesar, under the charge of Dr. Lingard, which is devoted to research in veterinary medicine. All these institutions, together with the newly established "Command" laboratories specially provided for work in the army, are the growth of the last few years.

I.—VITAL STATISTICS.

General
population.

The vital statistics of the general population, as they are annually represented, are vitiated by two chief considerations, the imperfections of the returns of births and deaths, and the uncertainty of the population figures. In a comparison between the years 1891 and 1901, which can be based on fresh census figures, the latter cause is obviated; but there remains the former cause, although efforts have been made, with some success, to improve the system of registration. In the towns the law

* Parliamentary Paper, Cd. 1357.

already gives the municipal authorities power to enforce registration of births and deaths within their limits, though the power is not always fully used. In rural areas the systems of registration vary in detail in different provinces, but in none of them is it possible to impose a legal penalty on non-registration. An Act of 1886 provides machinery for the registration of births and deaths when reported; but the reporting of them is, with the exception of municipalities and cantonments, dependent in the first place on the disposition of the relatives, and in the second place on the village watchmen, the rural police, the headmen, or other agency approved by the local Government, checked in some provinces, and especially in the Punjab, by a system of inspection of registers. It has been reported that the tendency in these returns is slowly but surely towards greater accuracy, so far as the elemental facts are concerned, in the bare enumeration of births and deaths. For the distribution of the causes of death under their various headings broad indications are all that can be attained under present conditions. The vast majority of Natives are unattended by qualified medical men; no certificates are furnished, and friends and the reporting agency alike ascribe most deaths indiscriminately to "fevers" or to "bowel complaints."

For the reasons given above, the birth and death-rates shown in the following tables cannot be used as a basis for close comparison, though they have their value as showing broadly the general health of the population, and the varying effect upon it exercised by good or bad seasons, abundance or scarcity of food, and prevalence or absence of epidemic diseases.

Ratio of Deaths from all causes per 1,000 of population in registration tracts.

	1891.	Mean Death-rate of 5 years, 1892-96.	1897.	1898.	1899.	1900.	1901.
Bengal	26.94	32.11	32.94	26.57	31.21	36.63	31.04
United Provinces	31.14	32.63	40.46	27.38	33.19	31.13	30.30
Punjab	29.13	34.99	31.05	31.05	29.57	47.69	36.13
Lower Burma	15.93	22.27	26.26	26.13	27.30	27.51	21.74
Central Provinces	33.98	37.02	69.34	24.30	28.09	56.75	23.46
Coorg	21.79	27.19	50.03	31.44	28.00	36.42	36.49
Assam	29.91	31.45	50.61	36.15	31.01	30.64	27.85
Madras	22.20	20.40	25.40	21.00	20.90	23.40	21.30
Bombay	27.26	30.45	39.84	29.16	35.72	70.07	37.12
Berar	40.60	39.40	52.60	23.40	39.90	82.70	27.60
British India	28.40	30.64	36.03	26.56	30.01	38.91	29.46

The recorded birth-rates during the ten years are given as follows:—

Ratio of Births per 1,000 of population in registration tracts.

	1891.	Mean Birth-rate of 5 years, 1892-96.	1897.	1898.	1899.	1900.	1901.
Bengal	21.46	33.83	36.94	35.79	42.96	38.68	38.57
United Provinces	33.26	37.42	31.10	37.35	48.09	40.34	41.35
Punjab	34.02	40.80	42.60	41.00	48.40	41.10	35.40
Lower Burma	20.74	27.96	31.82	34.11	37.04	38.37	32.07
Central Provinces	39.99	36.11	26.83	29.91	47.35	31.90	28.83
Coorg	20.31	24.18	20.24	16.15	25.59	26.25	18.83
Assam	28.59	31.39	32.59	29.46	35.45	34.96	33.98
Madras	27.40	27.80	28.70	27.40	31.30	31.80	25.10
Bombay	36.27	35.51	33.46	39.94	36.42	26.87	25.19
Berar	42.80	37.60	39.70	31.30	50.50	31.30	30.80
British India	35.05	34.45	33.98	34.33	42.16	36.58	34.61

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TATION.

Cholera.

Directly or indirectly, a very large share of the fluctuations which these figures, especially the mortality figures, reflect, is to be ascribed to the two periods of drought and scarcity which occurred in 1896-97 and 1899-1900, and which powerfully affected the health and well-being of the population. The unavoidable hardships and privations attendant on intense and widespread drought are bound, notwithstanding the charitable efforts of the State, to undermine the vitality of the people, and to render them susceptible in no ordinary degree to malaria, pestilence, and epidemic disease of every kind.

	Deaths from Cholera.	
	Number of Deaths.	Ratio per Mile of the Population under Registration.
1892 -	727,493	3.84
1893 -	218,113	1.00
1894 -	529,049	2.42
1895 -	320,979	1.47
1896 -	471,779	2.17
1897 -	555,035	2.55
1898 -	162,703	.70
1899 -	171,410	.78
1900 -	707,222	3.70
1901 -	271,010	1.21

Dealing in the first place with cholera, it will be seen from the marginal table that the severity of this disease varies very greatly from year to year, and that the smallest total of the decade was that of 1898, while the highest was that of 1900, when the water supply was much restricted and contaminated owing to the severity of the drought. Taking the last four quinquennial periods, it cannot be said that any appreciable success has been achieved in mitigating the outbreaks of this disease among the general population. Prophylactic inoculation by a method laid down by M. Haffkine has been practised during the decade in respect of immigrants into Assam, and it is held that some success has been

attained, though complete returns are wanting. Bengal is an endemic home of the disease, and there are few years in which the number of cholera deaths in that province are less than 100,000, while they amounted to 345,800 in the year 1900.

Fevers.

Fully half the total annual mortality of India is attributed in the returns to "fevers." When reference is made to fever in India, malarial fever is generally implied; but in the registration returns most diseases attended with a rise of temperature, and many others, are included under this vague and comprehensive designation. This is unavoidable with the present ignorant and incompetent reporting agency. In the army and in jails a more accurate diagnosis is possible, and progress is being made with the scientific survey of all Indian febrile diseases. A large part of the mortality caused by the famines in 1897 and 1900 went to swell the total of fever deaths, which was exceptionally high in those years. The excessive rains of 1894 also gave rise to a great mortality from fever. In 1901 the mortality under this head was at the rate of 18.73 per mille for India as a whole, the provinces of greatest prevalence being as usual Bengal and the United Provinces, where there are many exceptionally feverish areas. The system of selling quinine in 5 grain packets through the post offices, initiated at the beginning of the decade, has found great popularity. The researches in connection with malaria and the discovery of the method of its propagation through the medium of insect "hosts," have rendered the past decade especially noteworthy; and Indian medical officers have taken a prominent part in this work.

Small-pox
and vaccina-
tion.

There was a very severe epidemic of smallpox in the Punjab and in the United Provinces in the years 1896 and 1897, when death-rates of about 2 per mille from that disease were attained in those provinces. But smallpox does not contribute a very large proportion to the deaths in India as a whole, the mean death-rate from this cause being 0.39 per mille for the ten years ending with 1900. In the year 1901 the rate was .4 per mille. The average number of smallpox deaths for each of the last ten years is only about two-thirds of the average for the ten years preceding, in spite of the occasional disorganisation of vaccination in some provinces by reason of the famines and the plague. The progress of vaccination is treated at length in the annual sanitary reports mentioned above, and it is sufficient here to say that the proportion of successful vaccinations to the whole population was 31.3 per mille in the year 1901-02, compared with 26.8 per mille in 1891-92. The proportion of successful vaccinations among the estimated number of children born in the year was 33.4 per cent. in 1901-02, against 26.3 per cent. in 1891-92. The most usual form of vaccination in Bengal and Bombay is

by lymph taken directly from the human arm. In the United Provinces, human lymph is generally used, preserved on ivory points, but steps are being taken to provide a fuller supply of prepared calf lymph from a central vaccine depot near Naini Tal. In Madras, Assam, Berar, and Burma calf lymph is used, generally mixed with either lanoline or glycerine.

An account of the territorial spread of plague has been given in the introductory chapter of this statement. The number of reported plague deaths is shown in the following table:—

	From Sept. 1896 to end of 1897.	1898.	1899.	1900.	1901.	1902 (Pro- visional Figures).
Bombay—British territory	50,369	86,191	96,596	83,196	128,259	217,910
<i>Including Bombay City</i>	12,039	18,111	15,874	13,285	18,694	
Bombay—Native States	7,574	17,672	19,427	6,172	29,821	14,088
Bengal	—	219	3,264	38,412	78,629	29,848
<i>Including Calcutta</i>	—	219	2,681	8,278	7,883	7,249
Madras Presidency	—	557	1,658	664	3,035	12,556
United Provinces	—	148	7	135	9,778	41,570
Punjab	—	2,019	255	591	18,877	211,710
Central Provinces	—	131	584	590	9	111
Mysore State	—	5,335	10,810	13,375	13,191	27,895
Hyderabad State	—	3,868	6,378	653	149	7,768
Other provinces and states	—	145	30	19	2,040	10,234
Total	57,943	116,285	139,009	92,807	283,788	559,602

Up to the end of the year 1902, therefore, the total of plague deaths is returned as a million and a quarter. To the end of March 1902 it amounted to 866,900.

When the plague broke out in Bombay in the year 1896, there was practically no experience upon which to base an opinion as to the measures which should be adopted. Plague had for sixty years been unknown in the plains of India, and there was little information as to the nature or origin of the disease. The measures which were taken on the occurrence of the outbreak were therefore to a large extent experimental. The general feeling of the Government, of the more enlightened Natives, and of public opinion elsewhere was that the plague must be beaten down by any possible means. It is no matter for wonder, in these circumstances, that many of the measures which have been tried have been given up, or very greatly modified. Some were abandoned because they were unsuccessful; more because they were unpopular. Among the measures which have been tried with a view to checking epidemics may be mentioned compulsory removal of the patient to hospital; segregation in special camps of those who had been in contact with plague cases; evacuation of the whole or a portion of towns or villages where plague is found; disinfection of houses in which a plague case has occurred; inspection of railway travellers, and the enclosure of infected places by cordons of police and others. There were also other measures, designed to secure the notification or discovery of all cases of plague, of which two only need be referred to, namely, house to house visitation, and corpse inspection. With the exception of disinfection, none of these measures were applied in all places alike. Compulsory removal to hospital, segregation of contacts, house to house visitation, and corpse inspection, met with great opposition from the people, and were for the most part abandoned after a short trial. The Plague Commission which was appointed at the close of 1898, primarily to conduct an investigation of a scientific character into the nature and treatment of plague, analysed the administrative measures which had been adopted, and made suggestions for future action. They distinguished between towns containing more than 2,000 to 3,000 people, and villages. In the former, they considered the only practicable measures to be disinfection, inoculation, and possibly (so long as infection has not spread throughout the town) isolation of the sick, and the evacuation of specially infected quarters. In villages also, they held that disinfection and inoculation should be applied, so far as the small available staff could carry them out. In

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the majority of villages, however, the measure which must be chiefly relied on should be evacuation, when climatic and other conditions would admit of its being carried out.

The Government of India generally concurred in the views expressed by the Commission. "Experience," they remarked, "has made it clear that the first principle of all plague measures should be that, except in extraordinary circumstances, compulsion should be eschewed, and that the efforts of Government officials should be directed to convincing the people of the utility of particular methods, and to inducing them to carry them out, not by force, but by the exercise of their own free will, and as a consequence of their appreciating and understanding the benefits to be anticipated therefrom." They accepted also the views of the Commission on the subject of the unpopular measures mentioned above, as to which they expressed the following views:—"The measures which should never be undertaken during an outbreak of plague are the employment of paid informers or spies to detect cases of plague, the compulsory examination of corpses, the shutting up of people in infected houses, and the prevention of their movement from the infected area by means of a cordon or any other device. The measures which should be rarely if ever attempted in order to ascertain the existence of plague are house visitation or searches, the compulsory notification of sickness, and the grant of rewards for information as to the existence of sickness."

The Government adopted the Commission's suggestions as to the manner of carrying out disinfection of houses and evacuation of infected sites. During the last two years of the decade, therefore, the plague measures have had a much less drastic character than those first experimentally adopted, and they have depended to a larger extent on the concurrence of the people. Such concurrence is now more freely given, as popular suspicions and distrust of the intentions of the Government gradually give way to a more intelligent comprehension of the question; and it is a matter for satisfaction in many places that the influential classes of the Native community actively support the sanitary efforts of the State.

In Bombay the people fully recognise and themselves enforce segregation and removal from the infected locality as necessary measures. In the Patna division of Bengal it is reported in 1902 that the people resorted spontaneously to evacuation, though disinfection was not in favour outside the towns. On the other hand, the report on the epidemic at Cawnpore, where there are no leaders or men of wide influence among the Native population, was less satisfactory in this respect. Much assistance has in most places been afforded by the establishment of private plague hospitals by particular castes or sections of the community.

The inspection of railway passengers at selected inspecting stations has not been altogether discontinued, but the number of such stations has been reduced as much as was possible consistently with the protection of uninfected parts of India. With the same object, the Government have recommended the surveillance, with the aid of the public, of persons arriving in uninfected areas from infected places. In fine, they have declared that it is impossible to lay down a code of rules prescribing measures to be adopted in all cases, and that it is better to apply one method efficiently and thoroughly than to try to apply a number of methods with an inadequate and insufficiently-trained staff. The extent to which measures can be effectively and thoroughly carried out depends to a great extent upon the tact and influence of the Government officials charged with the duty.

Inoculation.

The efforts of medical science to combat the plague have taken two directions, and have resulted in two different methods. In the first place, the already established principle that inoculation with an attenuated form of the virus of a disease can confer immunity, in diseases in which such immunity follows on an attack of the disease itself, has been utilised for the treatment of plague by several doctors, among whom M. Haffkine is conspicuous. The inoculating fluid or vaccine is now prepared in large quantities at the Plague Laboratory at Parel under the supervision of that officer, by cultivation of the plague bacillus in a nutrient bouillon medium. Secondly, attention has been given to the preparation of an antitoxic and antibacterial serum, obtained from animals infected with plague. The

names of Yersin and Lustig are specially associated with this method, which they have pursued with a common aim, though by different processes. The above two methods are broadly distinguished, the first as prophylactic, the second as therapeutic. Manufacture of these therapeutic sera has also been carried on at Parel; but in the case of the Lustig serum it was recently abandoned.

The Plague Commission came to the conclusion that inoculation with Haffkine's prophylactic vaccine sensibly diminishes the incidence of plague attacks on the inoculated population, though the protection which it affords is not absolute; that it also diminishes the fatality of attacks; that its protective effect does not appear within the first few days after the inoculation; and that the protection lasts certainly for some weeks, possibly for some months. With regard to the therapeutic serum, they held that, though the treatment had not been sufficiently successful to make its extension, under existing conditions, desirable as a general measure over all the districts affected with plague, it was nevertheless the only therapeutic method, which held forth a prospect of ultimate success, and should be further elaborated.

In reviewing the recommendations of the Commission on the subject, the Government of India directed that special efforts should be made to encourage the people to be inoculated in places threatened with a visitation of plague. But they adhered to the opinion which they had continuously enjoined, that the choice whether or not they would be inoculated should be left entirely to the people, and that resort should not on any account be had to compulsion. This policy has been persistently maintained, and though the prejudices or fears of the people have not been in all cases overcome there is an increasing willingness among them to submit to inoculation. The Government of the Punjab has, since the close of the decade, taken steps to afford general facilities for inoculation throughout the province. From various causes the operations could not be carried out with the completeness contemplated by the Government, but in the four months after their initiation 229,800 persons were inoculated in the province.

The measures taken to prevent the spread of the plague by sea to other countries have been among the most important and the most successful of those which have been undertaken. They have been drawn up so as to conform with the Venice Convention, and there have been remarkably few cases of plague on board vessels leaving Indian ports, a result which is especially satisfactory in view of the difficulty of the inspections involved, and of the magnitude of the operations. The Government accepted the advice of the Commission that the destruction of rats on board ship is unnecessary, though it is theoretically possible that plague infected rats might carry the disease from one country to another.

In the case of the Army and the inhabitants of the jails, vital statistics are complete, and sanitary science has full play. The progress made is summarised in the figures given below, which show the death-rates per 1,000 of strength at different times during the past century.

Health of
the troops.

	1800-30.	1831-56.	1861-65.	1869-78.	1891-94.	1896-1900.	1901.
European troops	84.6	56.7	26.95	19.3	15.39	16.52	12.38
Native troops	—	—	—	1879-83	12.61	11.81	10.68
				23.95			
Jail population	—	1833-54 70.7	—	48.86	29.73	29.97	26.59

This shows a very remarkable advance over a long series of years. The most important figures for each of the ten years under review are shown in

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—	Ratio per Mille.				
	European troops.			Native troops.	
	Constantly Sick.	Deaths.	Invalided.	Constantly Sick.	Deaths.
1892	84	17.07	24.37	36.7	14.07
1893	87	12.61	25.25	31.7	10.29
1894	92	16.07	25.45	31.2	10.76
1895	94	15.26	24.82	29.9	14.50
1896	94	14.84	27.89	28.6	10.20
1897	101	22.93	33.01	31.5	13.12
1898	90	20.05	33.09	32.9	11.07
1899	73	12.75	31.64	27.7	10.70
1900	72	14.62	33.46	30.0	14.04
1901	67	12.38	30.33	30.3	10.68
1891-1900	87	16.21	29	32	12.22

the marginal table. In the year 1901, the admissions into hospital among British troops were in the ratio of 1,104 per mille. The chief causes of sickness were, as usual, intermittent fever and venereal diseases. Enteric fever caused 27 per cent. of the number of deaths. The admission rate on account of this disease was less than had been known since 1888, though higher than the rate generally prevailing before that year. The diminution of this disease may be

said to be the most important practical question before the Army Medical Department at the present time. Much attention has been paid, and much has been done towards improving the general sanitary conditions of cantonments, and a new system of grants in respect of the housing of Native troops, introduced in 1892, was in operation during the decade. Sanitary officers have since the year 1897 been appointed to each Army Command, with the duty of investigating the causes of disease and giving advice in sanitary matters. Summer-hutted camps have been established at various points in the hills for the benefit of the health of the troops.

Cantonments
Act.

The prevalence of venereal disease among the British troops in India has received much attention during the decade. A committee which sat in 1893, with Mr. G. W. E. Russell as chairman, reported that the orders passed in India on the subject had failed to abolish the old system of regulated and licensed prostitution, as intended by the House of Commons' resolution of 1888. As a result of this finding, an amending Act was passed in India in 1895, prohibiting the compulsory or periodical examination of women, and rules were published excluding venereal disease from the category of diseases which entailed compulsory removal from cantonments. The continued increase in the prevalence and virulence of venereal disease led to the appointment of a second committee, under the chairmanship of the Earl of Onslow, in 1896. Their report disclosed a state of affairs which seriously impaired the military efficiency of the army, besides constituting a growing danger to the health of the community at home. Fresh remedial measures were considered necessary, and the 1895 Act was repealed in 1897, and rules were framed subjecting venereal diseases in all cantonments in India to the same measures as were adopted under the rules of 1895 for the prevention of the spread of all other contagious and infectious diseases. Strict instructions

—	Secondary Syphilis Admissions per 1,000.
1891	60.0
1892	57.8
1893	61.6
1894	74.6
1895	84.9
1896	97.7
1897	101.9
1898	87.1
1899	71.9
1900	62.5
1901	58.2

were at the same time issued to guard against the revival of those practices which had brought discredit upon preventive measures in the past and had led to their abandonment; and attention was drawn to the importance of diminishing, as far as possible, the sources of temptation to immorality in and about cantonments, and of improving the moral and physical condition of the British troops in India.

The ratio of admission to hospital for secondary syphilis per 1,000 of the strength of British troops was 23.3 as a mean for the years 1872-84. It stood at 66.3 per 1,000 in the year 1890, and its variations during the last eleven years are shown in

the margin. In recent years there has been a satisfactory fall in the ratio not only for secondary syphilis, but also for all other forms of venereal disease.

Native
troops.

Among the Native troops intermittent fever was as usual the chief cause of sickness in 1901, being credited with 43 per cent. of the admissions to

hospital in that year. Fevers, other than enteric, cause a large number of deaths, the mortality from this class of diseases being 2·26 per mille in 1901. Enteric fever is much less prevalent among Native troops than in the European army, the enteric death-rate of the year 1901 being only ·12 per mille in the former, against 3·32 per mille in the latter. Pneumonia is in most years the cause of the greatest mortality in the Native ranks, and 2·72 per mille of the strength died from this cause in 1901.

The death-rate among the jail population is generally, but not invariably,

Jail popula-
tion.

	Ratio per Mille of Average Strength.		
	Admissions to Hospital.	Average Number of Daily Sick.	Deaths from all Causes.
1892	1,117	38	35·9
1893	907	35	24·3
1894	1,030	39	31·8
1895	1,006	43	26·6
1896	939	40	27·8
1897	975	39	39·6
1898	917	37	25·3
1899	792	31	21·9
1900	831	32	33·4
1901	882	34	25·8

lower than the corresponding rate among the general population. The chief exception was the year 1897, when the death-rate for the jails was about 3·6 per mille in excess of the general rate. The number of persons committed to prison in that year was exceptionally large, and many of them were in an extremely emaciated state on admission. This was especially marked in the Central Provinces, where the jail death-rate rose to 135 per mille. In the year 1901 the prison population improved in health as compared with the preceding years,

and the marginal table shows that the death-rate was lower than all but two of the rates shown in the margin for the ten years.

II. MEDICAL INSTITUTIONS.

The following table shows the number of all hospitals and dispensaries in the years 1891 and 1901, and the number of patients treated in each of those years in the institutions which are under Government control. Returns are not available for the earlier year of the patients treated at private institutions or at dispensaries belonging to the police and railways, which are partly departmental and partly charitable.

Civil
Hospitals
and Dis-
pensaries.

	1891.				1901.			
	Total Number of Institutions.	Patients in Hospitals and Dispensaries under Government Supervision.			Total Number of Institutions.	Patients in Hospitals and Dispensaries under Government Supervision.		
		Indoor.	Outdoor.	Total.		Indoor.	Outdoor.	Total.
Calcutta and Howrah.	11	25,318	219,818	245,136	17	25,989	253,615	279,604
Rest of Bengal	272	35,859	1,460,195	1,496,054	550	49,362	3,662,477	3,711,839
Bombay City	10	16,159	93,218	109,377	627	17,031	105,328	122,359
Rest of Bombay Presidency.	244	27,777	1,705,081	1,732,858				
Madras Presidency	482	51,730	2,807,532	2,859,262	579	64,714	4,686,978	4,751,692
United Provinces	299	54,372	3,012,662	3,067,034	485	55,328	3,661,957	3,717,285
Punjab	228	49,700	2,541,753	2,591,453	245	51,565	2,978,440	3,025,011
North West Frontier Province.					Figures not available.			
Burma	80	28,603	392,190	420,793	119	39,027	858,200	897,227
Berar	44	3,537	279,214	282,751	48	5,943	384,078	390,021
Central Provinces	111	8,222	904,654	912,876	188	10,592	1,337,340	1,347,932
Coorg	4	858	22,327	23,185	8	1,373	42,426	43,799
Assam	74	4,465	322,391	326,856	131	6,539	728,143	734,682
Total*	1,809	306,590	13,761,030	14,067,620	2,997	353,623	20,147,268	20,602,886

* Particulars for the North-West Frontier Province in 1901 not available.

In addition to the above figures, about 3½ million persons are returned as having obtained medical relief in the year 1901 from dispensaries privately established by non-professional persons or corporate bodies, and having the relief of the poor as their primary object. About 2½ millions of these are returned in the Bombay presidency. Rather more than a million patients were treated at departmental institutions, chiefly police and railway dispensaries, which are, however, not employed exclusively in treating the members of the services for which they are established.

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TATION.
Lunatic
asylums.

The treatment of lunatics at asylums prevails only on a small scale in India. There are six asylums in Bombay, and the same number in Bengal, four in the United Provinces, three in Madras, two in the Central Provinces, and one each in Assam, Burma, and the Punjab. In the latter province a Central Asylum was opened at Lahore in 1900, and the patients from the two existing institutions were transferred to it. A Central Asylum is also being constructed at Berhampore in Bengal. The number of patients in all the asylums was 4,237 at the end of 1891, and it stood at 4,758 in December 1901. The cause of insanity is unknown in about half the cases admitted to the asylums; among the rest, the use of hemp drugs accounts for about 23 per cent. (14 per cent. of the whole), opium smoking and eating for one per cent., alcoholism for 6 per cent. But the number of lunatics under consideration is so small that percentages have little value.

Leprosy
asylums.

The death of Father Damien at Molokai in 1889 led to the constitution of the British National Leprosy Fund, under the presidency of H.R.H. the (then) Prince of Wales, and to the appointment of a Commission to investigate the subject of leprosy in India. The Government of India had at that time under their consideration a Bill to provide for the detention of lepers, generally on their own application, and in certain cases compulsorily on the order of the district magistrate, in retreats provided for their accommodation. A large mass of opinions on the question had been collected on the subject; but in view of the visit of the Commission it was decided in the year 1890 that the question of legislation should be postponed. Two Indian medical officers were deputed by the Government of India to join the three British members of the Commission, and the report was issued in the year 1892. It is unnecessary to enter into their conclusions on the disputed questions as to the nature, cause, and treatment of leprosy. Their practical suggestions were to the effect that compulsory segregation of lepers was neither practicable nor justifiable by the nature of the disease; but that provision for voluntary isolation should be made as extensive as possible. They recommended that lepers should be prohibited from engaging in certain trades, that measures should be taken to discourage the concentration of lepers in towns and cities, and that asylums should be established in the vicinity of towns, to which vagrant lepers might be consigned, competent medical authority being previously consulted in every case. They held, however, that no such measures would effectually stamp out the disease under existing conditions; that, as it was only to a small extent contagious, it had a tendency to decrease; and that improved sanitation and dietetic conditions would result in a diminution. The first of these suggestions, relating to segregation, did not meet with general assent, and the Executive Committee of the Leprosy Fund, with some dissentients, held a divergent view. The Government of India were disposed to concur with the Commission, that the disease was only to a small degree contagious, and that compulsory segregation should only be admitted in the case of pauper lepers found vagrant in municipalities. An Act to provide the powers needed for this purpose, and to prohibit lepers from engaging in certain trades, was passed by the Bengal Legislature in 1895. In the year 1898 a general Act was passed, having similar provisions, and capable of being applied to each province by notification. No recent information is available with regard to the working of this Act.

As to the prevalence of leprosy in India as a whole, the forthcoming Census report will no doubt contain all the details. It may, however, be said here that there has been a large decrease in every province in the number returned as lepers in 1901, compared with the census of 1891, when the total for India was given as 126,361.

III.—SANITATION.

The Sanitary Department in India and the sanitary staffs of the chief municipalities are described in the following extract from the Report of the Plague Commission:—

“The office of Sanitary Commissioner with the Government of India is combined with that of Director General of the Indian Medical Service. The officer who holds these combined offices, as Sanitary Commissioner advises the Government of India on sanitary matters. He makes tours

of inspection, in the course of which he inquires into sanitary questions. His reports are made to the Government of India, by which all directions regarding sanitary matters are given to the local Governments. Except through this channel, he has no authority over officials in the Sanitary Department serving under any of the local Governments. These latter exercise entire control over the Sanitary Commissioners and Deputy Sanitary Commissioners serving under them. Under the local Governments in Madras, Bombay, Bengal, the North-Western (United) Provinces, and the Punjab there is a Sanitary Commissioner, who is a member of the Indian Medical Service. These officers are charged with the duties of advising the local Governments on all sanitary matters; of inquiring into all outbreaks of epidemic disease; of controlling all operations connected with vaccination in their provinces; and of supervising the registration of vital statistics within them. In each of the other provinces the duties of Sanitary Commissioner are undertaken, in combination with those of the supervision of Civil Hospitals, by the Inspector-General of Civil Hospitals. Under the Sanitary Commissioners in the larger provinces there are a varying number of Deputy Sanitary Commissioners. The largest number, viz., five, are employed in the Bombay presidency. The districts supervised by the Deputy Sanitary Commissioners are in all cases so extensive that it is not possible for a Deputy Sanitary Commissioner to visit in any one year more than a small number of the villages which call for inspection. In all provinces, excepting Bombay, the Civil Surgeon, who is the Medical Officer of the district or unit of civil administration within a province under the charge of a Collector, has also to undertake the duties of Health Officer of the district, and to advise the local civil authorities on all matters connected with sanitation. The Civil Surgeon of a district in the Bombay presidency is not required to undertake these duties. As a rule, no subordinate establishments are separately entertained within a district for sanitary duties, but the establishments employed in the conduct and inspection of vaccination are utilised also in sanitary work.

Outside the Sanitary Department there are, under the different local Governments, Sanitary Boards composed of a varying number of members belonging to the medical, sanitary, civil engineering, and civil branches of the Government's Services, with some non-official members. All the larger measures of sanitary improvement, such as projects for improvements in water supply, have to be considered by these Boards before they are undertaken. In the presidency towns of Calcutta, Bombay, and Madras, European Health Officers are employed by the municipal corporations. These officers are sometimes selected from the Indian Medical Service and sometimes not. They are directly subject to the authority of the municipal corporation by which they are employed. A few separate Health Officers, who may or may not be members of the Indian Medical Service, are employed also by other large municipalities, to which they are directly responsible. But as a general rule a municipality does not employ a separate Health Officer, but is entitled by regulation to the services and advice of the Civil Surgeon in his capacity as such. This rule, however, is not followed in the Bombay presidency, the Civil Surgeon there having no responsibilities in connection with municipalities. In the chief ports, Port Health Officers are employed under the orders of the local Governments to supervise the arrangements connected with the granting of bills of health and similar matters."

The more important sanitary operations in the presidency towns during the decade are noted in the following paragraphs. For the other towns and rural areas it would be hopeless to attempt a similar task within reasonable limits, and only a few general remarks are given. The particulars for the year 1901-02 will be found in the Report on Sanitary Measures.

A drainage system had already been provided in the town of Calcutta itself before the beginning of the decade. The chief question which had to be met in respect of the town area was the improvement of the outfall. Large works have also been in progress with the object of providing sewers for the suburban area. They were begun in 1897; but their execution was suspended in 1901-02, with a view to the amendment of the scheme in certain particulars on which expert opinion was unfavourable. A surface drainage scheme for the whole of the area added in 1889 was also being prepared. The investigations made in the year 1897 in consequence of the threatened visit of the plague disclosed a condition of sanitation which was described by the Bengal Government as appallingly bad. Connections with the sewers, where they existed, were frequently in a bad condition, and arrangements for the removal of refuse and night soil were very deficient. The attention then drawn to the matter has resulted in a great improvement in recent years. The control of conservancy operations was transferred in 1901-02 from the Health Officer to the Engineer's Department, the municipal area being divided into four districts, each under an Engineer, who is responsible for maintenance, cleaning, and watering of roads, for conservancy, for maintenance and construction of waterworks, and for all general engineering works within his district. The improvement of *bustees*, or collection of huts, under the powers given by the Calcutta Municipal Act, has progressed steadily during the decade. Mention has already been made, in treating of the municipality, of the large scheme now under consideration for opening up the insanitary areas by the construction of roads.

Calcutta has two independent sources of water supply, one of filtered and one of unfiltered water. From the former, the daily supply had increased from

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19 million gallons in the year 1891 to nearly 20½ million gallons in 1901. But the supply was intermittent, and it was necessary, under the Municipal Act of 1899, to convert it into a continuous supply; and two officers were deputed in 1901 to report on the best method of attaining this object. The scheme which has been adopted on their recommendation is estimated to cost about £100,000. The unfiltered water supply, for street and domestic cleansing and for flushing sewers, has received considerable extension during the decade.

The death-rate of Calcutta, including the suburban area, was 23·8 per mille in 1892, rose to 31·8 per mille in 1895, sank again to 23·9 per mille in 1898, but stood at 43·3 and 38·2 per mille in the years 1900 and 1901 respectively. The rates for the town area, excluding the suburbs, are generally much lower; the figure was 20·3 for 1892, 26·9 for 1895, and 20·4 for 1898; but the plague and the general unhealthiness of the last two years have brought the rates for the town area into closer accord with those for the suburbs, as they were 41·2 and 37·8 in 1900 and 1901 respectively. The Health Officer, Dr. J. Neild Cook, D.P.H., reported in 1901 that, after making all allowances, a comparison of the statistics of deaths in the town area for the ten years ending in 1901 with those for the preceding ten years showed that the mortality was on the increase, in spite of all that had been done to improve the sanitation of the city. It is hoped that the measures now taken in hand will result in an improvement in the future.

Bombay
city.

Several drainage schemes have been executed during the ten years in various sections of Bombay city, some of them on the Shone, or compressed air, system; the most recently completed are those for Mazagaon and Parel. On the recommendation of the late Mr. Santo Crimp, the construction of works for the drainage of the lower parts of the city at a cost of £89,900 was sanctioned in 1900-01, but no work had been begun on them by the end of the period under review. There is no city in India in which the population is so densely packed as in Bombay. When the institution of the Bombay City Improvement Trust was in contemplation, in the year 1897, it was stated that between 30 and 40 per cent. of the population was concentrated in areas forming together between 3 and 4 per cent. of the area of the island, and that the density of the population in those areas was double and in parts more than three times that of the most crowded areas in London. The mortality in these districts in 1896 varied from 52 to 68 per mille, the rate for the whole city being 40·7. The operations of the Trust have been briefly noticed in the chapter on Local Self-Government.

The death-rate from all causes in the city during the past 11 years is shown in the margin. Plague is, to a large extent, responsible for the very high figures of the five most recent years. But this is only partly the case in 1900 when, besides the plague, four other epidemics, namely, cholera, measles, small-pox and relapsing fever, raged in the city, while the privation due to famine caused, directly or indirectly, many other deaths. In 1901 the first four months of the year were the most unhealthy, and more than half the mortality occurred during that period. The administration of plague measures in the city was transferred from the Government to the Health Officer of the municipality in 1901.

--	Death-rate.
1891	29·01
1892	32·26
1893	28·16
1894	53·25
1895	80·52
1896	40·71
1897	58·28
1898	63·23
1899	68·07
1900	96·56
1901	76·66

The water-supply is drawn from the Tulsi, Vehar, and Tansa lakes, of which the latter was opened on the 31st March 1892. It amounted in 1901-02 to a daily average of about 36 million gallons, which would be largely increased if the waste of water drawn from the Tansa lake, by evaporation, leakage, or discharge at overflow weirs, could be prevented.

Madras
city.

In Madras city the drainage system of the portion known as the Black Town was completed in 1893, but a system of drainage for the whole town was needed, the great difficulty being want of funds. In 1896, however, a comprehensive scheme was taken in hand, and a beginning was made with the drainage of the Mylapore section. This was completed in 1898, and further progress has been made with the scheme, on which £102,000 had been spent by the end of 1901-02, out of an estimated total cost of £215,400, and it is expected that the main drain running from the north to the south

of the city will be ready for use in 1903. The mean of the death-rates for the ten years 1891-1900 is 41·6, the smallest figure being 35·5 in 1897, and the largest 52·6 in 1891. The year 1901 showed a higher rate than any of these, amounting to 55·0 per mille. The cause of this high mortality is not clearly known; but it appears that the death-rate of Madras city, which is at no time low, rises in the autumn of some years to alarming proportions, and that such a rise occurred in 1901 to a marked degree. Schemes have been proposed, and are being taken in hand, for works which will admit air and light to the crowded dwellings of Black Town and other densely populated quarters, and these may create more healthy conditions in those parts of the city.

The water supply is drawn from the Red Hills lake or reservoir, and is unfiltered. Its quality is, therefore, not always satisfactory, and in four months of the year 1901-02 it is reported to have been "suspicious." The question of the improvement of the water supply has received much attention during the decade, but the expense of a general system of filtration would be great, and no solution of the difficulty has yet been adopted.

The construction of drainage systems and the improvement of the water supply in the larger municipalities has made some progress, under the guidance of the sanitary boards mentioned above, though the special demands on the municipal funds caused by plague and famine have to some extent acted as a check on the introduction of new schemes. Several of the chief towns of each province are now provided, or are being provided, with drainage and water-supply works of considerable magnitude; but there is still very much to be done. The progress made in 1901 may be briefly summarised as follows:—In the Punjab the extension of the Delhi Waterworks and the drainage schemes of Abbottabad and Fazilka were completed; at Simla the Saog reservoir was finished, and the sewerage system was extended. Estimates for drainage at Umballa and for waterworks at Amritsar were sanctioned, and several other schemes were in various stages of preparation. In the United Provinces the attention of municipal boards has been directed by the plague towards the improvement of surface drainage. The Agra waterworks were being improved, and drainage schemes are in contemplation for Lucknow and Cawnpore. In the Central Provinces the water supply system of Nagpur was enlarged, and drains were constructed in that city and in Jubbulpore. In Bengal some minor works were carried out during the year, but none deserving particular mention. In Madras the extension of the Trichinopoly waterworks and the construction of waterworks at Vizagapatam and Cocanada were proceeded with, and a scheme for the water supply of Ootacamund from the Tiger Hill Reservoir was under execution. In Bombay the financial circumstances of the municipal bodies during the year did not admit of their taking up any important sanitary projects. In Burma a scheme for a reservoir at Hlawga, to supply Rangoon with water, was sanctioned during the year, after much discussion. Schemes for water supply and drainage are in preparation for Mandalay, Moulmein, and Akyab.

General
Sanitation.

Outside municipal areas there has been special legislation to provide for the constitution of sanitary committees. In Bombay the Village Sanitation Act provides for the appointment of sanitary boards or committees with ample powers in villages or groups of villages where subordinate agency is required. This Act had been applied to 292 villages by the year 1901, though no progress was made during that year owing to famine and plague, which claimed the attention of district officers. In Madras there is no similar Act, and the machinery of district and taluk boards and union *panchayats* is employed for the expenditure of available funds on village sanitation. This is also the case in Bengal, where special provision is also made, by an Act of 1895, for the execution of a drainage scheme in any area of which the district board reports the sanitary condition to have been deteriorated by the obstruction of drainage. In the United Provinces the Village Sanitation Act of 1892 gives power to the district officer to order sanitary improvements to be undertaken at the cost of the inhabitants of the village. In the Punjab the district boards are entrusted with the control of sanitation, and rewards are granted by them to village communities for interest taken in sanitary matters. The Central Provinces Village Sanitation

VITAL
STATISTICS
AND SANI-
TATION.

Act of 1889 was re-enacted with amendments of its financial provisions in the year 1902. It provides for the formation of *panchayats*, with power to determine the sums required annually or from time to time for sanitary purposes, and to raise them by rates, tolls, or fees, subject to the previous sanction of the local Government. This Act, like the similar Acts in other provinces, does not apply *proprio vigore* to all villages, but only to such as may be notified by the local Government. Information as to the sanitary requirements of rural areas is furnished by a system of village inspection notebooks, which are kept in the more important villages, and record all the facts bearing on the sanitation of the locality.

CHAPTER IX.

FINANCE.

THE FINANCIAL SYSTEM.

The Royal Commission which was appointed in 1895 to inquire into the administration and management of Indian expenditure and the apportionment of various charges between the Home and the Indian Governments has given in the first part of its report a full account of the Indian financial system, to which those who wish to investigate that subject closely may be referred. [See Parliamentary Paper Cd. 131 of 1900.]

FINANCE.

Control of the revenues of India is vested by Act of Parliament in the Secretary of State for India in Council. Expenditure in England from those revenues is only made on the authority of the Secretary of State supported by his Council, or by a majority of his Council. Expenditure in India is incurred under rules approved by the Secretary of State in Council. Within certain limits the Government of India enjoys, under these rules, a discretionary power; but apart from that discretion no new expenditure may be incurred without his sanction. For instance, no new appointment, permanent or temporary, with a salary of £200 or more per annum, may be created without reference to him; and his sanction is also required for raising an existing salary to an amount exceeding £333 (5,000 rupees) per annum. It has already been explained in Chapter III. that the Government of India consists of the Governor-General in his Executive Council, and that the members of that Council, though collectively concerned with all departments of administration, each have more particular charge of some one or two departments specially assigned to them. A member with special financial experience, who has not necessarily had any previous connection with the Indian services, is appointed to the Council with a view to his taking charge of the Financial Department, and no proposal involving an abandonment of revenue or an increase of expenditure can be decided or even considered in Council without previous reference to him, except in cases which require secrecy and despatch. By this means is secured the due consideration by the Council of the financial side of such questions. All important matters are brought before the Council.

The Central Government keeps in its own hands the collection of certain revenues, such as those of the Salt Department in Northern India, the Post Office, the Telegraph Department, Railways, and those of the districts of Coorg and Ajmere, and, for the present, of the North-West Frontier Province, besides certain receipts connected with the Army and other services. It also deals directly with the expenditure on the Army and the Indian Marine, on certain military roads, on railways and telegraphs, on the administration of the above-named tracts, on the mint, and with the greater part of the post office expenditure and of the political charges. Revenues not enumerated above are collected by the Provincial Government; but all sums collected, whether by the officers of the Central Government or by the Provincial Governments, are shown in the Accounts of the Government of India. Similarly there is delegated to the Provincial Governments the bulk of the expenditure on services other than those mentioned above; this too is brought into one account of the expenditure of the State. It is important to bear in mind that this division between central and provincial expenditure does not mean that services administered by the Central and by the Provincial Governments respectively are distinct services in the sense that the services administered by local authorities in England are distinct from services administered by the Imperial Government. The income and expenditure of the Provincial Governments are incorporated into, and form part of, the income and expenditure of the Indian Empire. It has become customary for the Government to decide every five years what share shall be retained by the Provincial Governments during the coming quinquennium of the revenues which they collect, and what expenditure they shall undertake during the same period. This system dates from 1871. Up to that year the Central Government had retained in its own hands the entire control of finance,

Provincial
finance.

FINANCE. and had made grants of money at its discretion to meet the demands of the Provincial Governments. The latter, while collecting the greater part of the revenue merely as agents of the Central Government, had no direct interest in the result of the collection, since the whole revenue went to the common fund, which was managed by the Central Government. Lord Mayo's Government made the first attempt to give the Provincial Governments a direct interest in the economical administration of the finances, by assigning to each, for certain purposes, a fixed permanent grant out of the revenues collected in their respected provinces. But though this policy was most successful as regards expenditure, the Provincial Governments still had nothing to gain directly by careful collection of revenue, as the amount of their grant was fixed. In 1877 and in subsequent years the policy was modified and developed. A fixed grant of money is now no longer made, but the whole, or a proportion, of certain taxes and other receipts collected by the Provincial Governments is assigned to them in order to meet a prescribed portion of the administrative charges within the province. They have therefore a direct interest in the efficient collection of a large proportion of the revenue, since they share in the receipts under most of the more important heads, and they have also every inducement to be economical in expenditure, since any savings which they may effect are placed to their credit, and may be used by them in other ways. But they may not alter taxation, or the rules under which the revenues are administered, without the assent of the Supreme Government. Subject to general supervision and to rules and conditions concerning the maintenance of great lines of communication, the creation of new appointments, the alteration of scales of salaries, the undertaking of new general services or duties, and some other matters, they have a free hand in administering their share of the revenue.

The provincial contracts of 1897.

The apportionment of the revenues is settled afresh every five years. Towards the close of each such period the provincial finances are reviewed, an estimate is made of the expenditure thought necessary for each province on all the services with which it is charged, and a suitable proportion of the revenue collected in the province is set apart to meet it. Under the contracts of 1897 the Provincial Governments, speaking generally, retained the whole of the provincial rates, and of the receipts of certain departments, such as law courts, jails, police, education, medical services, local marine services, scientific departments, pension contributions, most of the minor irrigation works, certain State railways and major irrigation works, buildings and roads, stationery, and some miscellaneous heads; three-fourths of the stamp revenue; half the revenue from assessed taxes, forests, and registration; a varying proportion, generally one-fourth, of the land revenue; and one-fourth of the excise revenue (or one-half in Burma and Bengal). With some exceptions, they have to meet out of these revenues expenditure under most of the heads just enumerated, and a share of the cost of collection under the revenue heads corresponding to the proportion of the receipts which they receive, though in the case of land revenue they bear, except in Bengal, the whole cost of collection. They are also responsible for famine relief expenditure, for certain political charges, and miscellaneous items. The total revenues thus assigned to them amounted in 1901-02 to £16,746,000, while the aggregate of the revenue heads in the collection of which they had a direct and substantial interest was £36,811,000, or nearly 49 per cent. of the gross revenue of India.

Any balance which they can accumulate by careful administration is placed to their credit in the accounts; but on occasions of extraordinary stress the Central Government has sometimes called upon them to surrender a portion of their balances. This was done during the Afghan War, after which the sums so taken were refunded; and again in 1886-87, in 1890-01, and in 1894-95, the amounts being refunded in the last two instances. Suggestions for the modification of the arrangement under which new settlements are made quinquennially, are under consideration. In the meantime the contracts of 1897, which would normally have expired in 1902, have been temporarily prolonged. The provincial balances at the end of 1901-02 amounted to £2,470,000, of which £921,000 belonged to Burma, £388,000 to Bombay, and £327,000 to Bengal.

Disbursement of funds.

A branch of the secretariat in each province is specially charged with financial administration, under the immediate control of a member of the Council in

Madras or Bombay, and in the other provinces of the Lieutenant-Governor or the Chief Commissioner. In each province there is a Civil Accountant-General, who belongs to and represents the Finance Department of the Central Government. This officer, who has a considerable staff under him, is charged with the duty of seeing that no payment is made except upon proper authority. A similar function is performed in respect of public works and military expenditure by the accounts branches of those departments. The revenue is not, as in England, remitted in its entirety to a central bank; but only a small portion is held in the Presidency banks. Each district treasury is in the charge of an officer who usually belongs to the staff of the collector, or chief administrative officer, of the district, but is placed for this purpose in subordination to the Civil Accountant-General. These treasury officers issue money to meet all the expenditure, whether civil, public works, or military; but in the two latter classes of expenditure their issues more often take the form of imprests, or advances, the detailed payments being made by the accounts branches mentioned above. It is the duty of the Civil Accountant-General to arrange for the transfer of funds from treasury to treasury as required, and to forward monthly accounts to the Finance Department of the Government of India.

FINANCE.

The Indian Accounts show the revenue actually received and the expenditure actually defrayed during the year, not (like the English Exchequer account) receipts on account and imprests or advances on account. The complete accounts of each month cannot, therefore, be closed in Calcutta with such celerity as under the English system, by which a balance can be struck at any moment. The monthly accounts of the district treasuries, forwarded by the Civil Accountant-General, show the civil payments and the imprests to the public works and military authorities; and the latter, on their part, also send monthly accounts of their expenditure to headquarters, and the account is made up as quickly as possible. The Indian Expenditure Commission reported that the system is sound and efficient for practical purposes. But it has this result, that when the Budget Statement is made, towards the end of March in each year, a completed account can only be given for ten months of the financial year ending on the 31st March, and an estimate has to be given for the last two months. There are therefore three separate statements given, viz., the full accounts of the preceding year, a "revised estimate" for the year just coming to a close, and the estimate for the ensuing year. The latter, or Budget estimate, is compiled by the Comptroller and Auditor-General in the Finance Department of the Government of India, and is based on estimates, supplied by the officers immediately responsible for the branches of expenditure under the charge of the Central Government, by the Provincial Governments, and by the Public Works and Military Departments, the Comptroller adding his own estimate for services, such as the public debt, for which he is responsible. The Budget in complete form is submitted to the financial member of the Governor-General's Council, and if approved by him it is laid before the Governor-General and the Executive Council, by whom it requires to be passed. Finally a Budget Statement is made by the financial member to the Legislative Council, which has then the opportunity of discussing, but not of altering or amending its provisions.

The Budget.

The system of audit also differs widely from that which obtains in England. The English system is highly centralised, and the chief officer responsible holds office on a tenure very much the same as that of the judges. In India the audit officers are the comptrollers and accountants and accounts branches already mentioned, and they hold their offices on the same tenure as do the other civil servants. The Indian Expenditure Commission expressed the opinion that the Indian system is well organised and effective. The audit takes two forms. In the first place there is the departmental or local audit, for which the Civil Accountants-General, the public works examiners, the military controllers, or the corresponding officers of the Forest Department or of the Post Office respectively, are responsible. Those officers see that all payments made are in accordance with the detailed rules laid down, and they themselves decide most questions which arise, reserving only a few to be determined by the Comptroller and Auditor-General. They make their report to the

Audit.

FINANCE. latter officer. He in his turn exercises a second check through his own staff by means of a test audit, which includes, on an average, about one-twelfth part of the total payments. He sums up his conclusions in an Appropriation Report to the Government of India.

The payments made in Great Britain from Indian revenues are audited by an officer appointed under Act of Parliament. He is nominated by the Secretary of State for India, the Chancellor of the Exchequer having the power of vetoing the selection, and holds office "during good behaviour." He makes an annual report to the Secretary of State, which is laid before Parliament; but he has no power to disallow expenditure.

SPECIAL SUBJECTS CONNECTED WITH FINANCE.

The last decennial issue of this Statement contained a review of the general factors in the financial position, which it is not necessary to repeat. There are, however, certain questions upon which something must be said, as they have greatly affected the financial position of India during the past decade. These are (1) exchange, (2) the famine insurance grant and famine expenditure, and (3) the railway revenue account.

EXCHANGE.

Exchange. The sterling payments of the Government of India amount each year to a considerable share of the total expenditure, as will be shown later on, and they are met for the most part from the proceeds of bills and telegraphic transfers drawn on the Government of India by the Secretary of State in London. From the year 1873 the rate of exchange began to grow more and more unfavourable to India, and in the early years of the decade under review the difficulty became acute. The mints were at that time open to the free coinage of silver, and the gold value of the rupee declined in direct relation to the value of silver. Not only was the loss to the Government very heavy, owing to the additional number of rupees required in order to secure the sterling amount needed in each year, but it was impracticable at the beginning of any year to make any trustworthy forecast of the rate at which it would be possible to sell the required amount of bills and transfers during the year. In the two years 1891-93 nearly 450 lakhs of rupees were added by this cause alone to the sum to be raised from the people of India. Moreover, it was represented to the Government of India that the violent fluctuations of exchange seriously hampered mercantile enterprise and restricted the investment of capital in India. From all points of view there was need for action to check the fall of the gold value of the rupee. The Government of India desired that, if possible, an international agreement should be arrived at for the settlement of the silver question, but that, if that was impossible, the Indian mints should be closed to the free coinage of silver, with a view to the ultimate introduction of a gold standard. The whole question was referred to the consideration of a Committee, which sat in London, under the presidency of Lord Herschell, then Lord Chancellor. The international conference, which met at Brussels towards the end of 1892, failed to produce any change in the situation; and it was thought probable that the United States would repeal the clauses of the Sherman Act which provided for the annual purchase of 54,000,000 ounces of silver. Accordingly Lord Herschell's Committee reported, on the 31st of May 1893, in favour of the closing of the Indian mints to the free coinage of silver, with a proviso that the Government of India should undertake to issue rupees in exchange for gold at the rate of 1s. 4d. per rupee, British gold currency being received at the same rate in payment of Government dues. In June 1893 an Act embodying these recommendations was passed by the Government of India, and a notification was issued accordingly. The realisation of a steady exchange at the desired level of 1s. 4d. per rupee was delayed for some years; and in 1898 another Committee, with Sir Henry Fowler as chairman, sat to consider proposals made by the Government of India for further action. They recommended, in 1899, that the British sovereign should to be declared a legal tender at the ratio of 1s. 4d. per rupee; and that the Government,

while not undertaking to give gold for rupees at that rate without limit, should make such gold reserve as they might at any time possess freely available for foreign remittances when a fall of exchange made such aid necessary. An Act making sovereigns legal tender was passed in 1899. Since that time there has been a great flow of gold into the Indian Treasury and currency reserves. The amount of gold so held on the 1st April 1899 was about two millions sterling; on the 7th March 1900 it had risen to seven millions; and in addition a million and a half had been received in London by the Secretary of State, under an Act passed in 1898 authorising the issue of rupees from the currency reserve against gold held by the Secretary of State in London. In spite of large transfers of gold to England, the stock in the Indian reserves stood at about the same amount (seven millions sterling) on the 31st March 1902. Payments of gold to the public were commenced in January 1900, and have been continued and increased in various ways. No accurate estimate has yet been formed of the amount of gold in circulation in the hands of the Indian public. The gold price of the rupee now remains steady at sixteen pence, with slight market fluctuations, and the figures of Indian accounts are now expressed, in this and other Statements presented to Parliament, in pounds, the pound being taken at 15 rupees. The same notation is, for the sake of convenience, used for the earlier years also, in which the rate of exchange differed widely.

A "gold reserve fund" was established in 1900, into which all profits of coinage are paid, and the amount of the fund, which is invested in British consols, stood at £3,454,000 at the end of March 1902. It is intended to use this fund at any time at which it may be necessary to maintain the gold value of the rupee. The gold in the Paper Currency Reserve and in the Government treasuries can also be used for this purpose by remittance to England. The policy of the Government in this matter was summed up by Mr. (now Sir Clinton) Dawkins in the Financial Statement of 1900-01, and his words may fitly end this brief account of the great currency difficulty:—

"As long as Government refrains from coining rupees, except upon the demand of trade, there can be no dilution of the currency. There can be no contraction, as long as trade, if it needs rupees, has only to tender a sovereign to obtain silver coin in exchange. . . . It has already been stated that we are in process of equipping ourselves with additional silver to the value of one million sterling. The only other intervention of Government that I can foresee will possibly be recourse to shipping surplus gold to Europe as a temporary corrective in abnormal times, such as upon the return from up-country of silver coins after a famine. It might, under such circumstances, be desirable to restrict Council bills temporarily, but the inflow of gold through private agency, according as the demand varies in either direction, is expected to become a regular factor in Indian business."

FAMINE RELIEF AND INSURANCE.

Even before the famine of 1877-78 the Government of India had recognised that the relief of famine must be treated as a recurrent charge, and that it was therefore desirable to prevent expenditure on famine relief, in excess of the amount which could be provided from the revenue of the year in which it was incurred, from forming an addition to the permanent debt of India. For this purpose the Government determined in 1878 to provide, by increased taxation and other means, a margin of annual income over ordinary expenditure to the extent of £1,000,000. This sum, which was in effect an addition to the Budget surplus, was to be applied in the first place to the famine relief needed during the year, and in the second place to the reduction or the avoidance of debt. In 1879-80, owing to financial pressure, no part of the "grant" was allotted to either of the above heads. In 1881 the scheme was reconstituted, and it was decided that the grant of £1,000,000 should be entered in the Budget under the head of Famine Relief and Insurance, with subheads for (1) Relief, (2) Protective Works, and (3) Reduction of Debt. The intention was that one half of the grant should be annually allotted to the construction of railways or irrigation works which would serve as a protection against famine, but could not be regarded as "productive" works in the sense of yielding remunerative interest on the capital. Expenditure on these works was to be cut down in years when an expenditure on famine relief in excess of half the amount of the grant was anticipated. The balance of the grant, after payment of the cost of the year's famine relief and of the expenditure on protective works, was to be applied to the reduction of debt, or to the construction of productive

Famine relief and insurance grant.

FINANCE. works for which debt would otherwise have been incurred. It was not, it will be observed, the intention to create a fund into which the grant, or any part of it, should be paid. The money was to be spent each year in such a way as to relieve actual famine, to act as a preventive of future famines, or to put the finances in a better position for raising the funds needed when famine should occur.

It was explained in the decennial Statement of 1891-92 that the amounts shown as appropriated to the grant in some of the preceding years were considerably less than the full sum contemplated by the scheme. In 1891-92 and the two following years the full grant was restored, but in the three years 1894-97 it was deemed sufficient to enter two-thirds of the sum. In 1898-99 it was decided to revert to the original sum of £1,000,000, at which amount the allotment remains in years when that sum is not exceeded by the cost of famine relief. Before the year 1896-97 fifteen years had passed without the occurrence of any famine requiring extensive relief. During those fifteen years the amounts annually appropriated under the several heads of the grant aggregated £11,763,000, which is less by £3,237,000 than the original scheme contemplated. It has been shown by the Famine Commissioners of 1898 that the actual expenditure within the fifteen years on account of protective works amounted to £7,997,000, or more than the moiety which was to be allotted to such works under the scheme. There is included in this sum, besides railways and irrigation works constructed by Government agency and with the Government's capital, an annual charge for guaranteed interest on the Bengal-Nagpur and the Indian Midland Railways. These are lines of a protective or unremunerative character, and the charge was undertaken by the Government as a means of promoting their construction by private enterprise. The charge varies according to the traffic results of the railways. The sums entered in the accounts of the fifteen years under reduction or avoidance of debt amount to £3,552,000, and expenditure on famine relief amounts to £214,000 during the same period. The Famine Commissioners advised that it would be of advantage for various reasons to maintain the grant at the original figure of £1,000,000 a year in future years, and it was decided to adopt that course. In the six years from 1895-96 to 1901-02 the direct expenditure incurred for famine relief has amounted to £11,700,000.

The following table shows the expenditure on famine relief and insurance for the 21 years since the initiation of the scheme:—

	Famine Relief.	Construction of Protective Railways.	Construction of Protective Irrigation Works.	Reduction or Avoidance of Debt.	Loss on Bengal, Nagpur, and Indian Midland Railways.	Total.
	£	£	£	£	£	£
Five years 1881-82 to 1885-86.	75,952	1,822,653	747,958	2,443,230	24,984	5,114,777
Five years 1886-87 to 1890-91.	55,406	139,338	276,914	653,523	1,170,662	2,289,838
Five years 1891-92 to 1895-96.	82,213	2,411,301	184,336	454,780	1,193,751	4,326,380
1896-97 - - -	1,386,350	—	31,220	—	292,571	1,710,141
1897-98 - - -	3,550,405	—	25,011	—	235,299	3,810,715
1898-99 - - -	26,703	460,235	7,780	296,825	208,457	1,000,000
1899-1900 - - -	2,074,918	—	23,930	—	29,599	2,128,447
1900-01 - - -	4,125,280	—	31,114	—	0,523	4,155,867
1901-02 - - -	529,181	—	70,593	284,638	115,458	1,000,000
Total (21 years) -	11,906,358	4,827,522	1,398,955	4,132,995	3,280,334	25,546,165

RAILWAYS.

The transactions shown in the Railway Revenue Account of the Government of India include large payment and receipts in connection with State railways, and guaranteed and subsidised companies. The net result to the Government, after providing for interest charges, is shown in the margin, and it will be seen that there has been a very important change in this respect since the beginning of the decade. In place of a varying but always serious deficit, to be met from revenue, there is now a steadily increasing surplus. It is to be borne in mind that the

Railway Revenue Account.

	NET RAILWAY DEFICIT (-), or SURPLUS (+).	£
1892-93 - - -	-	844,000
1893-94 - - -	-	450,000
1894-95 - - -	-	296,000
1895-96 - - -	-	85,000
1896-97 - - -	-	1,552,000
1897-98 - - -	-	709,000
1898-99 - - -	-	620,000
1899-1900 - - -	+	77,000
1900-01 - - -	+	325,000
1901-02 - - -	+	847,000

above figures include not only the ordinary payments and receipts in respect of the commercial lines, but also charges for military and for famine protective lines, and for lines under construction and repayments of capital (amounting in 1901-2 to about £590,000) included in the terminable annuities issued for the purchase of railways. The main heads of the revenue account are given below:—

	1891-92.			1901-02.		
	Revenue.	Expenditure.	Net Revenue (+) or Expenditure (-).	Revenue.	Expenditure.	Net Revenue (+) or Expenditure (-).
	£	£	£	£	£	£
State Railways :						
Gross receipts - - -	10,941,289	—	—	19,277,226	—	—
Working expenses - - -	—	5,476,320	—	—	9,492,334	—
Interest and annuities - -	—	5,391,929	—	—	8,630,309	—
Total - - -	10,941,289	10,868,249	+73,040	19,277,226	18,122,643	+1,154,583
Guaranteed Companies .						
Net traffic receipts - - -	2,328,745	—	—	914,989	—	—
Interest, &c. - - -	—	2,550,397	—	—	1,164,217	—
Total - - -	2,328,745	2,550,397	-222,152	914,989	1,164,217	-249,228
Subsidised Companies :						
Repayment of advances of interest.	21,996	—	—	33,753	—	—
Land, &c. - - -	—	22,087	—	—	13,441	—
Total - - -	21,996	22,087	-91	33,753	13,441	+20,313
Miscellaneous railway expenditure.						
	—	61,373	-61,373	—	79,051	-79,051
Grand Total - - -	13,292,030	13,502,606	-210,576	20,225,968	19,379,362	+846,616

TAXATION.

The next, and only other, subject which requires some notice before dealing with the course of finance, is the broad distinction between the revenue raised by taxation of the Indian people and that accruing from other sources. The accounts of the Government of India include, on the one hand, the revenue and cesses from the land, revenue from liquors, drugs, and salt, from customs and stamp duties, from income tax and from registration, all of which may be regarded as taxes paid by the people. These heads provided about 52 per cent. of the gross receipts in 1901-02, or 28 per cent. if land revenue, which holds a distinct position, be omitted. The rest of the gross receipts accrue from the railways, which yielded 27 per cent. of the total; from irrigation, 3½ per cent.; from forests, 1½ per cent.; from opium, chiefly that sold for the foreign market, 6½ per cent., and the remainder from the other commercial services, post office and telegraph, and from various departmental and other sources. Most of these latter headings, however, have large *per contra* entries on the expenditure side, and if these are set off against one another, as is done in the table of net revenue and expenditure given below, the land revenue and taxation heads will be seen to yield about 93 per cent. of the net revenue. The modifications in taxation during the decade have been few in comparison with those of the previous ten years. Putting aside changes introduced by local governments in their methods of raising excise revenue, the additional taxation which has been imposed is:— (1.) General import duties, including an additional duty on petroleum and an enhancement of the duty on imported spirits from Rs. 4 to Rs. 6 per gallon (1894); (2.) An import duty and countervailing excise duty on cotton, at first including yarns, but afterwards (1896) applied only to woven goods imported or manufactured at power mills in India; (3.) An increase in the duty on Kohat salt from 8 annas to Rs. 2 per Lahori maund (1896); (4.) Countervailing duties on bounty-fed beet sugar; (5.) Variations in the pass duty on Malwa opium. These measures were estimated to produce additional gross revenue to the amount of about £1,800,000, which was rendered necessary in the first place by the fall in exchange. The actual receipts in the year 1901-02 amounted to about

FINANCE. £2,490,000, composed as follows :—half the present petroleum duty, £175,300; sugar duties, £270,000; general duties, £1,926,700; excise on cotton goods, £118,000. Since the settlement of the exchange difficulty the finances have been disturbed by famine and other causes, and no remission of taxation was effected during the ten years. As to the pressure of taxation upon the people, it may be stated, without going into detail at present, that the gross revenue from land revenue and taxation heads in 1891-92 was £32,825,000, and that the population of British India was 221 millions, giving an incidence per head of nearly Rs. 2½, if no allowance is made for the salt and other taxation ultimately borne by subjects of Native states; and that in 1901-02 the gross revenue was £39,009,000, and the population of British India 231 millions, the incidence per head being slightly more than Rs. 2½. The fresh taxation imposed amounts to about one-tenth of a rupee per head of the population. The rest of the increase has been due to the natural growth of receipts from existing sources. The Expenditure Commission, dealing with the period 1861-62 to 1895-96, wrote as follows :—

“It may be said, therefore, that, but for the heavy charge entailed upon India by the fall in exchange, the normal growth of the tax revenue was not only sufficient to meet the largely increased demands of military and other services, but would have provided a large balance available for reduction of taxation.”

They also reported that the cost of collecting taxes, properly so-called, in India is not much greater than in the United Kingdom.

REVENUE AND EXPENDITURE.

The general financial summary for the year 1901-02, given on pages 134-5 (Table I.), exhibits in a compendious form the whole of the transactions of that year. It also serves to show to how large an extent the commercial services, railway, irrigation, post office and telegraphs, swell the gross totals on both sides of the account. But the financial position of the Government of India can be much better appreciated from the figures of net revenue and expenditure which are annually laid before Parliament.* The table below (No. II.) reproduces in a shortened form the chief figures given in that return. It is only necessary to explain that, on the income side, the receipts from the main revenue heads are given, after deduction of refunds and assignments and of opium expenses, and that the expenditure side contains cost of collection of revenue and the net expenditure under all expenditure heads. The railway revenue account, which is now becoming a source of revenue, is kept on the expenditure side of the account.

In the following detailed review of the progress of the finances under each of the heads shown in Table II., the proportional method employed in the last decennial issue of this Statement (p. 204, *et seq.*) has been adopted. It would have been desirable, in the interests of continuity, to use the figures of the year 1881-82 again as a standard for comparison; but this is precluded by the fact that the net tables were recast during the decade, and now differ considerably in form from those which were discussed in 1891-92. The comparison is therefore made with the re-arranged figures of 1891-92, which are represented as 100.

Net revenue.

Year.	Variation.
1891-92	100·0
1892-93	95·6
1893-94	95·5
1894-95	97·1
1895-96	102·4
1896-97	97·6
1897-98	102·0
1898-99	109·9
1899-1900	107·5
1900-01	111·1
1901-02	115·0

of £7,224,251.

The fluctuations of the net revenue as a whole are shown in the margin. The first three years show a decline, owing to heavy deductions for loss by exchange; but in 1894-95, though the loss from this cause was heavier than ever, the newly imposed Customs duties turned the scale, and there was a slight improvement. For the rest, the two famine years show, as might be expected, checks in the expansion. The increase in the ten years is at the rate of 15 per cent., compared with an increase of 10 per cent. in the preceding decade. But, as will appear below, much of the increase is due to the re-imposition of the import duties. The ten years ending on the 31st March 1902 show a total net surplus

* See Parliamentary Paper H. of C. 95 of 1903.

The effect of the famines is very clearly seen in the land revenue variations, both in the low receipts of famine years and the increased figures for subsequent years, when some of the suspended revenue is collected. But

FINANCE.
Land
revenue.

Year.	Variation.
1891-92	100.0
1892-93	103.9
1893-94	106.9
1894-95	106.2
1895-96	109.5
1896-97	99.7
1897-98	107.2
1898-99	115.0
1899-1900	107.8
1900-01	109.8
1901-02	114.9

important as are the fluctuations caused by famine, the figures given in the margin illustrate the tendency to steady expansion which marks this source of revenue. The revenue demand is, over the greater part of the country, settled for a period of 30 years in each district or tract, and the revision of rates leads to an increased charge only when the general circumstances of the tract since the last settlement justify the change. There is, however, especially in the less developed provinces, another source of revenue expansion in the taking up of uncultivated land. In Burma, for instance, this has caused, and will continue

to cause, a great growth in the receipts. This consideration will explain the apparent anomaly that, whereas the increase in 1882-92 was 6.2 per cent., in the decade under review it amounted to nearly 15 per cent., in spite of the fact that in several cases new settlements, with increase of revenue, were suspended in Bombay and the Central Provinces, the revenue being collected on the old basis, with liberal remissions.

The receipts from the forests are considerably affected by famine conditions, both through the check to reproduction caused by drought, and through the

Forests.

Year.	Variation.
1891-92	100.0
1892-93	107.0
1893-94	115.7
1894-95	109.3
1895-96	111.5
1896-97	116.3
1897-98	116.8
1898-99	124.9
1899-1900	124.5
1900-01	130.6
1901-02	116.5

necessity for giving all possible grazing facilities freely to the starving cattle. In Bombay, the Central Provinces, and the United Provinces the forest receipts were lower in most of the later years of the decade than they had been at the beginning. But a large share of the gross forest revenue now about one third, comes from Burma, where there has been a great development of forest operations since 1891-92. The conservancy and other charges increase with the extension of the operations; during the decade under review they have varied between 50 and 60 per cent. of the total receipts for India as a whole. In Burma the proportion is much smaller,

about 33 per cent., and it is there that most of the net profits accrue.

The opium revenue is subject to fluctuation owing either to seasonal changes affecting the crop in India, or to the course of prices in the Chinese

Opium.

Year.	Variation.
1891-92	100.0
1892-93	103.8
1893-94	77.2
1894-95	92.8
1895-96	82.2
1896-97	63.7
1897-98	45.3
1898-99	54.4
1899-1900	65.1
1900-01	80.9
1901-02	79.0

market. The amount of Bengal opium to be sold is fixed beforehand for the calendar year, and the gross receipts are therefore dependent chiefly on the price offered, which in turn is largely determined by the condition of the demand. But as the number of chests to be offered for sale is fixed for the calendar year, the calculations of the Budget are sometimes disturbed by an increase or a decrease of sales in the last three months of the financial year, being the first three months of a new calendar year. The uncertainty of this source of revenue is instanced by the fact that in the Budget for 1893-94 it was estimated that 43,700 chests of Bengal opium would

be sold at an average price of Rs. 1,250 per chest; as it turned out, the number of chests sold was 43,353, and the average price was Rs. 1,109 per chest. The pass duty on Malwa opium, the second branch of the opium revenue, was changed three times during the decade, and stood at Rs. 500 per chest at the end of it, as compared with Rs. 600 at the beginning. The auction price of opium at Calcutta reached the lowest recorded level in the early part of the year 1898.

[Continued on page 138.]

TABLE I.—GENERAL FINANCIAL.

FINANCE.

Head.	Gross Revenue and Receipts.			
	India.		England.	Total.
	Imperial.	Provincial and Local.		
A. REVENUE.				
	£	£	£	£
Principal heads of revenue*—				
Land revenue - - - - -	9,091,940	9,196,078	—	18,288,018
Opium - - - - -	4,852,022	—	—	4,852,022
Salt - - - - -	5,876,018	68,297	—	5,939,310
Stamps - - - - -	897,032	2,559,374	—	3,446,406
Excise - - - - -	2,733,833	1,342,848	—	4,076,681
Provincial rates - - - - -	3,191	2,739,968	—	2,743,154
Customs - - - - -	3,795,400	37,619	—	3,833,019
Assessed taxes - - - - -	763,439	605,871	—	1,369,310
Forest - - - - -	594,652	562,703	—	1,157,355
Registration - - - - -	157,404	155,541	—	312,945
Tributes from Native States - - - - -	583,545	—	—	583,545
TOTAL principal heads of revenue	29,388,471	17,263,294	—	46,601,765
Charges of collection of revenue - - - - -	—	—	—	—
Interest (excluding that due on debt for railways and irrigation works) - - - - -	582,198	126,331	77,151	785,680
Post office, telegraph, and mint - - - - -	2,832,265	6,396	8,526	2,847,187
Civil departments - - - - -	78,653	1,180,788	1,807	1,261,198
Miscellaneous - - - - -	214,606	319,675	93,719	628,000
Famine relief and insurance - - - - -	—	—	—	—
Railway revenue account - - - - -	20,195,815	25,562	4,591	20,225,968
Irrigation - - - - -	2,008,560	534,013	—	2,537,573
Other public works - - - - -	59,905	391,011	28,649	479,565
Army services - - - - -	700,824	—	276,765	977,589
Net provincial adjustment - - - - -	—	—	—	—
TOTAL (A.) REVENUE ACCOUNT -	56,006,297	19,847,020	491,208	76,344,525
B. RECEIPTS NOT ON REVENUE ACCOUNT.				
Net capital receipts from Railway Companies - - - - -	—	—	—	3,068,828
Debts, deposits, and advances—				
Net permanent debt incurred - - - - -	—	—	—	2,582,283
" unfunded debt - - - - -	—	—	—	494,896
" remittances - - - - -	—	—	—	1,340,597
Secretary of State's Bills drawn - - - - -	—	—	—	16,599,978
TOTAL RECEIPTS (B)				24,086,582
GRAND TOTAL RECEIPTS (A) AND (B)				100,431,107
Opening balance—India - - - - -	—	—	10,598,981	
England - - - - -	—	—	4,091,926	
				14,690,907
				116,122,014

* The expenditure shown under this head includes refunds and drawbacks, assignments, and compensations, and the charges for the cultivation and manufacture of opium.

SUMMARY FOR 1901-02.

FINANCE.

Expenditure and Disbursements.				Net Results.	
India.		England.	Total.	Receipts.	Disbursements.
Imperial.	Provincial and Local.				
A. EXPENDITURE CHARGED AGAINST REVENUE.					
£	£	£	£	£	£
—	—	—	754,376	17,533,642	—
—	—	—	1,611,954	3,240,068	—
—	—	—	265,319	5,673,991	—
—	—	—	36,970	3,409,436	—
—	—	—	50,911	4,025,770	—
—	—	—	5,706	2,737,448	—
—	—	—	98,502	3,734,517	—
—	—	—	7,083	1,362,227	—
—	—	—	3,535	1,153,820	—
—	—	—	864	312,081	—
—	—	—	26,565	556,980	—
2,121,182	740,603	—	2,861,785	43,739,980	—
1,014,676	3,530,317	37,414	4,582,407	—	4,582,407
-1,171,056	111,612	3,008,782	1,944,348	—	1,158,658
2,196,202	89,461	403,177	2,688,840	158,347	—
1,901,526	8,623,186	622,087	11,146,799	—	9,885,601
409,297	1,373,528	2,356,557	4,139,382	—	3,511,382
873,519	6,017	4,976	884,512	—	884,512
12,932,297	30,882	6,416,373	19,379,352	846,616	—
1,229,715	1,133,544	1,442	2,364,701	172,872	—
1,290,377	3,135,760	139,788	4,565,925	—	4,086,360
11,330,872	—	4,383,059	15,763,931	—	14,786,342
—	1,072,310	—	1,072,310	—	1,072,310
34,178,607	19,847,020	17,368,655	71,394,282	4,950,243	—
B. DISBURSEMENTS NOT CHARGED TO REVENUE.					
Outlay on irrigation works - - - -			547,551		
" " State railways - - - -			3,523,601		
" " of railway companies - - - -			2,443,213		
<i>Debts, deposits, and advances—</i>					
Net temporary debt discharged - - -			1,301,942		
" deposits and advances - - - -			264,557		
" loans and advances by Imperial Government - - - -			279,385		
" loans and advances by Provincial Governments - - - -			102,287		
" capital account of Local Boards - -			95,009		
Secretary of State's bills paid - - -			16,596,749		
TOTAL DISBURSEMENTS (B) - - - -			25,154,294		
GRAND TOTAL DISBURSEMENTS (A) AND (B)			96,548,576		
Closing balance--India - - - -		£11,880,301			
England - - - -		6,693,137			
			18,573,438		
			115,122,014		

TABLE II.—NET REVENUE AND EXPENDITURE.

	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900 01.	1901-02.
NET REVENUE.											
<i>Land Revenue, &c.</i>											
Land Revenue	£ 15,261,119	£ 15,851,107	£ 16,321,602	£ 16,202,642	£ 18,709,890	£ 15,210,187	£ 16,365,695	£ 17,547,704	£ 16,444,227	£ 16,755,525	£ 17,539,642
Forest	989,950	1,059,232	1,145,789	1,082,163	1,104,431	1,151,842	1,156,685	1,236,910	1,232,035	1,293,452	1,153,820
Tributes from Native States	462,658	490,587	484,480	495,313	500,600	575,425	562,608	579,457	586,501	551,125	556,980
TOTAL	16,733,720	17,400,926	17,951,871	17,780,118	18,314,921	16,937,454	18,034,983	19,364,071	18,264,118	18,600,102	19,244,442
<i>Opium</i>	4,097,178	4,253,992	3,164,161	3,802,020	3,366,690	2,610,510	1,855,841	2,280,308	2,670,589	3,312,663	3,240,068
<i>Taxation.</i>											
Salt	5,455,264	5,513,494	5,219,543	5,527,953	5,644,996	5,357,020	5,472,825	5,813,957	5,573,775	5,709,923	5,678,991
Stamps	2,809,972	2,929,864	2,071,270	3,045,656	3,117,391	3,147,893	3,189,251	3,161,672	3,225,920	3,304,786	3,409,436
Excise	3,367,686	3,445,593	3,543,249	3,629,471	3,768,615	3,691,067	3,609,389	3,782,022	3,810,539	3,892,634	4,025,770
Provincial rates	2,331,582	2,465,766	2,335,402	2,357,082	2,464,320	2,351,501	2,478,374	2,009,663	2,495,458	2,559,474	2,737,448
Customs	1,092,890	1,017,495	1,081,347	2,504,955	3,258,922	2,904,256	3,024,356	3,127,230	3,058,795	3,274,404	3,731,517
Assessed taxes	1,092,865	1,113,684	1,145,085	1,196,472	1,214,945	1,240,232	1,254,155	1,274,020	1,292,739	1,313,731	1,362,227
Registration	265,626	285,777	276,675	277,995	282,383	304,717	323,613	293,175	287,164	311,758	312,031
TOTAL	16,415,085	16,771,673	16,572,571	18,539,584	19,751,572	18,996,195	19,351,963	20,062,330	19,744,880	20,366,710	21,255,470
Total principal heads of revenue	37,245,983	38,426,591	37,688,603	40,121,722	41,433,183	38,544,159	39,292,787	41,656,718	40,679,082	42,279,475	43,789,980
<i>Miscellaneous Net Receipts.</i>											
Mint	74,793	132,909	91,304	-11,074	-8,129	63,336	62,554	-23,713	289,183	20,116	51,340
Miscellaneous	89,249	121,661	106,329	181,094	153,380	155,516	160,195	217,984	99,382	75,004	22,239
TOTAL	164,042	254,570	197,633	170,020	145,251	218,752	222,749	194,271	388,565	95,120	73,579
<i>Exchange.—Net receipts or charges</i>	709,806	-1,078,524	-1,480,650	-3,279,501	-2,544,626	-1,562,489	-644,157	23,628	-80,940	-31,849	25,494
TOTAL NET REVENUE	38,119,831	37,602,537	36,395,586	37,012,141	39,033,808	37,200,472	38,871,379	41,879,617	40,986,698	42,342,746	43,839,053

NET EXPENDITURE.												
<i>Debt Services.</i>												
Interest on debt, other than that charged to railways and irrigation.	2,675,533	2,406,785	2,346,401	2,520,293	1,837,853	1,715,091	1,850,193	1,672,971	1,593,853	1,776,406	1,563,915	
Interest on other obligations	316,920	341,505	367,521	317,617	404,156	305,159	343,488	344,577	551,715	362,540	880,423	
Deduct receipts	-588,858	-578,155	-582,655	-542,536	-547,694	-710,742	-580,644	-706,265	-603,815	-651,179	-735,680	
TOTAL	2,403,595	2,173,185	2,131,267	2,295,374	1,694,315	1,309,508	1,613,037	1,311,283	1,342,293	1,487,167	1,158,658	
<i>Military Services.</i>												
Army	14,531,422	14,708,452	14,499,163	14,457,373	15,576,903	15,091,185	17,233,297	15,385,042	14,165,743	14,265,525	14,786,342	
Buildings and roads—Military Works	776,937	764,931	754,881	626,672	775,467	727,841	740,952	771,493	801,782	747,187	917,110	
Special Defence Works	412,103	296,814	206,837	127,057	59,729	58,970	15,059	974	871	6,864	—	
TOTAL	15,720,462	15,770,197	15,460,881	15,211,102	16,412,099	15,877,996	17,089,308	16,157,509	14,968,399	15,019,576	15,703,482	
<i>Collection of Revenue</i>	3,934,352	4,020,428	4,132,305	4,202,394	4,277,223	4,350,264	4,939,322	4,302,419	4,418,839	4,531,711	4,582,407	
<i>Commercial Services.</i>												
(Net Receipts given with a minus sign.)												
Post Office	35,558	13,299	-12,927	-39,994	-64,937	-65,523	-104,302	-125,919	-126,068	-134,942	-103,065	
Telegraph	-47,364	-50,773	-51,695	-132,613	-141,902	-95,508	-179,348	-36,115	-105,891	-113,129	-3,922	
Railways	458,273	813,616	419,778	295,539	84,820	1,152,467	709,313	620,165	-76,756	-325,124	-916,616	
Irrigation	448,656	347,079	877,342	408,991	450,760	66,742	-283,899	-179,760	-136,387	-235,592	-172,872	
TOTAL	895,123	1,153,821	762,498	531,923	328,741	1,068,176	141,764	278,371	-445,102	-808,787	-1,126,495	
<i>Famine Relief and Insurance*</i>	815,622	713,826	745,182	405,785	390,990	1,416,674	3,575,343	791,543	2,098,848	4,156,314	884,512	
<i>Civil Services.</i>												
Civil Departments	8,151,298	8,392,605	8,613,065	8,686,546	8,891,802	9,120,198	9,321,191	9,335,813	9,597,514	9,728,516	9,885,601	
Miscellaneous Civil charges	2,961,430	3,105,483	3,078,371	3,114,670	3,148,543	3,224,352	3,285,469	3,111,739	3,613,138	3,501,033	3,559,115	
Construction of railways charged against revenue in addition to that under Famine Insurance.	108,822	226,321	49,269	13,073	5,107	8,500	2,528	968	2,356	-822	-66,709	
Buildings and roads—Civil Works	2,917,753	2,690,565	2,661,604	2,462,107	2,616,283	2,653,910	2,421,340	2,670,855	2,891,990	2,863,886	3,235,929	
TOTAL	14,169,303	14,414,977	14,402,312	14,276,396	14,664,735	15,006,960	15,030,531	15,419,375	16,005,028	16,092,643	16,613,936	
<i>Provincial Adjustments.</i>												
Add.—Increase of provincial balances by unspent grants	—	—	—	—	252,739	—	—	978,234	—	190,588	1,072,310	
Deduct.—Portion of provincial expenditure defrayed from provincial balances.	-160,616	-118,239	-207,527	-373,906	—	-682,425	-305,119	—	-206,220	—	—	
TOTAL NET EXPENDITURE	37,808,141	38,158,145	37,426,918	36,550,068	38,011,142	38,337,153	42,444,186	39,238,714	38,212,675	40,672,542	38,888,810	
SURPLUS (+) or DEFICIT (-)	+311,690	-555,608	-1,031,332	+462,073	+1,022,666	-1,136,681	-3,572,807	+2,610,873	+2,774,623	+1,670,201	+1,350,243	

* Not including loss on Bengal, Nagpur and Indian Midland Railways (see page 130).

10

5

FINANCE.
Salt.

The rate of the salt duty (2½ rupees per maund in the greater part of India, with exception for special parts) remained unaltered throughout the decade, with the exception of the increase of the duty on Kohat salt in the year 1896 from 8 annas to 2 rupees a maund. In March 1903, however, the duty throughout the greater part of India was reduced to 2 rupees a maund. The noticeable fluctuations in the receipts are the fall in 1893-94, which coincided with, and may have been partly due to, a failure of the Sambhar Lake and a change of system in Madras; and the decline in the two famine years 1896-97 and 1899-1900. In this connection it deserves mention that in Burma, the specially prosperous province, the rate of duty is below that prevailing in other parts of India, and the consumption of salt does not appear to keep pace with the growth in population and in wealth. In Burma, the salt revenue has decreased in the decade, while the population has largely increased.

Year.	Variation.
1891-92	100·0
1892-93	101·1
1893-94	95·7
1894-95	101·3
1895-96	103·5
1896-97	93·2
1897-98	100·3
1898-99	103·6
1899-1900	102·2
1900-01	104·7
1901-02	104·0

Stamps.

Year.	Variation.
1891-92	100·0
1892-93	104·2
1893-94	105·7
1894-95	108·4
1895-96	110·9
1896-97	112·0
1897-98	113·5
1898-99	112·5
1899-1900	114·8
1900-01	117·6
1901-02	121·3

The stamp revenue has advanced almost continuously, but not quite so largely as in the previous decade. Famine has no doubt had some effect on this source of revenue, but Court fee stamps, which yield the larger proportion of the receipts, have shown a considerable increase, in spite of the effect of famine in diminishing the resources of the agricultural population. There has been no change of importance in the rates of stamp duty, though some minor changes were introduced when the Stamp Law was amended and consolidated in the year 1899.

Excise.

The excise revenue has continued to increase, with a slight check at the time of the earlier famine. There have been variations in revenue systems and rates of taxation in the various provinces, such as the measures for the restriction of the use of opium in Burma, and the extension of the tree tax system in Madras; but there has been no change in the general principles of excise administration. The famine has exercised a repressive influence on the excise revenue in western India throughout the latter part of the decade. The increase in the net receipts during the preceding ten years, 1882-92, was 48 per cent.; in this decade it was only about one-third of that rate. But the comparatively slow rate of increase cannot be solely ascribed to the famines. The great increase during the earlier period was due not only to a larger growth of population, but also to a great advance in the protection of the revenue by the prevention of illicit dealings.

Year.	Variation.
1891-92	100·0
1892-93	102·3
1893-94	105·2
1894-95	107·8
1895-96	111·9
1896-97	109·6
1897-98	107·2
1898-99	112·3
1899-1900	113·1
1900-01	115·6
1901-02	119·6

Provincial rates.

Year.	Variation.
1891-92	100·0
1892-93	105·8
1893-94	100·2
1894-95	101·1
1895-96	105·7
1896-97	100·9
1897-98	106·3
1898-99	111·9
1899-1900	107·0
1900-01	109·8
1901-02	117·4

The provincial rates include cesses for the expenses of local boards, for village services, and other cognate purposes. They consist of a percentage added to, and collected together with, the land revenue in most provinces, though in the permanently settled areas they are levied on the rental; the amount received therefore generally varies with the receipts of land revenue.

Year.	Variation.
1891-92	100.0
1892-93	93.1
1893-94	98.9
1894-95	229.2
1895-96	298.2
1896-97	265.7
1897-98	276.7
1898-99	286.1
1899-1900	279.9
1900-01	299.6
1901-02	340.2

The greatest fiscal changes of the decade occurred under the Customs heading, and the figures given in the margin show the broad effect of the general import duties imposed in 1894 and of the duties on cotton goods and yarns levied later in the same year and revised in 1896. These taxes will receive fuller notice in a subsequent chapter. At present it is only necessary to observe their effect in bringing the Customs revenue from the sixth place in point of magnitude in 1891-92 to the third place in 1901-02. The heading includes, besides import duties, the export duty (3 annas per maund) on rice, of which a large quantity is annually shipped from Burma and Bengal.

FINANCE.
Customs.

Year.	Variation.
1891-92	100.0
1892-93	102.0
1893-94	104.9
1894-95	103.6
1895-96	111.3
1896-97	113.6
1897-98	114.8
1898-99	116.7
1899-1900	118.4
1900-01	129.3
1901-02	124.7

Under assessed taxes is given the result of the income tax collection. This revenue is drawn from classes who are not so directly affected by famine conditions, and it has experienced an uninterrupted growth, due partly to the increase of wealth and partly to the improvement of the methods of assessing and levying the tax. In the last year of the decade the purchase of the Great Indian Peninsula Railway by the Government closed a considerable source of income-tax revenue; but the total receipts continued to increase. There was no change in the general income-tax law during the decade, though a tax levied in the Central Provinces of no great financial importance, known as the Pandhari tax, was abolished in 1902. In March 1903 the limit of exemption was raised from Rs. 500 to Rs. 1,000 a year.

Assessed taxes.

The mints were closed to the free coinage of silver in 1893, and no rupees were coined, except for Native States, from that date until February 1900. In 1894-95 no coins of any kind were struck at the Bombay mint, and at Calcutta the operations were confined to the coinage of small silver and copper coins. In the next year an arrangement was made by which the Bombay mint undertook to coin British dollars for the Straits Settlements and other British possessions. This, with copper coinage, and the re-coinage of rupees for Native States, occupied the mints until the resumption of the coinage of rupees for the Government of India in February, 1900. The coinage in 1900-01 and 1901-02 was:—

Mints.

	1900-01.	1901-02.
Silver :		
Rupees and fractions of rupees, value £	11,509,915	3,423,182
British dollars - - - - - Number	9,469,991	27,198,656
Copper :		
Indian coins, value - - - - - £	34,525	71,346
Straits Settlements and Ceylon coins £	5,788	19,415

The profit on the coinage of rupees is credited to the Gold Reserve Fund mentioned above (p. 129). No gold was coined in either year. The receipts and expenditure of the mints were as follows:—

	1900-01.		1901-02.	
	Calcutta.	Bombay.	Calcutta.	Bombay.
	£.	£.	£.	£.
Receipts - - -	987,355	2,185,271	187,129	342,212
Expenditure - -	69,653	85,382	69,104	66,352
Excess of receipts	917,702	2,099,889	118,325	275,860

FINANCE.
Registration.

Year.	Variation.
1891-92	100.0
1892-93	107.6
1893-94	104.2
1894-95	104.7
1895-96	106.3
1896-97	114.7
1897-98	121.8
1898-99	110.4
1899-1900	108.1
1900-01	117.4
1901-02	117.5

The registration receipts, the fluctuations of which are shown in the margin, have no great financial importance, and their relation to the prevailing famine conditions will be considered separately.

As to the exchange heading, enough has already been said regarding the fluctuations of the exchange during the decade and the steps taken to meet them. It need only be stated that under the new system adopted in the accounts, of giving the figures for India and England alike in £ at Rs. 15 to the £, the heading of "Exchange" sums up the whole loss or gain caused by any variation between that rate (1s. 4d. per rupee) and the average rate actually

realised during the year. The other receipts included in the first portion of Table II. do not require detailed notice.

Net Ex-
penditure.

Year.	Variation.
1891-92	100.0
1892-93	100.9
1893-94	98.1
1894-95	96.7
1895-96	100.5
1896-97	101.4
1897-98	112.2
1898-99	103.8
1899-1900	101.1
1900-01	107.6
1901-02	102.9

We may turn to the second or expenditure portion of Table II. From the figures given in the margin it would appear that, apart from the exceptional years of war and famine, the net expenditure as a whole had been fairly steady. But against this are to be set two considerations, the gain from railways and the saving by the employment of troops out of India—one, it may be hoped, a permanent, the other a temporary cause. It will be shown below that a considerable increase has in fact been incurred in the interests of civil administration, and that army charges have also shown a less marked tendency to expand.

Debt
services.

Year.	Variation.
1891-92	100.0
1892-93	90.4
1893-94	86.7
1894-95	95.5
1895-96	70.5
1896-97	54.5
1897-98	67.1
1898-99	54.6
1899-1900	55.8
1900-01	61.9
1901-02	48.2

The interest on the debt incurred for the construction of railways and irrigation works is charged to the railway or to the irrigation revenue accounts, and is not shown under the heading "Debt Services," which includes, on the expenditure side, interest on the remainder of the Public Debt of India (known as the "ordinary debt") and on certain other obligations of the Government of India, of which the most important are the Savings Banks balances. The great fall in the expenditure under this head is due partly to the transfer of debt from the ordinary to the productive category, under the quasi-sinking fund system to be described hereafter, and partly to conversions, by

which the rate of interest was reduced. The receipts which have been taken into account in the net totals given under this head in Table II. include interest on the loans granted to Native States, to municipalities, to landholders, or to cultivators, interest on the securities held by the Paper Currency Department, and other minor receipts.

Military
services.

Year.	Variation.
1891-92	100.0
1892-93	101.2
1893-94	99.8
1894-95	99.5
1895-96	107.2
1896-97	103.9
1897-98	118.6
1898-99	105.9
1899-1900	97.5
1900-01	98.2
1901-02	99.9

The large increases in military expenditure in 1895-96 and 1897-98 were chiefly caused by the Chitral expedition and by the Tirah and other expeditions on the North West Frontier. The pay of the native soldier was raised in 1895 at a cost of £180,000 a year, and that of the British soldier in 1898 at a cost of about £210,000. The figures of the later years of the decade are vitiated, for the purposes of comparison, by the absence of a considerable number of troops in China and South Africa, and a consequent saving to the Government of India. Setting aside these special considerations, it may be said that the net

charges for the army have shown a tendency to increase. Details are reserved for the chapter on the army.

Commercial
services.

The four services, Post Office, Telegraph, Railways and Irrigation, which are classed as Commercial Services, will also receive detailed treatment later on. In their bearing on the financial position of the Government it has to be noted that, apart from exchange fluctuations, they show a rapid progress during the ten years, with the result that they yielded a considerable net revenue in 1901-02. The expenditure under these heads, and especially under the railway revenue account, includes a large sterling

payment in England, and a considerable part of the total loss by exchange in the early years of the decade is debitable to these services. FINANCE.

The Famine Relief and Insurance Grant has already been dealt with. The most important of the remaining items on the expenditure side of Table II. is the increasing charge for civil departments. The growth is not great or rapid under any individual sub-head, but the progress of administration causes a steady increase. Particulars of the expenditure are given in the table below. Under "General Administration" are included the salaries and expenses of the Governor-General, the heads of local governments, the councils, and the secretariats, heads of most departments, commissioners of divisions, and the Accounts Department, besides the cost of the Secretary of State's establishment in England. The creation of a Lieutenant-Governorship in Burma accounts for some increase under this head. The grant of the exchange compensation allowance has augmented the charges under all the heads since the year 1893-94. This is an allowance granted to certain classes of Indian public servants, chiefly those recruited in Europe, to compensate for the reduction in the emoluments of their appointments which had resulted from the fall in exchange. Civil departments.

Year.	Variation.
1891-92	100.0
1892-93	103.0
1893-94	105.7
1894-95	106.6
1895-96	109.1
1896-97	111.9
1897-98	114.4
1898-99	114.5
1899-1900	117.7
1900-01	119.8
1901-02	121.8

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the year 1893-94. This is an allowance granted to certain classes of Indian public servants, chiefly those recruited in Europe, to compensate for the reduction in the emoluments of their appointments which had resulted from the fall in exchange.

Civil Departments.

	1891-92.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
General administration	£ 1,305,147	£ 1,230,571	£ 1,378,467	£ 1,330,780	£ 1,306,881	£ 1,318,507	£ 1,316,422	£ 1,306,782	£ 1,384,076	£ 1,339,682	£ 1,362,756
Law and justice { Courts	1,803,207	1,917,607	1,997,590	2,045,476	2,058,894	2,063,586	2,089,116	2,049,284	2,081,440	2,124,314	2,157,742
{ Jails	599,980	612,468	616,062	604,875	632,171	722,273	748,020	696,013	684,235	797,639	771,566
Police	3,579,072	2,582,430	2,613,124	2,659,148	2,693,716	2,770,977	2,822,380	2,787,143	2,851,290	2,917,986	2,957,066
Marine, and river navigation	424,462	551,726	478,216	407,436	454,434	457,392	443,895	428,824	533,892	589,921	598,249
Education	949,940	987,898	981,005	1,007,137	1,024,103	1,050,589	1,068,983	1,065,702	1,086,119	1,091,122	1,132,334
Ecclesiastical	107,749	112,051	117,721	123,669	128,246	126,241	118,964	113,965	114,064	110,351	112,776
Medical	590,078	627,106	662,073	675,396	686,210	717,052	902,899	1,077,763	944,804	941,103	864,985
Political	512,938	559,899	641,691	693,617	699,362	662,341	621,522	601,991	721,836	587,491	667,074
Scientific and others minor departments.	392,936	312,524	324,199	324,687	376,068	348,083	355,913	369,390	381,017	466,893	503,152
Total Gross Expenditure	9,255,628	9,464,379	9,700,850	9,772,021	10,017,410	10,292,013	10,470,120	10,485,637	10,762,669	10,971,622	11,146,798
Receipts	1,104,227	1,071,673	1,067,285	1,066,475	1,122,608	1,118,816	1,148,926	1,161,024	1,185,044	1,243,076	1,261,198
Net Expenditure	8,151,398	8,392,696	8,633,565	8,695,546	8,894,802	9,173,197	9,321,194	9,324,613	9,577,625	9,728,546	9,885,601

The Miscellaneous Civil Charges show a tendency to increase; the rate of growth during the ten years has in fact been very similar to that shown in the Civil Departments mentioned in the last paragraph. The main items at the beginning and at the end of the decade are shown in the margin. Of the expenditure on pensions, about 70 per cent. is disbursed in Great Britain. Contributions by officers towards the cost of family or other pensions accounted for nearly 75 per cent. of the receipts shown under 1901-02, though the deductions from the salary of members of the Indian Civil Service as contributions to their retiring annuities, amounting to £46,500 in that year, are not included. Miscellaneous civil charges.

	1891-92.	1901-02.
Territorial and political pensions.	£ 374,349	£ 264,371
Civil furlough	192,666	252,573
Superannuation	2,291,716	2,755,584
Stationery and printing	403,725	544,036
Total Expenditure	3,262,456	3,816,564
Receipts	301,026	257,449
Net Expenditure	2,961,430	3,559,115

from the salary of members of the Indian Civil Service as contributions to their retiring annuities, amounting to £46,500 in that year, are not included.

The last entry on the expenditure side of Table II. shows the amount by which the expenditure of the Provincial Governments has exceeded or fallen short of their revenue under the quinquennial contract. Any excess expenditure is met from the balances standing to the credit of those Governments, and is therefore deducted from the expenditure shown as Provincial adjustments.

FINANCE. chargeable against the revenue of the year. Any saving which they can make out of the revenue allotted to them is charged against the revenue of the year, but is added to their balances. As has already been stated, the Government of India has occasionally drawn on the provincial balances to meet other than provincial expenditure in times of pressure, the amounts so taken being subsequently refunded.

Home charges.

So far, the revenue and expenditure have been considered as a whole; but the triple division in Table I. above claims some notice. The provincial and local column needs no further comment, after what has been said on provincial finance and on local self-government. As shown in the third column, about one-quarter of the gross annual payments of the Government of India are made in England. The annual liabilities in England have been thus classified by the Indian Expenditure Commission:—

1. The interest and management of debt and interest and annuities payable to railway companies.
2. Payments due in England on account of the civil administration of India.
3. Postal subsidy and telegraph charges.
4. Payments to the Admiralty for naval services in India.
5. Charges for the Persian mission, and diplomatic and consular establishments in China, and pensions to the families of Maharajah Dhuleep Singh, and of the Nawab Nazim of Bengal, &c.
6. Charges of the India Office (regulated by Orders in Council).
7. Payments to the War Office on account of the home charges of British troops serving or having served in India.
8. Payments for the transport of troops to and from India.
9. Payments for stores for India.
10. Furlough pay to officers on leave from India.
11. Pensions of retired officers and their families.

Of the 17½ millions sterling spent in England against revenue in 1901-02, 9½ millions were for interest on ordinary and public works debt and on the Guaranteed Companies' or other railway capital, or for annuities in purchase of railways; about two millions for civil pensions, 4½ millions for army services, effective and non-effective, about £180,000 for the establishment of the Secretary of State, and more than half a million sterling for stores other than those intended for the army or those purchased out of railway capital. These charges constitute the home expenditure on revenue account, but there are also other disbursements, such as capital outlay on account of railways and irrigation works, the discharge of debt, payments to railway companies on capital account, and the remittance account, which brought up the total disbursements in England to £30,337,283 in 1901-02. The receipts of the Secretary of State are composed of the weekly sales of bills on India, the capital deposited by railway companies, temporary and other loans, and miscellaneous receipts. The amount received by the Secretary of State in 1901-02 by the sale of bills was £18,539,000. The great difficulties which were experienced during the earlier years of the decade owing to the fall in exchange have already been noticed. After the first currency legislation in 1893 no bills were sold for some months. The price is now, however, on a firm basis (having averaged 16·0016493 pence the rupee during the last four years of the decade), and it is the policy of the Government of India to further support it, if need arises, by the transmission of gold from India to England, and by the use of the sum invested on account of the Gold Reserve Fund.

Apportionment of charges.

It remains to notice one subject which was referred to the consideration of the Expenditure Commission. There are certain charges incurred for purposes in which India and the United Kingdom are alike interested, the apportionment of which between the two Governments had been disputed. These are, roughly, (1) Civil charges, viz., the India Office, Aden, political charges in Persia and China, certain subsidies, and the mail contract; (2) Army charges, and (3) Naval charges. The result of the Commission's examination of these heads was a recommendation that the Government of the United Kingdom should relieve the Indian Exchequer of various annual payments amounting in all to £257,000. Practical effect has been given

to this recommendation by the agreement of His Majesty's Government to forego payments amounting to £257,500 a year.*

FINANCE.

CAPITAL TRANSACTIONS AND DEBT.

The ten years ending on the 31st March 1902 show a net surplus of £7,224,254. In the table below, the annual surplus or deficit is shown, with the additions to the interest-bearing debt, and the capital transactions in which the Secretary of State for India in Council and the Government of India are directly interested, and which affect the cash balances :—

Year	Surplus (+) or Deficit (-).	Increase (+) or Decrease (-) in Interest-bearing Debt, funded and unfunded.	Capital Outlay on State Railways and Irrigation Works not charged to Revenue.	Advances to Subsidised Companies.	Increase (+) or Decrease (-) in Loans to Municipalities, Agriculturists, &c.	Closing Balances on 31st March.	
						In India.	In England.
1891-92	+ 211,830	+ 3,572,877	2,373,333	—	+ 636,128	(Rs. 15) 11,524,870	4,123,528
1892-93	- 535,608	+ 90,702	2,657,527	—	+ 546,404	10,181,171	2,268,388
1893-94	- 1,031,322	+ 9,391,356	2,414,168	74,022	- 850,526	17,043,728	1,300,564
1894-95	+ 462,073	- 100,188	2,964,154	7,456	+ 116,358	15,019,859	2,603,124
1895-96	+ 1,022,666	+ 953,712	2,724,798	86,372	+ 159,016	11,000,840	2,393,799
1896-97	- 1,736,881	+ 2,299,070	2,322,948	765,415	+ 529,704	9,249,168	2,632,354
1897-98	- 3,572,507	+ 10,122,642	2,683,694	962,573	+ 320,058	10,644,963	2,634,944
1898-99	+ 2,640,873	+ 1,277,362	2,279,316	835,395	- 292,478	11,177,669	3,145,768
1899-1900	+ 2,774,622	+ 62,507	2,036,672	791,040	+ 859,860	8,426,827	2,320,943
1900-01	+ 1,670,204	+ 11,908,342*	2,025,348	62,206	+ 2,226,466	10,509,981	4,091,926
1901-02	+ 4,930,343	+ 2,956,802	4,071,152	352,583	+ 381,672	11,830,301	6,893,187

* Includes an addition of £5,900,000 to capital charges arising from the redemption of liabilities.

The debt taken into account in the above table includes the Savings Banks balances and other unfunded debt. But in dealing with the National Debt of India, the unfunded debt and temporary loans may be neglected, and attention given only to the permanent funded debt. This comprises not only the unproductive debt due on account of the wars and famines of past years, but also all the capital spent by the Government on productive railways and irrigation works. These two classes of liabilities are, however, treated separately in the accounts. The service of the productive debt is charged to the railway revenue account or to irrigation, and it is only the interest and charges on the "ordinary" debt which appear, with some other items, under the heading "Debt Services." In 1862, after the Mutiny, according to a calculation made by the Indian Expenditure Commission of 1900, the ordinary debt of India consisted of £36½ millions in sterling plus 59½ crores of rupees, while the "productive" debt, which was not then separately treated, stood at about 3½ crores of rupees. If, for the purpose of comparison, the rupee figures are expressed in £ = Rs. 15, the ordinary debt in 1862 appears as £76,000,000, and the productive debt as £2,400,000. At the end of the year 1901-02 the ordinary debt amounted to £69,167,015 and the productive debt to £138,600,997. There has in fact been, on the whole, a diminution of the ordinary debt, which alone is a dead weight on the revenues of India. During recent years the capital expended on railway and irrigation works has yielded a return more than sufficient to cover working expenses and interest charges, and a considerable portion of the large surplus of 1901-02 was derived from this source.

It has been shown in an earlier part of this chapter how much the yearly expense of the ordinary debt has decreased during the decade. In the first place, this is due largely to the transfer of debt from the ordinary to the productive category. The method employed is thus described by the Indian Expenditure Commission :—

"The Government of India devotes all spare or surplus revenue, not to the purchase of debt for the purpose of cancellation, but to capital expenditure on works for which it would otherwise have to borrow. In order, however, to show accurately the amount of this capital expenditure, it charges the revenue so expended to the public works portion of the debt, and deducts a similar amount from the ordinary debt. . . . Thus spare and surplus revenue is indirectly, but effectively and economically, applied to the reduction of ordinary debt, for the charge and the possible loss accruing upon the two operations are saved."

* Parl. Paper, H. of C. 387 of 1900.

FINANCE.

In the second place, debt conversions have been successfully employed during the decade to reduce the annual cost of the debt. The first of these operations was the conversion of the 4 per cent. rupee debt in 1894 to 3½ per cent. stock. The total of the loans concerned was 95 crores of rupees (£63,333,000), and the operation was successful in every way. In respect of the greater part of the new 3½ per cent. loans, interest at that rate was guaranteed up to August 1904. There was, however, a comparatively small amount on which no guarantee was given, and in the year 1896 the greater part (£3,250,000) of this unguaranteed debt was converted into 3 per cent. debt. The net annual saving of interest resulting from these transactions was about £300,000.

The following statement shows the growth of the permanent debt during the ten years :—

Amount on	In India.		In England	Total
	Rupees.	Equivalent in £ = Rs. 15.		
31st March 1892 - -	1,02,69,23,000	£ 68,462,000	£ 107,404,000	£ 175,866,000
31st March 1897 - -	1,09,11,51,000	72,743,000	113,883,000	186,626,000
31st March 1902 - -	1,16,19,13,833	77,460,922	130,307,090	207,768,012

The addition to the debt includes about £6,000,000 on account of the purchase of the Great Indian Peninsula Railway in June 1900. The additional debt incurred during the decade is less than the amount which has been expended by the State on railways and irrigation works or advanced to railway companies on capital account during the period. Of the total liabilities in 1902, about 138½ millions were classed as productive debt.

The following table shows the alteration in the amount of the debt that took place during the decade and in the year 1901-02, the amount of the rupee debt in India being expressed in pounds at the rate of Rs. 15 = £ :—

	Amount of Debt on 31st March 1892.	Amount of Debt on 31st March 1901.	Amount of Debt on 31st March 1902.	Increase in 10 Years.	Increase(+) or decrease (-) in 1901-02.
India, permanent debt -	£ 68,461,545	£ 76,887,937	£ 77,460,922	£ 8,999,377	+ 572,985
„ temporary debt -	—	301,942	—	—	— 301,942
England, permanent debt	107,404,143	128,435,379	130,307,090	22,902,947	+1,871,711
„ temporary debt	—	5,000,000	4,000,000	4,000,000	-1,000,000
TOTAL -	175,865,688	210,625,258	211,768,012	35,902,324	+1,142,754

The transactions of the year 1901-02 include the issue of India 3 per cent. stock to the value of £2,009,500, of India sterling bills for 12 months to the value of £4,000,000, to replace a part of the £5,000,000 bills falling due, and of a 3½ per cent. rupee loan for one crore in India. The latter was subscribed more than five times over, and was issued at the average rate of Rs. 97¼/10. There were four issues of sterling bills, each for £1,000,000, and the average rate of interest varied from £3 12s. 4d. in June 1901 to £2 17s. 3½d. in March 1902. The sterling loan was originally advertised in July 1901 as for £3,000,000, with a fixed price of 98 per cent. But owing to an unexpected strain on the money market only £709,500 was allotted at the time; further stock of the value of £1,300,000 being sold later in the year.

The increase in the Saving Banks balances and other obligations is shown below, with the total amount outstanding of loans granted by the Government of India and Provincial Governments :—

FINANCE.
Unfunded debt, and Government loans.

	Amount on 31st March 1893.	Amount on 31st March 1901.	Amount on 31st March 1903.	Increase in 10 Years.	Increase in 1901-03.
Savings Banks balances and Provident Funds.	£ 6,017,969	£ 7,929,389	£ 8,404,121	£ 2,386,152	£ 474,732
Other deposits and obligations	4,749,732	5,590,539	6,059,973	1,310,241	469,434
Total unfunded debt -	10,767,701	13,519,928	14,464,094	3,696,393	944,166
Loans by Government of India to port trusts, municipalities, native states, &c.	5,904,600	8,505,282	8,784,667	2,880,067	279,385
Loans by the Provincial Governments.	1,430,895	3,784,073	3,886,360	2,455,465	102,287
Total loans by Government.	7,335,495	12,289,355	12,671,027	5,335,532	381,672

PAPER CURRENCY.

The use of currency notes has continued to expand. The average value of the gross circulation was £9,000,000 in 1881-82, £17,000,000 in 1891-92, and £20,000,000 in 1901-02, having reached a maximum of £20,700,000 in 1894-95. But in order to appreciate the extent to which the notes are used by the public it is necessary to deduct the fluctuating amounts of notes held as reserve by the Government, or by the Presidency Banks at their head offices. The result, given in the margin, shows that there is a tendency towards expansion, but that it twice received a considerable check, from the currency difficulties of 1893, and from plague and famine in 1897. For the purposes of the paper currency India is divided into eight circles, the names of which will be found below. Under the law existing throughout the ten years under review, the notes of each circle were legal tender within that circle only, and encashment could be legally demanded only at the office of issue or at the currency office of the Presidency town of the circle. But by an Act passed in 1903 the five-rupee note has been made legal tender throughout British India, excluding Burma, and encashment of the notes of that denomination may be demanded at any currency office in the same area. In practice, however, a large amount of notes were always cashed in circles other than the circle of issue. The circles, with the gross average circulation in each, are shown below :—

Paper currency.

Active Circulation.	
Year.	Value.
	£
1892-93	13,000,000
1893-94	11,900,000
1894-95	13,300,000
1895-96	13,500,000
1896-97	13,200,000
1897-98	12,800,000
1898-99	12,700,000
1899-1900	14,200,000
1900-01	14,700,000
1901-02	14,127,000

however, a large amount of notes were always cashed in circles other than the circle of issue. The circles, with the gross average circulation in each, are shown below :—

Circle.	Quinquennial Average, 1892-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
Calcutta	£ 7,778,000	£ 6,613,000	£ 7,283,000	£ 7,985,000	£ 8,503,000	£ 8,585,000
Allahabad	829,000	925,000	789,000	753,000	955,000	1,105,000
Lahore	1,092,000	1,206,000	1,473,000	1,365,000	1,365,000	1,356,000
Bombay	6,096,000	4,388,000	4,598,000	5,396,000	5,141,000	5,599,000
Karachi	498,000	559,000	438,000	398,000	538,000	497,000
Madras	2,078,000	1,927,000	1,926,000	2,191,000	2,007,000	2,104,000
Calicut	105,000	89,000	90,000	86,000	107,000	136,000
Rangoon	425,000	504,000	491,000	566,000	635,000	641,000
Total	13,901,000	16,161,000	17,088,000	18,640,000	19,251,000	20,023,000

FINANCE.

The notable features in this table are the recovery in Calcutta, the growth in the Punjab and Burma, and, on the other hand, the continued depression in Bombay. As to the denominations of the notes, those for Rs. 10 continue to form the larger part of the issues, the proportion being over 70 per cent. in 1901-02 for the whole of India, or nearly 88 per cent. of the notes issued in Calcutta, where notes of this denomination are specially popular. In Bombay the Rs. 10 notes, though still preponderating, constitute a smaller share of the whole, and 24·5 per cent. of the notes issued were for Rs. 5. In the Punjab notes for Rs. 20 or Rs. 100 are in demand, and Rs. 100 notes in Madras.

The convertibility of the currency notes is secured by a method similar to that adopted in England. The law allows the investment of a fixed maximum sum out of the currency reserve, and there is a reserve of coin or bullion equal to the amount by which the notes issued exceed the amount of the investment. The latter was increased by a law passed in 1896 from 8 to 10 crores of rupees (*i.e.*, from £5,333,000 to £6,667,000). The coin and bullion reserve consisted exclusively of silver up to the year 1897-98, when a small amount of gold was received in exchange for rupees. The subsequent rapid growth of the gold reserve has already been mentioned in the paragraph on the exchange question, where allusion was also made to a law passed in 1898, and subsequently renewed, enabling the Government of India to issue currency notes against gold held by the Secretary of State in London. The gold in the currency reserve and Government treasuries on the 31st March 1902 amounted to £7,109,000.

THE MONEY MARKET.

The money market.

The latter part of the decade was marked by a severe and prolonged stringency in the money market. The outbreak of famine in the autumn of 1896 caused the transmission of large sums from the Government treasuries at the Presidency towns to the interior of the country at the time when trade activity was beginning. The subsequent partial suspension of revenue receipts, the disorganisation of Bombay trade by the plague, and the military operations on the North-West frontier in 1897, contributed to the disorganisation of the market. The depletion of the Government treasuries was such that it became necessary not only to suspend the sale of Council bills and so deprive the market of its regular and accustomed supplies of money, but to reverse the normal conditions, the Government drawing from the local markets the rupee equivalent of bills for a million sterling bought by the India Office. The demand for rupees in Burma and the restriction of the demand for loans and for commodities among the agricultural classes further helped to cause a general lock-up of capital, accompanied by a contraction of credit. The bank rate in Calcutta rose to the unusual, but not unprecedented, figure of 10 per cent. in December 1896, and the average for the years 1897 and 1898 was about 8 per cent.; the highest figure touched, according to the returns, being 12 per cent. The difficulty of obtaining money was at some times even greater than is indicated by those figures. With the return of good harvests the market began to revert to its ordinary condition. These events have been mentioned as illustrating the general opinion that the cash basis on which Indian export commerce and trade are financed is too narrow. Though the banks find it difficult to employ their capital profitably in the dead season, yet in the busy season their resources are inadequate. It was estimated by Sir Edward Law, in a minute published in Calcutta with other papers on the subject during the year 1901, that the banking capital available in India for trade requirements is less than £10,000,000, after making allowance for the share of the capital of the Exchange Banks which is held elsewhere than in India. The amount required he estimated at about £12,000,000. These, however, are estimates, and a precise calculation is impossible. The capital of the Presidency banks and of the eight joint stocks which have their head offices in India amounted in the year 1901 to rather less than £3,000,000; reserve and rest

to £1,758,000; deposits to £17,923,000, including Government deposits of £2,667,000; and cash balances to £5,469,000. There are also eight exchange banks with offices in India, but the proportion of their resources which is kept in India is not known. FINANCE.

Partly in view of the requirements of trade, and partly for the maintenance of a gold reserve for exchange purposes, the question of the establishment of a Central Bank in India was under consideration in 1900-01. At present the three Presidency Banks, of Bengal, Madras, and Bombay, occupy only to a limited extent the position which such a Central Bank would fill. The Government keeps with them a share of its balances, the portion deposited with their head offices amounting generally to about £1,000,000. The total sum held by the Presidency Banks on Government account on the 31st March 1902 was £2,074,900, of which £921,000 was at their head offices, and £1,153,900 at their branches. The minimum amount of the Government balances is fixed at £5,333,000; and under the financial system described above the greater part of this amount is held at the district treasuries, while there is also a varying amount at reserve treasuries in the Presidency towns. The existence of these large sums under the immediate control of the Government renders the portions which the banks hold more or less constant, and therefore of great value to them. It has occasionally happened that the total cash balances of the banks were less than the Government deposit in their hands. But the Government balance cannot be increased to meet the requirements of the banks; on the contrary, when pressure occurs in the Indian money market it is usually general, and extends to the Government. Nor is there any other source from which the banks can obtain money when required. Under the restrictions imposed by the Act of 1876 they are prohibited from raising money in the English market. In India there is no institution, other than the Government, holding cash balances on which they could draw; and the coin reserve of the Paper Currency Department is needed to secure the convertibility of its notes. In these circumstances a proposal was made by the Government of India for the amalgamation of the three Presidency Banks into one Central Bank. There is no space to enter into the details of the scheme. Its main elements were that there should be an increase of the permanent banking capital, and that the bank should be allowed to pledge securities and raise money in London, and should take over the management of the paper currency. After further consideration, however, the Government of India came to the conclusion that the scheme must be dropped for the present, in view of the difficulties presented; but they recorded the opinion that it would be advisable, if practicable, that a Central Bank should be established in India. The Presidency Banks.

A few words may be added on the subject of the amount of capital seeking investment in India. It was stated before the Expenditure Commission that of Indian capital. £68,500,000 borrowed by the Government in India, some £16,500,000 was held

	Average Amount of Government Rupee Paper on the London Register.
	£
1892	17,913,000
1893	17,139,000
1894	15,717,000
1895	16,315,000
1896	17,373,000
1897	15,395,000
1898	14,438,000
1899	14,073,000
1900	14,239,000
1901	14,168,000

in England (cf. marginal table), £32,000,000 by Europeans in India, and only £20,000,000 by Natives of India. On this the Commissioners remarked as follows:—"India is truly said to be a poor country, but we must be careful how we press generalities of this kind. Although the mass of the population of India has no capital for investment, there is nevertheless a considerable amount of capital in the country; but the security of the Government of India is too good to induce Indian capitalists to invest in Government stocks, for the interest offered by the Government is lower than that which can be earned on good investments in the

country The Government of India estimate that, when they demand more than £3,333,000 in a year, the Indian market will not meet the demand." It is the declared object of the Government to encourage the investment of English capital in industrial enterprises in India, but it is impossible to show how far that object is being attained. It may, however, be observed that the paid-up capital of the joint stock companies registered

FINANCE. in India grew from £17,723,000 in 1891-92 to £25,500,000 in 1901-02, the four years 1895-99 showing a rapid progress. Much of this growth occurred in the cotton and jute milling industry, in which a considerable amount of European capital is employed. But, on the other hand, the paid-up capital of tea planting companies, which are chiefly in English hands, was less in 1901-02 than at the beginning of the decade. The capital of the railway companies is, generally speaking, sterling capital. During the decade seven railway companies, with rupee capital amounting to £1,700,000, were formed in India.

CHAPTER X.

LAND REVENUE.

LAND
REVENUE.

The chief source of revenue in India has from ancient times been a share of the produce of the land. In spite of the gradual development of other sources of wealth, agriculture still holds, and must continue to hold, by far the most important place among the resources of the country. It is the sole means of livelihood for sixty per cent. of the population, and a large part of the remainder are connected with it in a more or less direct manner. The whole fabric of Indian society is based on the land. The administration of the land revenue is therefore even more important from a social and political than it is from a financial point of view. It has been brought, moreover, into special prominence in recent years owing to the successive famines. A proper treatment of this subject involves not only a description of the methods and the results of the collection of land revenue, but also some account of the relations between landlord and tenant, as well as between the Government and the revenue payer, and of the changes in ownership or occupancy of the land.

Of the 171½ millions shown by the 1891 Census returns as agriculturists, about 18½ millions were agricultural labourers, 131 millions tilled their own land, or land which they leased under different forms of tenure, and 18½ millions derived their income from higher interests in the land, varying between full proprietorship and a mere claim to a share of the produce. A similar broad statement for 1901 is not yet available, as the general Census report is not published. The first of these classes may be reserved for treatment in a later chapter. The cultivators and the landlords, to use a convenient but quite inadequate term, are related to the land, to the Government, and to each other in many and various ways, of which a mere outline is all that can be attempted in this Statement. The landlord class includes the descendants of hereditary chiefs, of former revenue farmers, of heads of village bodies, of grantees under former governments, and the like, the only thing which they have in common being their recognition by the Government as persons with whom the settlement of the land revenue is made. Then there are in large tracts of northern India proprietary village bodies, in which the members of the village are co-sharers in the landlord rights, and are jointly and severally responsible to the Government for the revenue. Of these also there are many varieties. Intermediate between the landlords and the tenant cultivators, there are classes of subordinate proprietors, often descendants of former full proprietors superseded by a conquering race. Such rights are found in many gradations, and in their weaker forms are barely distinguishable from the higher tenant rights. Landlords in one or the other of these various forms exist in every part of India, but while they are the rule in Upper India, *i.e.*, in Bengal, the United Provinces, the Punjab, and the Central Provinces, they are the exception in Bombay, in Madras all but the northern portion, in Berar, most of Assam, and Burma. In the latter areas there is, generally speaking, no class of landlords between the Government and the cultivators. The land revenue settlements are made in every case according to the prevailing form of tenure, so that they are broadly distinguishable into the landlord settlements of northern India, known locally as zamindari, malguzari, or talukdari, and the ryotwari settlements of southern and western India, and of Assam and Burma. In the first of these classes the actual cultivation of the land is usually carried on by tenants, though in some areas, especially in the Punjab, the landlords or landlord bodies themselves cultivate the land. In the ryotwari tracts the cultivator is in a quasi-proprietary position, having only the revenue, and no separate rent, to pay.

Under the tenure systems of northern India the cultivator's payment consists of the rent taken by the landlord. The Government in turn takes from the landlord a share of this rent, usually rather less than one-half, as land revenue. It has already been said that there are many

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degrees of landlord right. The tenant rights are no less various, ranging from the occupancy right at fixed rates, voidable only by non-payment of rent, down to the annual tenancy at a rack-rent. A determination of the actual or of the proper rent rates is therefore necessitated, either for the protection of the tenants or for the assessment of the land revenue. In the greater part of Bengal, where the revenue payable by the landlords was fixed for ever by the permanent settlement of 1793, it was found that security from enhancement of the Government demand did not prevent the landlords from exacting even more than the normal increase of rent from the tenants, and the Tenancy Law of 1885 was passed to protect the cultivators. In the United Provinces and the Punjab the ascertainment of the actual rents paid is the necessary preliminary to the fixing of the land revenue demand. In the Central Provinces, where the landlords (*malguzars*) derive their title from the revenue settlements made under British rule, the rents are actually fixed by the settlement officer for varying periods. In addition, nearly every province has its own laws regulating the subject of tenancy, and, as will be shown below, the tenancy laws of the United Provinces and of the Central Provinces have been revised and amended during the last ten years. The ryotwari provinces, in which the tenancy question is much less important, have also legislation on the subjects of tenant-right and the recovery of rent. This series of laws, by which the position of agricultural tenants has been defined and strengthened, is a comparatively recent creation, for under the Moghal empire there was no law on the subject, whatever may have been the force of custom or of public feeling. The scarcity of tenants was then their sufficient safeguard. But as the pressure on the land has increased, the supply of tenants has outgrown the number of holdings, and the consequent competition has rendered legal protection necessary.

In the ryotwari provinces the cultivator, generally speaking, holds direct from the Government, though a large and increasing proportion of the land is regularly sublet at a rent of half the produce. Except in the latter case, he does not pay rent, but only the Government land revenue, besides the cesses for local purposes (see account of Provincial rates below, p. 192). The revenue is settled separately for each "field" or "survey number," which corresponds roughly with the size of an average ryot's holding. Subject to the payment of this revenue the holding is, as a general rule, hereditary and transferable; and the ryot may always relinquish it, or any part of it, after giving notice at a proper time. In Bombay, with the object of maintaining the land in the possession of the agricultural classes, the Government in 1901 found it necessary to take power, by amendment of its Land Revenue Code, to place restrictions, at the time of making future grants, on the ryot's power of transfer.

The areas under the three main land systems in 1900-01 in the larger provinces were:—ryotwari, 273½ millions of acres; zamindari, permanently settled, 119½ millions; temporarily settled, 199½ millions. The provincial figures are shown below in thousands of acres:

	Ryotwari (peasant proprietors).	Zamindari (larger proprietors) and Village Communities.		Total.
		Permanently settled.	Temporarily settled.	
Upper Burma	50,451	—	6	50,457
Lower Burma	53,316	5	156	53,477
Assam	21,305	3,931	1,247	26,483
Bengal	—	81,879	16,136	98,015
United Provinces—Agra	—	6,160	46,437	52,597
" " Oudh	—	1,113	14,225	15,338
Punjab	—	—	70,975	70,975
Sind	30,069	—	—	30,069
Bombay	44,617	—	3,955	48,572
Central Provinces	1,407	—	42,864	44,271
Madras	60,773	26,136	3,529	90,438
Berar	11,333	—	—	11,333

Land trans-
fers.

The changes in the proprietorship or occupancy of land have been the subject of much discussion during recent years, in connexion with agricultural

indebtedness, and it is therefore perhaps desirable to present the statistics on this point in a somewhat detailed form. The following table shows the area transferred, in provinces where the information is available, for the ten years ending in 1900-01. In the Central Provinces and the Punjab transfers of tenant right are given; elsewhere, the figures include only lands on which there was a change in the proprietary right. There has been much development of recent years in the collection of agricultural statistics, but complete uniformity in the different provinces has not yet been attained, and is perhaps unattainable. Since 1896, however, the general rule has been that transfers by succession, partition, simple mortgages, or redemption of mortgages, and temporary transfers such as leases, should not be included in preparing the annual returns. On the other hand, the figures include mortgages with possession and all transfers made by order of a court, whether a revenue or civil court. Subject to these remarks, the following table shows the transfers, (A) by order of court, (B) by private contract or gift.

The figures in brackets show the area of cultivated land and fallows in 1900-01. All figures are in thousands of acres, omitting 000.

		1891-2.	1892-3.	1893-4.	1894-5.	1895-6.	1896-7.	1897-8.	1898-9.	1899-0.	1900-1.
Upper Burma (5,624)	A	2	3	2	2	2	3	3	2	2	2
	B	15	17	6	9	16	19	17	23	21	38
Lower Burma (7,543)	A	7	8	7	14	17	21	12	12	9	9
	B	317	324	331	355	355	378	438	446	423	470
Assam (5,636)	A	3	2	1	2	8	7	2	3	3	3
	B	35	37	76	53	48	46	71	47	89	33
United Provinces—Agra (27,884)	A	127	178	141	120	171	212	200	212	168	226
	B	385	400	368	330	415	748	729	722	714	797
United Provinces—Oudh (9,566)	A	24	37	11	13	14	25	32	69	77	39
	B	580	211	83	55	53	242	155	220	355	251
Punjab (29,062):											
Superior ownership	A					30	51	68	43	51	44
	B					34	40	43	46	46	53
Ownership	A					828	886	1,021	890	825	793
	B										
Occupancy right.	A					67	67	87	77	70	69
	B										
Total Punjab	A	44	18	30	24	34	40	43	46	46	53
	B	1,731	1,945	2,219	2,149	925	1,004	1,176	1,010	946	906
Central Provinces (19,295):											
Proprietors	A	87	129	125	108	167	115	65	151	214	133
	B	428	457	341	449	500	485	505	495	340	277
Tenants with powers of transfer	A	—	2	10	2	4	10	4	3	6	7
	B	—	15	23	22	42	84	51	42	23	22
Total Central Provinces	A	87	131	135	110	171	125	69	154	220	140
	B	428	472	364	471	542	569	556	537	363	299
Berar (7,848)	A	8	15	8	18	20	22	22	71	37	52
	B	59	116	134	120	128	182	178	187	272	304
Madras (30,272)	A	26	23	30	31	30	46	83	66	74	191
	B	419	491	472	440	407	419	1,747	388	403	481

The information is not available for Bengal except for Government and wards' estates; nor are there at present any particulars from Bombay; but in the case of the latter province they will be furnished under the new scheme for a record of rights. As has been said already, the basis on which the figures are compiled is not quite the same in all provinces, and no accurate comparison between the provinces can be attempted. It must also be observed that in several provinces a change in this respect was made in 1895-96, so that the table falls into two parts, from 1891 to 1896 and from 1896 to 1901. It suffices, however, to show that there was an upward tendency in Burma, Assam, and Berar, and a sharp rise in the United Provinces, while the figures of Madras show considerable fluctuations, and those of the Punjab and Central Provinces have a tendency to fall.

Circumstances differ so much from province to province that no general statement as to land prices can be made, and the following figures afford no basis for comparison of provinces. The price of land in the Punjab has shown a rapid increase, owing partly to the canal colonisation. According to the returns for the year ending in September 1900, the average price of the land sold was Rs. 74 per cultivated acre, or 73 years' purchase of the revenue, compared with Rs. 56, or 53 years' purchase, in 1891-92. The year 1900-01 was an exceptional one, in view of the desire of the non-agricultural classes to acquire land before the Alienation of Land Act came into force; the price rose to Rs. 77 per acre, representing 89 years' purchase of the revenue assessed on the area sold. The remarkable increase during the decade is

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ascribed to the improvements of communications and the various circumstances conducive to a rise in agricultural prices. But the high level of land prices is also due in some part to speculative purchases of cultivated land with a view to the prospect of irrigation. In the United Provinces, the price in voluntary sales of revenue-paying land represented 22 years' purchase of the revenue in 1891-92, and 28 years' purchase in 1899-1900. For the Central Provinces no such definite statement is available, but from a comparison of the assessment and total consideration money of voluntary sales it appears that the price realised in 1891-92 was equal to 14 years' purchase of the revenue; in 1897-98 it was about 11 years' purchase, and about 8½ years' in 1899-1900. It works out at nearly 15 years' purchase in 1900-01; but it seems to be established that the value of landed property in this province has decreased. In Burma the price of land has more than doubled since 1891-92; and the average price realised at sales by order of the courts in 1900-01 was Rs. 23½ per acre. In Bombay, recent statistics show that land is generally sold for nearly 25 times, and mortgaged for about 19 times the assessment. With regard to prices of land in Madras, it is stated that over many millions of acres they are high and, in general, rising. They vary from a comparatively small sum for ordinary dry lands to above Rs. 1,000 per acre in some highly productive irrigated tracts.

The rise in the price of land evidenced by the above figures may be considered in connexion with the increase in the transfers of land to the non-agricultural classes. This subject has received much attention during the decade, with the result that in the Punjab, where the extent of such transfers appeared to constitute a political danger, an Act, summarised below, was passed in 1900. The question of legislating with a similar object in Burma was under consideration. In the Central Provinces, the Tenancy Act of 1898 withdrew the power of alienation of their rights from tenants of the occupancy and ordinary classes, and to some extent checked the transfer of proprietary rights by restrictions on the transfer of *sir* or home farm lands. In the United Provinces, except in the Bundelkhand districts, the question appears to be less urgent; and in Bengal it was held that restriction of land transfer was unnecessary. In parts of Bombay the Government are of opinion that the expropriation of the peasant occupier is not yet an evil of such magnitude as to justify the general imposition of restrictions on the power of alienation. But in 1901 an Act was passed declaring the Government right to make grants of unoccupied lands without conveying the power of transferring them. This was accompanied by a notification of an intention to use special leniency in the treatment of *bonâ fide* agriculturists in the matter of forfeiture for non-payment of land revenue. The Act is regarded as an experiment, with the special object of it being exercised in re-grants of the considerable areas of land in the Deccan and elsewhere, which in consequence of the famine have come back to the hands of the revenue authorities. It will have a very limited effect, but within these limits the experience likely to be gained will undoubtedly be of value.

Punjab
Alienation of
Land Act.

The provisions of the Punjab Alienation of Land Act are briefly as follows: Permanent alienation of agricultural land is permitted without restriction when the alienor is not a member of an agricultural tribe, or when a member of an agricultural tribe alienates to an agriculturist holding land in the same village, or to another member of his own tribe or group of tribes. In any other case, excepting religious and charitable gifts, inquiry is to be made by a revenue officer, who must not be lower in rank than a Deputy Commissioner, and sanction given or withheld at his discretion. It is to be observed that there is nothing absolute about this restriction. As was said by the Lieutenant-Governor when the Bill was under discussion, "The person who lies under the greatest disability under the proposed Bill can obtain a dispensation from its provisions, if due cause be shown." Temporary alienations by agriculturists to persons outside their agricultural tribes are only permitted under the Act in the form of usufructuary mortgages for a maximum period of 20 years, on the expiry of which the land reverts to the mortgagor and the debt is cancelled. The Act applies to the Punjab generally, saving such tracts as may be specially exempted under the powers given by it. This is one of the most important legislative measures which the Indian Government has ever passed, not only as affecting profoundly the conditions of cultivating ownership throughout the Punjab, but also as being

likely to serve as a model for other provinces where the expropriation of the peasantry by the money lender is a social and political danger. Its working will therefore be watched with the keenest interest. So far as can be judged, the Act promises to be beneficial in its working. But many years may have to elapse before its effects can be fully realised.

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REVENUE.

I.—LAND TENURES AND SETTLEMENTS.

The preliminary processes of a land revenue settlement were described in the last decennial number of this Statement (page 224), and the information need not be repeated at length. It is enough to say that they include a survey and demarcation of boundaries, the preparation of village maps and records of all the rights involved, of lists of revenue payers and their holdings, and of other statistical returns. The last stage is the valuation of the land, and the determination of the rates, of rent or of revenue, upon which the amount of the revenue demand is based. It is to be observed that in future the preliminary processes will be much abridged, and the work will be cheapened, by the operations of the Land Records systems. With the exception of Bengal, these have already been established in every large province, though in Bombay the system was not fully organised in 1902, as the work of the Survey Department was only just completed. The design is to keep up to date the information obtained at the most recent cadastral survey. According to the completeness with which this object is secured, the work to be done at resettlement will be lightened; and there can be no doubt that a very considerable saving will be thus effected.

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The principles of the land revenue settlement and administration have recently been reviewed by the Government of India in a Resolution presented to Parliament in 1902*, and since published in book form, from which the following paragraph may be quoted:—

“In the review of their land revenue policy which has now been brought to a close, the Government of India claim to have established the following propositions, which, for convenience sake, it may be desirable to summarise before concluding this Resolution:—

- “(1.) That a Permanent Settlement, whether in Bengal or elsewhere, is no protection against the incidence and consequences of famine.
- “(2.) That in areas where the State receives its land revenue from landlords, progressive moderation is the key-note of the policy of Government, and that the standard of 50 per cent. of the assets is one which is almost uniformly observed in practice, and is more often departed from on the side of deficiency than of excess.
- “(3.) That in the same areas the State has not objected, and does not hesitate, to interfere by legislation to protect the interests of the tenants against oppression at the hands of the landlord.
- “(4.) That in areas where the State takes the land revenue from the cultivators, the proposal to fix the assessment at one-fifth of the gross produce would result in the imposition of a greatly increased burden upon the people.
- “(5.) That the policy of long term settlements is gradually being extended, the exceptions being justified by conditions of local development.
- “(6.) That a simplification and cheapening of the proceedings connected with new settlements, and an avoidance of the harassing invasion of an army of subordinate officials, are a part of the deliberate policy of Government.
- “(7.) That the principle of exempting or allowing for improvements is one of general acceptance, but may be capable of further extension.
- “(8.) That assessments have ceased to be made upon prospective assets.
- “(9.) That local taxation as a whole, though susceptible of some redistribution, is neither immoderate nor burdensome.
- “(10.) That over-assessment is not, as alleged, a general or widespread source of poverty and indebtedness in India, and that it cannot fairly be regarded as a contributory cause of famine.

“The Government of India have further laid down liberal principles for future guidance and will be prepared, where the necessity is established, to make further advance in respect of:—

- “(11.) The progressive and graduated imposition of large enhancements.
- “(12.) Greater elasticity in the revenue collection, facilitating its adjustment to the variations of the seasons, and the circumstances of the people.
- “(13.) A more general resort to reduction of assessments in cases of local deterioration, where such reduction cannot be claimed under the terms of settlement.”

Under the Bengal permanent settlement of 1793 the Government renounced Bengal for ever the right to share in any future increase in the value or the productivity of the land, intending, by the creation of a wealthy landlord class, to secure prosperity for the agricultural community as a whole. They neglected, however, at the time to secure the position of the tenants by legislation; and it was not until 1859 that this was to some extent effected by the enactment

* Parliamentary Paper Cd. 1089.

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of the "twelve years rule," that where a tenant had continuously held the same land for twelve years he should be regarded as an "occupancy tenant," and should have certain rights as to freedom from ejection and from enhancement of rent. Later, the Bengal Tenancy Act of 1885, since amended by an Act of 1898, created various classes of privileged tenants, including one class known as "settled ryots," in which the qualifying condition is holding land, not necessarily the same land, for twelve years continuously in one village. Outside the privileged classes of tenants, the Act gives valuable protection to tenants-at-will. The progress in the acquisition of occupancy rights by tenants may be judged from the fact that whereas in 1877 it was stated of the Champaran district that the cultivator had hardly acquired any permanent interest in the soil, the Settlement Officer in 1900 reported that 87 per cent. of the occupied area was in the possession of tenants with occupancy rights or holding at fixed rates. The relations of landlord and tenant have undergone a vital alteration in recent years. The old patriarchal and generally friendly relations are fast passing away, and being replaced by relations based on law and contract. The change is not one which can be acceptable to the landlords, but though the period of transition will last for several years to come, it is believed that the ryots will eventually be able to secure, and to hold against all comers, the strong legal position which the Bengal Tenancy Act has given them. The Partition of Estates Act of 1897 also gave some protection to the ryots, in respect of the record of rents made on the occasion of the partition of an estate.

A most important step was taken during the decade by the institution of a cadastral survey and record of rights in various permanently settled parts of the province. Papers presented to Parliament in 1892, 1893, and 1894* contain ample information as to the need for such a measure and the methods adopted. It is enough to say here that, after a preliminary survey in Mozufferpore, a survey of the four densely populated districts of North Behar, including the ascertainment of existing rents, was begun in 1891. No measure of recent times has been entered upon with more predictions of failure and of popular discontent. These predictions have been falsified by the result, and the survey has disarmed opposition by its obvious utility. It has recently been extended to the northern portions of the Bhagalpur and Monghyr districts of South Behar, and to the district of Backergunge in Eastern Bengal. It is reported that good progress was made in the year ending in September 1901, and that no active opposition was encountered in Backergunge, where the character of the peasantry had led to some fears being entertained. The cost of survey operations is generally about eight annas per acre, though it is higher in Backergunge; and the Government has borne one-fourth of the expense, the remainder being adjusted between the landlords and the tenants. The question of the maintenance of the records obtained in these surveys was the subject of considerable discussion, which resulted in the passing of an Act in 1895. This Act provided for the registration of mutations by rural registrars, and imposed disabilities on landlords and occupancy tenants failing to register transfers of rights. The village officials (*patwaris*) were not, as in other provinces, utilised for land record purposes. The scheme has now been in operation for several years, and its failure has already been amply demonstrated. Registrations under the Act were never many in number, and they show a tendency to grow less. It remains to be seen what machinery can most suitably be provided for this purpose.

There are considerable areas in the province which for various reasons were not included in, or have not been brought under, the permanent settlement. These contain over 16 per cent. of the area, and paid in 1901-02 more than 19 per cent. of the land revenue of the province. They are settled temporarily on the principle of recognising whatever rights are found to exist, the settlement officers having power not only to record but to adjust or enhance rents. In Orissa, the largest of the temporarily settled areas of Bengal, a re-settlement has been made, and was brought into effect at the end of the decade. The enhancement in the revenue amounted to 52 per cent. of the previous demand, but in estates on which the increase was specially large, it was decided to introduce the new rates gradually. The proportion of the proprietary assets taken was much reduced. At the

* Parliamentary Papers, Nos. 188 of 1892; 448 of 1893-94, and 205 of 1894.

preceding settlement it was, on the average, 65 per cent.; under the new settlement it is 54 per cent., though a few large estates were assessed at more than 55 per cent. of the assets for special reasons. The net expense annually borne by the Government in connection with the canals and flood embankments of Orissa amounts to about £67,000, or nearly half the revised land revenue. The period of the settlement is 30 years.

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Questions of tenancy right and rent rates are more prominent in the United Provinces than elsewhere in India, with the exception of Bengal. The bulk of the land is held by cash-paying tenants. Outside the area in the east of the province which is under a permanent settlement, the revenue is assessed on the basis of the rents ascertained to be in force at the time of settlement. The settlement officer does not generally, as in the Central Provinces, fix the rate of rent which is to prevail for the period of the settlement. Rent legislation is therefore a matter of great importance in the United Provinces. Up to 1873 the law in force in the Agra province was the law of 1859, to which reference has already been made in connexion with Bengal, constituting a class of "occupancy tenants" under the "twelve years" rule. A Rent Act was passed in 1873, and eight years later the law was amended and consolidated by the Act XII. of 1881, which was in force in the first part of the decade under review. Under this Act the classes of tenants were (1) permanent tenure holders and tenants at fixed rates, in the permanently settled areas; (2) ex-proprietary tenants, who enjoyed a reduction of 25 per cent. in their rent as compared with that paid by other tenants; (3) occupancy tenants, who had held the same land for twelve years continuously, and (4) non-occupancy tenants. The Act was in many ways unsatisfactory; and it was observed that the number of occupancy tenants showed a tendency to decrease. The whole matter was therefore taken under consideration, and the law was redrafted and amended by an Act passed in 1901. The provisions of the new Act are complex, and any attempt to summarise them in small space would be misleading. It may, however, be remarked that the two great features of the Act are the improvement of the law regarding occupancy rights, and the protection of the tenant-at-will from successive enhancements and from arbitrary ejection. Ex-proprietary and occupancy tenants have under the Act a very considerable amount of protection against enhancement of rent, against ejection, and in respect of improvements which they have made. Non-occupancy tenants are secured against enhancement within a period of five years, except on the ground of an increase in the area of their holding.

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At the same time it was decided to undertake the amendment of the revenue law in both of the United Provinces. The Acts previously in force were those passed in 1873 and 1876 respectively; they had worked well, but in the course of time many amendments had suggested themselves. The law passed in 1901 relates to both portions of the province. It contains no very vital changes, and is in the main a measure of consolidation. As a supplement to this Act, a short Act amending the provisions of the Oudh Tenancy Act of 1886 as regards ex-proprietary tenants was also passed. It may be mentioned that in Oudh the occupancy right cannot be acquired by prescription, and that the so-called "occupancy tenants" in that Province are a relatively small class of privileged tenants, while the great mass of the tenants are without the occupancy right, but are protected from arbitrary eviction and unfair enhancements of rent by a tenancy law peculiar to Oudh. During the decade the most important legislative measure affecting Oudh was the Oudh Settled Estates Act of 1900. The object of this law is to enable the Taluqdars of Oudh—the landed aristocracy, who were confirmed in the possession and absolute ownership of their estates by Lord Canning after the Mutiny of 1857, and whose estates devolve in cases of intestacy according to the rule of primogeniture—to create a series of life interests in their estates, and thereby to effect family settlements, the succession following the rule of primogeniture. The Act was enacted at the instance of the Taluqdars, who were alarmed by the frequent decay and disintegration of ancient estates, and who desired to protect themselves and their descendants from the consequences of unrestricted power of alienation.

In the assessment of revenue the rule which is universally followed in these provinces is that known as the Saharanpur Rule, that the State demand should

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be limited to one half of the rental. In the 18 districts which have been re-settled during the last 15 years the percentage of revenue to assets in no case exceeded 50 per cent., and the revenue of all these districts taken together was 47 per cent. of the assets. Under the assessment rules in force ten years ago, the basis of the whole assessment was the rental demand which the landlord could legally recover from his tenants. Experience has, however, shown that a careful analysis of the rent roll is an essential preliminary, in order to provide for lands which are exposed to exceptional dangers from accidents of season. Under rules introduced five years ago it is now practically impossible that unstable rent rolls should be treated as if they were always realisable. Allowances are made for improvements made by the landlords and for local circumstances, and prospective increases in the assets are not taken into account. The cesses for roads, patwaris, schools, and the like, are levied generally on the revenue at the rate of 16 per cent. (*i.e.*, rather less than 8 per cent. of the rental assets). The term of assessments is usually 30 years. Practically the whole of the province of Oudh has been reassessed during the decade. During the year ending in September 1901, the last for which a report is available, settlement operations were in progress in nine districts of the province of Agra and in three districts of Oudh. Settlements were approved for the Shahjahanpur district, where the percentage of assets taken is 48·6 per cent. and the increase of revenue as compared with the previous settlement is inappreciable; the Kheri district, where the revenue assessment is 46·4 per cent. of the assets, and shows an increase of 20 per cent. over the amount of the previous settlement; and the Budaun district, where the proportion of revenue to assets is 46·3 per cent., and the increase in revenue about 30 per cent. By the settlement of the Meerut district, approved after the close of the decade, 48 per cent. of the rental assets were taken as revenue, giving an increase of 31·4 per cent. over the expiring demand. The principles of assessment in the districts of Bundelkhand, which are subject to great vicissitudes of the seasons, were receiving special attention, with a view to the elaboration of a more suitable system.

Punjab.

It has already been mentioned that the steady alienation of land by the agricultural classes in the Punjab was held to necessitate the passing of an Act in 1901 with a view to its control. The effect of the large alienations to non-agriculturists has shown itself in the increase in the number of tenants; though it must not be overlooked that a large number of tenancies has been created in recent years by the colonisation of the Chenab Canal. In the year 1891-92 nearly 54 per cent. of the cultivated area of the province was tilled by the owners; in 1900-01 the proportion had fallen below 45 per cent. The area of cultivated land held by rent-paying tenants was 11½ millions of acres in 1891-92; it had risen in 1900-01 to 15½ millions. The area held by tenants-at-will, of whom an increasing number pay rent in produce, had grown from nine to about ten millions of acres in the ten years. The question of tenant right is a subordinate one in the Punjab. The twelve years rule is not in force, and the occupancy tenants, who cultivate about 10 per cent. of the land, are representatives for the most part of early right-holders. The Tenancy Act of 1887 remained in force throughout the decade with practically no modification. Apart from the Land Alienation Act, recent land legislation in the province falls under two heads. First, there may be mentioned the Descent of Jagirs Act, which is intended to maintain the fine old families of the province by promoting the principles of primogeniture in respect of their ancient land grants, and by securing those grants against attachment by decree of court. In the second place, the erratic action of the rivers has necessitated two Acts, one to remedy the effects of erosion by torrents in the Siwalik range, and one to decide the difficult questions of ownership caused by the shifting of river beds.

The settlement system of the Punjab differs from the last system described, in that the data for fixing rent rates are much less complete than in the United Provinces. Cash rents are the exception in the Punjab, and even where they appear to exist they often represent in reality only the payment by the cultivator of the Government revenue *plus* a small percentage for the proprietor. The settlement officer has therefore to propose his rates after consideration of a sufficient number of fair specimen holdings, the object being to have as a basis for the assessments whatever facts exist. The resultant

rates are, as in all other provinces, the subject of careful consideration by higher authorities before they are adopted. When sanctioned they are used as a standard, subject to variations according to local conditions. It is laid down that the assessment of an estate must not exceed half the value of the net assets, *i.e.*, of the average net yield of the crops after deduction of expenses of cultivation. The cesses in the Punjab are restricted to $12\frac{1}{2}$ per cent. of the annual value, which is defined as double the land revenue. But in practice the land revenue is generally less, and often much less, than 50 per cent. of the assets, and the cesses do not in most districts exceed 11 per cent. of the "annual value." The term of settlement is usually 20 years in most parts of the province. During the year ending in September 1901, settlement operations were wound up in the Mooltan district, and were nearly completed in Jhelum and Mozuffergarh. Work was begun in Jhang, and was continued in four other districts.

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In the irrigation colonies of the Punjab, and in a number of riverain tracts, a fluctuating system is in force, under which the revenue rates do not vary, but only such lands are liable to pay them as have received irrigation or flood and yield successful crops. The system has been introduced practically throughout the Mooltan district, and in Dera Ghazi Khan. It is reported that the people appear to view it with distrust. In the Colony on the Chenab Canal, of which an account will be given in a later chapter,* the land is cultivated by Government tenants. Under an Act passed in 1893 such tenancies are not subject to the ordinary tenancy law of the province; separate leases are not granted, the tenancy being created by an entry in a register of tenants; the holdings are not attachable by decree of court, and can only be transferred with the consent of the Government. The rent is recoverable in the same manner as is usual for the Government revenue.

The position of tenants in the Central Provinces is, for historical reasons, an exceptional one. The Tenancy Act of 1883 recognised (1) absolute occupancy tenants, who had full powers of transfer and rents fixed at the revenue settlements for 30 years; (2) occupancy tenants, who could transfer their holdings, subject to certain conditions, and whose rent was fixed by the settlement officer for 10 years; (3) ordinary tenants, who could transfer, subject to the landlord's consent, and whose rent could not be altered within seven years. The latter class had also other protection against enhancement or ejection. But after this law had been in force for 14 years it was found that it failed to protect the ordinary tenant, that the power to alienate was injurious to him, and that he was frequently compelled to pay unfair rents. A consolidating and amending Act was therefore passed in 1898, providing, among other things, that the rents of ordinary tenants should be fixed by the settlement officer for seven years, and that after that period the tenant should on application have a fair rent fixed by a revenue officer. Provisions were also enacted restricting the alienation of home farm lands by proprietors, and prohibiting transfers of their right by occupancy and ordinary tenants. The proportions of the tenant area held in 1901 under these three classes of tenure were respectively 15, 45, and 40 per cent. On the whole, the relations between landlords (*malguzars*) and tenants are regarded as having been good in 1901. It is reported that the protective sections of the Act have done much to curtail the power of oppressive landlords, and that the attitude of the latter as a class is creditable.

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For the future, therefore, all rents in the Central Provinces are to be fixed at the time of settlement, leaving out of account the comparatively small ryotwari area. The first part of the settlement officer's work is the determination of factor numbers for each soil, by which its value is expressed in terms of the value of the poorest soil in cultivation. This classification is, however, used only as a guide in fixing the rents, which are based on full inquiries into prevailing rent rates and prices. In recent revision settlements the incidence of rent per acre of cultivated land varies from $9\frac{3}{4}$ annas in Bilaspur to $27\frac{1}{2}$ annas in Narsinghpur. After the rents are fixed, there is the further process of settling the proportion which the Government revenue shall bear to the rental assets. Under the orders of Government this may be as high as 60, or in some cases as 65, per cent. In the re-settlements, however, which have been made since 1892, the percentage is 59 and 61 respectively

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in Wardha and Nagpur, where previously it was much higher, and it is nowhere else higher than 55 per cent., while in Seoni it is 47 per cent. Cesses range between $6\frac{1}{2}$ and 7 per cent. of the assets, and are in practice calculated on the revenue. In consequence of the famine of 1899-1900 the introduction of the revised settlements was suspended, and considerable abatements were granted in various districts, in addition to the suspensions of revenue which will be noticed below. Regular abatements have been made in Saugor, Damoh, Jubbulpore, Seoni, Narsinghpur, Hoshangabad, and Nimar, and similar operations were in progress during 1902 in Betul, Wardha, Bhandara, Balaghat and a portion of Raipur. A regular revision of assessment was also proceeding in another part of Raipur, in Chanda, and in Sambalpur.

Bombay.

Whatever may have been the condition of land tenures in Bombay in early times, the disintegration under the Maratha rule was so great that the British authorities found no class of landlords or village proprietors in general existence, with whom a land settlement could be concluded. The principle adopted was, therefore, to settle the revenue directly with the individual cultivator, due regard being had to other rights when they could be proved to exist. The Deccan districts of the presidency are practically all under the ryotwari system. In Gujarat there is a greater admixture of other tenures, of which no lengthened notice is possible in this place. In the ryotwari tracts, the area taken under settlement is generally a taluka, or subdivision of a district, though it may be only a group of villages. The term of the settlements is 30 years. The method adopted in the survey is that of classification of soils, without any attempt to fix the actual average produce. By this means each of the small fields or survey units is assigned a fractional value as compared with the best quality of land. The total assessment for the tract or village is then fixed by consideration of the existing rate, the rise or fall of prices, the changes in market facilities, and similar points, subject to the general principles approved by the Government of India. This inquiry does not necessarily result in enhancement. In the Ratnagiri and Konkan districts little change was made, and there have been instances in which the assessment has been reduced. The fixing of the revenue payable by each survey number is a comparatively simple matter. But this is not all that is necessary in a ryotwari settlement. Every field has its own assessment, but the number of fields actually held by any one ryot is apt to vary, and an annual inspection (*jamabandi*) is therefore needed, to fix the actual revenue payable by each cultivator. Any holding or part of a holding may be relinquished at the end of a year by giving due notice, and the transfer of a holding is treated as a relinquishment and fresh grant to the transferee. Such fresh grant is, however, a matter of form, as the holdings have always been recognised as being both hereditary and transferable. Reference has already been made to the amendment of the Bombay Revenue Code in this respect in the year 1901. Another legislative project in relation to the tenure of land in Bombay, which came up for consideration in the decade, was one dealing with the rents leviable by certain quasi-landlords known as Khots in the Ratnagiri district. This matter was still in suspense at the end of 1901-02. Still more important in the presidency is the question of maintaining correct revenue registers of occupancy holdings. A Bill to provide for this has been introduced into the Legislative Council, and in the meantime the record is in course of preparation in one taluka of every subdivision in nearly every district. The minute subdivision of holdings in Bombay renders this a specially difficult as well as an important matter.

It may be added that the Famine Commission of 1901 suggested the following measures with a view to improving the position of the Bombay ryot:—(1) a tenancy law to protect expropriated ryots, (2) a bankruptcy law, (3) the limitation of the right of transfer, in the interests of ryots who are still in possession of their land. These recommendations are under the consideration of the local Government.

Madras.

In the northern districts of Madras, known as the Northern Circars, a permanent settlement with zamindars was introduced when the British first came into possession of the country, and it followed the lines of the Bengal system, though there was some improvement as regards the position of tenants. Elsewhere in Madras, the early attempt to create a class of landlords with permanently settled revenue was unsuccessful, and the

ryotwari system with 30 year assessments prevails over the greater part of the presidency. The manner of assessment differs from that prevailing in Bombay. A calculation is made of the average outturn of each class or sort of soil, converted into rupees at a commutation rate based on, but generally less than, the average prices of the 20 preceding non-famine years, with deductions for cost of cultivation, merchants' profits, and seasonal vicissitudes. The standards thus arrived at are applied to the fields after grouping the villages with reference to their natural advantages. Not more than one-half of the net produce thus ascertained is taken as revenue. In practice, the existing classification of soils is not generally disturbed at re-settlements, if it has been found to be in the main equitable. There have been no such changes in the revenue or rent laws or systems during the decade as to affect the people economically. An Amending Act of 1900 secured compensation to tenants in Malabar for improvements made by them, but it is of too recent date to render it possible to state its effect. The irrigation systems of Madras differ from those of northern India, where water is conducted along watercourses bordering the fields. In Madras the water flows from one field to another, and there is no provision by which it can be excluded from a field surrounded by irrigated fields. It was found necessary in the year 1900 to pass an Act to enable the Government to obtain its proper water rate in cases which escaped payment under the previous law. No water rate can be levied under the new law, unless there is a full and constant supply of water by which an irrigated crop has actually been grown; and lands irrigated by wells dug by owners of lands are, as before, not chargeable with water rate. Of the assessments during the decade, those for the Madura, South Arcot, and Anantapur districts show an increase proportionally less than the increase in the assessable area under the new survey; in Bellary the increase was slightly larger. In Tanjore and Trichinopoly, the new assessments are 29 and 30 per cent. respectively higher than the old; and in the Godavari district as a whole the rate of increase was 24 per cent.

Assam consists of two valleys, the Assam, or Brahmaputra Valley, and the Surma Valley, surrounded and separated from each other by hilly tracts, where the conditions of life and of cultivation are specially backward. Generally speaking, these backward regions are not assessed to land revenue, but pay house tax and other suitable imposts. Of the plains districts, most of Goalpara and part of Sylhet, transferred from Bengal in 1874, are under permanent settlement, which prevails in that province. These areas, including special settlements of waste lands, amount to nearly four millions of acres. In Cachar, which with Sylhet constitutes the Surma Valley, there is a certain joint responsibility of cultivators for the revenue of quasi-village areas, into the details of which it is not necessary to enter. The characteristic features of the Assam system are to be found in the districts of the Assam Valley, excluding the permanent settlements in Goalpara. In these districts, besides a temporarily settled area of about $1\frac{3}{4}$ millions of acres and some 600,000 acres of specially granted waste lands, there is a practically inexhaustible area of cultivable waste, amounting to little less than seven millions of acres. The settled area in the valley includes nearly a million acres under periodical settlements, and more than two-thirds of a million for which annual settlements are made. In the former case the occupants are known as landholders, but as is usual in ryotwari systems the lands may be relinquished by notice duly given. In many parts of the province, notably in the tracts along the river banks, relinquishment after two or three years' cultivation may be said to be the rule. There has been a decline in the settled area of the province, which is, however, less marked than the decline in the numbers of the agricultural population. The last settlement of the valley was effected in 1893-94. It was followed by some disturbances, due, as it was believed, to the too abrupt imposition of the higher rates. In the ordinary course a fresh settlement would be due in 1903. But in view of the check which has been caused to the prosperity of the province by disease and by the earthquake of 1897, it has been decided to postpone the revision of the settlement, and in the meantime to grant considerable remissions from the existing revenue.

In Lower Burma the normal status of the agriculturist is that of a Burma peasant proprietor. But the last decade has seen a rapid growth in the area

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held by tenants-at-will from the persons with whom the Government revenue is settled. The area so held has trebled within the last twelve years, and amounted in 1901-02 to 1,831,300 acres out of a net cropped area of 11½ millions. The rents are paid, for the most part, in produce, and a statement of them in rupees can therefore only be obtained by calculation; but it is probably within the mark to say that rent rates have increased 50 per cent. in the same period. They stand now at about Rs. 8 per acre. Attention has been given in recent years to the question of providing the tenants, or certain classes of them, in the absence of an agreement, with a fair rent judicially determined, and a Tenancy Bill was in course of preparation at the end of the year 1901-02. Precautions have been taken against land speculation by imposing stricter conditions on the grant of land, and by full assessment of uncultivated lands in the hands of agriculturists. The law which regulates tenures of land in Upper Burma continued during most of the decade to be the Land and Revenue Regulation of 1889. Briefly, the land is classed as State or non-State land, the former category including the lands formerly held by or from the Burmese kings, and all lands unoccupied at the time when the Regulation was passed. Ryots holding State lands have certain defined rights and privileges; other tenants, or sub-tenants, are in the same position as those of Lower Burma, and have no fixity of tenure or of rent, though rackrenting and oppression of tenants are unknown. But sub-letting does not appear to have become so general in the Upper as in the Lower province. In the year 1901 the Regulation was amended, with effect of abolishing the distinction between the "rent" of State lands and the "revenue" of non-State lands. The details of the tenure of non-State lands, with the question of restricting the right of transfer, were reserved for further consideration.

The settlements in Burma are based on a field-to-field survey, which has been practically completed so far as the Lower province is concerned, an annual supplementary survey by local agency being all that is now required. The assessment rates in Lower Burma are fixed generally for terms of 15 years; but, as in other ryotwari systems, it is necessary to know how much land the cultivator holds, crops, or lets each year in order to fix the amount of revenue due from him. Besides the land revenue assessment, a capitation tax is levied on all males between the ages of 18 and 60. In Upper Burma the matters to be decided at the settlements were more complex, including the rent of State lands, the *thathameda*, or household tax, and the revenue on non-State lands. Non-State lands were assessed to revenue for the first time in 1899-1900 in a few districts, and the practice is being extended, the change being accompanied by a reduction in the rate of the household tax previously levied. It is to be observed that the amounts entered against Burma under the head of Land Revenue in the Accounts include taxation paid, in the form of capitation or of household tax, by non-agriculturists as well as by agriculturists.

Berar.

In the Hyderabad Assigned Districts the settlement has been made under the Bombay (ryotwari) system. The land is classified, valued, and assessed in survey units, and the occupier is in the position which has already been outlined in the case of Bombay. A revision of the settlements has been in progress during the decade, but the introduction of the new rates has for the most part been postponed in consequence of the famine. It is estimated that the total increase of the revenue when the new rates are brought into effect will be about 25 per cent. as compared with the settlement of 30 years ago. In the meantime, such of the revised settlements as have been introduced have caused no hardship; the dry crop rates were slightly raised, but rates for irrigated land were appreciably lowered. The period of the new settlements is 30 years.

COLLEC-
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REVENUE.

II.—COLLECTION OF THE REVENUE.

The Government of India, as has been stated above, have laid down liberal principles with regard to elasticity in the collection of revenue. It is of equal importance that the instalments of revenue should be collected at the seasons when the agriculturist is in the best position to pay, and that the penalties for non-payment should be administered with all possible leniency. As to the

first point, the arrangement differs more or less in every province, owing to the varying agricultural conditions, and may differ in neighbouring districts or villages. The common principle is that the demand should be made after the harvests are gathered and the produce has been disposed of. India includes so many climates that the date of the completion of the agricultural year, which follows the final instalment of the revenue demand, is not the same in all provinces. It may be said, however, to terminate generally either at the end of June or at the end of September. Secondly, the procedure for enforcing payment of the land revenue demand differs in permanent and in temporary settlement areas. In the permanently settled portion of Bengal the gift of the landlord right was accompanied by the condition that the revenue must be paid punctually, under threat of the immediate sale of the estate. Under the permanent settlements in northern Madras payment is similarly enforced, though in that case the attachment of personal property is allowed before the landed estate is sold. Elsewhere, instead of sale being the first and ordinary procedure it is only adopted as the last resort. In the village settlement areas of northern India the first processes of recovery are a writ of demand, arrest of the defaulter, and distress on movable property, excepting agricultural tools, seed, grain, and cattle, and also, in the Punjab, excepting a portion of the crop left for subsistence. It is only after these processes have failed that recourse is had to the land, which may be attached and put under management, Government or other; ultimately, if all else fail, the estate or share on which the default arose may be sold, or even other "immovable property" of the defaulter. Interest is not charged on arrears of revenue in northern India. In the ryotwari provinces of Madras and Bombay a written notice of demand is required, and the law provides for the attachment and sale of movable and immovable property, or for the holding being taken under management, for forfeiture of the occupancy, or for arrest and imprisonment of the defaulter. The extent to which resort is had to these various means of enforcing payment is indicated in the provincial summaries of revenue collection given on a later page.

Years.	Gross Land Revenue.
(5 years' average.)	£
1861-65	13,287,000
1866-70	13,327,000
1871-75	13,977,000
1876-80	14,076,000
1881-85	14,748,000
1886-90	15,622,000
1891-95	17,005,000
1895-1900	17,973,000
Year 1900-01	18,252,000
" 1901-02	19,101,415

It has been shown in the preceding chapter that the net receipts from land revenue have continued to show the tendency towards expansion which was noted in the Decennial Statement of 1891-92. This tendency appears most clearly in the table of quinquennial averages of gross receipts, excluding the amount due to irrigation, given in the margin. The period 1895-1900 comprises the great famine year 1896-97, for which large suspensions and remissions of revenue were granted; but in spite of liberal treatment in this respect the average of the five years is nearly 6 per cent. higher than the average of 1891-95, owing to increase in the

Financial results.

cultivated area and to growth in the assessments, based on improved communications and conditions.

The following table shows the proportional increase in each province, the figures of 1891-92 being taken as = 100. The share of the land revenue due to irrigation is excluded from the calculation:—

RECEIPTS FROM LAND REVENUE (FINANCIAL YEARS).

	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
Bengal	99.5	100.1	100.6	101.0	100.2	102.2	104.6	106.5	105.6	105.5
United Provinces	99.9	100.1	97.0	101.4	84.1	94.4	111.9	108.8	103.0	106.6
Punjab	101.0	104.4	102.5	103.3	98.1	105.7	110.5	95.1	100.8	111.2
Burma	105.9	103.9	114.7	116.0	111.9	123.5	131.0	134.0	149.4	154.8
Central Provinces	99.3	98.7	94.0	100.4	94.2	95.2	124.5	82.1	67.0	124.0
Assam	101.3	120.3	120.0	128.0	129.8	127.7	184.6	134.5	133.1	132.1
Madras	117.7	125.4	127.9	126.7	117.6	125.0	127.5	121.6	129.6	128.9
Bombay	102.6	104.4	100.5	109.7	98.5	104.7	106.1	88.4	88.3	99.3
India, General (Minor Provinces).	100.3	125.3	103.3	105.0	106.3	107.1	107.4	61.0	92.6	101.3

COLLECTION OF THE REVENUE.

In order to explain the nature of the receipts and charges coming under the general head of Land Revenue, the following table is added, giving the figures for 1901-02 by provinces:—

	Bengal.	United Provinces.	Punjab.	North-West Frontier Province.	Burma.	Central Provinces.	Assam.	Madras.	Bombay.	Minor Provinces.	TOTAL.
REVENUE.	£	£	£	£	£	£	£	£	£	£	£
Ordinary Land Revenue -	2,623,109	4,269,510	1,672,021	54,432	1,281,012	575,575	880,803	3,717,967	2,282,888	83,396	17,042,607
Recovery of Survey and Settlement Charges.	28,675	—	—	—	—	—	—	—	—	—	28,675
Sale of Proprietary Right of Government in Land.	1,066	197	97	—	—	—	—	197	—	20	1,577
Assessment of alienated lands, less quit-rents.	5,662	—	15,826	140	—	—	—	—	648,161	—	669,793
Sale of Waste Lands and Redemption of Land Revenue.	2,466	1,468	24,374	—	9,695	—	346	5,405	—	123	43,877
Capitation Tax, or House Tax levied in lieu.	512	—	—	—	651,080	—	—	—	—	462	652,054
Receipts for the Improvement of Government Estates.	40,490	—	—	—	—	—	—	—	—	—	40,490
Fisheries and other Receipts classed as Miscellaneous.	16,502	80,523	48,811	5,269	268,094	2,461	30,003	192,446	17,154	9,780	622,343
Total Gross Revenue -	£2,720,775	4,301,898	1,781,129	59,842	2,309,882	579,036	411,152	3,916,016	2,048,208	92,680	19,101,415
Deduct portion credited to Public Works for irrigation.	—	85,866	99,727	1,526	—	—	—	590,471	105,799	—	812,397
Total credited to Land Revenue for 1901-02.	£2,720,775	4,216,032	1,681,402	58,316	2,309,882	579,036	411,152	3,325,544	2,942,407	92,680	18,288,018
Total for 1891-92 -	£2,578,638	3,953,924	1,547,641	—	1,428,024	467,671	211,267	2,638,839	2,963,721	92,449	15,977,184
EXPENDITURE.											
District Administration -	916,124	233,017	180,915	7,335	148,914	55,286	26,939	279,267	202,108	18,574	1,322,627
Survey and Settlement -	63,044	35,735	32,477	6,105	54,295	15,993	2,192	46,989	8,448	9,161	264,459
Land Records and Agriculture.	5,906	344,281	108,642	2,142	40,896	40,360	12,649	132,115	762,235	9,147	761,361
Charges directly connected with the collection of Land Revenue.	35,303	15,005	2,274	793	125,100	1,536	10,012	232,844	82,487	1,484	622,633
Total Charges in India.	£309,376	628,038	374,306	17,375	364,204	113,215	62,792	688,116	468,378	28,266	2,861,065
Charges in England	—	—	—	—	—	—	—	—	—	—	670
Total Charges, 1901-02	£309,376	628,038	374,306	17,375	364,204	113,215	62,792	688,116	468,378	28,266	2,861,735

The figures in both the above tables refer to the financial years ending on the 31st March. The following particulars are taken from the revenue reports, and relate to the agricultural year.

Bengal.

The land revenue demand of Bengal is not subject to great fluctuations, owing to the prevalence of the permanent settlement. In temporarily settled parts of the province, as will be seen from the marginal table, there has been an increase in the current year's demand in the ten years amounting to more than 30 per cent., owing to new settlements, revised settlements, and other causes. The total demand, current and arrear, in 1901-02 was £2,764,300 and the result of the collections was good, only 3 per cent. of the demand remaining uncollected at the end of the year.

	1891-92.	1901-02.	Percentage of Increase.
Permanently settled estates.	£ 2,149,864	£ 2,155,144	25
Temporarily settled estates.	178,406	235,764	32·15
Estates held direct by Government.	215,875	281,771	30·53
Total	£ 2,544,145	2,672,669	5·05

Estates which became liable to sale for nonpayment of revenue under the Bengal Revenue Sale Law of 1859 numbered 12,454, of which 1,328 were actually sold, the average price being $7\frac{1}{2}$ times the revenue. A Bill to amend this law was introduced in 1894, but withdrawn. The "certificate" procedure for the recovery of public demands other than land revenue was amended by two Acts of 1895 and 1897. Defaulters may now deposit the amount due, with a penalty, within 30 days after sale of the property under this procedure, and thus have the sale set aside. Sales for the recovery of cesses, water-rate, and other demands numbered 7,554 in 1900-01, while 153 debtors were imprisoned.

COLLECTION OF THE REVENUE.

The current demand for ordinary land revenue in the United Provinces was £3,959,700 in 1891-92 and had risen to £4,155,700 in the year ending in September 1901, owing for the most part to the fresh settlements in Oudh. Collections on account of the ordinary land revenue of the year amounted in 1900-01 to £4,135,000. This satisfactory result was attained with little difficulty. Among the severer coercive processes, immovable property was attached in 592 cases, transfers were made in 185, settlements were annulled in 28, and there were 25 sales. The number of all processes was 41,992, including 32,022 writs.

United Provinces.

The fixed land revenue demand in the Punjab had increased by $7\frac{1}{2}$ per cent. since 1891-92, and stood at £1,482,000 in the year ending in September 1901. Ninety-seven per cent of this amount was collected in the year. In October 1900 arrears to the amount of £396,000 were outstanding, as a legacy of the famine of 1899-1900, but £134,000 was collected during the year, and £22,600 remitted. The chief outstanding are in the Hissar, Rohtak, and Gurgaon districts, which were most affected by the famine. The revenue obtained under the fluctuating system increased largely in 1900-01, owing chiefly to the development of cultivation on the Government canals; and it stood at more than £200,000. There was in addition a miscellaneous revenue amounting to £88,400. Coercive processes in 1900-01 included 31,462 writs of demand, and 24,320 warrants, the latter being more numerous than in previous years.

Punjab.

Excluding the small ryotwari area, the land revenue demand for the Central Provinces was £448,700 in 1891-92, under the old settlements. The result of the revision of settlements during the decade has been a considerable increase in the demand; but against this has to be set a series of abatements due to the crop failures, including a net abatement of £17,500 in the year ending on the 30th September 1901. The total current demand in that year amounted to £495,900. The arrears outstanding at the beginning of the year amounted to £509,000, of which £264,800 was remitted, £62,200 set down for collection, and the remainder kept under suspension. The total for collection was therefore £558,100, of which 94 per cent. was collected within the year. In the ryotwari villages, which lie for the most part in the poorer tracts of the province, the demand was £17,400, and special leniency is shown, the collections being 19 per cent. of the demand in 1899-1900, and 77 per cent. in 1900-01. Coercive processes for the recovery of revenue take the form chiefly of arrest and imprisonment of defaulters, or of attachment or sale of movable property. Cases in which proceedings are taken against the immovable property of defaulters are few. In 1900-01, 327 defaulters were arrested, and 12 imprisoned, and 1,774 attachments and 147 sales of movable property were effected, the people being at first, in many cases, inclined to withhold payment in the hope of obtaining further concessions.

Central Provinces.

The gross Government demand for land revenue in the Bombay Presidency, excluding Sind, was £2,037,000 in the revenue year 1900-01. The amounts are rather less than those of the preceding year in the districts of the northern and central divisions. As compared with the demand of 1890-91 the northern division shows an increase of 2 per cent only, compared with nearly 10 per cent. in the central division and about $3\frac{1}{2}$ per cent. in the southern division. As has already been explained, the *jamabandi* demand varies with the amount of land occupied as well as with the rates of assessment. This area has been restricted by the famine conditions, and was less in the northern division than it had been at

Bombay.

COLLECTION OF THE REVENUE.

the beginning of the decade, though the other divisions showed some increase. The slight increase in the demand in spite of this fall is due to reassessments. Nearly £75,000 was remitted, chiefly in the northern division, in the year 1900-01, on account of crop failures and other minor causes. The revenue for collection on account of the year's demand was therefore £1,962,000, and the balance of recoverable arrears brought the figure up to £2,448,000. The collections amounted to £1,693,000, which is 70 per cent. of the total demand, and 80 per cent. of the demand on account of the current year. The arrears outstanding in August 1901 amounted to £755,000, compared with £625,000 at the beginning of the year 1900-01. A sum of £867,000 was provided for remissions of land revenue in the Bombay Presidency as a whole by the Budget of 1902-03. Coercive processes for the recovery of land revenue included 2,277 cases of distraint and sale of land, and 2,660 cases, chiefly in the northern division, in which holdings were forfeited. The area of forfeited lands amounted to 37,377 acres, nearly all of which remained in the hands of the Government at the end of the year.

In Sind, the collections of land revenue and village cess on account of the year 1900-01 amounted to £596,000, an exceptionally high figure, owing to the favourable inundation. The province is dependent on the inundation for its crops, and the revenue system provides for the levy of revenue only on occupied cultivable land, fallows being exempt. The result is that the receipts have fluctuated very considerably in the decade, especially in the unfavourable years 1896-97 and 1898-99. But there is little doubt that, excluding these fluctuations, there is a general tendency to increase.

Madras.

The total demand in Madras on account of the revenue of the year ending on the 30th June 1902 was £3,928,000, compared

	1892-93.	1901-02.
From permanently settled estates.	£ 887,060	£ 333,550
Quit rent on villages held on favourable tenure.	45,635	49,583
From ryotwari lands and miscellaneous.	2,908,274	3,545,079
TOTAL - -	3,290,969	3,928,212

with £3,050,300 in 1891-92. The latter year, however, was a very unfavourable one, owing to failure of the rains, which affects the demand shown in the *jamabandi* or annual settlement returns. The current revenue demand is compared with that of 1892-93 in the marginal table. The increase, which exceeds 19 per cent., has occurred chiefly under the heading of ryotwari revenue, and is due partly to revised assessments, and partly to increased cultivation.

These figures exclude the amount remitted, but include the charge for irrigation. For land and village cesses the current demand in 1901-02 was

Number of demand notices -	6,535,738
" attachment notices -	491,243
" sale notices -	295,598
" defaulters whose personal property was attached.	425,349
" defaulters whose real property was attached.	65,394
" defaulters whose personal property was sold.	8,231
" defaulters whose real property was sold.	10,649
Percentage of sales of property to number of ryotwari holders.	·57

£536,500, and taking arrears into account the total demand during the year was £4,613,000. Collections amounted to £4,483,600, and remissions of arrears to £5,300, and 3 per cent. of the demand was outstanding in July 1901; but much of this was subsequently recovered. Processes for the recovery of revenue are numerous in Madras, and the figures of 1901-02, shown in the margin, present at first sight a formidable appearance, especially in respect of the preliminary processes. The notices are

served, however, in a large majority of cases, by village officers without cost to the ryots, and cannot be said to involve coercion or hardship. The acreage sold for arrears was 39,096 acres of unirrigated land, and 6,616 acres of irrigated land, and rather less than half of the total, consisting as a rule of comparatively worthless land, was bought in by the Government.

Assam.

The current demand of ordinary land revenue in Assam for the year 1901-02 amounted to £379,900, compared with £280,900 in 1891-92. Arrears to the amount of £37,800 were outstanding, and the total for collection was therefore £417,700. Of this amount £376,000, or 90 per cent., was collected. Besides ordinary land revenue, collections were made to the amount of £30,100 on account of miscellaneous revenue, such as fisheries and house tax, and £42,800 on account of local rates in the plains districts. Although it is in only comparatively rare cases that recourse has to be made to the

severer processes for the recovery of revenue, the number of minor processes is large in Assam. During the year 1901-02 the number of demand notices issued was 69,900; movable property was attached in 17,344 cases, but sold only in 681 cases; 18,876 estates were attached, 1,173 being sold; and the settlement of the estate was annulled in 1,063 cases.

The revenue demand for 1901-02 in Berar amounted to £516,400, of which nearly all was collected in the year, besides £17,250 on account of arrears. This demand may be compared with a corresponding figure of £464,800 for the demand of 1891-92. Cesses are included, and miscellaneous revenue excluded, in each case. The satisfactory result of the collections in 1901-02 was attained without undue harshness. The number of notices of demand fell to 13,096, there were 1,202 attachments, and 163 sales of personal property, and only 232 fields were sold. The figures are held to show that the cultivating classes have to a very great extent recovered from the effects of the famine, and also that there is a fair demand for fields put up to sale by auction.

The latest report on the land revenue administration of Burma relates to the 15 months ending in June 1902, and it is therefore difficult to compare its figures with those of 1891-92. For this reason, and because 1891-92 was a year of considerable famine distress in Upper Burma, it is more satisfactory to compare the total demand of 1900-01 with that of 1892-93. The comparison shows an increase of about 45 per cent., the demand of 1900-01 standing at £2,144,000. The corresponding figure for the fifteen months ending in June 1902 is £2,267,000, some part of the increase being doubtless due to the longer period. The growth of the revenue received some check in the last year from the unfavourable season in Upper Burma. Attention has already been called to the changes by which the household tax, included under this head, is to some extent being replaced by a land revenue assessment. A system of collection by means of the village headmen, who receive a commission, has been widely introduced in Burma. The headmen act as sureties to the Government for one another against the risk of loss by defalcation. The revenue is generally collected with little difficulty; and it is said that the immigrant Native of India gives more trouble in this respect than the native Burmese cultivator.

In the permanently settled tracts of Bengal, the land revenue falls at about two-thirds of a rupee per acre of cultivated land, and represents on an

Zamindari Provinces :-	Rs.	a.	p.
United Provinces - Agra	2	0	8
" " Oudh	1	15	7
Punjab	1	1	5
*Central Provinces	0	8	8
Ryotwari Provinces :-			
Sind	2	8	1
Bombay	1	9	10
" Deccan	1	8	0
Madras	2	4	11
Upper Burma	1	14	4
Lower Burma	2	2	2
Assam	2	9	0
*Berar	1	2	9

* From Report of Famine Commission of 1901.

average about one-fifth of the rental; in the permanently settled area of the Agra Province the incidence is about Re 1½ per acre of cultivated land; in Oudh it is about Re 1½; for the similar tracts of Madras no figure is available. The average advantages of soil and climate are on the whole greater, and the rates of rent higher, in the permanently settled than in the temporarily settled tracts. As regards the latter, the table in the margin contains figures which are for the most part taken from the returns of 1900-01, though the rates given by the Famine Commission of 1901 have been adopted where available. Rates of rent and

Incidence of the Land Revenue. (1.) On the cultivated area.

revenue vary greatly according to the productive power of the land, according to the advantages of climate and rainfall, and according to the facilities for carrying produce to market, or to the seaboard. In Sind and Madras the land revenue rates shown above include the charge for irrigation supplied by the State. Elsewhere, payment for the water supplied by State canals or reservoirs for the purpose of irrigation is made in addition to the land revenue, either according to the area irrigated, or according to the quantity of water used. The general conclusion of the Famine Commission was that, "except in Bombay, where it is full, the incidence of land revenue is low to moderate in ordinary years, and it should in no way *per se* be the cause of indebtedness"; though remissions and suspensions are required in years of distress, because the cultivators fail to lay by from the surplus of good years a sufficiency to meet their obligations when bad years come.

COLLECTION OF THE REVENUE.

(2.) On the gross produce.

The incidence of the revenue on the gross produce of the land does not admit of such accurate statement, as the amount of the gross produce can only be approximately estimated. The following extract from the Government of India's Resolution on their land revenue policy gives a summarised view of the facts. Dealing with the suggestion that a standard of one-fifth of the gross produce should be adopted as a maximum to be taken from the cultivators, whether in the form of rent or revenue, they say:—

"The Report from the Central Provinces shows that the proportion to produce of the gross rental ranges from one-sixth to one-fourteenth and that the enforcement of any such standard would double the liabilities of the ryots. The Bengal Report gives statistical reasons for believing that rents are generally much below one-fifth of the gross produce, and indicates that ryots on Government temporarily settled estates are, judged by this standard, better off than under proprietors with a permanent settlement. The Madras reply says that if Government took one-fifth of the real gross produce from its ryots, it would fully double its present land revenue, exclusive of cesses, but inclusive of the total charge for water. In the ryotwari tracts of the Punjab the proportion taken by Government nowhere exceeds one-fifth of the gross produce, and is more often one-seventh or one-eighth, or even less. Similar conclusions are borne out by the Report of the recent Famine Commission (paragraphs 261—268), in which it is stated, as the result of special enquiries, that in the Central Provinces the incidence of land revenue is less than 4 per cent. of the average value of the produce, that in Berar it is about 7 per cent., in Ajmer about 10 per cent., in the Hissar district of the Punjab 3½ per cent., in other parts of the Punjab 7 per cent., except in the Delhi district where it is 10 per cent., in the Deccan probably above 7 per cent., in the Panch Mahals 5 per cent., and in Gujarat alone (where the profits on cultivation are very high) 20 per cent., or the equivalent of the one-fifth pleaded for in the memorial. Since, then, it has been conclusively established that under the existing practice the Government is already taking much less than it is now invited to exact, and since the average rate, so far from showing an inclination to enhancement, is everywhere on the downward grade the Governor-General in Council is unable to accept a proposal which could only have consequences the very opposite of those which are anticipated by its authors."

Suspensions and Remissions.

Although the demands of the Government are intended to be no more than can be regularly paid, taking good and bad seasons together, it is found necessary in practice that revenue collections should be accommodated to the conditions of particular years. The varying systems of suspension and remission of revenue adopted in the different provinces to guard against, or to mitigate the effects of, widespread, local, or partial crop failures, were reviewed by the Famine Commission of 1901, who stated that considerable advance in this direction has, during the last twenty years, been made in every province, except Bombay. As regards the famine of 1899–1900 in particular, they were of opinion that, except in Berar, great liberality in this respect had been shown, but that defects in the administration detracted from the results which that liberality should legitimately have secured. Considerations of space will not admit of a summary being given of the recommendations contained in their report.* The question has been taken under consideration by the Government of India in 1902, in consultation with the local Governments, with special reference to the suggestions of the Commission. The attitude of the Government may be gathered from paragraphs 35 and 36 of the Land Revenue Resolution published in January 1902.

In the United Provinces, suspensions of revenue proper, omitting cesses and rates, to an amount of £1,023,000, were approved in the year 1896–97, and a sum of £326,000 was remitted and struck off the accounts of 1897–98, besides small amounts in the following years. In the Central Provinces, the famine of 1896–97 necessitated suspensions of revenue, excluding cesses, to the amount of £163,000, while the remissions in that and the two following years amounted to £29,000, £102,000, and £70,000 respectively, over and above the abatements in the settlement demand to which reference has already been made. On the recurrence of famine in 1899–1900, a total of £443,000 out of the current and arrear revenue demand, including 66 per cent. of the current demand, was suspended. In Bombay the practice differed from that in vogue in other provinces, as it included an inquiry into the individual circumstances of landholders as a preliminary to the grant of remissions. In the earlier famine the suspensions and remissions were small in that presidency; but in 1899–1900 a far greater measure of liberality was accorded. Of the demand of that year a sum amounting to £523,000, a little more than 31 per cent. of the whole, is shown as suspended. In the Punjab, £133,000 was suspended in 1896–97 out of the revenue

* Parliamentary Paper, Cd. 876.

demand, chiefly in the Delhi division, and in 1898-99 and 1899-1900 the suspensions amounted to £68,000 and £287,000 respectively. According to the practice in that province, remissions of suspended revenue are not made until after the lapse of three years. The first important entry of remissions is, therefore, a sum of £22,000 in 1899-1900, followed by £23,000 in 1900-01.

COLLEC-
TION OF THE
REVENUE.

The large arrears of land revenue under suspension, of which some idea may be gathered from the above figures, were wiped out at a stroke by the Budget of 1902-03. In view of the large surplus expected, it was decided to finally remit the outstanding balances of land revenue caused by the famines. The aggregate of the sums so treated was £1,321,500.

Advances are made to agriculturists either with a view to supplementing the working capital for cultivation (Agriculturists Loans Act), or to provide capital to be sunk in the permanent improvement of the land (Land Improvements Act). The amounts so advanced are shown below :—

Agricul-
tural
advances.

	Central Provinces.	Burma.	Assam.	Bengal.	United Provinces.	Punjab.	Madras.	Bombay.
<i>Agriculturists Loans Act.</i>	£	£	£	£	£	£	£	£
Total of five years, 1891-96	105,491	12,553	745	29,463	143,166	25,561	36,276	57,660
" " 1896-1901	674,277	71,490	555	170,057	260,386	361,273	66,229	304,046
Single year, 1901-02	50,757	14,568	1,611	5,371	7,386	11,114	9,250	323,854
<i>Land Improvements Act.</i>								
Total of five years, 1891-96	8,484	167	2	32,531	48,750	75,667	297,940	223,903
" " 1896-1901	43,718	347	—	56,094	175,864	118,107	145,082	624,654
Single year, 1901-2	4,113	—	—	4,506	5,087	25,268	16,144	99,731

Advances under the Agriculturists Loans Act during the rains of 1900 in the famine tracts of the Punjab, Central Provinces, Bombay, and Ajmere were made free of interest, and easy conditions were made as to their recovery.

III.—COURTS OF WARDS.

The primary object of the establishment of Courts of Wards was the protection of the Government revenue, and this idea still remains at the foundation of the legislation on the subject. But the courts are also in the highest degree beneficial to the interests of the owners, and the recent changes have been made to a large extent with this object. The prevalence of agricultural indebtedness, which has led to the restriction of land alienation in some parts of India, has also drawn attention to the need for expanding the usefulness of these courts, and a discussion with the local Governments in the early part of the decade has resulted in the amendment of the law on this subject in several provinces. Courts of Wards exist in Bengal and part of Assam, in Madras, the United Provinces, the Central Provinces, the Punjab, and Ajmere, while there are also Encumbered Estates Acts in force in Sind and in some northern parts of Bombay. Before the alterations in the law effected by the Acts enumerated

Madras Act IV. of 1899 to amend Madras Regulation, V. of 1804.

Madras Court of Wards Act, I. of 1902.

United Provinces Court of Wards Act, III. of 1899.

Central Provinces Court of Wards Act, XXIV. of 1899.

in the margin, the Courts of Wards had power to assume the management of estates of which the owners were minors or were physically or mentally incompetent to manage their estates, or which belonged to persons who, though neither physically nor mentally incompetent, were unable to liquidate their encumbrances, and had been, at their own request, declared by the Local Government to be disqualified. This power has now been amplified, by providing that the Government may interfere, without the consent of the owner, where he is declared by the Government to be incapable of managing his estate "owing to any physical or mental defect or infirmity" rendering him unfit to manage it (Madras Act), or "owing to his having been convicted of a non-bailable offence and being unfitted by vicious habits or bad character" for such management (United Provinces and Central Provinces Acts). A similar Bill

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for the Punjab, in which province the law relating to the Court of Wards is in a very defective state, was introduced into the Legislative Council at the end of the year 1902. The following quotation from the speech of the Member in charge of the United Provinces Bill in its passage through the Legislative Council shows the limits which that Government set to its proposal:—

“The proposed extension of the jurisdiction of the Court of Wards is in order to enable in certain cases something to be done earlier, to enable the Court of Wards not merely to wind up an estate, but to save it, and to save it with no undue restriction of personal liberty. There is a large consensus of influential opinion that would make mere foolish waste and extravagance a ground of disqualification under the Act, and would authorise the Government to intervene and prevent a spendthrift from alienating the family estates. The Government, however, was not prepared to go as far as this.”

It may, however, be observed that the recent Punjab Bill, in the form in which it was introduced into the Council, embodied what has been called a “compulsory spendthrift clause.”

In Bombay the functions elsewhere performed by Courts of Wards are carried out by the Settlement Officer under the various Talukdari Acts. The Gujarat Talukdars Act of 1862 was passed to relieve estates from debts, and the Government undertook to pay them off by granting loans, which have been and are being recovered by a system of economical management. But this Act did not prohibit the Talukdars from burdening their estates with fresh liabilities after they were freed from all debts and liberated from Government management. Under the present law of 1888 a Talukdar is not permitted to encumber his estate beyond his lifetime without the sanction of the Talukdari Settlement Officer. A similar restriction has been introduced into the new legislation in Northern India. The Acts of 1877 and 1881 provided for the management of incumbered estates in the Kaira and Broach districts. In Sind, the Incumbered Estates Act of 1881 applied only to estates regarding which an application had been made within six months of the passing of the Act. In 1896 an amendment of the law was made, by which this limitation was removed, and at the same time the system under which the operations had been financed by Government loans was revised, with a view to the money being raised by mortgage, sale, or in other ways from private capitalists.

The following paragraphs contain a brief notice of the working of the Courts of Wards during the latest year for which reports are available.

Bengal.

In Bengal, 140 estates were under management during 1901-02, including 63 incumbered estates in Chota Nagpur. The aggregate current demand of these estates on account of rents and cesses amounted to £795,000, or about one-fifteenth of the whole cess and rent demand of Bengal. The Burdwan Raj, which, with its rental of £320,000 and revenue of about £230,000, is much the most important of the estates, has since the close of 1901-02 passed into the hands of its proprietor, after seventeen years of management by the Court of Wards. It belongs to next year's review to sum up the result of the management during the period. The finances of the estate during the year showed a net income, amounting to £75,300, after deduction of revenue, rent, and cesses. The expenditure on management was 3·8 per cent. of the gross demand of the year, £33,600 was spent on the maintenance and education of the proprietor and his family, and £7,800 on improvements, surveys, schools, and dispensaries. The cash balance at the end of the year was £15,600, while the estate possessed Government securities to the value of £90,400, and there were practically no debts outstanding. The estates next in importance are Bettiah with a gross demand of £121,700, Hatwa with £76,400, and Tikari with £54,000, of which the two latter are free from debt. Bettiah is deeply involved, but the sterling debenture loan on this estate is being gradually reduced. Taking the estates as a whole, the cost of management works out at 7·6 per cent. of the income for the year, that is to say, of the amount of rent and cesses due to the estates on the current demand. A further 16 per cent. was spent on the maintenance and education of the families of proprietors, 5 per cent. on improvements, surveys, &c., 10½ per cent. on payment of debts, 46 per cent. on revenue and cesses due to the Government, and 8 per cent. on rent and cesses due to superior landlords.

United
Provinces.

The estates under the management of the Board of Revenue in the United Provinces, as Court of Wards, numbered 200 in 1901-02. The total receipts

of these estates for the year amounted to £514,000; management charges amounted to 8·3 per cent. of the gross income; the Government demand for revenue and cesses amounted to £195,200, maintenance and education of wards to £46,200, payment of debts to £144,700. Taking all the estates together, irrespective of the period during which they have been under management, it appears that the debts when they came under the Court of Wards aggregated £1,099,000, and that they had been reduced to £892,700 by the close of the year ending in September 1901. There is none of the estates under management of an equal importance with the Bulrampur estate, released in 1900, which had an income of £144,500 a year. The largest of them are the Ramnagar estate, in the Gonda district, and Oel, in Kheri, with annual incomes of £28,000 and £31,000 respectively. The most considerable of those taken under management during 1900-01 was Kantit, in the Mirzapur district, which had been made over by the court in 1884 to the proprietor free from incumbrances and with a balance of £18,000, but had since that date become heavily involved. Its rent roll stands at £16,900, and it has been saddled with debts amounting to about £67,000.

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In the Central Provinces 142 estates were under management at the year ending in September 1901. Including some estates which were released during the year, the total rental was £65,000, the total receipts from all sources £89,400. The Government land revenue and cesses amounted to £35,000, or nearly 55 per cent. of the rental. The actual income has everywhere risen as compared with the previous year, when famine conditions prevailed, and rents had to be largely suspended. The debts of all the estates at the time of their being taken under management aggregated £198,300, which had been reduced to £145,900 by the end of the year under review. None of the estates are large. The cost of management works out at 13½ per cent. of the gross income; the question of combining efficient management with strict economy has engaged much attention in recent years, and the estates are being grouped into "circles" for the purpose of management, so far as possible.

Central
Provinces.

There has been a satisfactory decrease in the number of estates under management in the Punjab, of which there were only 50 in the year ending in September 1901. These had a gross income of £76,300, of which £27,200 belonged to the Mamdot estate, in Ferozepore, the only specially large estate in the list. Of the expenditure, amounting to £63,900, Government revenue and cesses account for £10,700, management charges for £4,000, wards' expenses for £10,900, and improvements for £9,600, while £15,300 was expended on the repayment of debts. The cost of management works out at 5·2 per cent. of the gross income. Among the 11 estates released from management during the year, it is worth remarking that the debts had been reduced from £29,600, their aggregate amount at the assumption of management, to £1,300, and that the area under cultivation had been increased from 22,700 to 33,800 acres.

Punjab.

In Madras 39 estates, including one in which there is no immovable property, were under management in the year ending in September 1901. Their gross revenue demand in that year amounted to £205,000, of which a large proportion was contributed by the Pithapuram estate, in the Godavari district (£64,900), and the Kalahasti and Karvetnagar estates (£33,300 and £36,700 respectively). The two latter estates are very deeply involved in debt, and were taken temporarily under management in 1899, under the additional powers given by the Act of that year. The cost of management of the estates taken as a whole amounted to 12·4 per cent. of the normal receipts, excluding sale proceeds of property and the like. The Government's demand amounted to £76,300, education and maintenance of wards and allowances to the families account for £19,900, and repayment of debts for £10,600, while £54,000 was invested in Government securities. If the two deeply involved estates mentioned above be excluded, the indebtedness of the other 37 estates was £65,000 at the end of the year. But Kalahasti and Karvetnagar between them are indebted to the amount of £695,900, and the possibility of effecting a settlement of this indebtedness is the chief of the problems now before the Madras Court of Wards.

Madras.

COURTS OF
WARDS.
Bombay.

In Bombay there were, in the year 1901-02, 35 incumbered estates in Ahmedabad, 20 in Kaira, and two in Broach; in addition to these, the Talukdari Settlement Officer had under his charge 42 minors' estates in the same districts, and 293 estates under management, and eight under attachment, in accordance with the Civil Procedure Code, and 212 miscellaneous estates. The position of the Bombay Talukdars has been adversely affected by the bad seasons, and it was not possible to make any progress in the liquidation of debts during the year.

In Sind, 524 incumbered estates were under management in July 1902. Satisfactory progress was made during the year 1901-02 in the preparation of liquidation schemes. Altogether, 438 estates have been settled; the average indebtedness of each estate being £278. Liquidation schemes for 43 other estates were submitted for sanction during the year, leaving only 60 estates for which full settlement schemes have yet to be prepared. During the five years of the Department's existence, the total receipts have aggregated £270,000, of which £36,700 has been devoted to paying off private debts, £109,800 to the payment of Government dues, and £17,200 to the cost of management, the latter item amounting to 7.6 per cent. of the produce of the estates. The extension of some of the provisions of the Deccan Agriculturists' Relief Act to Sind has narrowed the scope of the Incumbered Estates Act, and it appears now possible to effect some economies in the managing establishment.

CHAPTER XI.

OPIUM REVENUE AND TAXATION.

I.—OPIUM.

OPIUM

The greater part of the opium revenue of the Government of India is obtained from a State monopoly of the production of the drug in British India, which descended to the British from their predecessors, the Native rulers of India. In accordance with a resolution passed by the House of Commons in 1893, a Royal Commission was appointed in that year to inquire into the consumption of opium and the possibility of prohibiting or restricting its production and sale, together with cognate matters. The Commission reported in 1895. The papers have been long before the public, and there is now no need to describe in detail the findings of the Commission. It is enough to say that they did not recommend the prohibition of the production or sale of opium in India for non-medical purposes, though they thought that the regulations for the restriction of its consumption could be amended. They found no evidence of extensive moral or physical degradation from its use in India. They considered that the people of India would be unwilling to bear the cost of prohibitive measures, and that the finances were not in a position to bear the loss of revenue and the expenses which such measures would entail. As regards the export of Indian opium to China, in the absence of any declared wish by the Chinese Government to prohibit the traffic, they did not recommend any action tending to destroy it. The views of the Government of India and of the Secretary of State in respect of the subjects treated by the Commissioners were expressed in the correspondence presented to Parliament in 1896.*

The poppy is cultivated in Baroda and in some of the protected States of Central India and Rajputana, these areas being included under the general term "Malwa"; also in the south-eastern portions of the United Provinces, known as the Benares agency, and in Behar. There is a little cultivated for the local supply in the Punjab and in Ajmere-Merwara, in both of which areas the production was regulated and restricted by rules passed during the decade; and on the frontier of Upper Burma. The opium production in the Malwa states is controlled by the chiefs, who derive a considerable portion of their revenue from it. On the introduction of Malwa opium intended for the Eastern market into British territory a pass duty is levied to cover its transit through that territory to Bombay. With the trifling exceptions mentioned above, cultivation of the poppy in British India is restricted to the Behar and Benares agencies, known as the Bengal opium district. Within these limits the growth of the plant is only permitted under licenses from the local officials of the Opium Department. The area to be put under poppy is specified in the license, and a proportionate cash advance is made to the cultivator. The land sown is subsequently measured, and it is then ascertained how far the agreement as to area has been fulfilled. The whole of the opium extracted from the poppy has to be delivered at local centres, where it is weighed and roughly tested, each man's contribution being paid for at the rate fixed in advance by Government (Rs. 6 per seer since 1894-95), according to its degree of consistency. The final test as to weight and consistency is conducted at the head factories of Ghazipur and Patna, and the accounts are finally adjusted with the cultivator on that basis. The opium is then prepared at the factories for the market; a portion is issued for consumption in India under the excise regulations, but the bulk is sent to the Government stores in Calcutta, where it is sold as provision opium, for export only, at monthly auctions. A certain amount of this "provision" opium is kept in stock as a reserve, in order that, if the crop should fall short

* Parliamentary Paper Cd. 7991.

Opium. in future years, the quantity placed upon the market each year may be kept fairly uniform.

Production of Bengal opium.

	Net Area under Poppy Cultivation, deducting Crop-failures.	No. of Chests of Opium made.	
		Excise Opium.	Provision Opium.
	Acres.		
Average of five years 1872-77	519,079	4,043	57,492
" " 1877-82	520,386	5,129	49,968
" " 1882-87	544,720	4,152	58,227
" " 1887-92	488,883	4,963	46,153
1892-93	454,243	2,610	40,506
1893-94	458,203	5,216	33,329
1894-95	512,506	3,756	35,953
1895-96	532,272	4,366	45,041
1896-97	581,181	2,243	45,500
1897-98	546,671	2,861	44,075
1898-99	570,195	2,354	51,719
1899-1900	627,311	4,772	52,443
1900-01	606,662	4,157	44,457
1901-02	575,694*	5,554*	44,724

* Figures subject to revision.

in the year 1888 at 57,000 chests of provision opium per annum. In 1896 this standard was revised and reduced to 54,000 chests, for which it was estimated the area under poppy in 1895-96 should be sufficient on the basis of the average outturn in previous years. This expectation has not, however, been realised, and in the year 1901 the Government of India, after considering the area and the yield of 1899-1900, decided that, for the present, 48,000 chests should be regarded as the normal standard, the area under poppy in 1899-1900 being regarded as ordinarily sufficient for the production of that quantity of opium in addition to the quantity required for excise purposes. That area, 627,300 acres, is not to be materially exceeded under present orders. If the rate of outturn per acre should be found to be higher than the low rate taken as a basis for the calculation, the question is to be reconsidered. In the year ending in October 1902, the season was unfavourable, and there was a decline not only in the area under poppy cultivation, but also in the yield of the crop per acre. The advances made for the purpose of well construction showed a considerable increase on the figure of the preceding year, which is ascribed partly to the dryness of the season, but also in part to the growing popularity of the system. Masonry wells to the number of 338, and 3,263 earthen wells, were constructed, and 211 masonry wells repaired, by means of these advances during the year 1901-02.

Exports. The total exports of Bengal and Malwa opium, with their destination, are shown in the accompanying table.

	Exports from India (Chests of 140 lbs.).						Imports into Hong Kong.	
	Bengal Opium.				Malwa Opium exported to China.	Total Opium Exports.	From India.	From Persia and Turkey.
	To China.	To Straits Settlements.	To Cochinchina.	Total.				
1881	46,745	9,734	420	56,899	37,095	93,994	74,089	6,316
1891	40,376	14,727	1,245	56,348	30,221	86,469	68,560	5,871
1892	34,924	13,376	1,630	50,370	30,006*	80,378	67,314	6,674
1893	26,857	14,203	2,400	44,320	25,486	69,806	49,883	4,076
1894	23,063	15,055	2,350	41,363	31,217	72,580	54,352	5,139
1895	21,529	12,263	1,650	36,342	24,084*	60,443	47,544	3,710
1896	21,379	13,077	1,660	37,521	22,066*	59,582	43,785	3,536
1897	25,206	12,571	1,300	39,858	18,288	59,161	42,751	5,138
1898	23,054	13,923	1,540	39,268	23,188	62,466	46,156	4,866
1899	24,063	15,489	1,220	41,961	25,773	67,754	50,640	6,050
1900	25,012	16,204	1,870	44,392	26,426	70,839	51,082	5,624
1901	29,333	15,446	1,350	47,950	17,198	65,178	45,833	5,200

* Besides insignificant quantities exported to the Straits.

The exports to the Straits Settlements are for the most part transhipped to Java, Siam, and other places. China is the most important market for opium, and it will be seen that in Hong Kong, which for this purpose may be said to represent the Chinese market, 90 per cent. of the imported opium comes from India. The amount of poppy cultivation in China itself is, however, very great.

Opium.

The net opium revenue distinguishing the two classes of opium is shown in the margin. This and the other tables

Revenue.

	Bengal.	Malwa.	Total.
1892-93 -	£ 3,145,910	£ 1,114,546	£ 4,260,456
1893-94 -	2,100,145	1,067,165	3,167,310
1894-95 -	2,609,990	1,201,111	3,805,101
1895-96 -	2,266,100	1,103,897	3,369,987
1896-97 -	1,725,429	839,602	2,615,031
1897-98 -	1,216,500	643,877	1,860,437
1898-99 -	1,348,535	886,158	2,234,693
1899-1900 -	1,824,564	850,264	2,674,828
1900-01 -	2,481,119	835,248	3,316,367
1901-02 -	2,700,810	542,522	3,243,332

on this page relate to the financial years ending in March. These figures do not include the license and other duties levied on the consumption of opium in India, which amounted to £674,522 in 1901-02, and are included in the Excise account. Opium which is issued to licensed dealers, at rates varying in different provinces, for home consumption is valued in the opium accounts at Rs. 8½ per seer (about 33½ oz.), the assumed cost of producing it. But this item is comparatively

small, and the larger part of the receipts accrues from exported opium. Details of the opium receipts in 1901-02 are shown below; charges amounted to £1,608,690.

	Bengal.	United Provinces.	Punjab.	Central Provinces.	Burma.	Assam.	Bombay.	Minor Provinces.	Total.
BENGAL OPIUM :	£	£	£	£	£	£	£	£	£
Proceeds of 48,000 chests sold by auction in Calcutta for export, being at the average rate of Rs. 1,296.15.5 per chest (140 lbs.)	4,150,289	—	—	—	—	—	—	—	4,150,289
Value of opium sold by Excise Department for consumption in India (at Rs. 8½ per seer.)	52,603	35,199	4,550	13,364	20,960	27,323	—	7	154,007
Miscellaneous receipts	2,673	—	—	—	—	—	—	—	2,673
TOTAL Bengal Opium	4,205,566	35,199	4,550	13,364	20,960	27,323	—	7	4,306,969
BOMBAY OPIUM :									
Duty realised on 16,280½ chests of Malwa opium, at Rs. 500 per chest.	—	—	—	—	—	—	542,684	—	542,684
Compensation and miscellaneous receipts.	—	—	—	—	—	—	2,369	—	2,369
TOTAL Bombay Opium	—	—	—	—	—	—	545,053	—	545,053
TOTAL Opium Revenue	4,205,566	35,199	4,550	13,364	20,960	27,323	545,053	7	4,852,022

The Government of India fixes beforehand the number of chests to be sold at each sale throughout the year, with a view to prevent speculation. But the uncertainty of the Chinese market renders it impossible to predict the price with any accuracy. The number of chests sold and the average prices for the ten financial years are given in the margin. The number has been low in many of the years, in consequence of the bad harvests. The lowest price on record (Rs. 929.2.7 per chest) was obtained at the June sale in 1898. In October 1900 the price obtained was about Rs. 1,450 per chest. In the year 1892-93 the budget estimate was based

	No. of Chests sold.	Price per Chest.
1892-93 -	43,852	Rs. 1,247
1893-94 -	43,353	1,109
1894-95 -	39,780	1,337
1895-96 -	37,695	1,390
1896-97 -	39,000	1,244
1897-98 -	39,000	1,023
1898-99 -	39,450	1,055
1899-1900 -	41,700	1,221
1900-01 -	45,300	1,361
1901-02 -	46,000	1,297

OPIUM.

	No. of Chests of Malwa Opium Exported.
1892-93 -	27,845
1893-94 -	26,675
1894-95 -	29,577
1895-96 -	25,475
1896-97 -	21,752
1897-98 -	17,433
1898-99 -	26,579
1899-1900 -	25,492
1900-01 -	25,053
1901-02 -	16,280

on the expectation of an average price of Rs. 1,050 per chest; but the average price actually obtained was Rs. 1,247. The fall in the receipts from Bombay opium is partly due to the reduction of the rate of the pass duty, which was Rs. 600 per chest up to December 1894, and Rs. 650 thereafter until July 1896, when it was reduced to Rs. 600, and finally to Rs. 500 in 1897. But bad harvests have not been without their effect, and the marginal table shows that the number of chests of Malwa opium shipped to the East has been low during many of the last ten years.

Consumption in India.

The sale of opium and its preparations in India for home consumption is controlled by the provincial Excise Departments, under rules framed in accordance with the Opium Act of 1878. As, however, it is desirable to view matters connected with opium as a connected whole, this subject may be treated in the present section of the chapter, apart from the other operations of the Excise authorities. The quantity of Bengal opium manufactured for excise purposes has been shown above. Of Bombay opium 1,965 chests were issued during 1901-02, either at Bombay or direct from the scales at the place of manufacture, for consumption in Bombay and Madras and other parts of India. Such opium pays a duty amounting to Rs. 10 per seer, on entering Bombay. The actual consumption of licit opium in British India during the ten years, as shown in the provincial excise reports, is given in the margin, in maunds (82½ lbs.). The decline in the later years is to a large extent due to the smaller consumption of licit opium in Burma. The value of such a statement as this

Consumption of Duty Paid Opium in India.

	Maunds.
1892-93 -	11,738
1893-94 -	11,709
1894-95 -	11,801
1895-96 -	11,053
1896-97 -	10,496
1897-98 -	11,053
1898-99 -	10,201
1899-1900 -	10,416
1900-01 -	10,277
1901-02 -	10,260

is, however, largely dependent on the amount of smuggling practised. Special efforts have been made to protect the revenue in this matter. It was recognised that there was much smuggling from Central India and Rajputana, and a special detective agency was organised in 1896, to advise concerning the measures to be taken for its suppression. This agency was maintained until 1901. The Bombay Government also found it necessary in 1900 to increase their preventive establishment in view of the prevalence of opium smuggling. The result, as shown in the report for 1901-02, has been the capture of some noted smugglers, although no specially large seizures of contraband opium have been effected as yet. In Burma there is much opium smuggling, owing to the large profits to be made, in spite of the existence of a special preventive establishment. The latter has now, however, been re-organised, and will, it may be hoped, prove of greater assistance in the prevention of smuggling. The amount of opium seized in 1901-02 was 93 maunds. The large illicit consumption is one of the grounds upon which it has been decided to revise the opium arrangements in Burma.

Of all the provinces of peninsular India, Assam shows the highest rate of consumption of licit opium per head of the population, and Oudh the lowest.

	Opium Commission's Figures for 1892-93.	1901-02.
	Grains per Head.	Grains per Head.
Assam	141	122
Bengal	15	18
Berar	91	54
Bombay	47	32
Sind	44	42
Central Provinces	34	31
Madras	14	14
United Provinces—Agra	24	20
United Provinces—Oudh	15	12
Punjab	42	38

The table in the margin shows the consumption as stated by the Opium Commission, and there have been added, for the purpose of comparison, figures calculated from the provincial reports of 1901-02. It will be observed that, with the exception of Bengal and Madras, every province shows a considerable fall in the average consumption. How much of this is due to smuggling caused by increased prices, how much to the suppression of opium smoking dens and other restrictive measures, how much to the effects of the famines, and how much to a change in the habits of the people, it is impossible to say

with any certainty. Perhaps all these causes may have some share in the result.

Each province contains so great a diversity of population that an average for the whole province inadequately represents the habits of any one racial or local division of it. Thus, in Calcutta, including Howrah and Bally, the consumption per head in 1901-02 was 247 grains, or rather more than half an ounce, and the inhabitants of the Orissa division, containing many damp and malarious tracts, consumed on the average 50 grains per head. In Assam the largest consumption (250 grains) occurs in the damp and low-lying country on either side of the Brahmaputra river. The decrease in consumption in Assam, which was noted by the Opium Commission, has continued. In the Godavari district of Madras the consumption was at the rate of 97 grains per head in 1901-02. About the same rate is attained in the Ahmedabad and Broach districts of Gujarat. But in the southern portions of Madras and Bombay the consumption of opium is inconsiderable. The result of the inquiries as to the use of the drug is shown in the following extract from a letter from the Government of India which was included in the papers presented to Parliament in 1896:—

“We agree entirely with the Commission that the use of opium among the people of India in British provinces is, as a rule, a moderate use, that excess is exceptional and is condemned by public opinion, that the use of opium in moderation is not attended by injurious consequences, and that no extended physical or moral degradation is caused by the habit.”

The methods of distribution of opium for home consumption vary slightly, but in all provinces retail sales are permitted only at licensed shops, and the limit of private possession of the drug is generally three tolas (about 1½ ozs.).

Retail sale.

	Number of Opium Shops.
Assam	775
Bengal	1,651
Berar	433
Bombay	1,128
Central Provinces	899
Madras	1,190
United Provinces	1,142
Punjab	1,456
Burma	56

Consumption of opium on shop premises is forbidden throughout India. The number of shops licensed for the retail sale of opium in 1901-02 is shown in the margin. It is considerably smaller than the corresponding number for 1891-92 in Assam, Bengal, the Punjab, and Bombay; it is about the same in the Central Provinces; in the United Provinces and in Madras it is rather larger. As the consumption of opium is far from being evenly distributed throughout India or throughout the districts of any province, a short table is added below to show

the districts in which the proportion of shops to population is largest, and those in which it is smallest in each province. The former are generally the districts in which the practice of using opium is most prevalent.

The results of the taxation of excise opium are shown in the following section of the chapter, together with the other excise receipts. The

	District showing Largest Proportion, with number of Population per Retail Shop.	District showing Smallest Proportion, with number of Population per Retail Shop.
Assam	Nowgong - 1,752	Sylhet - 83,031*
Bengal	Balasore - 14,877	Saran - 344,215
Berar	Wun - 5,158	Baam - 6,930
Bombay	Ahmedabad - 5,378	Ratnagiri - 145,991
Central Provinces	Wardha - 5,930	Jubbulpore - 20,014
Madras	Godavari - 4,960	Tinnevely - 171,634
United Provinces	Naini Tal - 12,968	Gonda - 200,456
Punjab	Ferozepore - 6,892	Shahpur - 43,688

* Apart from the hill districts.

incidence of taxation on the licit opium consumed is much greater in Burma than elsewhere, amounting in 1901-02 to Rs. 77 per seer, chiefly from the sale of licenses. In Assam the direct taxation is rather heavier than in Burma, but the receipts from vend fees are much smaller, and the result is a total incidence of Rs. 34½ per seer. Bengal stands next with Rs. 28 per seer, Berar following with Rs. 26½, and

the Central Provinces and Madras with Rs. 23 and Rs. 20 respectively. The consumption per head of the population is more than twice as large in Assam as it is in any other province, and this fact, combined with the high rate of duty, accounts for the very high proportion of opium receipts per 10,000 of the population, amounting in one district, Lakhimpur, to Rs. 13,761. This is only exceeded, in the whole of India, by the corresponding figure, Rs. 36,963, for Rangoon town.

OPIUM.
Administrative changes.

There has been some discussion in the course of the decade upon the method of dealing with poppy cultivation in the Behar agency. It was usual there to employ the agency of middlemen, but as it had been found that this gave an opening to fraud against the ryots, the question was raised whether it was possible to assimilate the practice to that of the Benares agency, where the Government deals with the cultivator direct. In the result it was considered best to adopt an intermediate system. There is no change to record in the system of selling opium for the Eastern market. There are, however, certain matters which deserve mention in respect of the consumption of opium in India. The Opium Commissioners recommended that measures should be taken to restrict the practice of opium smoking. This is not, except in Burma, a common practice in India, and restrictive measures meet with public approval. In India proper, excluding Burma, opium smoking on licensed premises was forbidden in 1891, and sale of the preparations for smoking known as *madak* and *chandu* has been prohibited. After consultation with the local Governments it was decided in 1897 that it was undesirable to undertake penal legislation against opium smoking on private premises and in clubs. Further experience has confirmed this view, and the Government of Bengal, which alone advocated such legislation in 1897, has since concurred that it is undesirable. There are opium smoking saloons and clubs in Bombay and Karachi, in some of the larger towns of Bengal and northern India, and notably in Calcutta, but the prohibition of the sale of the preparations, accompanied by the limitation of the amount which may be manufactured or held by a private person, acts in discouragement of the habit. It is to be observed that, while the opium smoking habit is generally regarded in India proper as disreputable, there is no general agreement on the question whether the drug thus used is more harmful than opium pills, the form in which it is commonly taken in India. In Burma, as in China and the Malay Peninsula, opium is smoked, and not eaten. Much has been done during the decade to restrict the use of opium in Burma. It was accepted in 1893, after much discussion, that the consumption of opium was specially harmful to people of the Burman race; and from January 1894 it was made penal for Burmans who had not registered themselves as habitual consumers to possess or consume opium. Further, the taxation of opium in that province was about twice as heavy as in other provinces where the taxation is highest. These several restrictions resulted in a large increase in smuggling and illicit consumption in Burma, and it was decided in 1900 to revise the arrangements. The steps proposed and sanctioned were (1) to increase the number of licensed opium shops in Lower Burma; (2) to grant licences for the sale of opium to selected candidates instead of putting them up to auction; (3) to re-open temporarily the lists of registered Burman consumers for the addition of actual consumers who were over 25 years of age in 1893; (4) to organise further efforts against opium smuggling through the agency of the preventive staff and the police. These measures could not, however, be brought into effect before the 1st April 1902, and they fall, therefore, outside the period covered by this Statement.

II.—EXCISE.

EXCISE.

The Government of India have adopted the principles that intoxicating liquors and drugs should be highly taxed, that traffic in them should be carefully regulated, and that the shops at which they can be obtained should be as few as possible. The limit of taxation and of restriction is the point at which too great encouragement is given to smuggling. Preventive services are maintained wherever the danger of smuggling is considerable; and so long as the incentives to smuggling are not too great it is generally kept within bounds. But the facility of smuggling a valuable drug, occupying a small space, such as opium or *ganja*, is a temptation, and the ingenuity of the smugglers is great, so that the amount of licit consumption seldom represents the total quantity consumed. The systems of excise administration show many variations, and a summary account of them is all that can be attempted.

Dealing first with spirituous liquors, it is necessary to distinguish three classes of spirits which make up the amount consumed, viz., imported spirits, spirits made in India on European principles, known in northern India as Indo-European spirits, and thirdly, spirits made in the rough country fashion, or "country spirit." Imported spirits are subject to a duty of Rs. 6 per proof gallon, the receipts from which are brought to account under the head of Customs. Excise revenue is also raised from them by the means of licenses for their sale. Spirits made on European principles are in general use in Madras, Bombay and Burma, and in the Punjab their use has been encouraged since 1898 by the assimilation of the treatment of these and the native-made country spirits. Elsewhere, the bulk of the consumption consists of country spirit, though much of the better spirit is used under special regulations. In certain parts of India, including Assam, the north and west of Bengal, a few parts of Lower Burma, and about half of the Central Provinces, the country-spirit revenue is raised under the "outstill" system, by the auction-sale of licenses to keep stills for the manufacture and sale of country spirits in local areas; and in these tracts the control over the traffic is necessarily less close than in the more settled parts. In the latter the spirits are made at central distilleries, and still-head duties are levied in addition to fees for manufacture and for sale, the right to sell retail being generally separated from the manufacturing right. It is the endeavour of the local Governments to substitute the distillery for the outstill system wherever practicable, and the extent to which effect has been given to this policy will appear below. There is not any strict uniformity in the systems apart from this general resemblance. In the different provinces, and frequently in various parts of the same province, there are modified forms of the central distillery system to meet local circumstances. The central distilleries themselves have wide differences. In northern India they are places under Government supervision where licensed distillers are allowed to set up stills and to manufacture spirits after the country fashion.

	By Duty.	By Vend Fees.	Total.
	Rs.	Rs.	Rs.
Bengal -	3.6	2.1	5.7
United Provinces -	2.2	1.9	3.1
Punjab -	4.0	2.5	6.5
Madras -	4.1	1.8	5.9
Bombay -	3.3	.4	3.7
Sind -	5.1	.2	5.3
Central Provinces -	2.1	1.7	3.8
Berar -	2.3	1.7	4.0

Note.—The proportion of vend fee receipts chargeable to locally-made spirit in Burma is not ascertainable.

Elsewhere they are large concerns, under private or Government management, at which spirits are made on improved principles. The still-head duty paid per gallon of spirit of London proof strength varies between Rs. 2 and Rs. 5 in Bengal and between Rs. 1 and Rs. 5½, averaging about Rs. 3½, in Bombay; and the rate is Rs. 4 per proof gallon in the Punjab, and Rs. 6 in Burma. The average receipts per proof gallon from still-head duty and licenses to sell liquor respectively in all the distillery areas are given in the marginal table in rupees and the decimals of a rupee. A similar statement for out-still areas cannot be given, as the issues of spirits from outstills are not known.

Among country liquors other than spirits, *tari* or toddy, the sap of the palm, generally in a fermented state, holds the most important place. In Madras and Burma the unfermented juice is not taxed, but elsewhere a

Excise. license fee is exacted. Taxation of the fermented product is carried out, in Madras and Bombay, by means of a tree-tax supplemented by licenses for retail sale. The tree-tax system was also experimentally introduced into some parts of Bengal and the United Provinces, but has been discontinued in Bengal. The consumption of this liquor is of the first importance only in Madras where, as may be seen below, the toddy revenue comprises more than half the excise receipts. In Bombay, Bengal, Burma and the United Provinces it is only locally popular, and elsewhere the consumption is insignificant in amount. Other liquors are brewed in various parts of India, the most important being rice-beer, which is consumed to a considerable extent by aboriginal tribes in Bengal, Burma, and other regions. A small revenue is obtained, especially in Bengal, from licenses for the manufacture and sale of such liquors. Like toddy, they are frequently made by the consumers for their own use, under licenses granted for that purpose. About five or six millions of gallons of beer are brewed in various parts of India by European methods, about half of that quantity being intended for the Army.

Hemp drugs. The drugs usually known under the name of hemp drugs are *ganja*, consisting of the dried flowering tops of the cultivated hemp plant; *charas*, the resinous matter with which the tops are coated, collected separately; and *bhanga*, the dried leaves of the plant, whether cultivated or wild-growing. Like opium, these drugs have formed the subject of reference to a special Commission during the decade. The recommendations of the Hemp Drugs Commission were, in brief, that total prohibition of cultivation and sale is neither necessary nor expedient, and that a policy of control and restriction should be adopted, the means to this end being (1) taxation by a combination of direct duty and vend fees; (2) prohibition of hemp cultivation except under license; (3) limitation of the number of retail shops; and (4) limitation of the extent of legal possession of the drugs. They advised that the methods adopted for carrying out these ends should be systematic, and, as far as possible, uniform; and, further, that a Government monopoly is undesirable for practical reasons. With a view to the adoption of the measures recommended, the Government of India took the necessary powers by an Act passed in 1896, and laid down principles for the guidance of local Governments, of which the following is a brief summary:—In regard to *ganja* and *charas*, that cultivation of the plant should be restricted as much as possible, and that a direct quantitative duty should be levied on the drugs on issue from the warehouse in the province of consumption. As regards *bhanga*, that cultivation of hemp for its production should be prohibited or taxed, and collection of the drug from wild plants permitted only under license, a moderate quantitative duty being levied in addition to vend fees. These principles have been adopted, with local variations, in all provinces. In Bombay, their adoption was delayed until 1901, when a Hemp Drugs Act was passed for the presidency. Cultivation of hemp in Bombay is now confined to some parts of the Ahmednagar and Satara districts, the drugs are stored at central and bonded warehouses, and duty at fixed rates is levied on their issue. The quantitative duty on *ganja* varies between Rs. 4 per seer in the southern and central parts of India, and Rs. 9 per seer on the best qualities in Bengal, Assam, and the United Provinces. The duty on *charas* is generally higher, except in Bombay; while *bhanga* is taxed at lower rates, and in many cases by acreage or vend fees only. The production, import and sale of hemp drugs for human consumption is prohibited in Burma. The average consumption of hemp drugs per head of population is greatest in Bombay, followed closely by the United Provinces, and is least in Madras. *Charas* is, generally speaking, imported from Central Asia through the Punjab, under strict regulations framed in the year 1897; and it pays a duty of Rs. 2 per seer on import or on delivery from bond. The supply of *ganja* is obtained from specified tracts in most provinces, the most important of these being in the Rajshahi district of Bengal and in the Nimar district of the Central Provinces. The area under Indian hemp, as shown in the Agricultural Statistics, has declined from 6,600 acres in 1895-96 to 3,631 acres in 1900-01.

Revenue.

It has already been shown, in the chapter on Finance, that there has been a slow but steady growth in the net receipts from excise, with the exception

of the two famine-affected years 1896-98. The provincial distribution of the gross receipts, and their progress during the decade, are shown below in proportional form :—

	Comparative Statement : Figures of 1891-92 = 100.					Gross Receipts, 1901-02.
	1893-94.	1895-96.	1897-98.	1899-1900.	1901-02.	
Bengal	109.1	120.2	114.5	125.4	135.0	£ 1,001,713
United Provinces	109.1	104.8	86.1	121.5	141.3	494,002
Punjab	107.1	116.4	127.5	141.0	145.7	178,741
Burma	93.6	90.5	99.3	116.3	127.7	861,633
Central Provinces	100.7	88.8	62.8	71.6	70.3	130,080
Assam	104.8	106.9	106.5	110.1	109.0	198,869
Madras	106.0	118.5	120.4	110.5	117.9	954,072
Bombay	104.5	113.6	106.8	103.8	102.8	702,496
Minor Provinces	102.1	117.1	105.4	119.9	104.3	65,075
TOTAL	105.2	111.9	107.2	113.1	119.6	4,076,681

In considering this table it is to be borne in mind that, so far as license fees are concerned, the effect of a famine on the excise revenue is generally shown in the succeeding year, as the depression causes less keen bidding at the auction sales of licenses. The relative importance of the various sources of excise revenue in 1901-02 is shown in the following table :—

	India, General.	Bengal.	United Provinces.	Punjab.	Burma.	Central Provinces.	Assam.	Madras.	Bombay.	TOTAL.
License and distillery fees, and duties on the sale of spirits, fermented liquors, and drugs, viz. :—										
Foreign liquors	1,522	22,579	347,005	9,131	60,343	881	1,377	385,157	14,745	2,383,554
Country spirits and other liquors	52,051	519,971		109,421	107,342	83,376	47,182		526,031	
Toddy	2,251	70,019	9,693	—	32,818	1,563	16	498,539	77,311	690,009
Opium and its preparations	2,062	47,329	16,993	28,638	96,453	12,983	22,454	20,388	1,840	349,050
Other drugs	2,483	107,208	84,849	21,244	2	4,988	14,162	9,348	22,063	267,940
Duty on opium consumed in India.	582	127,425	26,810	11,667	61,645	20,885	61,513	30,480	46,994	425,471
Acreege duty on land cultivated with the poppy.	—	—	—	1,583	—	—	—	—	—	1,583
Duty on ganja.	—	106,011	—	—	—	7,649	12,156	7,660	6,123	141,029
Fines, confiscations, and miscellaneous.	4,025	1,211	192	57	2,360	106	29	4,510	4,379	18,039
Total Revenue	65,075	1,001,713	494,002	178,741	361,633	130,080	198,609	954,072	702,496	4,076,681
Charges	1,680	43,756	5,056	4,386	18,309	3,100	770	64,526	23,514	166,126
Net Revenue	63,395	955,958	488,947	174,355	343,324	126,980	197,839	889,546	678,982	3,910,555

Nearly 47 per cent. of the excise revenue of Bengal in 1901-02 was derived from country spirits, and it is under this head that the chief fluctuations of the decade have occurred. The revenue from ganja and opium has on the whole shown a steady increase; but the country spirit receipts, after a series of rapid advances up to 1896-97, showed a heavy fall in 1897-98. This was most evident in the Patna and Gaya divisions, where there was no actual famine. The high price of food grains and the extensive use as food of the *makua*, from which the spirits are made in those regions, may be regarded as the cause. In the succeeding years the revenue from this source has grown with great rapidity, and was, in 1901-02, about 46 per cent. larger than in 1891-92. A scheme for the improvement and strengthening of the excise preventive establishments was sanctioned in 1902. A comparison of the increases in revenue from, and consumption of, country spirits is shown

Excise. in the following table, which contains similar figures, so far as possible, for the other heads of revenue included under Excise :—

	Revenue.			Consumption.		
	1891-92.	1901-02.	Percentage of Difference.	1891-92.	1901-02.	Percentage of Difference.
	£	£		Gallons, London Proof.	Gallons, London Proof.	
Country spirit (distillery areas).	157,633	230,209	+ 46	394,094	610,354	+ 55
Country spirit (outstill areas).	163,343	237,906	+ 46	—	—	—
Country rum - -	15,332	15,469	+ 1	—	—	—
Opium - - -	111,644	174,685	+ 56	Maunds. 2,005	Maunds. 2,321	+ 16
Ganja - - -	152,838	205,844	+ 35	5,677	5,115	- 10

The rates of still head duty on spirits have not varied to any great extent during the decade, and the fact that revenue has not kept pace with consumption is ascribable to the prevalence of lower prices at the auctions of licenses.

The area under outstills was very largely reduced in 1890 by the abolition of all such establishments in the Dacca, Presidency, Burdwan and Orissa divisions. It has been found necessary to re-introduce a few of them in the wilder tracts of Burdwan and Orissa, as the sole means of preventing the smuggling with which under the distillery system it was not found possible to cope. The increase in the number of outstills in other divisions, shown in the marginal table, does not imply an enlargement of the area in which the system prevails. The new outstills, sanctioned for the most part early in the decade, took the place of branch shops already existing, or cover a tract which cannot be supplied by existing stills.

Division.	Number of Outstills.	
	1890-91.	1901-02.
Burdwan -	43	68
Rajshahi -	233	242
Chittagong -	62	60
Patna - -	572	748
Bhagalpur -	305	362
Orissa - -	—	42
Chota Nagpur	555	590
Total -	1,770	2,112

United Provinces.

In the United Provinces the outstill area is comparatively small, and the receipts accrue for the most part under the distillery system. The country spirit revenue has increased by nearly 53 per cent. as compared with 1891-92, owing to increases in the stillhead duty and to a gradual expansion in the receipts from license fees. It received a severe check in 1896-97, owing to the famine, but in the later years of the decade it has expanded rapidly. The reported consumption of country spirits was 24 per cent. higher in the year ending in September 1901 than at the commencement of the decade, but even with the record consumption of the most recent year the individual's share is less than one-thirtieth of a gallon. A considerable amount of hemp drugs is consumed in this province, but there is no reason to believe that the habit is becoming more prevalent. On the other hand, the imposition of a heavy duty on ganja in 1896, increased so far as the Central Provinces product is concerned in 1899, has considerably reduced the import of the drug. Of the other drugs produced from the hemp plant, *charas* has also been subjected to a tax, while restrictions have been put upon the cultivation of *bhang*. No statistics are available of the consumption of the latter drug at the beginning of the decade; it is given as 10,104 maunds in 1900-01, but the figures are probably inaccurate.

Punjab.

The considerable growth of excise revenue in the Punjab is due to a great extent to revision of taxation. Within the last few years the stillhead duty on spirits has been raised to a common rate of Rs. 4 per gallon at London proof strength, and the total taxation per gallon is, as has already been stated, higher than in any other province. Poppy is cultivated in the province under an acreage duty which amounts to about six annas per seer of opium, while imported opium pays higher rates. The question of imposing a quantitative duty was under consideration in 1902. A duty on the transport of *bhang* from one district to another was imposed in 1901, at the rate of Rs. 4 per

seer. So far as fees from the sale of licenses are concerned, it appears that in this province the limit of expansion under present conditions has been reached. It seems to be probable that illicit distillation of spirits is freely practised, as the amount of spirits issued from the distilleries, some 200,000 gallons at London proof strength, is not enough to supply the needs of the population. Excise.

There are special restrictions on the consumption of exciseable articles in Burma. The measures taken with the view of preventing the use of opium have already received notice. In addition to these, the sale of any intoxicating liquor other than toddy to Burmans is prohibited in Upper Burma, and the importation and consumption of hemp drugs, except for certain animals, is forbidden. The chief factor in the excise revenue is the opium receipts, which fell considerably in 1894-95, and for the next four years did not exceed the level of 1890-91. The recent decision to revise the register of persons permitted to consume opium has resulted in an extended consumption of licit opium and an increase in the fees for retail licenses. Most of the licit spirit consumed in Lower Burma is imported from Madras or made at local distilleries; in either case there is a duty of Rs. 6 per proof gallon. It has been reported from some parts of the province that there was a tendency on the part of the people to drink the milder and less injurious fermented liquors in place of spirits; but the prevalence of illicit distillation may account to some extent for the facts which have been observed in this connection. Burma.

The area under the outstill system has declined steadily in the Central Provinces, and the revenue thus obtained in 1901-02 amounted to 40 per cent. of the whole, against 56 per cent. in 1896-97; the number of outstills licensed was 1,474, compared with 1,706 in 1896-97 and 1,991 in 1891-92. Apart from the Nagpur and Nimar districts, which have a system of their own, the remaining areas, comprising the towns and the country surrounding them, are supplied from liquor made by licensed distillers at establishments maintained by the Government, and a duty is levied on the *mohwa* flowers from which it is manufactured. The issues of spirit for consumption in the non-outstill areas in 1895-96 and subsequent years are shown in the margin. The receipts from the direct duties have increased in greater proportion than the consumption, owing to the revision of the rates of duty in 1897. The receipts from the sale of licenses were 37 per cent. lower in 1901-02 than they were in 1895-96. The revenue from ganja and the amount of licit ganja consumed in the province have shown a steady decline, and the increase in the duty from Rs. 3 to Rs. 4 per seer in 1901-02 has still further reduced the amount of ganja shown in the returns. Central Provinces.

	Gallons, London Proof.	Receipts from Stillhead Duty.
		£
1895-96	204,611	16,664
1896-97	152,732	12,482
1897-98	150,398	19,097
1898-99	166,333	23,892
1899-1900	159,597	22,798
1900-01	155,480	21,073
1901-02	191,369	26,628

Whether the deficiency has been made up by smuggling is not yet determined.

The opium revenue constitutes about 60 per cent. of the excise receipts in Assam. Most of it is derived from the excise duty, which is the difference between the issue price of Rs. 37 per seer and Rs. 8½ per seer, the cost at which it is supplied by the Opium Department to the Excise Department. There has been a fall in the revenue from this source, which was £114,900 in 1901-02, compared with £127,200 in 1891-92. The decrease is ascribable partly to the diminished consumption of licit opium, noted in the preceding section of the chapter, and partly to an adjustment in 1895, by which the portion of the issue price credited to the opium revenue as cost of production was raised from Rs. 7¼ to Rs. 8½. The amount of licit opium issued in 1901-02 for consumption in the province was 1,205 maunds, compared with 1,370 maunds in 1891-92. The number of opium shops has been reduced from 953 to 775 in the ten years. Assam.

The country spirit revenue takes the second place in point of importance, and accounts for one quarter of the gross receipts in 1901-02. The revenue demand under this head has risen from £23,400 in 1891-92 to £49,000 in 1901-02. The spirit is consumed almost exclusively by the immigrant population of the tea gardens, and the revenue has grown with the increase in their numbers. The scattered nature of the population, the difficulty of

Excise. transport, and the facilities for smuggling, are said to be insuperable obstacles to the establishment of distilleries; and the whole province is under the outstill system. The number of country spirit shops open in 1901-02 was 218, against 194 in 1891-92. They are sold by auction, and the keen bidding at the auctions has resulted in the growth in revenue. Since the close of the decade under review the administration of this part of the Assam excise system has been attacked by the Assam Branch of the Indian Tea Association as being insufficiently restrictive, and as unsuited to the habits of the people. The subject is at present engaging the attention of the local Government.

Madras.

The revenue from the consumption of fermented toddy is the most important item of the excise receipts in Madras. It is raised by means of a tree-tax system under which no palm tree can be tapped for the purpose of producing fermented toddy without a license, upon receipt of which the tree receives a distinguishing mark. Fees are also levied by auction sale, for the right of retail vend. The system was first tentatively introduced in 1887, and has since been extended over practically the whole of the presidency. That it has been a success is shown by the fact that the toddy revenue has increased by nearly 36 per cent. in the ten years, while that received from arrack, or country spirit, was less in 1901-02 than in 1891-92. No particulars can be given of the consumption of toddy. As regards country spirits, it may be stated that in the three years ending with 1891 the annual licit consumption, in terms of proof spirit, averaged 1,006,000 gallons in the then distillery area, to which must be added several hundred thousands for the consumption in other tracts; in the triennium ending in 1901 the annual consumption had fallen to 778,000 gallons in the distillery area, which had moreover at that period practically absorbed the tracts previously excluded. The decrease is due partly to the poor seasons since 1897, but chiefly to the high price of liquor, averaging nearly Rs. 6 per gallon of spirit 30° below proof.

Bombay.

In Bombay also there is a considerable toddy revenue, though it is much smaller than in Madras; but the chief share of the excise receipts is drawn from country spirits by means of a stillhead duty. Except in Sind and in Bombay city, no fees are levied in addition to the duty; the contractors who take up the combined rights of manufacture and sale are required to guarantee to the Government a minimum amount of duty, fixed by an estimate of the normal consumption in the area concerned. The duties vary in different areas from Rs. 4 to 12 annas per gallon of spirit 25° below proof, and spirits made from toddy are taxed at a lower rate than other spirits, as the tree-tax is taken into account. The variations in the consumption of country spirits in the presidency, excluding Sind and Aden, are shown the margin. The decline in recent years, under the influence of famine, is specially noteworthy. The consumption in Sind shows no important fluctuations.

A comprehensive view of the excise taxation in each province, as it affects the individual, is given in the following table:—

	Excise Receipts per 10,000 of the Population in 1901-02.							
	Bengal.	United Provinces.	Punjab.	Burma.	Central Provinces.	Assam.	Madras.	Bombay.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Gross Excise Receipts:—								
From spirits and fermented liquors.	1,231	976	802	3,275	1,270	1,262	3,456	5,382
From opium and its preparations.	351	157	291	3,336	710	2,971	194	396
From drugs other than opium.	428	257	140	—	182	6,624	.66	143
Net Excise Receipts:—								
From all sources	1,921	1,379	1,198	6,070	1,930	4,899	3,486	5,681

Incidence of excise revenue.

These figures should be considered in connection with the particulars already given regarding the variations in provincial taxation before any opinion is formed as to the habits of the different populations. Excise.

To conclude this section a few remarks may be made on the facilities afforded for the sale of intoxicants. Definite orders have been passed in accordance with the principle formulated by the Government of India in 1890, to the effect that before any new site is fixed for the establishment of a shop reference shall be made to local opinion, and that any reasonable objection shall be entertained. The sites and numbers of shops are generally fixed with regard to the requirements of the people. In most provinces, though this is not the case with spirit licenses in the outstill areas, or in Bombay, the right of retail vend is sold by auction separately from the right of manufacture. The system of putting licenses up to auction is a distinctive part of the Indian excise administrations; it has the effect of securing for the Government, by means of open competition, the largest revenue possible in view of the extent of the demand for intoxicants, while avoiding the danger, presented by the alternative method of very high stillhead duties, that the people might be driven to the manufacture and use of illicit spirits and drugs. Statistics of the number of retail shops in relation to the population in 1901-02 are given below. The second column of figures includes all special licenses for the sale of spirits at hotels or refreshment rooms, as well as licenses to sell spirits not to be consumed on the premises. Licenses for the sale of opium for medical purposes, temporary licenses in the Central Provinces, and home-brewing licenses in Bengal and Bombay, are not taken into account. Retail sale.

	Shops for Retail Sale of					Total Shops in 1901-02.	Total Shops in 1891-92.	Number of Persons in 1901-02 per Shop for Sale of			
	Country Spirits.	Imported and Indo- European Spirits.	Toddy and other Indian Fermented Liquors.	Opium.	Other Drugs.			Country Spirits.	Toddy, &c.	Opium.	Hemp Drugs.
Bengal	2,349	538	14,445	1,651	3,274	26,264	24,708	22,221	4,438	29,196	22,791
United Provinces	6,022	216	4,210	1,142	3,632	12,351	14,325	7,920	11,248	41,782	12,121
Punjab	1,265	268	27	1,450	1,250	4,275	5,176	16,245	542,819	12,945	12,216
North-West Frontier Province.	54	25	—	84	84	247	—	27,205	—	24,502	24,302
Burma	68	422	1,523	58	—	2,140	1,800	122,727	2,725	164,242	—
Central Provinces	6,003	162	522	322	1,011	8,674	9,770	1,640	16,426	10,921	9,726
Assam	218	48	16	775	227	1,274	1,608	26,419	359,965	7,541	12,222
Madras	10,224	740	12,211	1,120	523	21,226	22,179	2,500	1,291	22,027	70,426
Bombay and Sind	2,756	258	1,644	1,122	1,022	6,820	7,260	6,724	1,646	16,421	17,601
Benar	1,072	22	222	422	124	2,680	2,591	2,541	2,264	6,175	16,012
Total	31,109	2,246	44,015	3,814	11,212	92,101	104,404	7,272	5,211	29,021	20,264

* Bombay only.

III.—SALT.

Apart from imported salt, the chief sources of the salt supply of India are the sea coast, the Sambhar lake and brine pits in Rajputana, brine wells in the Punjab, pits in the Runn of Cutch, and the salt mines of the Punjab. Sea salt is manufactured by embankment and subsequent crystallisation at Government works at Maurypur in Sind, and at Government and private works in Madras and Bombay. During the earlier part of the decade a certain quantity of salt was also produced at the Chilka Lake on the coast of Orissa; but since 1898 no salt has been made at the latter source. The areas supplied by these sea coast works include the Bombay presidency, most of the Madras presidency, the Hyderabad and Mysore and other Southern India states, and a considerable part of the Central Provinces. Manufacture of salt on the Bengal coast north of Orissa has been prohibited since 1897, in which year the administration of the Orissa Salt Department was re-transferred to Bengal from the Madras Government. A considerable but diminishing amount of salt is made, chiefly by boiling sea water, on the coast and in the estuaries of Burma, or from brine obtained from pits in Upper Burma. The salt sources of Rajputana include the Sambhar lake, lying between the Jaipur and Jodhpur States, whose property it is; and the Didwana and Pachbadra

SALT.

Sources of supply.

SALT. salt marshes. The Sambhar lake is worked by the Government of India under an arrangement with the States which own it, and it yields salt of a very high quality. The Didwana and Pachbadra sources belong to the Jodhpur State, and are also leased by the Government of India. The salt is inferior to Sambhar salt, and is obtained from brine percolating into pits dug for the purpose. The produce of these sources is consumed in the United Provinces, Rajputana and Central India, and to a certain extent in the Central Provinces and in the southern Punjab. The brine wells of the Punjab are situated near Sultanpur in the Gurgaon and Rohtak districts. They yield a low class salt, and their production has been steadily declining in face of the competition of Sambhar salt. At Kharaghora and Udu on the Runn of Cutch, salt known as Baragra salt is obtained by the evaporation of subsoil brine drawn from wells. It is of good quality and is consumed chiefly in the north of the Bombay presidency, and in the Central Provinces, the United Provinces, Central India, and Rajputana. The Punjab mines contain an inexhaustible supply of salt. They comprise the Mayo and Warcha mines in the Salt range, and the Kalabagh mines or quarries on the right bank of the Indus. To these may be added the mines in the Kohat district and the smaller mines or quarries belonging to the Raja of the Himalayan state of Mandi. The salt from these sources, with the exception of the latter, is of very good quality, and a considerable quantity of the salt from the *cis*-Indus mines finds its way into the United Provinces. Consumption of Kohat salt is restricted, for the reason that it pays less duty, to the tracts lying to the north of the Indus and to the frontier tribes. To conclude this brief summary it should be added that some salt of a very inferior quality is occasionally made from salt-impregnated earth which occurs in various parts of India; but that the manufacture of this salt is generally prohibited.

These are the most important of the sources from which the home supply of salt is drawn; but some parts of India depend to a large extent on foreign imported salt for their supply. Bengal consumes such salt very largely, as no salt is now manufactured in the province, though a considerable quantity of Bombay salt is imported; Burma relies on foreign salt for the greater part of its supply; some salt is imported into Bombay, but it forms only a small fraction of the consumption of the presidency. The origin of this salt is

Imports of Salt from	1891-92.	1901-02.
	Tons.	Tons.
United Kingdom - - -	222,300	259,200
Germany - - - - -	103,400	76,700
Red Sea and Persian Gulf Ports.	45,700	147,700
Other places - - -	2,600	32,600
Total - - - - -	374,000	516,200

shown in the table given in the margin. Comparison with the figures for 1891-92 shows a considerable rise; but the imports depend on the circumstances of each year, and fluctuate largely. About half the amount shown under the third head in the marginal table consists of crushed rock salt from Aden, the imports of which have grown from 34,000 tons to 71,000 tons in the ten years.

There has been a considerable expansion in the imports of rock salt from Arabia (Hodeida). It only remains to add that the Oriental Salt Company in Madras now produce salt which can compete on equal terms, or even at an advantage, with the salt of Liverpool.

Duty.

The duty on salt has since the year 1882 been levied at an equal rate over the whole of India with the exceptions of Burma and of the produce of the Kohat and Mandi mines in the Punjab. The rate was raised in 1888 from Rs. 2 to Rs. 2½ per maund of 82½ lbs., and it stood at the latter figure during the whole of the decade under review. The table in the margin shows how this rate compares with those in force before and after the Mutiny respectively. It will be seen that in all provinces but Madras and Bombay the rate is lower than those imposed after the Mutiny, but that it is

	1858.	1862.	1901.
	Annas per Maund.	Annas per Maund.	Annas per Maund.
Bengal - - - - -	40	52	40
Bombay - - - - -	12	20	40
Madras - - - - -	14	20	40
United Provinces - - -	32	48	40
Punjab - - - - -	32	48	40
Oudh - - - - -	32	48	40

higher, everywhere but in Bengal, than those in force in 1858. The reduction of the duty by 8 annas a maund was announced in the budget for 1903-04. Salt imported into peninsular India pays the same duty as salt produced in the country, and is free of the general 5 per cent. import duty. In Burma, the duty on imported salt has remained at 1 rupee per maund, the figure to which it was raised in 1888, and the rates levied on the salt produced in Burma itself have been adjusted from time to time with a view to equalising the burden on the two sources of supply. In that province there is, for geographical reasons, no difficulty in maintaining a rate different from that in force in the rest of India; but in the case of the Kohat mines, where the rates were until 1896 much lower than those in force in the rest of India, it was necessary to guard by special measures against unfair competition. This was done by the maintenance of a preventive line, costing approximately £3,000 a year, along the river Indus from the northern extremity of the Hazara district to the junction with the Sutlej. The duty on this Kohat salt was fixed in 1883 at 8 annas per Lahori maund of 102½ lbs., and remained at that figure until 1896. The Government of India then increased it to Rs. 2, and the preventive line was tentatively withdrawn in 1898. The

Issues of Kohat Salt.	
	Imperial Maunds.
1892-93 -	623,981
1893-94 -	590,285
1894-95 -	591,497
1895-96 -	785,470
1896-97 -	496,170
1897-98 -	815,314
1898-99 -	452,207
1899-1900 -	373,269
1900-01 -	437,378
1901-02 -	426,023

result on production is shown in the marginal table. The rise in 1895-96 and the fall in the immediately succeeding years might be expected to result from the change. The later years, however, show a smaller production than the average before 1896, partly due to the prohibition of imports of this salt into Kabul. The rate was changed in 1903 to Rs. 1½ per maund of 82½ lbs., involving a slight reduction. The other exception to the general rate of salt duty is the produce of the mines of the Mandi State, which are controlled by the Chief of the State under an arrangement

by which the Government of India receives two-thirds of the duty levied; the rate of duty on this salt stood at 7½ annas per maund until 1903, when it was reduced to 6 annas.

The consumption of salt in India as a whole and the revenue realised during the last 34 years are shown in the marginal table, which, however,

	Quantity.	Duty.
	Maunds.	£
1868-73 (average) -	22,973,000	3,335,000
1873-78 " -	24,184,000	3,971,000
1878-83 " -	27,761,000	4,393,000
1883-88 " -	32,429,000	4,741,000
1888-93 " -	33,432,000	5,351,000
1893-98 " -	34,211,000	6,605,000
1898-99 (one year) -	35,269,000	5,719,000
1899-1900 " -	35,058,000	5,695,000
1900-01 " -	35,821,000	5,837,000
1901-02 " -	36,045,000	5,867,000

does not take into account the local production of salt in Burma. The total consumption in 1901-02 is 4·7 per cent. higher than that of 1891-92. Adding 500,000 maunds for local production in Burma in 1891-92 and 600,000 maunds for 1901-02, the consumption per head for the whole of India works out at 10·25 lbs. in the latter, compared with 10·10 lbs. in the former year. But the actual incidence of consumption, which is

Consumption.

affected by diet, social customs, and the like, varies markedly in different provinces. If the issues of duty-paid salt in 1901-02 are compared with the population, as shown in the census of 1901, the following results appear. The figures are, however, only approximations. The consumption in the maritime tracts of Bengal appears as 12·34 lbs. per head; in the rest of Bengal, 10·67 lbs.; in Behar, 8·09 lbs.; in Gujarat, 8·91 lbs.; in the rest of the Bombay presidency, 11·4 lbs.; in the whole presidency, excluding only Sind, 10·71 lbs.; in Sind, 7·13 lbs.; in Madras, including Mysore and Coorg, 16·02 lbs.; in the Central Provinces and Berar, 11·09 lbs.; in the United Provinces, 7·64 lbs.; in the Punjab and North-West Frontier Province, trans-Indus, 8·32 lbs., cis-Indus, 7·4½ lbs.; in Rajputana, 7 lbs.; in Central India, 7·86 lbs. The rate of consumption in Burma is not accurately known, but it may perhaps be stated roughly at 15½ lbs. per head. No such complete calculations are available for 1891-92 for most of the provinces. But a comparison may be made with the following figures relating to that year, given in the last decennial number of this Statement: Bombay, 11·82 lbs. per head; Madras, excluding the three northern

SALT. districts, 15·18 lbs.; Bengal (the whole), 12·09 lbs. It is only necessary to note, in connection with the above figures, in the first place that they are based on the amount of salt "issued for consumption," and that the existence of stocks in the dealers' hands may affect the amount actually consumed to a slight extent; and secondly, that there is undoubtedly a certain amount of illicit manufacture of salt on some parts of the coast. These factors, however, affect the accuracy of the figures to a slight extent only.

Retail prices. Turning now to the price paid by consumers of salt, the following table extracted from the annually published volume on "Prices and Wages in India," brings up to date the information given on page 267 of the last decennial number of this Statement.

COMPARATIVE STATEMENT OF AVERAGE RETAIL PRICES OF SALT.

(Those of 1871-75 = 100.)

	Five Years, 1871-75.	Five Years, 1881-85.	Five Years, 1891-95.	Single Year.				Five Years, 1896-1900.	Year, 1901.	Actual Average Prices in 1901.
				1896.	1897.	1898.	1899.			
Lower Burma :										Seers per rupee.
Pegu, Deltaic	100	106	155	156	149	143	150	150	165	15-0
Pegu, Inland	100	112	174	175	166	161	160	160	192	12-2
Tenasserim	100	145	214	216	209	212	225	204	185	16-
Assam :										
Surma Valley	100	76	83	88	90	90	87	88	84	9-92
Brahmaputra Valley	100	72	78	78	80	77	77	78	77	9-25
Bengal :										
Orissa	100	74	85	83	81	79	78	79	75	12-19
Deltaic tracts	100	73	81	85	83	84	81	84	82	10-42
North Behar	100	69	70	70	72	71	69	70	72	10-19
Whole province	100	71	78	81	82	79	77	79	78	10-33
United Provinces										
Eastern	100	75	74	75	72	72	71	73	72	10-05
Western	100	81	85	86	83	84	84	84	87	11-15
Oudh	100	75	72	70	69	69	69	69	69	10-65
Rajputana	100	247	270	258	268	262	272	269	269	12-71
Punjab :										
South-eastern	100	68	74	72	72	71	71	71	72	10-97
Northern	100	115	115	156	209	210	205	194	205	14-93
Whole province	100	71	72	86	92	93	92	91	92	12-77
Bird	100	305	364	233	266	261	260	259	260	11-56
Bombay :										
Gujarat	100	125	144	143	142	140	139	141	139	12-52
Deccan	100	117	119	120	126	125	127	125	122	11-26
Whole province	100	116	118	118	116	110	111	112	100	16-71
Central Provinces :										
Western	100	76	84	83	84	83	84	83	82	9-32
Eastern	100	76	77	77	77	76	75	75	73	9-81
Whole province	100	76	81	81	80	79	79	80	79	9-5
Berar	100	78	85	82	82	80	81	81	81	10-25
Madras :										
Malabar Coast	100	117	128	133	137	132	131	133	131	12-12
Southern districts	100	102	119	124	125	122	121	122	121	13-97
Whole province	100	113	124	137	138	137	136	137	134	12-38
Hyderabad State	100	99	112	114	116	115	112	112	110	9-14
Mysore	100	116	121	120	118	118	108	112	103	11-59

Improved means of communication are probably the cause of the movements disclosed in the above table, which shows that the prices have risen, to a larger or smaller extent, in the tracts where salt is produced, or where, for one reason or another, it has always been cheap, as in Bombay, Madras, and Burma, and that they have fallen in most other parts of India.

The salt administration is in the hands of (1) the Northern India Salt Department, which is directly under the Government of India, and controls the salt sources of the Punjab, and (2) the salt revenue authorities of Bengal, Bombay, Sind, Madras, and Burma. The variations in the quantities of salt issued for consumption are shown below. The table, which is chiefly based on the figures contained in the returns of the Director-General of Statistics, includes all salt, whether made locally or imported from abroad or from other provinces, which is actually consumed in each province, except that the Bombay figure includes salt exported to the United Provinces, Central India, Central Provinces, Mysore, and Hyderabad.

SALT.
Production.

COMPARATIVE TABLE OF SALT ISSUED FOR CONSUMPTION.
(The figures for 1891-92 = 100.)

	Northern India.			Bengal.	Bombay.	Sind.	Madras.	Burma.*
	Issues of Sambhar Lake Salt.	Issues of Punjab (Cis-Indus) Rock Salt.	Total including other sources.					
1892-93	111.7	106.4	106.5	101.4	99.1	103.2	99.6	104.5
1893-94	61.1	104.3	80.8	99.6	103.0	103.8	97.9	108.7
1894-95	88.1	93.1	95.6	102.7	103.2	104.1	100.5	67.2
1895-96	81.4	107.3	94.8	103.5	105.2	103.3	101.0	91.5
1896-97	86.0	102.4	92.3	104.4	103.4	111.7	98.0	80.3
1897-98	89.8	109.1	92.4	102.7	106.0	110.5	102.4	88.1
1898-99	90.3	112.5	97.3	102.4	110.8	111.4	102.4	92.5
1899-1900	70.0	120.9	92.1	106.3	105.1	113.5	105.1	90.1
1900-01	79.5	121.6	98.7	105.7	105.4	113.5	110.7	76.3
1901-02	69.0	122.7	92.0	103.3	103.8	111.3	109.8	87.3
Actual figures of 1901-2, in Imperial maunds.	3,152,207	3,426,378	7,481,964	10,390,365	6,685,000	270,060	8,934,823	1,186,069

* Excluding local salt, the amount of which is not accurately known.

The total issues from the sources controlled by the Northern India Salt Department have been low throughout the decade, owing to the bad seasons at the Sambhar lake. The recurring deficiencies from this source have suggested the question whether the supply obtainable from the lake was becoming exhausted. An inquiry held by an officer of the Geological Survey has, however, given reassuring results, as he concluded that the production of salt is in direct proportion to the quantity of water which accumulates in the lake during the annual rainfall, and that with a recurrence of normal seasons the output will regain its former dimensions. The net financial result of the lease of the Sambhar lake down to the close of 1901-02 was a credit balance of £195,000, without taking into account the stock of salt in hand at the end of the year, which was valued at £62,500. Of the areas supplied chiefly by the Northern India Department, the United Provinces have taken a steadily increasing amount of salt in the last three years of the decade, probably as a result of the recovery of the country from the effects of famine. There has been a decrease in the amount of salt imported into the Central Provinces and Berar, especially in respect of imports of Madras salt. Rajputana and Central India, it is stated, "have evidently not recovered from the effects of the recent famine, as the quantities of salt placed in those areas for consumption from all sources show a progressive decline year by year."

Northern
India Salt
Department.

There is little to note in the progress of the salt revenue in Bengal. It has already been said that production of salt in the province has been stopped, but a considerable quantity was sold in 1901-02 from the stocks in hand at the factories on the Chilka lake. The main supply of salt comes from abroad, and the United Kingdom holds the first place, though the percentage of British salt to the whole has fallen from 61 per cent. in 1891-92 to 49 per cent. in 1901-02. Imports from Aden and the Red Sea are increasing rapidly, and are at an advantage in comparison with European salt in not having to pay the Canal dues. At the beginning of the decade Orissa was controlled, so far as salt revenue is concerned, by the Madras Salt Department, but this was altered in 1897-98, when it was re-transferred to the charge of Bengal. A considerable supply of salt is imported from Madras into Orissa, and an impetus was given to this trade by the opening of the East Coast Railway. It amounted to 691,000 maunds in 1901-02.

Bengal.

SALT.
Bombay.

Most of the "Baragra" salt produced on the Runn of Cutch is intended for export to other parts of India, and the amount consumed in the Bombay Presidency in 1901-02 was less than 400,000 maunds. The bulk of the salt consumed in Bombay is supplied from the sea coast, which supplied over two millions of maunds for home consumption in 1901-02, besides nearly 5½ millions for other provinces. Imported salt, chiefly Government salt, amounted to 250,000

	Salt consumed in Bombay Presidency.
	Maunds.
1892-93	3,263,072
1895-96	3,324,741
1896-97	3,222,761
1897-98	3,366,258
1898-99	3,237,907
1899-1900	3,071,567
1900-01	2,899,782
1901-02	2,731,011

The sea salt works are under private ownership, with the exception of the Dharasna works in Surat and the Fritchard works at Kharaghora and Udu on the Runn of Cutch, which belong to the Government. The table in the margin shows the extent to which famine has affected the salt consumption of the Presidency proper. Salt administration in Sind is entrusted to a separate department, and the figures are kept distinct from those of Bombay. There is nothing of special interest to note in regard to the Sind Salt Department. The consumption amounts to about 270,000 maunds, and is supplied chiefly by the Maurypur salt works.

Madras.

Since the year 1886 salt has been made in the greater part of Madras at private factories, though some salt works are still retained under Government management with the view of controlling the price of salt in favour of the consumers. An important development has taken place during the decade in the establishment of a company by which salt of high quality is prepared and exported to Bengal and Burma, where it competes on equal terms with European salt. By far the larger part of the salt consumed in Madras is manufactured by solar evaporation at works on the sea coast; though an increasing amount has been imported from Bombay. Variations in the issues of salt are therefore due to a great extent to the character of the seasons influencing the output of the factories. The production in 1901-02 was considerably in excess of that of recent years.

Burma.

Most of the salt consumed in Burma is imported, and the amount of salt which pays duty is influenced by the stocks already in the province. Germany held the lead in 1901-02, with 46 per cent. of the total imports, Liverpool salt coming next with a percentage of 31. The imports from Aden and Madras were high, and it is said that the Madras salt competes successfully with that which comes from Europe. The amount of locally produced salt is uncertain, as it is taxed, not on the amount produced, but by a composition duty according to the capacity of the cauldrons used. Recent inquiries have shown that the composition duties, though they were considerably increased in 1901, are equivalent to about one half only of the import tax levied on foreign salt, which is one rupee per maund. The year 1901-02 began with a short stock of salt and high prices, and in these favourable circumstances the output of local salt is said to have maintained its former level of a little less than 600,000 maunds, in spite of the increased duties. It remained to be seen what would be their effect in a more normal year. In Upper Burma, however, where no change has been made in the rates of taxation, the decrease in the number of cauldrons and pots licensed points to a gradual displacement of local in favour of foreign salt, which may be expected to continue as means of transport improve.

Revenue.

The salt revenues and charges in the year 1901-02 were as follows:—

	Price of Government Salt, and Excise on Salt made locally.	Duty on Salt Imported from England.	Duty on Salt Imported by Sea from other Places.	Miscellaneous.	Total Salt Revenue.	Charges.	Net Salt Revenue.
	£	£	£	£	£	£	£
Northern India -	1,269,806	—	—	10,060	1,269,866	74,320	1,195,546
Burma -	14,770	79,076	8,078	2	101,926	527	101,399
Bengal -	38,225	892,399	797,104	8,113	1,735,841	18,993	1,716,848
Madras -	1,268,859	501	667	6,881	1,276,908	135,636	1,141,272
Bombay -	1,505,083	678	1,223	47,785	1,554,769	114,154	1,440,615
Total, 1901-02	4,086,743	972,654	807,072	72,841	5,939,310	343,630	5,595,680

The charges shown above do not include a sum of about £238,000 paid under treaties to Native chiefs who have assigned the management of their salt sources to the British Government. The gross receipts in the ten years are shown below :—

SALT.

	Northern India Salt Department.	Burma.	Bengal.	Madras.	Bombay and Sind.	Total.
	£	£	£	£	£	£
1891-92	1,314,090	107,343	1,602,992	1,181,958	1,551,072	5,757,455
1892-93	1,412,060	108,142	1,606,746	1,147,483	1,496,305	5,770,736
1893-94	1,225,771	111,727	1,582,755	1,086,517	1,479,147	5,485,917
1894-95	1,262,880	79,326	1,638,813	1,196,903	1,599,244	5,777,166
1895-96	1,270,217	104,021	1,659,080	1,331,659	1,542,919	5,907,896
1896-97	1,232,503	93,952	1,666,746	1,129,443	1,491,826	5,614,470
1897-98	1,298,540	104,496	1,642,210	1,151,807	1,532,930	5,729,483
1898-99	1,360,487	105,437	1,674,899	1,332,275	1,593,483	6,066,581
1899-1900	1,279,714	102,446	1,719,627	1,236,692	1,493,984	5,850,463
1900-01	1,380,949	89,386	1,695,673	1,241,746	1,559,280	5,967,034
1901-02	1,269,866	101,926	1,735,841	1,276,908	1,554,769	5,939,310

IV.—STAMPS.

STAMPS.

The stamp revenue is derived from two sources, litigation and commercial transactions. Under the Court Fees Act VII. of 1870, fees are imposed on plaints, petitions, and other documents, with specified exceptions, filed before civil, criminal, or revenue courts; and under the Stamp Act duties are imposed on commercial transactions recorded in writing, such as conveyances, bonds, cheques, bills of exchange, receipts, and the like. The law regarding commercial stamps was consolidated and amended in 1899; the amendments were, however, of an unimportant character, relating to matters in which the working of the law had disclosed defects, and in all but a few exceptional cases the rates of duty were left untouched. It is not to be assumed that the whole cost of litigation or of ensuring the official recognition of documents is to be found under this head. In the case of the former, many fees are levied in cash; whilst since 1879 the fees for registration of documents have been credited under a separate head.

Stamp Law.

The following table shows the gross receipts and expenditure, province by province, for the year 1901-02, and the gross receipts for some other years of the decade. The progress of the total net revenue has already been shown in the Financial chapter :—

Revenue.

	India, General.	Bengal.	United Provinces.	Punjab.	Burma.	Central Provinces.	Assam.	Madras.	Bombay.	Total.
RECEIPTS.										
Sale of Court fee stamps -	£ 18,890	£ 911,819	£ 431,021	£ 196,947	£ 94,983	£ 72,923	£ 46,202	£ 372,267	£ 248,627	£ 2,391,033
„ commercial and other stamps	7,450	350,808	120,040	79,713	53,803	30,360	16,890	199,591	120,598	993,331
Fines and miscellaneous, deducting refunds.	-139	-6,064	-3,650	1,058	1	-719	-50	1,762	33,043	25,033
Net receipts, 1901-02	24,907	1,306,261	668,211	277,218	148,786	102,763	62,042	672,910	411,268	3,408,436
CHARGES.										
In India -	-51,196	48,124	16,761	12,060	4,378	4,362	2,594	22,782	16,425	76,350
„ England -	-	-	-	-	-	-	-	-	-	1,973
Total charges, 1901-02	-51,196	48,124	16,761	12,060	4,378	4,362	2,594	22,782	16,425	78,323
Receipts in 1900-01 -	23,617	1,218,296	646,696	291,300	137,143	86,473	62,686	664,109	384,469	3,304,786
„ 1896-97 -	38,098	1,161,008	487,470	303,375	108,266	118,940	59,624	692,720	372,882	3,147,893
„ 1891-92 -	31,700	997,881	486,237	268,968	67,480	112,234	54,397	444,400	266,616	2,909,912

STAMPS.

The receipts from court fee stamps are not only much larger, but they also have grown proportionately faster than those from commercial stamps.

Province.	Percentage of growth in 1901-02 as compared with 1891-92.	
	Revenue from Court Fee Stamps.	Revenue from General Stamps.
Bengal - - -	+24.9	+29.5
United Provinces - -	+24.3	+10.7
Punjab - - -	+11.5	-15.7
Burma - - -	+76.1	+63.5
Central Provinces - -	-11.4	- 2.0
Assam - - -	+17.8	+10.5
Madras - - -	+34.1	+19.2
Bombay - - -	+22.9	+ 1.5

In Bengal, which yields more than 37 per cent. of the whole stamp revenue of India, the amount received from court fee stamps has increased steadily, and the same may be said of Madras. In other provinces there have been considerable fluctuations. The famine years generally show a diminished revenue from this source, but the rule is not without exceptions. The growth of revenue from commercial and other stamps is less satisfactory, and the stationary character of the figures for Bombay deserves special notice. Even Bengal has shown considerable fluctuations; it was only in that province and in Burma that the receipts from this source in 1899-1900 exceeded those of 1892-93. The last two years of the decade have, however, shown a recovery.

CUSTOMS.

V.—CUSTOMS.

Fiscal
Legislation.

Under the head of Customs have occurred the most important of the fiscal charges made in the decade, the imposition of a general import tariff, the taxation of imported cotton goods, and the levy of countervailing duties on bounty-fed sugar. Neither of the first two of these measures was a new departure. There had been import duties at a rate of 5 per cent. before the Mutiny; and when the East India Company ceased to exist the duties were continued, at first at 10 per cent., then in 1864 at 7½ per cent., and finally in 1875 at 5 per cent., with lower rates for cotton twist and metals. It was considered, however, that in so far as these duties gave protection to Indian manufacturers they violated the principles of free trade, and a resolution was passed by the House of Commons in 1877 to the effect that the cotton duties, being protective in their nature, "ought to be repealed without delay, so soon as the financial condition of India will permit." The result was the abolition of the cotton duties within a few years, and at the same time the Government of India, finding themselves in possession of a considerable surplus, repealed the general import duties, which were of the less importance since cotton goods were, before the growth of the petroleum trade, the sole article of foreign production very largely consumed by the people of India. In 1882 then the Indian import tariff disappeared, except for a few duties on liquors, &c., which partake more of the nature of excise than of customs duties. The grounds for the change were those implied in the House of Commons' resolution. The duties had been based on and justifiable by financial needs. "There is not," as Mr. Gladstone said in the debate on the Indian budget in 1879, "a free trade government in this or any country which has not freely admitted that the state of the revenue is an essential element in the consideration of the application even of the best principles of free trade." The state of the revenues in 1882 warranted the remission of the duties, and no fresh import duties were levied until 1894, with the exception of the tax imposed on petroleum in 1888.

In the year 1894 the Indian Government found themselves face to face with a deficit of about 2¼ millions sterling; due to the fall in exchange, and it became necessary to find a means of increasing the revenues. In considering the particular means to be adopted for this object they were aided by the deliberations of a Committee which had been appointed, under the presidency of Lord Herschell, to inquire into the possibilities of further taxation in India. The Committee, after passing in review all the sources of revenue suggested to them, wrote as follows:—"Of all the suggested methods of adding to the revenue, the re-imposition of import duties would, according to the evidence before us, excite the least opposition; indeed, it is said that it would even be popular." They added that any attempt to re-impose duties on cotton goods would meet with great opposition. In

accordance with this recommendation, duties were, in March 1894, imposed on imports into India other than cotton. The duties were for the most part fixed at 5 per cent. ad valorem, the exceptions being iron and steel, on which the duty was 1 per cent.; petroleum, on which it was 1 anna per gallon; and certain classes of articles which were free of duty, such as railway materials, river steamers or boats, industrial or agricultural machinery, coal, raw cotton and other raw materials, grain and pulses, and other miscellaneous articles, including books. The Bill which gave effect to this measure was vigorously opposed in its progress through the Legislative Council on the ground of the omission of cotton from the schedules, and it was admitted by its proposers to have no finality as it stood. The free coinage of silver had just been stopped at the Indian mints, and there was great uncertainty as to what the result would be. If the gold value of the rupee rose decidedly, there would be great relief to the finances, and no new source of revenue would require to be tapped. If, on the other hand, it continued to fall, or did not recover enough to afford a decided change in the financial position, the question would have to be reopened. Lord Elgin, in closing the debate on the Bill in the Viceregal Council, stated that if, after an interval sufficient to judge of the position as affected by the Tariff Act, the course of exchange, and other circumstances, there was no improvement, the Government would be prepared to receive a further representation on the subject. The occasion was not long in occurring, and at the end of the same year a fresh Tariff Act was passed, including cotton fabrics and yarns, on which a duty of 5 per cent. ad valorem was levied. The cotton manufactures imported into India are for the most part of the finer classes, while those made at Indian mills are, owing to the character of Indian cotton, chiefly of the coarser kinds; but in some of the medium yarns the two supplies, foreign and Indian made, overlap. It was therefore decided, with a view to take away any protective character from the import duty, that for these "counts," in which there was the element of competition, an excise duty of 5 per cent. should be levied upon the yarns produced in Indian mills. In technical terms, the Indian yarns thus excised were those above twenties, *i.e.*, those of which more than 20 bundles, containing a specified length, go to the pound avoirdupois. But power was reserved to raise this limit to 24s if it appeared that no yarns between 20s and 24s were imported, and that therefore there was no necessity to burden Indian yarns of those counts with the excise duty. It was soon found, however, that this measure did not secure the object in view, which was to exactly equalise the burden laid on each of the competing classes of goods. A further Act was therefore passed in the beginning of 1896, by which cotton yarns were freed from taxation, and the uniform duty of $3\frac{1}{2}$ per cent. was imposed on all woven goods imported into India or manufactured in Indian power-loom mills, the village hand-loom industry being exempted. The revised cotton duties were expected at the time to produce a revenue of rather over one crore of rupees (£667,000). It will be seen from the table given below that this expectation has been on the whole very fairly justified. The receipts in 1897-98 fell short by a considerable amount of the average, but that year was an exceptional one, marked by famine distress and low prices and a glutted condition of the Indian market, and there has been a great recovery in recent years. In 1901-02 the amount of import duty levied on cotton manufactures was second only to that received in the year 1895-96, while the excise duty receipts were the highest on record.

The countervailing duties on bounty-fed sugar were designed to free the Indian sugar industry from the disadvantage under which it lay in competing with beet sugar from the Continent. This sugar, owing to the assistance which it received from direct or indirect bounties, was thrown upon the Indian market at a price lower than the cost of production, and in rapidly increasing quantities. Particulars of the sugar imports will be given elsewhere,* and it is now enough to say that the amount of beet sugar imported had risen to 882,600 tons in 1896-97, and was 2,206,000 tons and 1,526,000 tons in 1897-98 and 1898-99 respectively. In the year 1899 a law was passed, after the model of the United States sugar

* Page 243.

* A A 4

CUSTOMS. legislation, empowering the Government of India upon the importation of any goods which have been granted a bounty, direct or indirect, by the country of export, to impose a duty, in addition to the tariff schedule, equal to the amount of such bounty. Owing to developments in the Continental sugar trade, and the rise of the "cartel" system, beet sugar subsequently regained the advantage thus lost, and it became necessary, after the expiry of the ten years under review, to enact a further law, to countervail the "cartel" bounty. It may be explained that under the "cartel" system the advantage secured to the Continental sugar manufacturers in their home markets by high import duties was utilised for assisting the sale of their sugar abroad. The Sugar Bounties Conference held in the winter of 1901-02, at which representatives of the chief European countries, with the exception of Russia, formulated proposals for abolishing sugar bounties from September 1903, formed the subject of papers presented to Parliament in 1902,* and requires no extended notice here. The Government of India has reserved the question of India's adherence to the Convention, but has undertaken, whether it does or does not adhere, to withdraw the countervailing duty in the case of any country which effectively abolishes its sugar bounties.

Revenue. The effect of the new duties upon the Customs receipts in the ten years is shown in the following table. The figures show the net produce, after deducting refunds and drawbacks, but taking no account of charges of collection :—

	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
SEA CUSTOMS :	£	£	£	£	£	£	£	£	£	£
Import duty on— Arms, ammunition, and military stores.	10,145	17,885	10,156	11,403	13,118	11,865	2,342	6,217	7,146	12,563
Liquors	402,881	392,773	406,355	440,669	437,874	439,828	462,020	467,905	462,547	469,256
Petroleum	124,047	176,067	213,118	270,782	284,157	269,588	323,492	294,284	324,069	348,222
Cotton manufactures	—	—	256,631	776,463	592,788	522,945	559,043	600,736	616,633	633,214
Silver bullion and coin	—	2,465	230,557	231,859	214,650	285,773	182,914	159,812	29,007	204,054
Other metals	—	24,070	135,078	168,641	131,320	146,859	129,651	110,900	193,904	154,010
Other articles	300	35,868	630,450	684,725	633,318	649,272	678,525	652,984	830,668	863,423
Countervailing duty on sugar.	—	—	—	—	—	—	—	56,783	140,465	244,398
Export duty on rice	484,956	432,016	594,017	609,681	491,512	472,857	659,028	670,637	552,264	595,580
Miscellaneous	4,654	5,275	6,894	1,770	7,318	7,844	9,561	18,528	20,534	22,207
TOTAL SEA CUSTOMS £	1,026,823	1,078,406	2,423,028	3,197,913	2,811,351	2,925,214	3,016,774	2,951,451	3,177,322	3,597,136
LAND CUSTOMS	7,140	7,225	15,884	13,397	16,766	20,028	13,445	12,912	9,532	14,185
Excise duty on cotton manufactures.	—	—	6,887	40,632	72,773	76,920	90,208	87,304	77,330	114,486
Miscellaneous (including warehouse and wharf rents).	- 4,825	5,740	10,773	18,672	18,293	15,539	18,377	18,963	21,052	20,386
GRAND TOTAL £	1,029,138	1,091,375	2,516,589	3,270,614	2,914,784	3,050,716	3,138,604	3,070,628	3,285,046	3,746,163

The decline in imports of silver since the establishment of the gold standard of currency resulted in a considerable decrease in Customs receipts under that head in two of the later years. Another point which deserves notice is the low return from the rice export duty in the famine years, owing to the diversion of Burma rice to the Indian famine districts. There has been a general increase in 1901-02. The increased imports of cotton manufactures have swollen the Customs receipts under that head to a figure only surpassed by those of the exceptional year 1895-96. Silver imports have to a large extent recovered; the large growth in 1900-01 in the general import duties, shown under "other articles," has been more than maintained; the sugar duties yield a much greater return; and the increase under excise duty in cotton manufactures testifies to the renewed activity of the cotton mills.

**PROVINCIAL
RATES.**

VI.—PROVINCIAL RATES.

Provincial rates or cesses are levied for the construction and repair of local roads, for local schools, local sanitary work, local postal arrangements, and

* Parliamentary Paper, Cd. 1013.

in some provinces for village police. They are assessed either on the "assets" or rental value, or else, as is the case in the ryotwari provinces, on the land revenue; and they are collected with the land revenue. In Bengal there are two cesses for roads and for public works respectively, which are limited by law to half an anna in the rupee of the rental in each case, or one anna in the rupee ($6\frac{1}{4}$ per cent.) for the combined cesses. They are levied on immovable property outside the municipalities, on a valuation made and kept up from year to year for this purpose. In the ryotwari provinces of Bombay and Madras the incidence of the local rates (for roads and schools) is precisely that in force in Bengal, with the difference that the percentage is on the revenue instead of on the rent, and is therefore probably a smaller proportion of the profits of the land. In Lower Burma the local rates amount to 10 per cent., and in Assam to 8·3 per cent on the ryotwari revenue. These are the highest rates. In the Punjab, the United Provinces and the Central Provinces the local rates are assessed on double the land revenue, that revenue being, except in the case of the Central Provinces, rather less than half the rental assets. In the Punjab they are equivalent to 5·2 on the rental value. Elsewhere they do not exceed 4 per cent. In the United Provinces they are charged at 6 per cent.; but two-fifths of the produce are devoted to the maintenance of the village watch, which in Bengal and other parts of India is a charge upon special contributions assessed and collected apart from the local rates. These special contributions, for the maintenance of the watchman, the headman, and the accountant of the village, are not included in the Government of India's accounts, and it is not proposed to describe them in detail. Reference was made to them in paragraph 25 of the Government of India's resolution on the land revenue,* where it was calculated that, if they are taken into account, the incidence of local taxation only exceeds 10 per cent. of the land revenue receipts in Sind, Madras and Coorg. In paragraph 26 of the same resolution the attitude of the Government towards unauthorised cesses levied by landlords is explained. The imposition of such cesses was prohibited by the Regulation of 1793, and ever since that date has been steadily discountenanced by the Government. They still, however, exist, and in many cases exceed the total of the cesses levied under the British administration. But their complete suppression by the action of Government is not practicable in the present state of education among the agricultural classes.

The yield of the provincial rates was as follows in the year 1901-02 :—

Revenue.

	India, General (Minor Provinces).	Bengal.	Assam.	United Provinces.	Punjab.	Central Provinces.	Burma.	Madras.	Bombay.	TOTAL.
	£	£	£	£	£	£	£	£	£	£
District Local Fund :										
Cess on land for expenditure on roads, schools, hospitals, and general purposes.	2,508	311,022	44,178	381,118	165,982	28,899	100,050	284,109	162,914	1,630,847
Provincial :										
Cess on land for expenditure on roads, schools, &c.	—	311,084	—	—	—	376	—	—	—	311,310
Cess on land for famine assurance, canals, and railways.	—	—	—	86,928	48,729	15,879	—	—	—	146,546
Cess on land for district post	—	19,420	—	—	8,288	4,027	—	—	—	31,720
Cess on land for village service and patwaris.	4,431	—	—	166,768	110,503	44,954	—	187,128	31,812	549,393
Assessment on wards' estates for establishment charges.	—	10,184	—	—	1,308	—	—	—	—	11,492
Miscellaneous	2,457	—	—	62,111	220	—	—	2,060	—	62,938
TOTAL RECEIPTS	7,398	651,660	44,178	692,910	325,118	104,135	100,050	551,299	215,427	2,742,155
Refunds and charges of collection	212	24,209	298	710	244	108	8,010	2,841	2,624	49,161
Total receipts 1901-02	4,632	667,078	24,842	693,611	325,998	64,647	68,840	492,606	202,751	2,835,228

VII.—INCOME TAX.

Apart from various taxes on trades and handicrafts which had existed under the native rulers of India, income tax was first levied in 1860-61. In 1873, after several changes, it was discontinued, and in its place a license tax

* Parliamentary Paper, Cd. 1,089.

INCOME
TAX.

was imposed in 1878. The license fee, which was finally fixed at Rs. 50, was levied on all persons practising a trade or handicraft without reference to the amount of their income, save that those whose income was less than Rs. 500 a year were exempted from payment. In place of this, an income tax on non-agricultural incomes was re-enacted in 1886, and no change of importance was made in the law during the decade under review. The main features of the tax were, first, that incomes of Rs. 500 (£33½) a year or less are exempt, while those of Rs. 2,000 (£133½) a year or below are assessed at less than the full rate. Incomes are divided by the Act into four classes, viz., in Part I. salaries and pensions, in Part II. profits of companies, in Part III. interest on securities, and in Part IV. income from other sources. In the case of Part II. the rate of the tax is 5 pies per rupee (about 6¼d. in the £) throughout; incomes in Parts I. and III. pay 5 pies in the rupee if they amount to Rs. 2,000 a year; otherwise 4 pies (5d. in the £). In Part IV. the rate is 5 pies per rupee for incomes of Rs. 2,000 a year or more; between that amount and the untaxed minimum of Rs. 500 a year, there is a graded scale, incomes up to Rs. 750 paying Rs. 10, those between that figure and Rs. 1,000 paying Rs. 15, and so on up to a tax of Rs. 42 for incomes between Rs. 1,750 and Rs. 2,000. Military salaries not exceeding Rs. 6,000 (£400) a year are not liable to the tax. There are also some other exemptions, and the character of the tax is carefully defined by the mention, in the exemption clause, of all sources of income derived from the land. In the Central Provinces there was a survival of the ancient trade taxes, known as the pandhari tax, which acted in effect as a tax on incomes below the limit of exemption fixed by the income tax law. This was abolished in the year 1902. The limit of exemption from income tax has since the close of the decade been raised from Rs. 500 to Rs. 1,000.

Agency of
assessment.

The assessment for income tax, in a country where compulsory returns of income cannot be enforced, and where personal expenditure is no good criterion of wealth, presents great difficulties. To meet these, the official assessing agency is on occasions reinforced, as in the United Provinces, by unofficial assessors, who are likely to know something of the real position of their fellow townsmen, and who can correct over-assessments, even if they do not always point out those who escape too lightly. In Burma, outside the chief towns, the headmen are employed for assessment, and are granted a commission of 3 per cent. on their collections. Elsewhere, assessments are made by Government officials generally belonging to the district staff, and the accuracy of their work is tested by the number of the successful appeals. There is occasionally a tendency to fix the assessment too high rather than too low; but this practice is discouraged by the Local Governments, whose desire it is to obtain accurate assessments, and to keep down the number of appeals.

Revenue.

The revenue obtained from this source during the ten years is shown below under the principal heads:—

	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
	£	£	£	£	£	£	£	£	£	£
Income tax :										
Ordinary Collections	818,507	840,897	872,869	897,915	932,713	949,355	956,103	982,227	1,000,007	1,046,162
Deductions from Govern- ment salaries & pensions.	222,307	226,158	247,589	251,322	244,835	248,816	242,798	243,315	250,735	252,379
Deductions from interest on Government Secur- ities.	55,550	53,940	68,782	47,317	46,004	47,513	48,061	48,082	49,039	50,705
Recoveries from surplus profits of Railway Companies.	17,980	18,529	16,477	17,428	13,569	8,645	14,798	14,546	12,534	10,890
Miscellaneous	3,981	4,141	3,827	3,787	3,601	4,265	4,659	4,682	4,346	4,802
Pandhari tax	5,769	5,777	5,929	5,871	5,787	5,016	5,067	4,820	4,772	4,682
Gross Revenue £	1,124,094	1,150,447	1,205,373	1,223,460	1,248,539	1,263,643	1,281,461	1,300,295	1,322,092	1,369,310
Refunds and Charges	30,324	35,069	28,749	26,436	28,522	31,007	29,318	29,724	30,760	30,907

The tax costs very little to collect, since the work is done for the most part by the already existing agency. In Bombay and Calcutta this is not so much the case, and a large share of the collection charges therefore occurs in those cities. The "ordinary collections" include the proceeds from the profits of companies, excepting railway companies, and from private incomes gained in trades and professions.

The provincial variations in the gross receipts for the earliest and the latest of the ten years are shown in the margin. The largest proportionate increase has occurred in

	1892-93.	1901-02.	Percentage of Increase in the ten years.
India, General - -	£ 96,893	£ 99,997	+ 1.1
Bengal - - -	286,570	383,115	+33.7
United Provinces - -	164,475	173,241	+12.1
Punjab - - -	89,969	112,435	+24.9
Burma - - -	50,932	83,407	+63.6
Central Provinces - -	33,441	28,310	-15.3
Assam - - -	15,755	20,549	+30.4
Madras - - -	135,229	202,938	+50.1
Bombay - - -	258,780	265,318	+ 2.5
TOTAL - - -	1,124,094	1,369,310	+21.8

where there has been exceptional prosperity, and where the collection of the tax has been extended in the lower province, and has been applied to Mandalay in the upper province during the decade. But the figures for Burma are still small, and the receipts in Rangoon, which constitute, apart from Government salaries, two-thirds of the receipts in the province, amounted only to £42,100 in 1901-02. Bengal and Bombay stand out above the other provinces, owing to the contribution from the Presidency towns. The yield of the tax in Calcutta was £177,200, compared with £125,400 in 1891-92. In Bombay the collections in 1901-02, excluding those on Government salaries, were £130,900, against £120,700 in the earlier year. Madras yielded £37,100, or a little less than Rangoon. Madras city, however, does not stand in the same relation to the rest of the province as to Bombay and Calcutta; and the Madras presidency as a whole has made an important advance in the income-tax returns. It may be explained that the receipts under the head of "India, General" arise for the most part from the profits of railways and interest on securities.

The number of persons who paid the tax in 1901-02 under Parts I. and IV. was about 475,000, compared with about 434,700 in 1891-92. In view of the difficulties of assessment in India, it cannot be claimed that these figures are a complete statement of the number of incomes exceeding £33½ per annum drawn from other than agricultural sources. On the other hand, they include salaries and pensions from the Government or from local authorities. Taking them as they stand, they show the proportion of assesses to population as nearly 21 in 10,000, against rather less than 20 in 10,000 at the end of the last decade. The provincial details are shown in the margin. In this calculation the persons who enjoy the income from profits of companies or interest from securities (Parts II. and III.) have not been taken into account, as their number is not known.

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	Assesses per 10,000 of Population, Parts I. and IV.	
	1891-92.	1901-02.
Provinces :		
Bengal - - -	15	17
Assam - - -	13	14
United Provinces - -	16	16
Punjab - - -	22	23
Burma - - -	33*	31
Central Provinces - -	10	9
Madras - - -	16	23
Bombay - - -	43	46

* Lower Burma only.

ties (Parts II. and III.) have not been taken into account, as their number is not known.

Excluding recipients of salaries and pensions from the Government, the income-tax payers in Parts I. and IV. in Calcutta numbered 24,842, or 233 per 10,000 inhabitants, in 1901-02, against 20,121 in 1891-92, exclusive of the 185 companies which paid the tax at the end of the decade. This number represents 23 per cent. of the total assesses in the province. The revenue from the assesses amounted to 34 per cent. of the provincial receipts, or to 44 per cent. if the tax paid by companies in Calcutta be included. It may be noted that the income tax receipts under Part II. (profits of companies) in Bengal have risen from £19,300 in 1891-92 to £37,200 in 1901-02. In Bombay city, the number of assesses was 28,867, or about one third of the total assesses of the province; and 55 per cent. of the provincial receipts from the tax was collected within the city. The amount of income tax paid in Bombay city on the profits of companies was £23,760 in 1901-02, against £26,750 at the beginning of the decade.

CHAPTER XII.

AGRICULTURE.

AGRICUL-
TURE

I.—AGRICULTURAL INQUIRY AND EXPERIMENT.

One of the chief recommendations of the Famine Commission of 1880 was the formation of agricultural departments with a view to the collection of agricultural information, the improvement of agriculture, and the organisation of famine relief. There resulted a comprehensive scheme, drawn up by the Government of India in 1881, for the organisation and working of agricultural establishments in each province. The first efforts of these departments, apart from the preparation of famine codes, which were already in hand, were to be devoted to agricultural inquiry, defined as "gauging the stability of agricultural operations in every part of a province, classifying the areas of the province according to the result of careful investigation, and deciding what method of administrative treatment is suitable to each, so as to maintain agricultural operations up to the highest standard of efficiency possible under present conditions." From a system of agricultural inquiry thus conducted was to follow the gradual development of agricultural improvement.

In the following years, agricultural departments were established on these lines in provinces which did not already possess them, their first object being the restoration and improvement of the land records. There were also created the office of Reporter on Economic Products, and the Civil Veterinary and Bacteriological Departments. The departments of Meteorology and Geology, already in existence, had their attention directed more especially towards practical investigation. Inquiries into economic entomology and geology were conducted at the Indian Museum; and the Botanic Survey, previously restricted to three provinces, was extended over the whole of India. In the year 1889 a further step was taken by the appointment of Dr. Voelcker, the Consulting Chemist to the Royal Agricultural Society of England, "to advise upon the best course to be adopted in order to apply the teachings of agricultural chemistry, and in order to effect improvements in Indian agriculture." His preliminary recommendations led to the appointment of an Agricultural Chemist.

Dr. Voelcker's valuable report was considered, in the first place, at an Agricultural Conference in 1893. There followed a detailed investigation by the provincial departments, and further consideration at the Agricultural Conference of 1895-96. Finally, the whole subject was reviewed by the Government of India in a series of Resolutions issued in 1897. They recognised that material progress had been made. The foundations of agricultural inquiry had been laid by the organisation of land record establishments, by inaugurating investigations in many important directions, and by developing plans of agricultural experiment. They proceeded therefore to amplify the scheme laid down in 1881. In its main features the policy thus declared followed the lines of the earlier Resolution. The chief object is agricultural inquiry, with a view to agricultural improvement on the one hand, and on the other to the organisation of famine relief. It was shown, however, that undue prominence had been given in the past to pure science, to the neglect of its economic application; and stress was laid on the necessity of extending the economic side of inquiry, and of co-ordinating the labours of the different departments on the basis of a well-considered working plan.

This policy has been steadily pursued, though its development has been retarded by an unfavourable cycle of seasons, which seriously affected the financial resources of the Government of India. To the Geological Department, two practical mining experts have been added, while each year a portion of the scientific staff devote themselves to inquiries connected with the mineral resources of India. A cryptogamic botanist has been appointed whose special duty it is to study the fungoid diseases of agricultural staples, such as rust in wheat, which causes serious loss to the country. In Madras

a botanist has been permanently entertained, whose attention is mainly devoted to economic inquiry. Of late years the attention of the officers of the Botanic Survey has been more and more directed to questions of practical importance to the country. The establishment of the Reporter on Economic Products has been strengthened, and an assistant with special qualifications as an economic chemist has been added to it and provided with a laboratory, while one agricultural chemist pursues his inquiries at Dehra Dun, and it was in contemplation at the end of 1901-02 to procure another for Madras. An entomologist has for some time past been added to the staff of the Indian Museum; a specially qualified Forest officer has been deputed for investigation of the insect pests which devastate the forests, while steps were being taken to secure the services of a skilled entomologist in order to conduct similar inquiries in connection with the agricultural and industrial staples of India. In the Civil Veterinary Department a highly skilled bacteriologist is studying the diseases which prove so fatal to agricultural stock in India. An agricultural expert has recently been added to the provincial staff of the United Provinces. An Inspector-General of Agriculture has been appointed, whose function it is to guide and correlate the agricultural inquiries carried on throughout India, whether by the Central or the Provincial Governments, and to act as an adviser to both in all matters pertaining to agriculture, while under him work or will work the Agricultural Chemist, the Entomologist, and the Cryptogamic Botanist. Finally, with a view to more thoroughly co-ordinating the work carried on by these officers and by the various scientific departments, and of directing it to the greatest possible extent in the direction of practical research, a Board of Scientific Advice has been established in 1902, consisting of the heads of those departments and such other scientific authorities as the Government may invite to serve upon it.

AGRICULTURE.

The "Land Records and Agriculture" Departments, have, as is implied by their name, two different classes of functions. In the first place they are responsible for the investigation and recording of agricultural circumstances, and secondly, they conduct the branches of economic inquiry which do not come within the scope of the scientific departments. The following paragraphs will give an idea of their operations under both of these headings.

Land Records and Agriculture Departments.

Land records are maintained by a system of village returns and registers. They serve three main purposes. In the first place, they provide a record of rights and interests in the land, which may ultimately take the place of the present Registration system for legal purposes. Secondly, they act as a fiscal register for purposes of land assessment and the collection of rent and revenue. The last, but not the least important, advantage is, that they furnish a good idea of the condition and progress of the agricultural community in any district or part of a district, and of the agricultural produce. They put it in the power of every revenue officer to watch, easily and effectively, the changing circumstances of every village or group of villages in his charge. The agency employed is that of the village accountants (*patwaris*) who were already in existence as a part of the Indian social system, and only required organisation for this purpose. The instruction of these officials in such survey and general knowledge as is necessary for their duties is conducted at survey schools, and the proportion of them who have not passed some qualifying test is now very small in most provinces. They are supervised by "circle" inspectors, and are under the control of the provincial Departments of Land Record and Agriculture. The keynote of the system is the division of the country into easily managed "circles" of 50 to 100 villages each. According to an estimate quoted in 1897 by the Government of India, there were then "some 200,000 village officials, who form a well trained and disciplined rank and file, commanded by a staff of 5,000 or 6,000 circle inspectors, who may well be compared to the commissioned officers of regiments." The duties to be performed by the staff were defined by the Government as follows, in the Resolution of 1897:—

"That they should provide the fullest information and statistics regarding the crops and agricultural conditions of every village—a duty which in every province has in recent years been, so far as circumstances have permitted, well performed; and that in times of famine they should at frequent intervals visit every village, and if necessary every house, for the purpose of ascertaining whether any person or persons are suffering from want of food or from sickness; whether relief is distributed in accordance with directions received; and whether private charity is encouraged and

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organised : that they should promote the employment of labour on agricultural operations ; invite applications to construct wells and other agricultural improvements ; make known the places at which relief works are opened, the nature of each work, and the classes of persons to whom such work is open ; conduct the distribution of gratuitous relief to persons unable to leave their homes ; report on the price of food, the state of the people and cattle, the condition of the water supply ; and generally bring to the immediate notice of the district officials any occurrence deserving attention."

It was reported after the 1896-97 famine, and the same remark is true of subsequent famines, that the services of the land records establishments, working under the district officers, proved of the greatest value, and materially reduced the difficulties which on former occasions of famine resulted from the absence of organised machinery. But apart from actual time of famine it is their duty to keep the district authorities informed of any local deterioration, whether "occasional," i.e., due to sudden calamity ; "gradual," due to ascertainable causes which can be remedied, such as cattle murrains, growth of noxious weeds, &c.; or "persistent," due to more permanent local conditions, meteorological or other.

In addition to these inquiries into the conditions of agriculturists, experiments in agricultural practice are conducted by the Land Records and Agriculture Departments. As instances of successful experiments may be given the utilisation of lands covered with saline efflorescence in the United Provinces, and the establishment of dairies on European principles in that province, in Bombay, and in Assam. The suggestion and provision of new or more suitable varieties of seed, the search for a rust-resisting wheat, experiments with long-stapled cotton, with potatoes, with fodder crops, and with manures, are specimens of the work in which the provincial departments are engaged. Failures are many, but occasional successes are achieved. Experimental farms have been in existence for varying periods in Bengal, the Central Provinces, the United Provinces, and Bombay ; and they have just been started, or are on the point of being started, in Assam, the Punjab, and Madras. It is impossible within present limits to give a more detailed account of the progress of the decade in this direction. Some particulars of the experimental work of the Agricultural Departments during 1901 will be found below.

A "Dictionary of the Economic Products" of India has been published under the direction of Dr. Watt, the reporter on Economic Products. Its preparation took about ten years, and the last volume was issued in 1893. The information on agricultural topics collected by the Departments is recorded by a system of agricultural ledgers, which are published from time in connection with the Dictionary. Information of specially provincial interest is published in provincial agricultural bulletins, and reports on the prospects of the various crops are issued from time to time. It is not out of place here to refer to the "Text-book of Indian Agriculture" by Mr. J. W. Mollison, the present Director-General of Agriculture, recently published in Bombay, and a "Handbook of Indian Agriculture," compiled by Mr. N. G. Mukerji, Professor of Agriculture at Sibpur College, and published in Calcutta in 1901, and to the new edition, with supplements, of Professor Church's book on "The Foodgrains of India."

Agricultural education.

With regard to agricultural education, the policy of the Government of India is to educate the agricultural population so as to enable them to appreciate and accept ascertained improvements. Agriculture cannot be taught in the primary schools, but the system of education at those schools can be so designed as to fit agriculturists for their work by means of object lessons, and the teaching of elementary science. The problem has been most fully worked out in the Central Provinces. Village schoolmasters are put through a six months' course on the agricultural farm at Nagpur, and taught there how to impart simple agricultural ideas to their rural schoolboys. The plan for the technical education of the cultivator is (a) primary instruction in the ordinary school ; (b) instruction in practical farming by his father ; (c) instruction in improvements in his own field by the trained schoolmaster of the village. The higher educational institutions in connection with agriculture consist of two schools, at Cawnpore and at Nagpur respectively, and two colleges, at Madras and at Poona. The function of the schools is to train the higher class of land revenue officials, mentioned above as "circle inspectors." At the colleges, the instruction is more theoretical than practical, and the course leads to a diploma or a

degree. There has been, however, since 1897 an agricultural class at the Sibpur Engineering College in Bengal, where the students have the advantage of practical instruction on land which was formerly used as an experimental farm. The subject of agricultural education, together with other branches of practical and technical education, is now receiving consideration in India.

AGRICUL
TURE.

In Bengal, strictly speaking, there are only two research farms, namely at Burdwan and Dumraon. The Sibpur farm is used for educational purposes. There is a small area available for experiments at Sripur in the Saran district, and a farm at Chittagong used chiefly for demonstration rather than experiment. The farm at Tikari is a dairy farm. All these establishments were worked satisfactorily in 1901-02, excepting the Dumraon farm, where the season was most unfavourable. Experiments were made at Burdwan with various manures for paddy, jute, sugar cane, and potatoes, also with various imported varieties of paddy and potatoes. The manure experiments in this farm show clearly that a high rate of profit is to be obtained by applying carefully selected manures to crops of rice, sugar, and potatoes. The success attained with green manures is said to be especially significant, as cultivation with this form of manure costs nothing but seed and labour, and is within reach of the poorest. Distribution of good seed also forms a part of the departmental work. In addition to these central operations, a large number of experiments were in progress in various places on Government and Wards' estates, and in model farms maintained by zamindars.

Operations
in 1901-02,
Bengal.

Agricultural experiments in the United Provinces are chiefly conducted at the Cawnpore farm; but as no important experiments were brought to a conclusion during 1901-02 it is unnecessary to notice the work of the year in detail. The Director of the Department has visited Australia with a view to the discovery of a rust-resisting variety of wheat. His general conclusion was to the effect that no imported variety is so likely to succeed as a variety obtained by careful selection and cross-fertilisation on the spot; and arrangements have been made to carry out the programme which he suggested. Large quantities of good seed of various staples were issued from the Cawnpore farm and from the Meerut demonstration farm, and the demand for these supplies was very active. Thirty improved ploughs, known as the "Meston," were sold on the instalment system, and are being used by cultivators. An improved sugar factory was prepared by the Department, and was taken on tour through Rohilkhand, demonstrations being given at the principal centres of the refining trade.

United
Provinces.

At the Nagpur farm in the Central Provinces the most important experiments were those with varieties of cotton. The "Upland Georgian" American cotton has been found to do fairly well, and considerable success is also said to have been attained with Egyptian varieties. The production of a rust-resisting variety of wheat has also been attempted, and experiments were made in several districts (as in other provinces) to test the truth of the theory that rust can be mitigated, if not prevented, by the use of two-year old wheat seed. The disease was not, however, prevalent during the year, so no conclusion was possible. Practical demonstrations are to be undertaken at various places, with a view to promoting the cultivation of jowar (large millet) in the black soil tract in the Chhattisgarh district.

Central
Provinces.

An experimental farm was started during 1901 at Lyallpur, in the Chenab Colony in the Punjab. Varieties of Australian wheat were cultivated in various districts, without conclusive result. The same may be said of the cultivation of an Australian drought-resisting grass (*paspalum dilatatum*). An attempt to manufacture sugar from beet resulted unsatisfactorily, as was the case with a similar experiment in the United Provinces. It was reported that without expensive extracting machinery beet sugar cannot be made sufficiently pure to be of use to the refiner, and that the central factory system is out of the question owing to the difficulty of storing the produce in the hot weather.

Punjab.

In the Bombay presidency there are two Government experimental farms, at Poona and Surat respectively, besides the farm of the Nadiad Agricultural Association. The experiments at Poona in 1901-02 included the trial of various kinds of American maize suitable for use as vegetables. It is found that this maize, known in America as "sugar corn," loses its sweet taste when cultivated in India. Greater success has been attained with the

Bombay.

AGRICULTURE.

American groundnut or "peanut" seed, which gave a larger yield, and appeared to be less liable to the attacks of disease, than the indigenous varieties. The Australian drought-resisting grass, *paspalum dilatatum*, does not appear to be suited to the requirements of the Deccan, perhaps because the number of animals per acre is larger than in similar tracts of Australia. Experiments in the cross-fertilisation of wheats and cottons, and manure and sewage experiments, were also conducted on the farm. At the Surat farm the rainfall was defective, and no results of value could be gained from the dry-crop experiments, for which the soil is most suited. The Nadiad farm also suffered from scanty rainfall, an attack of caterpillars, and a plague of rats. The experiments related chiefly to crop rotation.

Madras.

Two experimental farms were started during 1901-02 in the Madras presidency, situated respectively at Bellary and at Koilpatti in the Tinnevely district. At this early stage there are no results deserving to be recorded. At other places in the presidency, experiments have been in progress with new varieties of groundnuts, with aloes, and in connection with sugar-cane disease. The latter work has been assigned to the Government Botanist. This officer was engaged primarily to carry on the systematic botanical survey of the presidency as part of the botanical survey of India. But it has been found that the work of economic research is much more important and urgent, and will afford constant occupation, and the appointment, originally created for five years, has been made permanent.

II.—AGRICULTURAL STATISTICS.

Area.

Enough has been said to show that the intensive improvement of agriculture is kept in view. The progress as regards the extension of cultivation is roughly shown in the following table, relating to the agricultural year 1900-01, the latest for which the complete agricultural statistics are available:—

Figures in Thousands of Acres, omitting 000.

	Area for which Returns exist.		Forests, and Tracts not available for Cultivation.		Cultivable Waste and Fallows.		Net Area Cropped.		Area Irrigated.	
	1891-92.	1900-01.	1891-92.	1900-01.	1891-92.	1900-01.	1891-92.	1900-01.	1891-92.	1900-01.
Upper Burma - - -	48,843	47,970	29,740	24,021	20,890(a)	9,582	2,513	4,287	546	824
Lower Burma - - -	56,122	53,477	31,931	30,648	19,009	15,863	5,182	7,155	5	8
Assam - - - - -	14,466	17,523	2,895	3,677	9,766(b)	9,348	1,805	4,308	(c)	(c)
Bengal - - - - -	93,907	97,337	4,630	27,075	36,528(b)	18,464	52,879	51,608	(c)	748
United Provinces—Agra -	47,246	50,913	11,893	15,056	10,231	10,242	25,122	25,615	7,319	6,475
- - - - - Oudh -	15,490	15,493	2,794	2,893	2,789	3,626	3,907	3,983	2,556	2,203
Punjab - - - - -	64,981	65,809	14,729	16,244	31,009	25,044	19,243	24,591	7,348	9,445
Sind - - - - -	24,245	30,065	12,744	15,329	9,491	10,940	2,710	2,729	2,366	2,072
Bombay - - - - -	44,028	43,863	11,975	12,195	7,480	10,407	24,615	21,001	796	771
Central Provinces - -	43,374	49,164	16,161	15,189	11,561	18,754	15,652	19,251	688	402
Barar - - - - -	11,340	11,556	3,043	3,275	1,622	1,265	6,666	6,816	43	63
Madras - - - - -	59,624	61,556	22,919	25,024	14,610	12,022	22,095	24,519	5,302	5,971
Other Tracts - - -	2,008	2,048	1,254	1,187	360	320	404	533	108	126
TOTAL British India -	526,394	546,225	162,626	201,593	176,016	146,056	187,762	196,316	-	-

(a.) Forests in Upper Burma are not distinguished in 1891-92.

(b.) Includes non-cultivable area other than forests in Assam and Bengal.

(c.) Figures not available for Assam, in which the irrigated area is small; or for Bengal in the earlier year. The Bengal figure for 1900-01 is for a part only of the province.

Apart from the various re-arrangements which have resulted from the improvement of statistical methods, this table bears evidence of the great expansion of cultivation in Burma, the Punjab and Madras, and the growth of the forest area in the latter province. The increase in the Punjab figures is partly attributable to the inclusion, in the latter year, of areas on which crops were sown but failed to come to maturity, but otherwise the above may be considered as permanent changes. Among the other variations, due to the circumstances of recent years and therefore liable to be reversed with the advent of different seasons, are the fall in the cultivated

area in Bengal, which had been 55½ millions of acres in 1898-99, the rise in Sind, the heavy fall in the Bombay presidency, which occurred chiefly in the northern and central portions, and the lower figures for the Central Provinces. It may be added that the net area cropped in 1901-02 is stated to have amounted to 50,457,000, 22,791,000, and 16,461,000 acres for Bengal, Bombay (excluding Sind), and the Central Provinces respectively. The former figure shows a continued fall; the two latter a recovery amounting to 8½ and 8 per cent. respectively.

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The area of culturable wastelands other than fallows, as given in the agricultural returns for 1900-01, is shown in the margin. The quality of the "waste" lands varies, but it is frequently much better, especially in the less developed provinces, than would appear from the name of "waste"

Wastelands.

Culturable Wastelands (in thousands of acres) 1900-01.

Upper Burma	-	8,224
Lower Burma	-	15,286
Assam	-	8,221
Bengal	-	11,772
United Provinces :		
Agra	-	7,973
Oudh	-	3,034
Punjab	-	20,503
Sind	-	6,669
Bombay	-	1,429
Central Provinces	-	14,710
Berar	-	233
Madras	-	6,260
Minor Provinces	-	148

which it bears. But on the other hand it is not to be understood that all the areas mentioned though "culturable," would repay the labour of cultivation in ordinary circumstances. The right of Government over these areas differs according to the nature of the land settlements in each province. In the ryotwari provinces, Bombay, Burma, Assam, Berar, and two-thirds of Madras, the unoccupied lands are, for the most part, at the unfettered disposal of the State. In Burma a notification to that effect was issued by the Government in 1899. Elsewhere, the waste, wherever it falls within the boundaries of estates on which the Government assessment is fixed, belongs, for the term of settlement at least, to the zamindar or land-

lord, and the waste at the disposal of the Government comprises only those lands which lie outside the areas of settled estates. The rules under which the Government is prepared to allow the occupation of wasteland at its disposal vary with the circumstances of each province; but they are divisible broadly into three classes: (1) those relating to small agricultural holdings; (2) those for the encouragement of large capitalists in promoting such agricultural industries as that of tea, coffee, cinchona, and the like; (3) exceptional rules for the settlement of special tribes or classes, or for the reclamation of particular tracts. There are also rules governing the acquisition of land near towns for religious and other purposes, and the grant of lands as rewards. Speaking generally, rules which permitted of the acquisition of land in fee simple or upon a perpetual assessment have for many years past been abrogated. Land can only be acquired on these terms for building sites and the like. The rules of the first-mentioned class, regulating the ordinary extension of cultivation in ryotwari provinces, are for the most part framed under the land revenue law of the province. It follows from what has been said on the latter subject in the Land Revenue chapter above, that in Bombay and Madras wastelands of this class are taken up and relinquished freely in accordance with the vicissitudes of the seasons or the habits of the people. In Burma and Assam there has been a steady increase in the amount of waste taken under cultivation, though in Assam relinquishment after two or three years is common. The extension of the area of tea and other plantations will receive separate notice.

Mention may fitly be made in this place of the colonisation work on the Chenab Canal in the Punjab, which has proceeded steadily throughout the decade. The colony lies in the Rechna Doab, between the Chenab and Ravi rivers, and included in 1900-01 an allotable area of 1,784,000 acres, of which 1,664,500 had been allotted. Of the remainder, a considerable portion had not yet been brought under irrigation at the end of September 1901. The area allotted before September 1892 was 230,800 acres, and the addition to the cultivable area of the Punjab from this source in the nine years is therefore 1,433,700 acres. The colonists have been drawn chiefly from the more densely populated districts of the Punjab. The mean average population of the colony disclosed at the recent census was 212 per square mile; and it is considered that extensions and natural development may reasonably be expected to result in a large increase of this density. The colony developed under most favourable circumstances. A splendid water supply, a series of bumper

Chenab Colony.

AGRICULTURE.

harvests, and famine prices ruling for the produce all helped in its success. At present, as the supply of land of the best quality becomes exhausted in the area reached by the canal, cultivation tends to fall behind allotment, and the cultivated area in 1900-01, though far greater than that of the preceding year, was only 1,454,000 acres out of the 1,664,500 held by grantees. Future increase of cultivation will be obtained chiefly by extension of the area commanded by the canal. The Government-revenue recoverable in 1900-01 was £331,000, but remissions were allowed to free grantees amounting to £148,000. The value of the crops grown in the colony has been estimated at £3,369,000 a year, but apart from the addition to the wealth and to the food stocks of the province caused by the increase in the cultivated area, the colony has been of service in times of famine through the constant employment for labour which it provides. Special mention was made of this feature in the report on the Punjab famine of 1899-1900.

Crops.

Turning now to the area under the different crops, and its territorial distribution, it is necessary in the first place to explain that the "crop area" is in all cases greater than the area of cultivated land, owing to double cropping. The extent to which this practice prevails is shown at the end of the following tables, which contain the detailed analysis of the crop area.

I.

TERRITORIAL DISTRIBUTION OF THE PRINCIPAL CROPS IN 1900-01.

Figures in Thousands of Acres, omitting 000.

	Rice.	Wheat.	Barley.	Millets.			Gram (pulse.)	Other Food Grains including Pulses.	Total Food Grains.
				Cholum or Jawar.	Cumbu or Bajra.	Other Millets and Maize.			
Upper Burma	1,972	12	—	944	122	75	52	225	3,402
Lower Burma	6,578	—	—	1	—	11	—	34	6,624
Assam	8,391	—	—	—	—	—	—	76	3,468
Bengal	87,093	1,561	1,398	122	71	2,977	990	5,402	49,614
United Provinces, Agra	4,374	4,914	3,120	2,257	1,690	1,462	3,574	4,363	25,654
" " Oudh	2,799	1,547	1,153	327	373	650	1,445	2,366	10,580
Punjab	789	8,486	1,726	1,894	3,030	1,527	3,405	1,975	22,832
Sind	927	453	13	806	897	2	88	215	3,400
Bombay	1,465	950	27	5,793	5,728	611	321	2,722	17,617
Central Provinces	3,963	2,057	13	2,155	58	210	818	3,662	12,941
Berar	51	249	—	2,896	121	7	108	440	3,372
Madras	6,592	17	3	4,777	2,966	1,763	151	6,041	23,310
Minor Provinces (Ajmere, Coorg, and Manipur).	94	20	67	45	40	88	24	34	412
Total	70,093	20,165	7,520	22,017	15,096	9,383	10,976	27,575	182,825

II.

	Oilseeds.	Condi-ments and Spices.	Sugar-cane.	Fibres.			Indigo.	Opium.	Tobacco.
				Cotton.	Jute.	Other Fibres.			
Upper Burma	812	1	3	146	—	—	1	—	31
Lower Burma	33	4	10	9	—	1	—	—	39
Assam	245	4	32	3	6	2	—	—	2
Bengal	3,826	281	857	120	2,110	163	368	221	583
United Provinces, Agra	602	46	971	1,018	—	80	246	221	42
" " Oudh	194	9	242	28	—	21	16	172	12
Punjab	1,852	33	351	1,065	—	50	91	8	71
Sind	424	6	2	84	—	1	10	—	8
Bombay	999	173	38	2,285	—	98	1	—	67
Central Provinces	1,745	34	15	1,005	—	49	—	—	16
Berar	370	59	1	2,444	—	13	—	—	16
Madras	1,819	416	56	1,373	—	33	252	—	118
Minor Provinces (Ajmere, Coorg, and Manipur).	41	2	—	35	—	—	—	3	—
Total	12,962	1,068	2,578	9,615	2,116	511	985	625	1,005

III.

AGRICULTURE.

	Tea.	Coffee.	Fodder crops.	Orchards and garden produce.	All other Crops.		Total area cropped during the Year.	Area cropped more than once.	Net area cropped during the Year.
					Food.	Non-food.			
Upper Burma	1	—	21	51	101	96	4,666	379	4,287
Lower Burma	—	—	—	385	48	16	7,169	3	7,166
Assam	388	—	20	463	15	88	4,686	378	4,308
Bengal	134	—	80	1,044	1,353	1,344	62,098	10,490	51,608
United Provinces—	8	—	688	288	73	62	30,449*	4,834	25,615
Agrn.	—	—	—	—	—	—	—	—	—
United Provinces—	—	—	70	94	43	6	11,887	2,622	8,965
Oudh.	—	—	—	—	—	—	—	—	—
Punjab	10	—	1,646	155	381	29	31,770*	7,249	24,521
Sind	—	—	3	44	—	39	4,021	292	3,729
Bombay	—	—	23	142	—	5	21,448	447	21,001
Central Provinces	—	—	223	84	73	25	15,210	959	15,251
Berar	—	—	—	42	—	3	6,820	4	6,816
Madras	11	64	245	699	63	384	27,850	3,310	24,510
Minor Provinces (Ajmera, Coorg, and Manpur).	—	69	4	1	12	9	588	49	539
Total	502	133	3,023	3,442	2,162	2,106	229,362	31,046	198,316

* Note.—These figures do not tally with the totals of the preceding columns in the case of the United Provinces, and there is also a difference in the case of the Punjab, owing to the inclusion of areas on which crops failed.

The rice crop is most important in Burma, Bengal and Madras; but there is a considerable area (generally amounting to about 20 millions of acres)

Rice.

	1901.		Average of Ten Years, 1891-1901.	
	Area in Thousands of Acres.	Estimated Yield in Thousands of Cwt. (Cleaned Rice.)	Area in Thousands of Acres.	Estimated Yield in Thousands of Cwt. (Cleaned Rice.)
Bengal	36,366	286,308	38,877	352,430
Madras	6,717	50,588	6,563	46,699
Lower Burma.	6,637	58,488	5,171	48,045

000 omitted.

under rice in other provinces of British India. In Bengal, the rice crop area varies from 36 to 40 millions of acres, according to the circumstances of the year. In 1901-02 area and yield were low, the season being unfavourable both for the autumn and the more important winter crop. Madras shows an increase both in area and yield compared with the ten years' average. In Burma, where the large waste area is being gradually brought under cultivation, there has been an almost uninterrupted increase in the area of the rice crop, and the favourable conditions enjoyed in 1901-02 resulted in an unprecedentedly large yield of rice. Burma exports the larger part of her rice crop, the exportable surplus of 1901-02 being estimated at 38 million cwt. of cleaned rice. In years of famine the greater part of this supply has been diverted to peninsular India; and Burma has been the most important of the outside sources from which the deficient crops have been supplemented.*

Wheat is grown chiefly in the Punjab, the United Provinces, and the Central Provinces, and the yield has been specially affected by the famines.

Wheat.

	1901-02.		Average of Ten Years 1891-1901.	
	Area in Thousands of Acres.	Estimated Yield in Thousands of Tons.	Area in Thousands of Acres.	Estimated Yield in Thousands of Tons.
Punjab*	8,024	2,006	7,239	2,042
United Provinces	6,480	2,402	6,144	2,027
Central Provinces	2,590	562	3,040	525
Bengal	1,388	391	1,488	495
Bombay	1,334	169	2,162	539
Central India	1,451	264	1,575	326
Rest of India	2,027	225	3,675	576
TOTAL	23,294	6,009	25,323	6,524

* Including the North-West Frontier Province.

The exportable surplus of wheat is never, save in the most exceptional years, greater than one million tons, or about one-seventh of an average yield. In times of small wheat harvests, therefore, the exports tend to disappear, as was the case in 1896-97 and in 1900-01. The wheat harvest of 1896 and that of 1900 produced only about 5½ millions of tons throughout India, including a considerable area in native States. It is only in Upper India that wheat is consumed to a large extent; that grown elsewhere is chiefly

* See page 242.

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destined for export. The best Indian-grown wheat commands a good price on the English market; and efforts are constantly being made to introduce improved kinds, especially a kind which will resist the attacks of rust. An estimate of area and yield for the whole of India in 1901-02 is given in the margin. The season was on the whole unfavourable for the growth of wheat, owing to the failure of the winter rains. The ten years' average given in the table reflects the recent series of bad seasons, and may be compared with the figures of the three first years of the period, in which the average area and yield work out at 28 millions of acres and 7 million tons.

Millets.

The *sorghum* or great millet, generally known as *jawar* or *cholum*, is the staple grain crop of southern India. The spiked millet, known as *bajra* or *cumbu*, yields a poorer food, and is grown on dry sandy soil in the Deccan and the Punjab. A third sort of millet, *ragi* or *marua*, is cultivated chiefly in Madras and Bengal. There are also other kinds of millet, which are included in the general head of "other food grains." Millet crops are

Exports of *Jawar* and *Bajra*.

	Cwts.
1896-97	653,000
1897-98	643,000
1898-99	1,961,000
1899-1900	555,000
1900-01	124,000
1901-02	302,000

grown for the most part on unirrigated lands. In the Bombay Deccan districts they cover generally upwards of 60 per cent. of the grain area, or an even larger proportion in years of drought. In Gujarat about half the grain area is under millets or maize in ordinary years. No estimate of their yield is available, and the value of figures as to the extension of their area is discounted by the practice of growing millets in conjunction with some other crop, in which case only a proportion of the area is classed under "millets" in the returns. The grain is consumed almost entirely in India, though a varying amount is exported, as is shown in the margin.

Pulses.

Among pulses, the returns only distinguish gram (*cicer arietinum*), which is said to cover in ordinary years more than 10 millions of acres, chiefly in the United Provinces, the Punjab and Bengal. Other pulses, lentils, &c. are extensively grown, though no details are available. But the area under these crops is liable to great contraction in years of drought, as it consists for the most part of unirrigated lands. Gram is largely used as horse food, but is also eaten by the poorer classes. In 1896-97 the area under gram was 8½ millions of acres, and in 1899-1900 it was little more than 7½ millions.

Oilseeds.

The oilseeds crop figures largely in the returns for Bengal, and its importance is greater than is indicated by the figures in nearly all provinces, since flax, rape, and mustard are very extensively grown, especially in the United Provinces, in conjunction with other crops. These seeds are for the

	Estimated Yield in 1901-02.	Exports.
	Tons.	Tons.
Linseed	342,624	366,393
Rape and mustard	964,923	349,478
Sesamum	229,952	122,357

most part pressed in India, either in bullock presses or in oil mills. The refuse or cake is of great value to agriculturists, as it forms a food for cattle, and in the case of sesamum (gingelly) the cake is eaten by the people. But a very large quantity of the seeds is exported. The total value of the exports in 1901-02 amounted to £11,186,000, in addition to vegetable oils valued at £461,000.

The yield of the chief oilseed crops in 1901-02, as shown in the returns, is given in the margin, but the amount of linseed exports may be held to throw some doubt on the accuracy of the estimate of outturn of this crop.

Groundnuts.

The groundnut crop of Bombay and Madras is not included, as there is no estimate available of the outturn in Madras. It covered, however, an area of 423,000 acres in 1901-02. Owing to bad seasons and the deterioration of seed, this crop had been small in the preceding years. But with the introduction of a new variety, and the return of good seasons in Madras, it is hoped that it will recover its position. The marginally stated figures of the exports in recent years show how low the trade had sunk, and the steady recovery.

Exports of Ground Nuts.

	Cwt.
Average of four years, 1892-96	1,611,800
1896-97	486,285
1897-98	44,739
1898-99	87,761
1899-1900	155,919
1900-01	231,755
1901-02	1,085,415

The normal area under sugar in British India is generally stated as about three millions of acres, of which 1,300,000 are in the United Provinces, one million in Bengal, and the remainder chiefly in the Punjab and the North-West Frontier Province. The actual figures for the nine years ending with 1900-01, as given in the returns, are shown in the margin. It is to be observed that they are for the most part considerably below the above-mentioned standard of three millions of acres, and that there is a tendency to decline. How far this is due to famine conditions, and how far to the competition of bounty-fed beet sugar imported from Europe, cannot be definitely stated.

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Sugar.

	Acres (British India only).
1892-93	2,799,000
1893-94	2,897,000
1894-95	2,765,000
1895-96	2,931,000
1896-97	2,652,000
1897-98	2,648,000
1898-99	2,756,000
1899-1900	2,693,000
1900-01	2,578,000

The corresponding figure for the season 1901-02 is not available, but a separate report gives the area under sugar in that year as about the same as in 1900-01. A large share of the produce is consumed in the form of gur, or unrefined sugar, and the market for this preparation may be said to be independent of foreign competition. But the price of Indian refined sugar

	Price per maund of Beet Sugar in Calcutta.		
	Rs.	As.	P.
March 1899	7	1	0
October 1899	8	14	0
November 1899	8	11	6
December 1899	7	12	0
June 1900	9	4	0
March 1902	6	10	0

fell considerably in 1897 and 1898 owing to the great influx of cheap beet sugar, with the result that many refineries were closed, and the existence of the industry appeared to be threatened. The imposition of duties in 1899 to countervail the Continental sugar bounties checked the fall in prices for the time; but after September 1900 there was a steady decline in the price of beet sugar in Calcutta until the fresh duties were imposed in March 1902 to countervail the "cartel" bounties of Germany and Austria-Hungary.

The cotton crop is most important in Bombay and Berar, but every province and every large native State has some of its area under cotton. The area for the whole of India is returned for 1901-02 at 14,232,000 acres, but this is often exceeded, and in 1893-94 the cotton area was nearly 15½ millions of acres.

Cotton.

	Bales of 400 lbs.
1892-93	1,924,000
1893-94	2,180,000
1894-95	1,957,000
1895-96	2,364,000
1896-97	1,929,000
1897-98	2,198,000
1898-99	2,425,000
1899-1900	843,000
1900-01	2,309,000
1901-02	1,969,000

These figures include large areas in Hyderabad and other native States. Cotton is usually grown in conjunction with some other crop such as *jawar*, and allowance has been made for this fact in the general table of territorial distribution of crops given on an earlier page. In Bombay the crop of 1899-1900 failed disastrously, and though the following year showed some recovery the yield of 1901-02 was little more than half of an average crop. The total outturn of cleaned cotton is shown in the margin. A large share of this, estimated at about one-

half, is used in the Indian cotton mills. The exports to the United Kingdom had fallen off greatly in the preceding decade, and continues to show a decrease. But an increasing quantity has been exported to Japan.* The cotton is almost exclusively of short stapled varieties; and though experiments with Egyptian cotton are constantly being made, with some immediate success, it seems to be established that the exotic varieties deteriorate after a few years. Endeavour is being made at the Surat farm in Bombay, and elsewhere, to improve the indigenous varieties by a process of selection of seed continued from year to year. Samples of a Gujarat variety of cotton have been produced which would be suitable for the spinning of yarns of the high count of 40s.

Attention has been directed in recent years to the treatment of cotton seed, which is for the most part used in India as a cattle food without extraction of the oil. No systematic production of cotton seed oil on any large scale is conducted in India. In the year 1901-02, however, there was a large increase in the hitherto inconsiderable export of the uncrushed seeds, for the most part to the United Kingdom.

Jute is only cultivated in Bengal, and, to a small extent, in Assam; and it is to be observed that, although the amount of raw jute exported or used in the mills has increased greatly during the ten years, there has been, according to the returns, little expansion in the area under the crop, which

Jute and other fibres.

* See page 245.

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was 2,135,000 acres in 1892 and 2,249,000 acres in 1901. The yield of the crop in the two years is given as 5,717,000 and 6,500,000 bales of 400 lbs. Other fibres cultivated in India include sunnhemp, rhea, flax, cocoanut fibre, aloe-fibre, and others, none of which have at present an importance, either from an agricultural or a commercial point of view, to be compared with that of cotton or jute. Mention must, however, be made of the attempts to encourage the cultivation of rhea (rami, or china grass), which have failed chiefly through the absence of suitable machinery for dressing the fibre.

Tea.

The tea gardens of Assam cover 1,049,000 acres, but the area actually under tea in 1901 was 338,000 acres. More than 96 per cent. of this area was in European hands. The gardens are for the most part "waste" lands taken up under the second class of rules mentioned in an earlier paragraph. The tea-growing area in the whole of India has shown an uninterrupted increase in the 16 years ending in 1901; but the expansion, which was very large in 1897 and 1898, has been comparatively small in later years, owing to the depressed state of the industry. Further particulars are reserved for the chapter on Industries.

Indigo.
Coffee.

In the same place will be found some particulars as to the cultivation of indigo and of coffee in India.

Cinchona.

Among other crops, cinchona requires some separate notice. The cultivation of cinchona was introduced into India in the year 1860 under the auspices of the Government, and a stock of plants was prepared and distributed to planters in the Nilgiris and in Coorg. At the same time, with a view of securing a cheap and abundant supply of the febrifuge for India, Government plantations were established in the Nilgiri hills and at Darjeeling, and these have been continued up to the present time. The area under cinchona in India would appear from the agricultural returns to have shown a steady fall in recent years; but the figures are not trustworthy, and the amount of the bark exported, as shown in the margin,

Exports of cinchona bark :-	
	Lbs.
1892-93	2,813,637
1894-95	1,737,318
1896-97	321,478
1897-98	3,056,769
1898-99	1,361,539
1899-1900	3,290,236
1900-01	2,753,858
1901-02	1,917,259

is a better guide to the state of the industry. In the early part of the decade the exports declined, owing to the low prices prevailing; but later years have shown more satisfactory figures. A considerable amount of the bark from private plantations is bought by the Government and treated at the Government factories. The sulphate of quinine and the cinchona febrifuge thus produced are issued for the most part to medical officers in the various provinces, to jails and prisons, and to the authorities of native States; but a large and increasing amount is disposed of, in the form of 5-grain packets, costing $\frac{1}{4}$ anna, through the medium of the post offices. This system brings the drug easily within the reach of the people. It is unnecessary to dwell on the working of the Government's cinchona plantations in 1901-02, as it presents no novel features and was generally satisfactory. The issues of the sulphate and of the febrifuge (an inferior and cheaper drug) together amounted to 14,400 lbs. from the Madras factory and 13,460 lbs. from the factory in Bengal. A somewhat similar experiment on the part of the Government, and one which recalls their action in respect of the introduction of tea cultivation into Assam, is the recent establishment of a rubber plantation in Burma.

III.—IRRIGATION, SEASONS AND CROPS, AND PRICES.

AGRICULTURE.
Irrigation.

The area actually irrigated, and the areas of crops grown on irrigated land, including double cropping, in 1891-92 and 1900-01 respectively, as shown in the agricultural returns, are given in the following table:—

Figures in Thousands of Acres, omitting 000.

	1891-92.						1900-01.						
	Area Irrigated from				Net Area Irrigated, including Other Sources.	Total Acreage of Crops Irrigated.	Area Irrigated from				Net Area Irrigated, including Other Sources.	Total Acreage of Crops Irrigated.	
	Government Canals.	Private Canals.	Tanks.	Wells.			Government Canals.	Private Canals.	Tanks.	Wells.			
Upper Burma	121	100	30	3	546	546	248	801	176	4	824	828	
Lower Burma	—	—	—	—	5	5	—	—	—	—	5	5	
Assam	Information not available.				Information not available.				Information not available.				
Bengal	Information not available.				Information not available.				748	Information not available.		748	748
United Provinces:													
Agra	1,695	—	1,000	3,637	7,319	7,552	1,780	5	1,044	3,388	6,478	7,780	
Oudh	—	—	1,361	1,217	2,688	2,723	—	—	893	1,387	2,303	2,513	
Punjab	2,606	901	17	3,698	7,348	7,348	5,192	1,002	24	3,018	9,416	9,446	
Sind	2,063		304		2,366	2,601	2,182	795	—	14	2,972	3,354	
Bombay	123		864		796	680	114	8	88	470	771	967	
Central Provinces	—	—	685	79	636	686	—	—	316	74	408	408	
Bihar	—	—	—	42	42	42	—	—	—	68	68	68	
Madras	2,472	24	1,699	1,034	5,363	6,286	2,802	35	1,881	2,107	5,971	Not reported.	
Minor Provinces	1	—	24	101	127	122	1	—	25	28	63	126	

The extension of the canal and tank irrigation is a subject which will find a place in the chapter on Public Works. It is well, however, to note in this place certain points, in respect of the methods of irrigation. In the first place, irrigation canals which draw their supply directly from a river are classed either as "perennial" or as "inundation" canals. The former are furnished with permanent headworks and weirs, and are capable of irrigating large tracts of country throughout the year, independently of the local rainfall. To this class belong the largest of the canal systems of India. The inundation canals are of a much simpler and less costly description; they exist only in the Punjab and Sind, and are for the most part simply earthen channels, supplied with water by the annual rise in May of the Indus and its affluents. The irrigation from them is to some extent precarious. Secondly, irrigation from "tanks" or reservoirs differs from canal irrigation in being dependent to a greater extent on the local rainfall, either directly or through the medium of the smaller rivers. An area so irrigated is secured from the effects of a capricious or badly distributed rainfall, such as may delay sowings or wither crops on unirrigated lands, but it is liable to suffer with the rest from a series of years of deficient rainfall. Thirdly, the same remark is generally true of such wells as tap only the subsoil water, as is the case in a large number of cases. The possibility of obtaining water from artesian wells has frequently been the subject of experiments, of which an account was given in a paper published among the Memoirs of the Geological Survey in 1901. The conclusion there stated was that the possibilities of artesian supply in India are not fully understood, and have been very imperfectly tested, but that even if they were much greater than outward appearances would suggest, still it would be a great mistake to think that they would be of the slightest utility in any extensive scheme of irrigation.

The chief feature of the table given above is the great increase in the irrigated area of the Punjab, due for the most part to the conversion of the Chenab Canal from an inundation to a perennial canal by the construction of the Khanki weir in 1892. But in addition to this, the area irrigable by wells (as distinguished from the area on which crops are harvested by means of wells in any one year) has increased from 4½ millions of acres in 1891-92 to 4¾ millions in 1900-01. In the United Provinces there is an important area irrigated by Government canals, which have received a larger extension during the ten years than would appear from the table. The area actually

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irrigated depends greatly upon the character of the season. This applies also to the area irrigated from wells, which has been as high as $4\frac{1}{2}$ millions of acres in the famine year 1896-97. The progress of well-irrigation may be best gathered from the increase in the number of wells. A considerable addition has been made since 1891-92 to the number of masonry wells, which was 317,000 in 1901-02, compared with 284,000 in the year 1899-1900. Each well can irrigate, on the average, about nine acres of cultivated land. Of the number of temporary wells there are no particulars, and they vary according to the character of each season, and can be sunk at a trifling cost whenever and wherever needed. In the Central Provinces there are at present no Government irrigation works. There has been a considerable increase during the decade in the number of tanks and wells, many having been made during the famines; but the number is still infinitesimal compared with the extent of cultivation, and in none of the ten years did the irrigated area rise above 5 per cent. of the area under crops. For the greater part of Bengal, particulars of irrigation are not available. Its extent is, however, undoubtedly very great. In South Behar practical immunity against famine has been secured by an indigenous system of reservoirs with distributing channels. In Bombay, excluding Sind, there is little demand for irrigation save when the rains fail, and as there are no snow-clad mountains to give a perennial supply of water, a failure of the rains checks the supply of water for irrigation in proportion as the demand grows more urgent. Wells, however, which are more secure from the effects of a season of drought, are reported to have risen in number from 170,000 in 1891-92 to 242,000 in 1901-02. The proportion of the area protected by irrigation to the cultivated area is only five per cent. in the presidency proper. In Sind it is 87 per cent. In Madras, some 651,000 wells were in effective use at the end of the decade, watering nearly 1,200,000 acres of first crop and 512,500 acres of second crop. Excluding the Nilgiris and the West Coast districts, where irrigation is practically not required, the irrigated area in Madras amounts to 28·6 per cent. of the area under crops in an ordinary year.

Advances for well-sinking form generally a large proportion of the sums lent each year by the Government to cultivators under the Agricultural Improvements Act, some particulars of which have been given in the Land Revenue chapter.

Seasons and Crops.
Bengal.

1901-02.

Bengal has to a large extent escaped from the climatic disasters which have afflicted other parts of India during the decade, and the cultivator has benefited by the prevailing high prices of grain. The only extensive crop failure was in Behar in the 1896-97 famine, when a large area and population were affected. The rainfall of the year 1901-02 was below the normal* in Behar, Chota Nagpur, and Orissa, and the deficiency in Behar amounted to no less than 26 per cent. It was also badly distributed, being weak at the beginning of the monsoon period and coming to an end in September. Failure of the winter rains did widespread damage to the crops. The area sown with autumn crops was $15\frac{1}{2}$ millions of acres, compared with a normal area of $15\frac{1}{2}$ millions. Of this acreage $12\frac{1}{2}$ millions were under food crops, and the outturn of these crops was estimated at only 87 per cent. of the normal. The jute crop was a full one, but indigo returned only 80 per cent. of a normal crop, and the total yield of non-food crops in the autumn was only 85 per cent. of the normal. The early cessation of the monsoon and the failure of the autumn rains seriously damaged the winter rice crop in all but the eastern portion of the province, and the area sown was only $28\frac{1}{2}$ millions of acres, compared with a normal area of $30\frac{1}{2}$ millions. The yield of the winter rice crop was estimated at 75 per cent. of a normal crop. The sowing of the spring crops was delayed by the early cessation of the monsoon, and though rain fell in November the subsequent drought destroyed the prospects of even a moderate

* NOTE.—The word "normal," which recurs throughout this section requires some explanation. As applied to rainfall, it signifies the mean of the rainfalls recorded in past years. As regards area of cultivation, the mean of the last ten years is taken as the normal, where the figures are available. The normal outturn per acre is based on figures of standard outturns which are determined quinquennially from the results of the crop cutting experiments of the preceding five years. The standards are intended to express, not a mean of the actual results of the five years, but the average yield on average soil in a year of average character. The expression "normal crop" means a "normal" outturn on a "normal" area. Estimates of this character must obviously be received with caution, however carefully prepared.

harvest. These crops consist of sugar-cane, wheat, barley, and other cereals and pulses, and cover usually about 16½ millions of acres. The area in the year under report was rather less than 15 millions, one million acres of the deficiency falling under the heading of food crops. The outturn of the spring crops is estimated at 75 per cent. of the normal. The total yield of all the crops is estimated at only 72·7 per cent. of the normal for the province.

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The soil of Assam is generally fertile, and when properly cultivated yields excellent crops of rice, mustard, sugar-cane, and tea. The rainfall never fails, and though its distribution is sometimes unfavourable for agricultural operations, such a thing as a prolonged drought or a serious failure of crops is practically unknown. The earthquake of 1897 and subsequent floods did much damage in causing extensive deposits of sand, by which large areas of valuable rice lands were rendered uncultivable, and water-channels, the chief means of conveyance for the produce to market, were in some cases blocked. In the Surma valley of Assam the rainfall of 1901-02 was a little below normal, but it was well distributed and favourable to agricultural operations. In the Assam valley, on the other hand, though the total rainfall was up to the average, the standing crops were damaged by heavy rains in November, and the spring showers, upon which the early rice crop depends, were less copious than usual. Taking into account the area sown, which was generally in excess of the preceding year, the outturn of rice was estimated to be fairly good in the Surma valley and in Darrang, Nowgong, and Lakhimpur, moderate in Kamrup, and poor in Goalpara and Sibsagar. The area under rice was 3¾ millions of acres, or three-quarters of the total area under crops. The tea crop of 1901 was a lighter one than that gathered in the preceding year. But this was due not only to the rather unfavourable season, but in greater degree to the restriction of the output in view of the state of the market.

Assam.

1901-02.

The decade began with a brief period of prosperity in the United Provinces, but this disappeared with the excessive rainfall of 1894, which is said to have formed a turning point in the economic history of the province. Deficient rains in 1895-96 led to the famine of 1896-97. Since that year the rains have been more or less abnormal, though the advent of a much needed storm in September 1899 saved the province from participation in the famine of 1899-1900. The effects of these bad seasons have been practically confined to Bundelkhand and the eastern part of the province. There has been no extension of cultivation if the provinces are taken as a whole. The average area cultivated in the ten years 1890-1901 is in fact one per cent. less than the average of the preceding decade. The practice of double cropping has continued to spread slowly in most districts. As regards the character of the crops, an important change has taken place in the decline of the proportion of spring crops to autumn crops, and the ordinarily more profitable non-food crops, cotton, indigo and oilseeds, have been to a considerable extent replaced by food grains. The monsoon of 1901 set in late, and the area under autumn sowings was slightly below that of the previous year which had been about normal; the total cultivated area for the year amounts to 34½ millions of acres, the highest figure on record. The rice crop was only 65 of the normal, as compared with 75 per cent. in the preceding year; the outturn in the eastern districts being poor for the third year in succession. Indigo and *til* (gingelly) also did badly, but the cotton crop was an unusually good one, and the yield of other crops between 80 and 90 per cent. of the normal.

United
Provinces.

1901-02.

In the Punjab, more than 3¼ millions of acres of wastelands have become culturable during the decade in consequence of the extension of canals or the construction of wells. The area of cultivated land depending on rainfall alone has, on the other hand, decreased by about ¼ million acres; practically all land capable of cultivation with the aid of the natural rainfall is cultivated, and some land of this character has during the decade been rendered more secure by canal or well irrigation. The wheat crop, covering from 30 to 36 per cent. of the crop area, occupies the foremost place. The average annual area of this crop in the last ten years has been 7½ millions of acres, compared with 6¼ millions ten years ago and 6½ millions in 1880-81. The area under sugar has declined; but the cotton crop, which now covers

Punjab.

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about one million acres, is rapidly growing in popularity, and is considered to be the most valuable of the autumn crops. The oilseeds area has also expanded very largely. Owing to the separation of the frontier districts and the consequent contraction of area of the province, it is not possible to compare the figures of the year 1901-02 with those given above. But a comparison with the figures for 1900-01, after eliminating the area of the new Frontier Province, shows that the area sown with autumn crops fell from 12½ millions to 11½ millions of acres, owing to the failure of the monsoon. The same cause, combined with the entire absence of the usual winter rains, brought down the area sown with spring crops from 16½ to 12½ millions of acres. In both spring and autumn crops, failures amounted to about 44 per cent. of the area sown on unirrigated land; on irrigated land, especially on that irrigated from inundation canals, the failures amounted to between 11 and 12 per cent. The total of the two harvests as regards yield is estimated at about 70 per cent. of the normal.

Central Provinces.

An earlier chapter contains a summary of the series of bad seasons which have afflicted the Central Provinces. It is sufficient to say here that out of the twenty harvests reaped, one autumn crop has been very good, three good, one average, one poor, two very poor, and two almost complete failures; whilst of the spring harvests three have been average, two poor, three very poor, and two almost complete failures.

	Area, in Thousands of Acres (omitting 000) under						Total.
	Rice.	Wheat.	Oilseeds.	Cotton.	Other Crops.		
					Food.	Non-Food.	
1892-93	4,378	4,119	1,864	618	5,005	1,461	17,345
1893-94	4,311	3,935	2,515	664	5,189	1,028	17,438
1894-95	4,300	3,345	2,223	599	5,914	820	17,300
1895-96	4,365	2,679	1,529	541	5,335	706	15,646
1896-97	4,339	1,939	1,075	710	4,767	1,502	14,332
1897-98	3,891	2,152	1,375	635	5,303	1,661	15,018
1898-99	4,142	2,495	1,495	642	5,178	1,476	15,428
1899-1900	3,705	1,620	1,191	696	4,949	1,198	13,336
1900-01	3,379	2,029	1,395	989	5,005	1,358	14,955
1901-02	3,683	2,603	1,399	934	5,582	1,524	15,625

may be expected to take some years for cultivation to recover from the effects of this protracted cycle of misfortunes. Apart from the one satisfactory feature of the growth in the area under cotton, there has been a general retrogression in respect of the nature of the crops sown, as valuable staples like wheat, grain, linseed, and rice have been to a large extent replaced by the less remunerative millet crops. It is, however, to be observed that the area occupied for cultivation in 1901-02 was larger than ever, being 22 millions of acres, against 19½ millions in 1891-92; and one of the most hopeful signs for the future is the extraordinary tenacity with which cultivators have clung to their land, even when they have been unable to sow the whole of it. The seasons were not favourable in 1901-02. The lateness of the monsoon delayed sowings of the autumn crops, and heavy and continuous rainfall interfered with weeding operations, and prevented the land from being properly prepared for the spring crops. Later, the winter rains were deficient, and germination of the spring crops was hindered. The crops were therefore disappointing; but there is, as may be seen from the above table, a tendency to return to the position occupied before the famines in respect of the cultivation of the more valuable staples, rice and wheat, which have in recent years been supplanted to some extent by the inferior autumn millets.

1901-02.

Bombay and Sind.

The abnormal character of the seasons in Bombay has necessarily influenced the character of the crops grown. Broadly speaking, in the first years, when harvests were favourable, there was a tendency to substitute in place of food grains the more profitable non-food crops, such as oilseeds and cotton; but when the series of bad seasons had begun, this tendency was checked, as it became necessary to replenish the exhausted stocks of grain for internal

consumption. The statistics of the three years 1891-92, 1895-96 and 1900-01 illustrate these changes.

AGRICULTURE.

	Area under Crop, (in Thousands of Acres, omitting 000).			Percentage on Total Cropped Area.		
	1891-92.	1895-96.	1900-01.	1891-92.	1895-96.	1900-01.
Cereals and pulses -	22,891	21,863	21,017	81.7	78.6	82.5
Other Food Crops -	224	197	211	0.8	0.8	0.9
Sugar -	78	75	40	0.28	0.27	0.16
Oilseeds -	1,808	2,321	1,423	6.5	8.3	5.5
Cotton -	2,622	2,832	2,369	9.4	10.2	9.3
Other non-food Crops -	370	498	409	1.3	1.8	1.6
Total	27,933	27,786	25,469	—	—	—

The effect of the drought is shown in the decline in every group, but the actual decrease has taken place almost wholly in produce destined for export. This will be clear if wheat, which is grown principally for the foreign market, be deducted from the cereals and pulses, and joined to the oilseed and cotton. In 1895-96 the area under wheat was 2.1 millions of acres; in 1900-01 it was 1.4 millions. Of the total decrease of 2.3 millions of acres in the five years, 2.15 millions fall under the category of surplus exportable produce. At no period in the famine was there a dearth of stocks of grain in the presidency. The year 1901-02 shows an increase of 8½ per cent. in the area cropped, compared with the preceding year, but the area under cultivation was still short of the figure which it attained before the famine by a million and a half acres. The light and intermittent character of the rain, and the early cessation of the monsoon, reduced the outturn of all crops. In Gujarat and the northern Deccan, moreover, the crops suffered extensively from damage by rats and insects; Rice was lost over a large area in Gujarat, and the other crops did not fare much better. In the Deccan and Karnatak the season was better, though in no case did the outturn approach the normal standard, except rice in a few districts. In Sind the inundation was not above the average, and the yield of crops was moderate.

1901-02.

In Madras, the decade was one of almost uninterrupted bad seasons, the stress falling more particularly on the Deccan districts, especially on the Cuddapah district. In the portions of the presidency for which the information is available, the cultivated area has risen by 10 per cent. during the last 20 years, compared with a growth of 25 per cent. in the population. But extension of irrigation, resulting in greater fertility and more general double cropping, to some extent make up for this deficiency. The principal crops are cereals and pulses, raised almost exclusively for home consumption. The rice crop covers about a quarter of the cultivated area. Cotton cultivation declined in importance during the ten years, and forms only 5 per cent. of the total. The earlier years of the decade showed a considerable expansion of the area devoted to oilseeds. The rainfall of 1901-02 was generally satisfactory, though it was below the average in some districts. There was a good supply of water in the rivers, and the cultivated area, both of irrigated and of unirrigated land, was considerably extended, amounting to 5 millions of acres of wet land, and to 19 millions in the case of dry land. The outturns of the crops are reported to have been fair on the whole, in respect both of dry and wet land. The rice crop varied from half the normal in the Chingleput district to an exceptionally good crop in South Canara. Millets generally yielded a crop below the normal.

Madras.

1901-02.

Agriculture in Berar suffered a check in 1896-97, when the rainfall was scanty and unseasonable; but the worst year of the decade was 1899-1900,

Berar.

AGRICULTURE.

when the rains completely failed, and the area under crops fell below $5\frac{1}{2}$ millions of acres, compared with $6\frac{2}{3}$ millions in 1891-92 and $6\frac{1}{4}$ millions in 1896-97. The two most important crops are millets, covering nearly 3 millions of acres in 1901-02, and cotton, covering $2\frac{2}{3}$ millions. The former crop entirely failed in 1899-1900, but it is to be noted, as showing the extraordinary reserves of food-grain in the province, that over 700,000 maunds (26,000 tons) of *jowar* were exported in that year to other parts of India where scarcity prevailed. The millet area has increased largely during the decade, both absolutely and relatively to other crops, as it formed more than 42 per cent. of the crop area in 1901-02, compared with 32 per cent. in 1891-92. The area of the cotton crop has fluctuated between 2 and $2\frac{2}{3}$ millions of acres. The assessed culturable land in occupation in 1901-02 was 8 millions of acres, against $7\frac{2}{3}$ millions in 1891-92. The season 1901-02 is described as a favourable one for both autumn and spring crops. Rats, however, appeared in great numbers everywhere, and proved very destructive to the spring crops, while locusts appeared in some places and caused some damage to autumn crops.

1901-02.

Burma.

There was extensive crop failure in 1896-97 in some of the districts of Upper Burma, which are entirely dependent on the rainfall. Since that year, however, there has been no succession of bad harvests. The acreage under crops in 1901-02 was $11\frac{2}{3}$ millions of acres, or 50 per cent. larger than the acreage in 1891-92. The supply of food-grains is therefore far in excess of the requirements of the province. In Lower Burma the season was on the whole favourable in 1901-02, and the quality of the rice crop was scarcely one per cent. below normal. In the upper portion of the province the rainfall was scanty, untimely, and badly distributed, and the rice crop was in many places below the average. Taking the province as a whole, the outturn is slightly above the normal, but if the usual increase in the cultivated area be taken into consideration the result appears less favourable. The estimated surplus of rice available for export is given as 2,120,000 tons of cargo rice, equivalent to 1,795,000 tons of cleaned rice. This is 10 per cent. higher than the average surplus of the previous five years.

1901-02.

Food supply.

The questions how far the food production of India is in excess of the requirements of the country, and what change there has been in this respect during the decade, do not admit of a decided answer, as they must depend upon computations from data based on general estimates. The Famine Commission of 1898 considered the question, and concluded that the annual surplus of food grains could not be greater than the surplus estimated by the Famine Commission which reported in the year 1880, viz., more than five million tons. "But," they added, "that a substantial surplus still exists in ordinary years there can, in our opinion, be no doubt. We think that the surplus produce of India, taken as a whole, still furnishes ample means of meeting the demands of any part of the country likely to suffer from famine at any one time, supposing such famine to be not greater in extent and duration than any hitherto experienced." The estimated surplus,

	Tons of Food Grains.
Punjab - - -	205,072
United Provinces - -	203,495
Bengal - - -	3,306,000
Central Provinces - -	535,000
Berar - - -	566,965
Bombay and Sind	1,107,000
Madras (excluding Zamindari tracts).	1,117,800
Burma - - -	2,498,700
Aesam - - -	-12,500
Other tracts - - -	6,595
Total - - -	9,534,127

as furnished to the Famine Commissioners by the Local Governments, is given in the margin. So far as Bengal is concerned, the figure is probably much too high. Measured by the exports of food grains, the Bengal surplus is about one million tons. The food supply of Burma is increasing in greater proportion than the population. Of Bombay it is said that if one-fifth of the cultivated area is devoted to non-food crops, the remainder is sufficient to furnish annually food for the population for 15 months, even without assistance from fish, flesh, or milk. Considerable exports of grain are made from the Madras presidency even in years of distress. The same has been noted above in connection with Berar. The

Central Provinces in 1893-94 exported grain to the net value of £1,657,400. In 1899-1900 there was a net import of grain valued at £521,000, and in 1900-01 the value of grain imported was more than that of the exports by

£1,478,000. The collapse of the wheat trade, added to general bad harvests, explains this complete change. In the United Provinces there was never any serious deficiency of food stocks during the ten years; but in three years out of the ten the imports of grain exceeded the exports. A later estimate than that of 1898 quoted above puts the amount of grain available for export from the province in a normal year at half a million tons. The figures given above as an estimate for the surplus of the Punjab are low, judged by the trade returns, which show a considerable export of grain. The wheat exports from the province amounted to 551,000 tons in 1891-92, and to 494,000 tons in 1898-99, and they did not entirely cease even in the years of greatest famine. These few facts, together with the particulars of India's exports and imports of grain, shown in the chapter on External Trade, may be held to indicate that the grain supply of India is amply sufficient for the maintenance of the population, though the amount of the supply, or of the surplus, cannot be stated with any accuracy.

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The following table shows the proportional variation of the retail prices of the chief agricultural staples since 1861 in the chief ports and in representative inland markets. The prices of the year 1873 are taken as = 100.

VARIATIONS IN RETAIL PRICES.

	Quinquennial Variations.							1896.	1897.	1898.	1899.	1900.	1901.
	1861 to 1865.	1866 to 1870.	1871 to 1875.	1876 to 1880.	1881 to 1885.	1886 to 1890.	1891 to 1895.						
PORTS OF EXPORT.													
Calcutta :													
Rice - - -	73	83	83	104	90	81	109	111	133	118	102	110	139
Wheat - - -	68	76	84	87	79	84	95	108	143	102	98	118	116
Bombay :													
Wheat - - -	119	138	102	143	107	116	114	98	176	153	151	192	174
Karachi :													
Wheat - - -	113	124	113	152	114	132	127	141	177	139	129	150	132
Madras :													
Rice - - -	—	104	111	188	106	119	146	142	155	170	127	130	183
Rangoon :													
Rice - - -	94	104	98	107	98	106	106	95	123	93	93	93	86
INLAND MARKETS.													
Cawnpore :													
Wheat - - -	79	110	84	99	82	99	106	143	167	110	112	143	135
Barley - - -	78	97	86	69	74	96	102	166	169	91	205	242	119
Jowar - - -	69	98	99	96	78	105	103	160	162	92	100	135	92
Beckerganj :													
Rice - - -	104	149	123	169	125	161	202	232	272	184	168	179	244
Delhi :													
Wheat - - -	93	118	93	112	96	117	117	161	192	132	130	168	143
Barley - - -	94	110	94	109	95	121	114	190	212	118	143	195	127
Jowar - - -	99	109	98	121	101	131	113	196	228	123	149	210	121
Rawalpindi :													
Wheat - - -	67	110	89	110	86	109	113	152	188	115	127	158	122
Barley - - -	67	100	94	122	78	97	101	161	189	96	119	162	109
Almoinagar :													
Wheat - - -	140	167	106	184	119	138	132	141	247	162	163	223	218
Jowar - - -	157	184	111	240	127	154	145	154	326	194	177	249	240
Jubbulpore :													
Wheat - - -	79	138	89	127	85	126	142	189	209	145	129	190	183
Jowar - - -	108	144	106	126	97	128	145	177	191	121	128	192	145
Rajpur :													
Rice - - -	115	199	111	182	125	210	223	220	406	248	218	354	328
Wheat - - -	106	182	96	155	128	191	249	207	463	210	227	424	370
Bellary :													
Rice - - -	125	148	92	133	99	99	125	126	156	142	117	156	147
Jowar - - -	142	157	67	176	74	84	107	91	208	122	118	207	175

AGRICUL-
TURE.

Space does not admit of a more detailed statement, which would show the prices ruling in previous famine years. These particulars are to be found in the volume of statistics entitled "Prices and Wages in India," published annually by the Government of India. The prices of recent years have been subject to such disturbance that it is difficult to say whether there has been any general tendency during the decade to a rise in prices independent of that caused by drought. Prices of some of the staple crops are to some extent governed by the gold prices ruling in the foreign markets to which they are exported, and this being so it might be expected that a rise in rupee prices would follow the fall in the gold value of the rupee. This tendency has, however, been checked by the currency action of the Government of India, and since the year 1895 the gold value of the rupee has risen again to its present permanent rate of 1s. 4d. It is generally held by authorities who have investigated the matter in the various provinces that there is at present no reason to conclude that any permanent change in the level of prices has occurred during the decade in most parts of India, though in Bengal it is not anticipated that prices will return to the rates prevailing twenty years ago. Whatever may be found to be the case in respect of this question when the markets have regained their normal state after good harvests, there is no doubt that purely local variations in food grain prices are much less than was formerly the case. On this important point it is worth while to quote the following remarks of the Famine Commission of 1898 :—

"It is clear that the very marked tendency to equalisation of prices throughout India is due to the great extension of railways and to the opening up of large tracts of country formerly provided with inadequate means of communication. On almost all railways in India the sanctioned rates for grain vary from one third to one tenth of a pie per maund per mile. . . . From the information before us as to the rates actually charged during the late famine, we infer that in future famines the rate for the carriage of grain by rail may be estimated at about $1\frac{1}{2}$ annas per maund per 100 miles for distances not exceeding 500 miles, at one anna per maund for distances exceeding 1,000 miles, and at about $1\frac{1}{2}$ annas for distances between 500 and 1,000 miles. In 1880, according to the Famine Commissioners, the charge for transport between the most distant parts of India connected by rail was about one anna per seer, and grain could be bought costing 24 seers per rupee in Northern India and sold with fair profit in Southern India at 8 seers the rupee. At the present time, grain would be carried 1,000 miles for a little over 10 annas per maund of 40 seers, and wheat selling in the Punjab at 12 seers the rupee could, if on the line of rail, be placed 1,000 miles off and sold at 10 seers the rupee."

IV.—LIVESTOCK.

There are no satisfactory data for a comparison of the numbers of the livestock at the beginning and end of the decade. But there is no question that the losses by famine have been enormous. Owing to the veneration in which the cow is held by Hindus there is, in ordinary times, a large number of old and useless animals which find a subsistence on the uncultivated lands. The drought which prevailed in 1899-1900 no doubt caused a great diminution in the numbers of these cattle, and the scarcity of fodder was so great that a very considerable proportion also of the plough bullocks and milch cattle was lost in several provinces. In the more favoured tracts the more valuable cattle were saved by the unremitting care of the owners. This was the case in Berar and in many districts of the Central Provinces. But in Gujarat and in the arid plains of the south-east Punjab, the renowned herds have almost disappeared. In the affected districts of the Punjab the loss of cattle was estimated to have varied between 17 and 45 per cent. of the whole. Rajputana is believed to have possessed between 13 and 14 millions of stock, of which more than half are said to have perished in the year 1900. In one State the losses amounted to 90 per cent., and in four others to over 70 per cent. In Gujarat it is believed that one half of the $1\frac{1}{2}$ million cattle died, in spite of the utmost efforts, both of the owners and of the Government, to procure fodder. In the Bombay Deccan the number of cattle lost was at least equally great, though their value was less. The loss of cattle in most districts of Berar is estimated at about half the total number.

The returns of livestock, ploughs, and carts for 1900-01 are summarised below. But there has been no general enumeration of cattle, and the figures

must be accepted with caution. The column relating to sheep and goats is specially untrustworthy.

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	Cattle, excluding young Stock.	Sheep and Goats.	Horses and Ponies.	Mules and Donkeys.	Ploughs.	Carts.
Upper Burma -	1,746,000	46,000	31,000	3,000	419,000	240,000
Lower Burma -	1,456,000	44,000	12,000	—	526,000	205,000
United Provinces						
—Agra -	14,593,000	4,943,000	434,000	263,000	3,163,000	486,000
United Provinces						
—Oudh -	6,300,000	2,050,000	181,000	50,000	1,464,000	101,000
Punjab -	10,693,000	9,902,000	313,000	612,000	2,230,000	243,000
Bombay and Sind -	5,549,000	4,349,000	164,000	135,000	1,181,000	508,000
Central Provinces -	5,823,000	904,000	88,000	17,000	1,017,000	414,000
Berar -	1,572,000	501,000	30,000	20,000	136,000	130,000
Madras -	10,672,000	13,416,000	40,000	120,000	2,750,000	524,000
British India, with the exception of Bengal, for most of which there are no figures available -	63,570,000	37,477,000	1,340,000	1,240,000	14,273,000	2,933,000

The year 1892 saw the organisation of a Civil Veterinary Department, consisting of officers transferred from the Military Department. This was primarily an expansion of the horse-breeding department, which had up to 1889 been under the control of the military authorities; and it had for its object the improvement of the indigenous breed of horses by the supply of better stallions and the elimination of inferior sires. It was hoped, by the provision of "district stallions" from provincial, local, or private sources, to raise the level of the lower strata of the horse supply of the country, and thus to secure a better class of mares, without which the importation of thoroughbred and other stallions by the Government would be of comparatively little use. Permission was therefore granted to local Governments to make loans to local bodies or landowners desirous of purchasing and maintaining stallions. The scheme included the registration of mares in the provinces suitable for horsebreeding, and the selection and branding of the better animals. Other matters to which the attention of the Department was to be directed were mule breeding, cattle disease, and veterinary instruction. The number of the superior officers of the Department was fixed at 18, from whom the superintendents of the provincial Veterinary Departments were to be taken, as well as the heads of the veterinary colleges. Subsequent additions have brought the strength of the Department up to 22 in 1901-02. The Imperial Bacteriological Laboratory at Poona, removed in 1895 to Muktesar in the United Provinces, was, and still is, under the control of Dr. Lingard, the Imperial Bacteriologist, who is not included in the above-given number. He has under him a member of the Department as Clinical Assistant; and another member of the Department, the Superintendent of the Bacteriological Survey, works in connection with him, besides conducting a survey of the diseases prevalent in India.

Civil Veterinary Department.

Horsebreeding is carried on chiefly in the Punjab, the United Provinces, and Baluchistan. The number of horse stallions kept by the Government of India in various provinces at the end of 1901-02 was 346, which is almost identical with the number kept at the beginning of the decade. In the earlier year Norfolk trotters held the first place in point of number, but they have lost favour for Indian purposes, and their place has been taken in recent years by additional English thoroughbreds and Arabs, and especially by Australians. The number of branded mares registered for horsebreeding purposes was 20,500, compared with 18,000 in the year 1892; but the number was considerably higher before the famines, during which the scarcity of fodder caused a severe check in horsebreeding operations. The number of mares covered by Government stallions showed a satisfactory increase in 1901-02, when it stood at 14,600, notwithstanding the effect of bad seasons, which still prevailed in some of the horsebreeding districts. The

Horse-breeding.

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TURE.

number of produce reported is given as 3,391; but there is little doubt that this does not represent the true result, as by no means all the foals are recorded. Country-bred remounts and young stock purchased by the Army Remount Department, the Native Cavalry, and the Police, amounted in 1901-02 to 1,433, a number which has been largely exceeded in some years of the decade.

In addition to these operations of the Department, about 1,300 mares are reported to have been covered in 1901-02 by stallions kept by native States; and there were 58 horse stallions and 141 pony stallions owned by district boards, almost all in the United Provinces and the Punjab, covering 10,400 mares. The register of mares in the United Provinces and the Punjab contains some 54,000 animals, and an enormous field is therefore opened up for the improvement of horsebreeding by the introduction of these district stallions.

Mule-
breeding.

For the supply of ordnance, baggage and transport mules, a large number of donkey stallions has been imported by the Government annually from various European and other sources. But the supply of suitable animals is not good, and their cost is large. It has therefore been decided recently to undertake the breeding of donkey stallions in India, and the Hissar farm is being utilised for this purpose, with good prospect of success. The number of Government donkey stallions at the end of the year 1901-02 was 478, and 24,100 pony mares and 1,800 donkey mares were served by them during the year. These figures show a great expansion of mule-breeding operations as compared with the beginning of the decade. District donkey stallions numbered 19.

Cattle-
breeding.

The important subject of the improvement of the breeds of cattle has received much attention in recent years, but the results as yet attained are small. The young stock which are turned loose in the name of religion to become Brahmani bulls are generally sorry animals, and the efforts of the Government are directed towards the supply of a better class of bulls in their place. There are admirable indigenous breeds in some tracts, such as Lower Burma, Salem in Madras, and Gujarat. It is reported that the Malwa cattle are most suitable for almost all purposes, and can scarcely be improved upon, nor can the Gujarati breeds for their particular country. On the other hand, the herds in the Deccan are classed as 'nondescript,' and this would apply to the cattle of many other parts of the country. A certain number—17 in the year 1901-02—of pure-bred bulls is supplied to district boards from the Hissar Cattle Farm, in order that they may be turned loose among the herds of the district. But these bulls are of one breed only, and cannot, therefore, meet the requirements of districts which do not contain this particular breed. The farm is maintained primarily for the supply of ordnance bullocks, and the supply of bulls for general use from that source is limited. The district authorities have, therefore, to obtain young indigenous bulls, and to rear them well until they are of an age to be turned out among the herds.

Cattle
disease.

Rinderpest, which was the most destructive of cattle diseases in India, has been robbed of much of its terror by the inoculation system devised by Professor Koch as a result of his visit to South Africa in 1897. The preventive serum is prepared at the Muktesar Laboratory, where a special course for the training of officers in serum therapeutics was instituted in 1901. An improved system has been arranged for the telegraphic reporting of outbreaks of the disease. In 1901-02 there were 44 reported outbreaks, and 19,859 cattle were inoculated. Of this large number only 161 died after inoculation. But the actual number of inoculations is no criterion of the total number of cattle saved, since by checking the outbreak the danger of its spreading to neighbouring herds is avoided. In the case of anthrax, inoculation was also practised with success. Three outbreaks occurred in the Punjab, and of 86 inoculated animals only one died, though 55 had died before the arrival of the veterinary officer. The head of the Department writes as follows:—

"We are now able to cope effectually with the two most prevalent and fatal diseases of Indian cattle, and I feel sure, as we increase our staff, improve our system, and gain the confidence of the people, that it will be the means of saving the country enormous sums of money annually."

Veterinary treatment of diseased cattle is supplied by dispensaries and by veterinary assistants visiting the villages. It was only in Burma that the organisation of qualified officers for this purpose was satisfactory during most of the decade ; but a subordinate establishment has been formed in the Punjab, and other provinces may be expected to follow suit. The number of veterinary dispensaries was 130 in 1901-02, including some itinerant establishments ; their operations have grown very largely, and they treated 4,750 in-patients and 125,500 out-patients in the year. The assistants also visited 30,700 villages and treated 157,000 cattle.

AGRICULTURE.

The arrangements for the supply of men trained in veterinary science for the subordinate ranks of the Department are working satisfactorily. There are five veterinary colleges, in Lahore, Rajputana (Ajmere), Bombay, Bengal, and Burma respectively. The courses of instruction have been raised and extended from two to three years. The total number of students who passed out with a qualification in 1901-02 was 95 ; but there was no examination at the Lahore College during the year. The number who have passed during the last three years is 253, of whom 202 are in Government service, 25 in the service of local committees, and six only in private practice. The public service has in the past absorbed practically all the qualified men turned out by the veterinary colleges ; but the number of those who annually leave the colleges shows that there is material for extension of the subordinate service of the Department.

Veterinary instruction.

CHAPTER XIII.

FORESTS.

FORESTS.

Systematic conservancy of the Indian forests received a great impetus from the passing of the Forest Law in 1878, which gave to the Government powers of dealing with private rights in the forests of which the chief proprietary right is vested in the State. The Famine Commission of 1878 urged the importance of forest conservancy as a safeguard for agriculture, pointing out that a supply of wood for fuel was necessary if the cattle manure was to be used to any extent for the fields, and also that forest growth served to retain the moisture in the subsoil. They also advised the protection and extension of communal rights of pasture, and the planting of the higher slopes with forest, with a view to the possible increase of the water supply. These recommendations embody the principle upon which the management of the State Forests is based. It was more expressly stated by the Government of India in 1894, in a circular letter issued after consideration of Dr. Voelcker's report on the improvement of Indian agriculture. "The sole object," they said, "with which State forests are administered is the public benefit." They proceeded to describe more particularly the classes of State forests and the manner in which this general principle was to be applied to each class. The classes were as follows:—

- (a.) Forests the preservation of which is essential on climatic or physical grounds.
- (b.) Forests which afford a supply of valuable timbers for commercial purposes.
- (c.) Minor forests.
- (d.) Pasture lands.

With regard to the first class, it was laid down that the special purposes of the forests, such as the protection of the plains from devastation by torrents, must come before any smaller interests. The second class includes tracts of teak, sal, or deodar timber and the like, where private or village rights of user are few. In these forests every reasonable facility is afforded to the people concerned for the full and easy satisfaction of their needs, which are generally for small timber for building or fuel, fodder and grazing for their cattle, and edible products for themselves; and considerations of forest income are subordinated to that satisfaction. Restrictions necessary for the proper conservancy of the forests are, however, imposed, and the system of shifting cultivation, which denudes a large area of forest growth in order to place a small area under crops, is held to cost more to the community than it is worth, and is only permitted, under due regulation, where forest tribes depend on it for their sustenance. In the third place, there are minor forests which produce inferior or smaller timber. These are managed mainly in the interests of the surrounding population, and supply grazing or fuel to them at moderate rates, higher charges being levied on consumers who are not inhabitants of the locality. The fourth class includes pastures and grazing grounds. In these, even more than in the third class, the Government of India directed that the interests of the local community should stand first.

The policy of these principles, and the extent to which they are carried out, was tested by the famines of the decade. In the Central Provinces the forest area is specially large, and the effect of the concessions granted was therefore particularly marked. With regard to edible products, such as fruits, seeds, gums, leaves and roots, the forests were, with slight exceptions, thrown open to the people in 1896-97 and again in 1900; and a special and excellent food supply was afforded in the latter year in some tracts by the free seeding of bamboos. As to grazing, the dues were partially or entirely foregone in 1896, 1897, and 1900 throughout the Central Provinces. The effect of these measures is summed up in the following remark, which is quoted from

the Provincial Report on the Famine of 1899-1900 :—“ The opening of the forests to the people is one of the most useful measures of relief in this province.” The experience of the United Provinces in the famines of 1896 and 1897 also showed the value of forest conservancy. The entire forests were thrown open for the free collection of edible products, and were largely frequented by the people for that purpose. All areas available for grazing were opened freely, wherever necessary, after the winter rains had established the grass crop. “ Thus,” it is reported, “ though the supply of dry and green fodder was defective and its price high, yet there was nowhere any complete failure, and in those distressed tracts where cattle were sold in large numbers they were usually sold in order to purchase food, and not because it had become impossible to support them.” Grazing concessions have also been granted in Bombay. During 1899-1900 a large quantity of grass was extracted by Government agency from the forests of the Central Provinces and sent to Bombay, where there was a severe fodder famine, while much also found its way into Berar through private agency. But it is not necessary to multiply instances to show how the conservancy of grazing lands and forests, though it may entail some restriction of the free user of the forests by the people, is ultimately for their greater advantage.

The forests with which this Chapter deals are exclusively those which belong to the State. The Forest law contemplates the conservation of private forests by Government officials, but this has only been begun to a small extent. Elsewhere the limited areas of private forest are being gradually exhausted. Communal forests have not been brought under conservancy, and the provision of the law as to the creation of village forests, managed in the same way as the reserves, has not had effect. The State forests, which are under the control of the Forest Department, amounted in the year 1901-02 to about 217,500 square miles. The following table shows the classification of the forests in the major provinces in accordance with the provisions of the Indian Forest Act of 1878. Particulars for the North West Frontier Province (about 750 square miles of forests), the Andamans (1,950 square miles), Baluchistan (200 square miles), and Ajmere (150 square miles) are not available.

Area of forests.

Province.	Forest Area in square miles.				Proportions of Forest area to whole area of Province.
	Reserved.	Protected.	Unclassed State.	Total.	
Bengal	5,964	3,582	4,033	13,579	8·9
United Provinces	4,053	30*	43	4,126	3·9
Punjab	2,431	4,888	2,262	9,581	9·9
Burma (including the Shan States)	18,606	—	89,220	107,826	66·4
Central Provinces	18,778	—	130	18,908	21·9
Assam	3,707	—	17,865	21,572	52·1
Coorg	505	127	—	632	39·9
Berar	3,954	—	—	3,954	22·3
Madras	17,154	—	2,412	19,566	13·8
Bombay	13,924	791	—	14,715	12·0
Total of above provinces	89,076	9,418	115,965	214,459	23·1

* There are also 9,368 square miles of “district protected forests” in the United Provinces, which are under the Forest Act, but are controlled by the district officers.

In the case of reserved areas, as the name implies, the control of the Forest Department is more complete than in the case of protected or unclassified forests. In the latter category, the figures of which are incomplete and more or less arbitrary, there are included large areas of uncultivated lands, especially in Burma, much of which will ultimately in all probability pass into cultivation as agricultural land. It is in the reserved forests alone that systematic conservancy can take full effect, and in Madras and Burma, where the forests are administered under local acts, only one class of forests, the Reserved, is recognised. The process of inclusion in the Reserves or Protected forests is as follows. The area selected is notified by the local Government, and an inquiry is thereupon made into all rights

FORESTS. and privileges exercised or claimed over it by village communities or by private individuals. In order to provide for the recognition of such difficulties, and to reconcile, as is often not an easy task, existing interests with the requirements of forest conservancy, the investigation is usually entrusted to one of the local Revenue Staff, who is in a position to hold the balance true. This "settlement" completed, the tract is made over to the Forest Department, who proceed to demarcate the boundaries and to prepare working plans, in more or less detail, on scientific principles, though with due regard to local requirements in respect of fuel and grazing.

Reserves. The variation in the area of the reserved forests in the chief provinces is shown in the following table:—

	1879-80.	1891-92.	1896-97.	1901-02.
	Square miles.	Square miles.	Square miles.	Square miles.
Bengal - - - - -	2,945	5,211	5,876	5,964
United Provinces* - - - - -	3,279	3,768	3,822	4,053
Punjab* - - - - -	795	1,715	1,681	2,431
Central Provinces - - - - -	2,535	19,680	19,258	18,778
Lower Burma - - - - -	1,612	5,615	7,250	9,471
Upper Burma - - - - -	—	1,059	6,808	9,135
Assam - - - - -	2,015	3,612	3,681	3,707
Coorg - - - - -	220	113	238	505
Berar - - - - -	1,388	1,256	4,179	3,954
Madras - - - - -	771	7,175	13,138	17,154
Bombay* - - - - -	7,904	10,318	12,986	13,924
Total of above provinces	23,464	59,522	78,917	89,076

* Including some forests leased by the Government.

In the Central Provinces practically the whole of the State forests have long been reserved. The province in which there is most room for expansion is Burma, where the process of reservation is advancing rapidly.

Timbers. A large part of the reserves consists of valuable timber forests, and it is not out of place in this connection to say something as to the distribution of the chief Indian timbers. The first place is held by the teak, which is found at its best in Burma, especially in the Upper Division, and on the south-west coast of India, in Kanara and Malabar. It is also the most prevalent and valuable product of the forests at the foot of the Ghats in Bombay, and along the Satpura and Vindhya ranges, as far as the middle of the Central Provinces. Here it meets the Sal, which, however, is more specially found in the sub-Himalayan tracts of the United Provinces, Bengal and Assam. In the Himalayas themselves the cedars and other conifers form the bulk of the timber, while in the lower ranges, such as the Khasi Hills in Assam, and those of Burma, various pines are prominent. In the north-east of Assam and in the north of Upper Burma the *Ficus elastica*, a species of india-rubber tree, prevails. The sandal-wood flourishes all along the southern portion of the Ghats, especially about Mysore and Coorg; and in the same regions, as well as in Upper India, the blackwood is found. A valuable tree, known as the Padouk, is at present restricted almost entirely to the Andaman Islands, with a scattering in Lower Burma. There are many other timber trees that are in general demand in different parts of India, but the above are the best known outside that country. There is also the universally-found bamboo, and in the north-western tracts the equally useful rattan.

Experiments are made from time to time with a view to acclimatise fresh varieties of useful trees in India. Among the most successful of these may be counted the establishment of a plantation of Para rubber (*Hevea brasiliensis*) at Mergui in Burma. Supplies of grafts of the Spanish chestnut have also been secured from Europe in recent years, and the results are awaited with interest. Other experiments, of which the results are as yet indefinite, are the rearing of mahogany trees in various parts of India, and of new sorts of pine trees. But the attention of the Department is more especially given to the utilisation of existing forest products,

by pushing their sale in the United Kingdom, and by extending their growth to all suitable places in India. A regular supply of padouk from the Andamans is now placed upon the English market through the agency of a London firm. Specimens of the Indian timbers can be seen at the Imperial Institute, and a representative collection of Indian forest products was exhibited by the Government of India at the Paris Exhibition of 1900. A new edition of Mr. J. S. Gamble's "Manual of Indian Timbers" has lately been issued under the auspices of the Government.

The Protected forests under the charge of the Department are comparatively few in number, and belong to Bengal, the Punjab, Bombay and Coorg; but an area of 9,363 square miles of forest and waste lands under the control of revenue officers in the United Provinces was brought under the operation of the forest law in 1893. In these areas the local Government has power to close a portion for a limited period, to reserve trees of a stated kind, and to prohibit or regulate the extraction of forest produce, including grazing. As regards the latter point, the State also regulates grazing facilities in the area of unclassified forests. But, as a fact, practically the whole of this area is open to grazing. The total area so thrown open in all the State forests in 1900-01 amounted to about 140,000 square miles, including the large area of unclassified forests in Burma, while, of the remainder some 30,000 square miles were closed only to browsing animals which destroy the young forest growth, namely, camels, goats and sheep. It is in the Central Provinces, Berar, Madras and Bombay that the number of animals supported by the State forests is greatest, and the following particulars show the variations in those provinces in some years of the decade, so far as they are recorded :—

	Number of Buffaloes, Cows, and Bullocks Grazing in the Forests.									
	1895-96.		1896-97.		1898-1900.		1900-01.		1901-02.	
	On Payment.	Free.	On Payment.	Free.	On Payment.	Free.	On Payment.	Free.	On Payment.	Free.
Central Provinces	1,670,000	124,000	1,634,000	421,000	1,452,000	618,000	1,577,000	325,000	1,266,000	18,000
Berar	827,000	84,000	846,000	88,000	1,705,000	104,000	394,000	140,000	510,000	318,000
Bombay	1,630,000	684,000	1,024,000	767,000	899,000*	887,000	679,000	626,000	739,526	364,516
Madras	Information not available.				1,441,000	20,000	1,429,000	30,000	1,467,000	30,000

* Bombay figures for 1899-1900 not complete.

The administration of the forests is conducted partly through a staff consisting of trained officers recruited in England, and partly through an executive establishment provided locally. The arrangements in Madras and Bombay are to some extent detached from those immediately under the Government of India, but the general working throughout the country is supervised by an Inspector-General attached to that Government. The superior staff consists of officers in charge of "circles," known as Conservators, with their deputies and assistants. It was decided in 1893 that of these appointments, numbering 210, twenty per cent. should eventually be filled by selected officers, chiefly natives of India, from the subordinate or provincial branch of the Department. For the rest, they are filled by officers who have received a training in the forests of Germany or France, or who have been through the forest course instituted in 1885 at Cooper's Hill College. Of the subordinate staff, a considerable proportion have passed through the Forest School at Dehra Dun, which has supplied no less than 337 trained recruits to the Forest Department between 1900 and its institution as a forest school in 1881. The College of Science at Poona also trains some students in forestry; and a Forest School was opened in Burma in 1899. The subordinate agency differs, necessarily, in both number and duties according to the nature of the forest tract. Where, as in the Bombay Presidency, the forests are to a large extent patches in the midst of cultivation, a numerous establishment has to be employed. Where, on the other hand, the forest consists of large and continuous stretches of uninhabited jungle, protection is a task of comparative ease. It is obvious, therefore, that in the former the class of men required is more difficult to obtain and

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management.

to supervise than in the latter, where the friction with the outside public is reduced to a minimum.

Space will not admit of a detailed examination of the forest management in each province, and the treatment of this subject must be limited to a few general remarks. Regular working plans have been completed for areas amounting in the aggregate to about 20,000 square miles, and their preparation is being pushed on everywhere. In their absence the forests are worked on provisional plans. The above figure is to be compared, not with the total of the forests, but with the area of the reserves, which alone require these systematic plans. But there still remains much to be done in this matter. Even where working plans are in force it is not always possible to work up to them, when the demand for timber or fuel is checked by famine or other causes, as was the case in some instances during the decade.

An important branch of forest work consists in the protection of the forests from damage at the hands of the people or by forest fires. The following table for two years may be taken as representing the usual course of operations with regard to the detection and punishment of arson, theft, and encroachment in the forests :—

	Number of Cases disposed of by the Courts.		Number of Cases Compounded.		Total.		Proportion of Convictions to the Total Number of Cases decided by the Courts.	
	1899-00.	1901-02.	1899-00.	1901-02.	1899-00.	1901-02.	1899-00.	1901-02.
Bengal - -	343	240	1,946	2,293	2,289	2,533	87·7	87·1
United Provinces	159	129	483	613	642	742	82·4	85·3
Punjab - -	1,335	1,171	2,564	2,628	3,899	3,799	83·5	82·1
Burma - -	663	586	1,485	1,591	2,148	2,177	76·0	79·5
Central Provinces	257	205	3,597	3,740	3,854	3,945	78·2	75·6
Assam - -	109	99	246	227	355	326	82·6	82·8
Coung - -	28	8	59	60	87	68	67·8	75·0
Berar - -	142	104	960	818	1,102	922	76·8	84·6
Madras - -	5,295	7,080	11,654	13,827	16,949	20,907	87·3	90·1
Bombay - -	1,802	1,462	7,932	7,827	9,734	9,289	82·8	95·2
Total of above provinces - }	10,569	11,084	31,603	33,624	42,172	44,708	85·0	88·0

A large proportion of the offences are trivial matters which are compounded without going into court. Of the offences brought to trial, the number in which convictions are obtained shows that the law is not administered in a vexatious spirit. This applies equally to Madras, in which the number of offences returned is exceptionally large; most of them come under the heads of unauthorised felling or grazing, and their frequency is largely due to the nature of the reserves. There is comparatively little high forest in Madras, but there are many blocks of scrub-jungle and grass which lie interspersed amongst occupied villages. The conservation and improvement of these areas with the object of providing pasture, small timber, and fuel and leaves for manure or litter, is of the greatest importance to the welfare of the surrounding villages.

For the protection of the forests from fire, besides the enforcement of the law dealing with this matter, special measures are taken in large areas of the forests, amounting to about 33,000 square miles. These consist chiefly in clearing and maintaining fire lines, and the employment of watchers to check fires and to prevent the ingress of persons who might cause fire by carelessness or for their own purposes. The origin of forest fires is frequently difficult to trace, but, putting aside accident and carelessness, a common cause is the intentional firing of undergrowth either in or near the forest, with a view of improving the growth of the grass or for some similar object. The extent to which the forests are in danger of fire varies according to the dryness of the season and the amount of undergrowth. The burnt area was only 4·9 per cent. in the case of forests over which full protection was attempted in 1896-97; in other years the proportion has been larger:

9·3 per cent. in 1897-98, 8·6 per cent. in 1898-99, and 5 per cent. in 1900-01. There are still large areas of the reserves in which fire protection has not yet been established, though progress is made in this direction every year. FORESTS.

Reproduction and silviculture also form an important branch of the operations of the Department. There were 53,830 acres of regular plantations of all kinds in 1901, and besides these the *taungyas*, or parts of the forests cleared by settlers for cultivation, are to a large extent planted with young trees of valuable kinds; the area of *taungyas* given under the heading of plantations being 48,625 acres in 1901. This is almost confined to Burma, though there are small areas in Coorg and Assam.

The annual timber yield of the Indian forests is about fifty millions of cubic feet, excluding the amount taken by free grantees or used for purely local purposes. About half of this quantity comes from the forests of Burma, where large amounts of teak and other woods are annually extracted, chiefly through the agency of private firms. It is, however, only the more valuable of the woods, such as teak, sandal-wood, ebony and the like, which find a market abroad. The value of these and other exports of forest produce is shown below:— Exports of forest produce.

	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
	£	£	£	£	£
Teak - - - - -	636,435	636,535	607,885	579,433	476,924
Sandal-wood, ebony, and other ornamental woods.	39,129	41,313	66,615	71,825	56,351
Caoutchouc - - - - -	56,319	82,241	105,382	103,189	40,280
Lac - - - - -	713,947	580,930	757,773	710,265	545,508
Cutch and gambier - - - - -	124,990	85,514	164,709	126,098	80,598
Myrabolams - - - - -	172,632	213,648	235,447	211,212	237,577
Cardamoms - - - - -	16,244	22,421	21,850	12,450	15,033
TOTAL value - - - - -	1,759,696	1,662,615	1,959,662	1,814,473	1,452,271

The following table shows the forest receipts and expenditure for the year 1901-02, taken from the accounts of the Government of India:— Forest finance.

	India, General.	Bengal.	United Provinces.	Punjab and N.W. Frontier Provinces.	Burma.	Central Provinces.	Assam.	Madras.	Bombay.	TOTAL.
REVENUE.	£	£	£	£	£	£	£	£	£	£
From timber, &c. - - - - -	18,378	42,037	73,178	46,716	327,113	11,818	20,561	32,158	20,597	682,438
Firewood and charcoal - - - - -	3,964	20,039	13,813	30,322	8,520	1,714	507	40,034	33,839	162,172
Bamboos - - - - -	58	4,373	7,738	1,780	12,327	401	708	12,103	3,207	42,806
Grass, fodder, &c. - - - - -	371	1,707	8,553	13,098	199	8,400	1,391	39,573	21,263	94,712
Miscellaneous produce - - - - -	7,055	12,447	4,961	1,041	6,903	4,766	1,841	24,737	6,452	62,622
Other receipts - - - - -	1,056	4,563	5,024	4,815	34,525	47,263	9,189	5,960	3,990	122,514
TOTAL Revenue* - - - - -	31,082	86,149	111,267	97,371	391,498	74,362	31,197	169,562	100,648	1,167,368
EXPENDITURE.										
General direction - - - - -	5,193	—	—	—	—	—	—	—	—	5,193
Conservancy and Works - - - - -	15,501	22,571	38,009	40,123	106,193	26,578	8,059	56,284	51,103	364,229
Establishments - - - - -	13,671	21,338	28,440	23,734	70,327	39,440	12,848	57,586	63,543	281,938
Charges in England - - - - -	—	—	—	—	—	—	—	—	—	4,291
TOTAL Expenditure - - - - -	34,365	43,909	67,349	63,856	176,430	65,016	21,947	113,870	114,646	708,801
Net Revenue or Forest Surplus, 1901-02 - - - - -	— 3,283	42,340	47,118	33,515	215,168	9,346	19,250	56,592	44,004	451,774
Net Revenue or Forest Surplus, 1891-92 - - - - -	3,741	24,339	51,951	25,361	167,312	37,118	4,600	24,322	20,301	481,027

FORESTS. From a comparison of the forest surplus at the beginning and the end of the decade it appears that the only province where there has been a decided increase is Burma, and that in most other British provinces there has been a fall, especially marked in Bombay and the Central Provinces, owing generally to famine conditions. In Berar, which is not included in the above table, the surplus was £18,300 in 1901-02, compared with £20,900 in 1891-92.

CHAPTER XIV.

INDUSTRIES.

Manufacturing industries are being slowly developed in India. Although it cannot yet be said that the process has materially affected the pressure on the land, it is satisfactory to note that during the ten years the number of hands employed in cotton mills in Bombay and in jute mills in Bengal increased by 57 per cent., and that there seems to be ample room for further growth. Further, the growth of the mill industries has not introduced a new factor to aid in the destruction of the indigenous industries of the country, since the Indian market was already being flooded with the cheap products of European mills and factories before the Indian manufacturer appeared upon the scene. On the other hand, the decay of the indigenous industries during the latter part of the last century cannot be regarded with unconcern. There are some of them which are concerned with the supply of ordinary village needs, such as those of the washerman, the blacksmith, or the potter, and these must always keep a certain position in the village life, though even they are not always free from the competition of machine-made goods. But there are besides these throughout India colonies of weavers, whether of silk, cotton, or carpets, of brass or silver workers, of wood or ivory carvers, and of other skilled craftsmen, whose work has attained a very high level of excellence. Unhappily many of these industries have fallen upon evil days, or even in the case of those which still maintain a considerable output, much of the original artistic excellence has been lost. Efforts have been made to foster the indigenous industries by means of the Schools of Art.

These schools, of which the most important are those established at Calcutta, Bombay, Madras, and Lahore, have as their purpose the encouragement of industrial arts. It is, in fact, a feature of Indian art that it is nearly always, in a sense, "industrial," since it is applied to industrial productions manufactured by the artist himself. And as the future of such indigenous industries as brass working, lacquering, silk embroidery, and the like depends on their maintaining a high standard of artistic excellence, the work of the Schools of Art is of much practical importance, apart from the æsthetic standpoint. At the conference which was held at Lahore in 1894, the question whether the State should continue to support these schools was examined in this light, and was answered in the affirmative. It was found that the pupils of the schools did good work, not only as teachers of drawing in technical and other schools or as Government servants in posts requiring a knowledge of that art, but also as craftsmen if they returned to their homes on completion of their course. The Secretary of State in 1896 accepted this view, and laid down the principles on which they should be conducted. The scheme includes the teaching of drawing, and also practical instruction, illustrated by choice examples in the art of the woodcarver, the enameller, the embroiderer, and the artist in metals, applied to the native industries which are susceptible of decorative treatment. But subject to this general direction the provincial governments are left to work out in detail the methods most adapted to the artistic development of the local industries. In Madras, part of the work of the school has been devoted to the development of the aluminium industry. The pottery department has been closed as unnecessary, and a weaving department has been opened. The number of the pupils fell from 491 in 1900-01 to 321 in the following year, owing, it is said, to the enhanced fees for the drawing class. The Calcutta School of Art is conducted on different lines, the work being divided into two divisions, in the first of which are taught various branches of applied design, and in the second, drawing and painting. It is reported that passed students quickly find employment as drawing masters in high schools, and in lithographic work, or as draughtsmen. The Bombay school is said to have made great progress. Besides

INDUSTRIES. turning out a supply of drawing masters, and teaching the arts of painting and sculpture, it trains craftsmen in art workshops.

Indigenous industries. The series of monographs published by the provincial governments during recent years affords material for the study of some of the more important industries of each province. It is not possible, however, within the limits of the present work to describe their position otherwise than in merest outline.

Cotton weaving. The most important of these industries has always been the weaving of cotton cloths. Cotton is the staple article of clothing in Eastern countries, and Indian cotton and other piece goods used also to find a ready market in Europe before the English cotton manufacture had arisen. Now, however, far the larger part of the cotton goods used in India is manufactured in mills in that country or in England, and the handloom weaver's output is confined to the coarsest kind of cloth, or to certain special kinds of goods, such as the turbans and "saris" of Bombay, or the muslins of Arni, Cuddapah, and Madura in Madras, and of Dacca in Bengal. As regards the latter classes of fabrics the hope of the handloom industry, perhaps, lies in the production of goods of a kind which cannot profitably be made by a powerloom, such as those compounded in an intricate fashion of silk and cotton, or made in a very complicated pattern. The fact that after a long struggle with the products of the mills the handloom industry still survives may be held to show that it has vitality to preserve it yet for many years. But the methods of the handloom weavers are susceptible of much improvement, and it has been suggested in recent years that their output could be very largely increased by the use of a more modern form of loom. However this may be, there can be no question as to the decay in the industry throughout India in recent years, evidenced by the decline in the number of spinners and weavers shown in the Census reports of each province, as compared with that of 1891, coupled with the undoubted growth in the mill industry. There are among them a proportion of employers or comparatively well-to-do workers; but the poorer weavers suffered very considerably from the famines of the decade, owing to the high prices of food grains and the inability of the villagers, their best customers, to purchase their cloths; and the Government found it necessary to elaborate a scheme for giving them work at their looms.

Silk weaving. The silk industry in India has experienced many vicissitudes. Under the East India Company, large quantities of mulberry silk were produced, chiefly in Bengal, and exported to Europe; and Malda, Murshedabad and other places in that province have long been famous for their silk manufactures. Other kinds of silk are native to certain parts of India, such as those produced by the "castor oil" and the *muga* silkworms of Assam; but the chief of the "wild" silks is the *tussur* silk which is found nearly throughout India, the only important exception being Rajputana. Large quantities of comparatively coarse silk are made from silk so produced, for the use of natives. In Assam, silk is still the national dress, and forms the common costume of the women; but the men are relinquishing it as an article of daily wear in favour of cotton. The industry is almost entirely a home one, and the number of people figuring in the Assam census returns as dependent on it is very small. The amount of raw "wild" silk exported from India is unimportant, and has shown no great tendency to increase. Of the finer quality of silk, produced by the mulberry-feeding worms, there had been from early times a large production in Bengal. But some 15 years ago it became apparent that the industry was in a state of decline in most districts, and in the year 1886 a native official, Mr. N. G. Mukerjee, was appointed to inquire into the matter, and to find some means of freeing the worms from disease. This purpose has been effected by the employment of scientific methods of testing the "seed," and of rearing the worms, and by the year 1895 it was considered that the silk rearing industry of Bengal had been established on a firm basis. There was still, however, much to do in the direction of instructing the rearers in the proper principles, as formulated by M. Pasteur, and a committee was formed in 1898-99 with this purpose, and continued to do good work throughout the year 1901-02. In the Punjab, constant attempts to introduce, or to reintroduce, the cultivation of mulberry silkworms have ended in failure

owing to the prevalence of disease. But the most hopeful ground for silk cultivation is in Kashmir, where the industry is indigenous. In the year 1896 a consignment of silk was sent to London by the State authorities and sold at a satisfactory price. Sir Thomas Wardle reported that the silk was of as high a quality physically as any silk from any part of the world. Since that year every effort has been made by the Kashmir Durbar to revive and develop the industry of silkworm rearing, by the engagement of a practical sericulturist, and by the importation of sound "seed" from Europe, and a great impetus has been given to it. INDUSTRIES.

Regarding the manufacture of silk fabrics, something has already been said in dealing with the varieties of "wild" silk. But it remains to speak of the more important branch of the industry which is engaged in the working up of Bengal or imported silks. The most important seat of this industry is Bengal, but there are few parts of India where some silk fabrics are not woven. The silk weavers of India possess the very highest skill in their craft, and it is probable that under competent and energetic direction, with the assistance of capital, the industry could be revived and extended. The returns of the silk filatures and weaving mills do not show any great tendency to expansion.

The demand of the Indian population for woollen fabrics is very small in comparison with that for cotton, and although the manufacture of blankets is carried on in many parts of India the chief part of the indigenous woollen industry was originally concerned with shawls. It may be said, however, that the shawl industry, so far as concerns the elaborate and artistic products of Kashmir, is practically extinct. The carpet industry of Madras continues to be of importance, though the great English demand for cheap carpets is likely to impair the quality and the reputation of the outturn of Ellore or Masulipatam. The chief seat of the woollen industry is, however, in the Punjab, where a considerable number of weavers, thrown out of work by the decline of the shawl industry, are now employed in meeting the demand for Punjab carpets. This part of the subject, however, belongs more appropriately to the second division of Indian industries, viz., the mill industries, which, owing to the different considerations involved, will be dealt with separately. Shawl and carpet weaving.

The wood carvers, again, are a class who have gained a well-deserved reputation in Europe. Apart from the work of the carpenter, who necessarily exists in every village, or of the carriage maker, there is a large trade with Europe in small articles such as toys, boxes, bookcovers, and the like, carved with varying degrees of artistic skill in most parts of India, the material being generally Indian ebony in northern, and sandalwood in southern India, and teak in Burma and elsewhere. This industry is one of the most prosperous of the indigenous industries, and seems to have a future before it if the workmen are not spoilt by the tendency to follow European in place of the native designs. Wood carving.

From an artistic point of view the metal manufactures are, perhaps, the most important products of India. Economically, also, the brass and copper industry is very important. The household vessels of the Hindus are generally made of brass, though Mahomedans use copper and even, to some extent, glass or crockery. The Hindus prefer their brass vessels to be plain for ordinary purposes, as being more easily cleaned; but, apart from the purely domestic uses, the making of ornamental bowls and vases constitutes an important industry in all provinces. There is a tendency for the industry, which has always been to a large extent carried out by village artificers, to become more concentrated in the towns, a movement which must contribute to its better organization. At the same time, however, the village artificer, where he still exists, suffers by the competition of the towns. The material is now generally imported in the form of brass sheets, and the number of persons employed in beating the metal into sheets is therefore smaller. But the industry may be considered to be in a secure state compared with many of the other indigenous industries. The continuance of the internal demand for brass and copper ware is assured; and the skill of Brass and copper workers.

INDUSTRIES. the artificers is so great that with proper direction and energetic development a large expansion of exports to Europe is possible.

Mills and Factories.

The second and more modern branch of the Indian industries has been reserved for separate treatment because its circumstances and prospects are distinct from those of the indigenous industries already discussed. In the absence of a more precise classification, it may be described as manufacture carried on at mills and factories liable to inspection under the Indian Factory Act, namely, those which use mechanical power and give employment to twenty or more persons. The information available in respect of this branch of the industries is much more complete and detailed than is the case with indigenous industries. Particulars are collected and published yearly about the cotton, jute, woollen and paper mills, and about breweries; and tables are also compiled giving, with less completeness, an account of the other large industries. The total number of persons employed in "large industries" in the year 1901 was 380,600.

As the general Census report is not yet available, it is not possible to obtain on this basis any estimate of the extent to which industrial employment has progressed during the ten years. From returns of the inspectors under the Factory Act, which include a smaller number of factories than the tables mentioned above, and take no account of mines, it appears that in the year 1892 there were nearly 317,000 persons employed in 653 factories in British India, and that 13·7 per cent. of them were women, and 6 per cent. were children. In the year 1901 the number of factories was 1,260, that of employes 514,000; and the proportions of women and children were 14·7 and 5·7 per cent. respectively.

Cotton mills.

The history of the Indian cotton mills during the last ten years has been an eventful one. From the year 1892, when the high price of raw cotton seriously reduced the profits of the manufacturers, up to the end of the century, there were no two consecutive years in which they were working under normal conditions. The closure of the mints, in 1893, necessitating a readjustment of the exchange between India and the East, had a disturbing effect on trade, and the distress was accentuated by the overstocked condition of the Chinese market and by the war between China and Japan. Then came the cotton import duty discussions and the consequent legislation, of which an account has already been given in the section of Chapter XI. on Customs duties, where also are shown (on page-192) the receipts from the Excise duty on cotton. In 1896 the shadow of the famine was cast over the industry, and the outbreak of plague in Bombay city caused an exodus of the inhabitants which for the time almost stopped the working of the mills. Since then the industry has suffered an acute crisis, the culmination of which may be seen in the reduction of the output of yarn from 514 millions of pounds in 1899-1900 to 353 millions in 1900-01. It is not possible within the present limits to examine in detail the causes which contributed to this result. They are indicated, however, in the following extract from Mr. O'Connor's Review of the Trade of India in 1899-1900:—

"The truth is that many of the mills were established in the interests of the persons who financed them, their remuneration being a commission on each pound of yarn spun, without reference to its sale at a profit. The inducement to excessive production under such a system is manifest. A second reason for the present critical conditions lay in the exclusive attention given to China as a consuming market. The agents, who were paid their commission on the yarn spun, had no inducement to trouble themselves to seek out a market in the Indian towns and villages. It was much easier to ship the yarn to an agent in China and have done with it; if the yarn did not sell at a profit, so much the worse for the shareholders. With Japanese competition, and a constantly increasing supply from India, the prices of yarn have fallen while stocks have accumulated, and cannot rise until they have been materially reduced. At the same time the rise in the price of raw cotton in India has seriously affected the spinner, who had made no arrangements for purchasing before the rise began. A further reason lay in the attention given to the depreciation of the rupee as a source of profit. What could not be got out of the higgling of the market would, they thought, be obtained by the depreciation of the standard of value, and adherence to this idea stimulated speculation."

When it is remembered that the year 1900-01 was marked by a rise in the price of coal and a great restriction of the purchasing power of the Indian people, the fall in the production of yarn is hardly a matter for surprise. But in spite of all the adverse conditions which have hampered the growth of the industry, the returns of the eleven years give evidence of

great vitality, which augurs well for future progress. The following table includes some of the more important figures :—

Year.	Number of Cotton Mills.	Capital employed (so far as is known).	Daily Average of Hands employed.	Looms.	Spindles.	Yarn.		Piece Goods.			
						Total Output.	Exports by Sea.	Total Output.	Exports by Sea.		
		£				Millions of Lbs.	Millions of Lbs.	Millions of Yards.	Millions of Yards.		
1891-92	127	7,844,000	117,922	24,670	3,269,524	} Figures not available.	161.8	} Figures not available.	73.4		
1892-93	130	7,949,000	120,898	26,317	3,378,303		189.2		79.7		
1893-94	137	8,121,000	130,670	29,392	3,539,681		184.1		72.7		
1894-95	143	8,466,000	139,578	31,161	3,711,669		158.9		85.6		
1895-96	147	8,811,000	146,244	37,278	3,844,307		432.4		184.4	92.7	
1896-97	154	9,535,000	148,997	37,303	3,975,719		423.2		198.0	82.9	74.6
1897-98	163	9,911,000	148,436	36,946	4,210,756		462.6		199.9	91.3	62.8
1898-99	175	10,149,000	155,810	37,288	4,465,038		512.4		219.6	101.7	60.6
1899-1900	186	10,615,000	162,971	38,520	4,729,570		513.9		240.7	98.1	69.6
1900-01	190	11,170,000	166,039	40,542	4,932,602		353.0		118.1	98.7	69.3
1901-02	192	11,563,000	173,708	41,815	4,964,579	572.9	272.5	119.6	72.6		

The first point which calls for notice in this table is the steady increase in the number of mills and in the amount of the capital invested. It is especially significant that in the year 1900-01, when 16 of the mills were closed, and a large proportion of the others were only working half-time, more capital should have been invested in the industry. The capital is for the most part raised in India, and the amount of it shows an increase of nearly 48 per cent. in the ten years. It must be explained, however, that the figures given do not represent all the capital, and that if an estimate were added for the mills, seven in number, for which no return is made, the money invested in this industry might be stated as about £12,000,000. The fourth column of the statement shows that the number of hands, including women and children, employed at the mills has increased steadily during most of the ten years, but that a great advance is necessary before the employment in the cotton mills can offer any real solution of the agricultural problem. It may be estimated that the number of persons depending for their livelihood on this, the greatest Indian mill industry, is little more than 350,000, or about one in 660 of the population of British India. On the other hand, it is to be remembered that far the larger proportion of these is employed in the Bombay presidency; and it is also to be taken into account that the mill industry gives a stimulus to the growth of cotton, one of the most lucrative of the larger crops. The Indian cotton crop in a normal year is estimated at between 2 and 2½ millions of bales (400 lbs. each), and the amount consumed by the Indian mills is generally about half that figure. The numbers of looms and of spindles have increased by 69 and 52 per cent. respectively since the last year of the previous decennial period. Turning now to the output of yarn and piece goods, it is not possible to show, with any certainty, the growth throughout the decade, as statistics have only been collected since the legislation of 1894 and 1896. The table shows how great was the increase between 1895-96 and 1901-02 in the production of yarn, and there is no reason to doubt that the divergence between the total of the latter year and that of 1891-92 would be considerably greater. It was, however, in the years 1897-99 that the chief growth occurred, and the over production of those years was one of the causes of the crisis of 1900-01. The yarn exported goes almost entirely to China, and the conditions prevailing in that country have tended to turn the attention of the manufacturers to the home market. The proportion of the yarn consumed in India was 57 per cent. in most of the last seven years, so that the Indian consumption has grown *pari passu* with the exports to China. There has been a noteworthy tendency in recent years to increase the amount of high count yarns manufactured by the Indian mills from imported long staple cotton. It may be hoped that the glut of the coarser counts in the Chinese market will have had the good effect of adding this new branch to the Indian industry. The yarns spun in British Indian mills in 1901-02 included 475½ million lbs. of coarse yarn of or below the count of 20s, 83½ million lbs. from 20s up to 40s, and 914,000 lbs. of the fine counts above 40s. The production of these finer counts had risen in

INDUSTRIES. the exceptional year 1900-01 to 2½ million lbs. ; but otherwise the figure for 1901-02 is much the highest on record.

The output of piece goods has shown less variation than that of yarns, and the progress, save in the years 1898-99 and 1901-02, has been steady. The exports, however, have shown a downward tendency, and the amount of the Indian-made goods put on the Indian market increased both absolutely and relatively to the amount exported. The chief foreign markets for the Indian-made goods were three at the beginning of the decade, viz., the East Coast of Africa (Zanzibar and Mozambique), the Chinese Treaty Ports, and Aden. In the course of the last few years the amount taken by Zanzibar has shown no tendency to increase. It reached its maximum, 16 million yards, in 1896-97, and fell to 5½ millions in 1900-01. As, however, the imports of piece goods from most other countries into Zanzibar showed an equal or greater fall, the hold of India over this market does not appear to have been lost. It is otherwise with the Treaty Ports. The exports of Indian-made piece goods to those ports had varied between 8 and 18½ millions of yards in the first five years of the decade, but they fell to 1½ million yards in 1901-02. Without attributing too much importance to the latter figure, it seems to be clear that the Chinese market is being occupied to an increasing extent by piece goods made in China, largely from yarns imported from India. On the other hand, the exports to the Straits Settlements and Ceylon have grown steadily, and the Aden market has not deteriorated ; and these three, with the East African ports, are at present the most important channels of the export trade in Indian-made cotton piece goods.

Jute mills.

Unlike the cotton mill industry, the jute manufacturing industry of Bengal has little competition to meet. The amount of jute goods imported into India is negligible. Bengal has a practical monopoly of the cultivation of jute, the average yield of the crop being about 20 million cwt. The amount of raw jute exported may be said to be about half this quantity, and the remainder is used, chiefly in Bengal, either for the making of homespun cloth or bags, or in the jute mills. A large proportion of the jute manufactured in the mills is used in the country, or for the grain export trade, but there has been of recent years, a large expansion in the exports of jute goods, as such, especially in the form of cloth. The chief foreign markets are the United States, the United Kingdom, and Australia, in that order. The number of the mills was 35 in 1901-02, including a small mill at Cawnpore. The capital, so far as known, was £4,642,000 ; but two private mills are not included in that figure. The capital employed in 1891-92 was £2,674,000, and the increase has occurred in the rupee capital, the sterling capital invested (£1,741,000) being practically the same as in 1891-92. The number of employes had grown from 64,700 in 1891-92 to 113,900 ; the number of looms from 8,218 to 16,059, and that of spindles from 171,148 to 329,300. It may be said, therefore, that the growth of this industry has more than kept pace with that of the cotton industry on the other side of India. In the year 1900-01 the jute manufactures took precedence of cotton manufactures in the table of exports in point of value. The industry had the advantage, as compared with the Bombay mills, of an uneventful history during the past ten years. Only one question of any importance arose, namely, the proposal to close jute mills entirely on Sundays. Under the Indian Factory Act employment on Sundays is forbidden, except in the case of (1) industries of a special character excepted by notification of the Government ; (2) persons who have some other weekly holiday instead of Sunday ; (3) persons engaged in the examination or repair of machinery. In the jute mills it is the usual practice to clean the machinery on Sundays, and constant endeavours have been made by the European employes, who thus lose part of the Sunday holiday, to check the custom, either by legislation or by agreement among the millowners. The efforts have not, however, met with success, since an agreement was found to be impracticable, and it was not considered desirable, for the sake of this special industry, to alter the general factory law of India.

Other mills and factories.

Nothing illustrates better the present state of industrial development in India than the fact that after the cotton and jute industries, and apart from the indigenous industries, there was no one of the manufacturing industries, strictly so called, in which as many as 20,000 persons were employed during the year

1901. In the preparation of agricultural staples for the market, employment is found for larger numbers; indigo factories, for instance, employed about 173,000 workers; jute presses, 20,000; cotton ginning, cleaning and pressing mills about 52,000; mills for cleaning or husking rice, 13,000; timber mills, 8,000; coffee works, 5,000; oil mills, 4,000. But the number of persons employed in most of these processes is limited by the amount of the crops grown, and might even be diminished by the introduction of improved machinery. The progress of the mining industries will be shown in the next chapter. Of manufacturing industries, properly so called, which are capable of expansion apart from the increased productiveness of the soil, the most important, after the two noticed above, are the iron and brass foundries, employing 18,000 persons in the year 1901; tile factories, employing about 10,000 persons; printing presses employing about 13,000; lac factories employing about 5,000; silk filatures employing about 11,000, and silk mills about 3,000; paper mills employing about 5,000; and, from another point of view, the woollen mills and weaving establishments. Some of the industries have already received some treatment above, as they partake more of the nature of indigenous than of manufacturing industries. There is hope that the iron industry has a future in India; tile making and printing both give employment to many persons. But the only industries which require mention here as manufacturing industries on an important scale are woollen manufactures and paper making. The woollen mills have nearly doubled their production during the decade, and the capital invested in them was £297,000 in 1901, compared with £177,000 in 1891. But the number of the mills has fallen from six to four, the looms have increased by 11 per cent. only, and the spindles by 34 per cent. during the ten years, the numbers being 594 and 22,986 respectively in 1901, while the number of employes was only 16 per cent. more than in 1891 and about the same as in 1892. There seems to be little prospect of expansion in this industry, since the European mills are in a better position for manufacturing the classes of woollen goods chiefly consumed in India. The output of the mills is chiefly used for the army and the police. The paper mills were nine in number in 1901, as against eight in 1891. The capital of the seven mills, which are owned by companies, was £488,000, compared with £298,000 ten years before; the number of hands employed rose from 2,633 to 4,978, and the amount of paper produced rose from 26 million lbs. to 46½ million lbs. The Government of India obtains from these mills most of the foolscap, blotting paper, notepaper, and envelopes required for the use of public offices, but there is still an import of paper into India on Government account, valued at about £15,000 annually.

It is the general policy of the Indian Government to encourage the local purchase of India-made goods in preference to imported goods, so far as is consistent with real economy. In 1883 the rule was laid down that "it is most desirable to bear in mind the distinction between articles of European manufacture and articles produced or worked up in India from imported material. The former should not, save in exceptional cases, be purchased in the local market, while the latter should by preference be purchased locally, whenever the quality is sufficiently good and the price is not higher than the cost of laying down the imported article." No material variation in the rules has been made since 1883; but the inclusion of railway materials and other goods manufactured in India from imported iron and steel among the goods which are purchaseable in India, which was approved in 1891, has made a considerable change in the practice.

The area under tea, of which nine-tenths lies in Assam and northern Bengal, has expanded by 85 per cent. in the 16 years since 1885, and by rather less than 45 per cent. in the last 10 years. The production, however, according to the returns, has increased by 167 per cent. in the 16 years and by 54 per cent. in the 10 years. This great rise in the supply, unaccompanied by an equal expansion of the market for Indian tea, has involved the industry in great difficulties, to meet which it has been necessary to restrict the area under tea as far as possible, and to reduce the quantity of leaf taken from the plant, thus at the same time improving the quality of the tea. The reported total yield of the tea crop of 1901, which was about 191½ million

INDUSTRIES. pounds, shows a decrease of 6½ million pounds as compared with 1900. There had been an increase of 24½ and 15½ million pounds in 1899 and 1900 respectively. The average price of tea at the Calcutta sales, which has been much depressed in recent years showed a slight all-round improvement in 1901, owing to this restriction of the output.

Exports of tea in recent years are shown in the margin. A very large proportion of them (92 per cent. in 1901-02) goes to the United Kingdom, where China tea has been gradually ousted by tea from India and Ceylon. Australia, with nearly 5 per cent., stands next; all other countries together take only 3 per cent., though the distribution of the tea in small quantities is world wide. A proposal for a compulsory cess, to be paid by planters and used for pushing the sales of tea, was under consideration in 1902. The home Indian market has also received attention. India's consumption of tea is computed to have averaged about 8½ million pounds in each of the last five years, 5½ millions

	Exports of Tea (in thousands of lbs., 000 omitted).		
	1897-98.	1899-1900.	1901-02.
<i>By sea from British India :</i>			
To United Kingdom	137,656	154,161	159,014
" Australia	8,793	8,362	8,575
" Persia	1,464	1,954	2,531
" Asiatic Turkey	1,337	2,149	2,626
" Russia	639	467	1,625
" China	565	1,249	1,337
" United States	928	2,745	1,080
" Canada	594	1,933	1,059
" Other countries	1,426	2,018	1,837
<i>By sea from Travancore</i>	6	—	109
Total by sea	151,458	175,038	179,793
<i>By land (chiefly to Kashmir)</i>	886	2,125	2,801
Total exported	152,344	177,163	182,594

being Indian tea and the bulk of the remainder Chinese. It is therefore considered that there is much room for development in the home market.

The paid-up capital of the tea companies is stated at about £10,300,000, of which more than 87 per cent. belongs to companies registered in London. This does not, however, include the capital of individual owners, the amount of which is not known. The number of persons employed in the industry in 1901 is returned as 606,835 (permanently) and 90,946 (temporarily). The system of recruitment for Assam, and the terms on which coolies are induced to emigrate for work on the tea gardens, will be separately treated in a later chapter.

Indigo.

	Area under Indigo.	Value of Indigo exported.
	Acres.	£
1891-92	1,155,800	2,142,700
1892-93	1,273,300	2,760,800
1893-94	1,535,600	2,788,100
1894-95	1,706,000	3,163,900
1895-96	1,570,000	3,569,700
1896-97	1,584,000	2,913,800
1897-98	1,366,500	2,038,300
1898-99	1,013,600	1,980,300
1899-1900	1,046,400	1,795,000
1900-01	934,400	1,424,000
1901-02	803,700	1,234,800

The indigo planting industry has also suffered vicissitudes during the ten years, as is shown by the figures of area and of exported produce given in the margin. The competition of artificial indigo, resulting in a great fall in prices, has threatened the industry with extinction, and though experts have been engaged by the planters, with some financial assistance from the Bengal Government, with a view of improving the processes of cultivation and manufacture, the area under indigo has continued to decrease since 1897. A committee appointed in 1900 to inquire into the prospects of the cultivation of sugar on the indigo estates of Behar, reported favourably on the project, and advised as to the conditions under which it should be conducted.

Their views on the whole question are summarised in the following quotation from the report :—

"Without taking too pessimistic a view of the future of indigo, it is reasonable to anticipate that the competition of synthetic indigo will prevent any future increase in the price of vegetable indigo, that it will soonest and most injuriously affect the finest and most expensive indigo, which is that of Behar, and cause a further reduction in price which would hardly clear the planter in a good season, while a bad season would be ruinous to him. In the end, though we trust the end is a long way off, the competition of synthetic indigo may bring about the supersession of vegetable indigo as the competition of alizarine dyes ended in the supersession of madder. However this may be, it is obviously expedient that indigo planters should possess in sugar and other products resources which, if they are carefully and intelligently utilised, will enable them to contemplate the future of indigo with equanimity."

In the returns for 1901 the number of indigo factories is given as 898, most of these being small concerns in the United Provinces; and there were

also some 3,000 vats in Madras. The number of persons employed is given as 173,000. But it is not claimed that this is a complete record. All of them are private concerns, with the exception of four limited liability companies. INDUSTRIES.

The area of coffee cultivation in India is given in the special return for 1901 as 236,000 acres, of which 109,000 acres are in British India (Madras and Coorg) and the remainder in Mysore. It is probable, however, that these figures are untrustworthy. The agricultural returns show the area under coffee in British India as 133,000 acres. The statement of the yield is also imperfect, as returns for many of the plantations are not available. Such as they are, however, they show a decline in the industry during recent years; and this is borne out by the fall in the exports shown in the margin. Coffee.

Exports of Coffee.	
	Cwt.
1892-93	296,700
1893-94	278,700
1894-95	281,300
1895-96	290,900
1896-97	210,800
1897-98	225,000
1898-99	270,000
1899-1900	281,400
1900-01	216,400
1901-02	255,000

The over-supply of cheap Brazilian coffee in the consuming markets has in the last two years caused a heavy fall in prices, the average prices in London in 1900 and 1901 having been 47 shillings per cwt., compared with 101 shillings in 1894. The United Kingdom took 43 per cent. of the exports in 1901-02, France standing second with 37 per cent. A recent agreement with France has secured to Indian produce imported into that country the benefits of the minimum tariff, thus protecting the coffee industry from taxation in French ports on a scale which would have seriously hampered the trade. There is practically no local market for coffee in India. The number of persons employed in the industry in 1901 is returned as 37,760 (permanently) and 78,074 (temporarily). The number of coffee works in 1901 is returned as 19, all in Madras, employing 5,104 hands. They are nearly all private concerns, and the capital invested in the industry cannot be stated.

THE WORKING OF THE FACTORY ACT.

The regulation of labour in factories was considered in 1890 by a Commission appointed for that purpose, and the law was amended in accordance with their recommendations in 1891. The changes then introduced were briefly as follows:—The definition of a factory was extended to include establishments employing 50 hands, instead of 100 as before; and power was given to bring under the Act any establishment employing only 20 hands. The hours of employment for women were reduced to 11, with intervals amounting to 1½ hours. The minimum age for child labourers was raised from seven to nine years, and the maximum age from 12 to 14 years; the maximum length of employment per diem in the case of children was changed from nine to seven hours, and their employment at night time was forbidden. There are other provisions prohibiting Sunday labour, except in industries of a specified nature, prescribing intervals of rest for men as well as for women, and regulating the water supply, ventilation, cleanliness, and other sanitary matters. The Factory Act.

Inspection reports are annually submitted by the inspectors under the Act in each province. These reports were first prepared for the year 1892, when it was found that there were 653 factories, omitting Assam, employing 317,000 hands. Since that year there has been continued improvement in the sanitation and general conditions of the factories, the factory owners having shown every disposition to act on the orders and suggestions of the inspectors. In one respect the figures of 1901 are unfavourable, namely, in the increase in the number of accidents; but the fact that this has occurred chiefly in accidents of a minor character leads to the belief that increased accuracy in reporting accounts to some extent for the rise. There is a general consensus of opinion that the condition of the factory operatives is better than that of the corresponding classes in other employments.

INDUSTRIES. The usual summary of the statistics relating to the most recent year (1901) is given below.

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 from Sunday Stoppage.		Fatal.	Serious.	Minor.	Total.
Bengal	343	189,604	23,477	17,038	200,019	143	11	88	1	30	170	848	648
United Provinces	78	28,553	1,984	1,747	32,284	62	10	6	3	11	48	69	128
Punjab	166	15,973	2,074	916	18,963	93	41	13	3	7	16	93	115
North West Frontier Province.	1	9	12	—	21	1	—	—	—	—	—	—	—
Burma	171	24,824	493	80	25,397	166	1	4	4	4	91	68	158
Central Provinces	70	11,825	3,898	756	16,479	28	33	1	4	4	58	53	97
Madras	80	22,722	2,540	1,922	27,184	71	4	5	—	3	15	199	217
Bombay	373	129,908	25,860	6,701	172,469	255	114	4	3	23	61	1,675	1,684
Assam	9	1,007	421	103	1,531	9	—	—	—	—	—	—	—
Ajmere	1	508	47	8	563	1	—	—	—	—	—	1	1
Derar	174	7,180	5,035	192	12,407	79	95	—	5	5	4	19	28
TOTAL, 1901	1,345	402,013	75,863	32,463	514,339	916	309	120	22	92	442	2,422	2,956
TOTAL, 1900	1,207	372,817	68,610	27,739	468,966	827	284	86	8	62	425	1,648	2,142

CHAPTER XV.

MINERAL RESOURCES.

MINERAL RESOURCES.

In the development of Indian mineral resources the past ten years show a decided advance, although no new kinds of mineral wealth have been discovered, with the exception of the deposits of manganese ore on the east coast of Madras and in the Central Provinces, the development of which may be said to have been begun in 1893. Putting aside salt, the production of which is dealt with elsewhere, the chief mining resources of India at the present day, ranked according to the value of their production in 1901, are the gold mines, the coal mines, the petroleum oil fields, the ruby mines, the manganese deposits mentioned above, the mica mines in Bengal, and the tin ores and the jade of Burma. The outturn from these sources has increased in each case to an important extent, and especially in the most recent years of the decade. Other mineral products which exist in India in more or less workable quantities include copper ore, alum, gypsum and plumbago; but no very accurate information is available about these minor products.

Coal of varying quality is found over a very extensive area in India. It may be said, in fact, that with the exception of Bombay, Sind and Mysore there are hardly any provinces or important native States which are not known to contain it. In respect of the number of coal mines, Bengal, with 292 mines coming under the Mines Act, stands at the head of the provinces, and it also contains the largest of the mines, viz., the East India Railway Company's mines near Giridhi, which produced 561,000 tons in the year 1901. It was a year of great activity in the opening of new mines, under the stimulus of higher prices which followed on the temporary rise in price of English coal. Many of the Bengal mines are, however, very small. There are some important mines in Assam, and eight, including the three Government mines at Warora, in the Central Provinces. The Singareni mine, in the Nizam's dominions, with an output of 421,000 tons in 1901, is the second largest in India, and there is an important mine at Umaria, in the Rewah State in Central India. The growth of the coal industry deserves to be shown in some detail. The following table shows the production for each of the ten years by provinces:—

	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.
Burma - - -	Tons. 3,670	Tons. 9,338	Tons. 12,111	Tons. 17,239	Tons. 22,933	Tons. 11,472	Tons. 6,975	Tons. 8,103	Tons. 10,228	Tons. 12,466
Assam - - -	164,950	161,420	169,449	172,717	177,269	186,583	300,379	225,022	216,726	352,162
Bengal - - -	1,920,050	1,902,864	2,025,924	2,716,155	3,037,920	3,142,497	3,622,090	4,028,268	4,972,492	5,708,876
United Provinces - -	—	—	—	—	1,000	—	—	—	—	—
Rajputana (Bikanir) - -	—	—	—	—	—	—	511	4,349	9,250	12,094
Central India - - -	83,623	91,348	122,837	116,479	116,886	174,778	184,786	184,569	164,489	164,416
Punjab - - -	66,252	77,264	66,447	72,492	79,017	92,792	85,862	91,535	74,283	67,720
Baluchistan - - -	13,284	20,084	24,738	25,458	26,267	12,048	12,279	12,822	22,281	22,772
Central Provinces - -	122,006	126,118	140,495	122,776	141,165	131,299	149,706	156,576	172,542	191,516
Nizam's Territory - -	142,601	137,421	240,826	292,215	262,681	262,550	294,627	41,216	469,291	421,216
Madras - - -	61	502	1,227	1,737	—	—	—	—	—	—
TOTAL - - -	2,537,696	2,642,021	2,822,907	3,440,119	3,863,698	4,066,294	4,608,196	5,022,260	6,118,692	6,949,249

These figures look very small if compared with the 219 millions of tons produced in the United Kingdom in 1901; but the amount is sufficient to meet the whole present Indian demand for coal. The imports of coal, coke, and patent fuel amounted to 648,185 tons in 1892-93, but had fallen to 230,017 tons in 1901-02. On the other hand the exports of Indian coal and coke rose from 15,725 tons in 1892-93 to 524,678 tons in 1901-02. The net export in the latter year was therefore 294,661 tons. But the importance

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RESOURCES.

of the Indian coal production lies at present chiefly in the means which it provides for the development of Indian industries, especially in connection with the nascent iron and steel industry. The railways already use Indian coal almost exclusively, as less than one per cent. of the amount which they consumed in 1901-02 was drawn from abroad. It is principally in Bombay that non-Indian coal is used, and the Indian product has gained ground there of recent years, especially owing to the high prices which prevailed in Europe. The coal mines and quarries under the Mines Act, viz., those in British India which are not less than 20 feet in depth, gave employment to 85,361 persons in the year 1901. A paper on "The Coal Resources of India and their Development" was read before the Society of Arts in February 1902 by Professor Wyndham Dunstan, F.R.S., of the Imperial Institute, and has since been separately published.

Gold.

The production of gold in India is practically confined to the Kolar gold fields in Mysore. An uncertain but unimportant amount is annually procured by sand-washing in various tracts of Northern India and Burma; and there have been many attempts, including the great "boom" of 1880, to work mines in the Wynaad district of the Madras Presidency. Further, there are mines in the Hyderabad State from which a small amount of gold is produced. But the output of gold in Mysore in 1901 was 529,782 ozs., and this represents about 99 per cent. of the Indian yield for the year. Dr. F. H. Hatch, specially attached to the Indian Geological Survey for the purpose of investigating gold mining, has reported on the Kolar fields, and the following description is compressed from his report. Modern mining at Kolar dates from 1881, but there are extensive old workings showing that much gold had been extracted under native rule. There are several parallel veins in the gold field; but the only vein upon which paying mines have been developed is known as the Champion lode. On this lode are situated the Mysore, Champion Reef, Ooregum, Nundydroog, Tank Block, (Mysore West and Mysore Wynaad), Coromandel and Balaghat mines. On other lodes, known as the West Balaghat and Oriental lodes, are the "Gold Fields of Mysore," Nine Reef and Road Block.

—	1891.	1896.	1901.
	£	£	£
Mysore Mine -	261,500	425,600	642,000
Champion Reef -	—	302,500	603,400
Ooregum -	132,500	245,600	320,900
Nundydroog -	89,000	168,700	214,300
Balaghat -	20,300	10,200	80,100
Coromandel -	—	14,900	—
Others -	—	23,600	62,400

The amount of the gold won by these companies are shown in the margin in sterling. The mines are worked under leases from the Mysore Government, which secure to the State a royalty at the rate of 5 per cent. of the gold produced. In anticipation of the expiry of these leases negotiations have taken place between the mining companies and the Mysore State for their renewal,

and it is believed that a settlement has been arrived at satisfactory to both sides. The labour employed throughout the goldfields amounts to about 21,000 hands, of whom 96 per cent. are natives of India, chiefly drawn from the Madras presidency. The wages paid to miners and blasters range from 8 to 12 annas per diem, other labourers receiving lower rates. Dr. Hatch sums up this part of his report by saying that the condition of living in the Kolar gold fields compares favourably with that in most other mining centres. The same officer was employed in the Wynaad fields to investigate two disused mines with a view to deciding whether they could be profitably worked by modern improved processes. His report was conclusive against the scheme, and he added that "the present developments are in my opinion sufficient to justify a condemnation of the veins on which mines have been opened."

Iron.

The manufacture of iron and steel in India formed the subject of a report by Major R. H. Mahon, R.A., which was published in 1899 by the Government of India, and had a considerable circulation both in India and in Great Britain. The gist of the report was that after consideration of the coal and iron supply he considered feasible the establishment of ironworks on a large scale in India. The principal sources of ironstone are the Madras ores (chiefly at Salem), the Chanda ores in the Central Provinces, and the ores obtained at and near Raniganj in Bengal. The former are perhaps in point of quantity the most important in India. Frequent attempts were made during the past

century to work these ores, beginning in 1829, though without much success; and efforts have been renewed in recent years. Samples of the ores were submitted to careful analysis in the Scientific and Technical Department of the Imperial Institute, and the results were published in the Journal of the Iron and Steel Institute, Vol. I., of 1897. Further inquiries were also made by private and public agency, and the general result has been to establish both the quantity and the quality of the Salem ore, but as yet no decisive measures have been taken to utilise them by the establishment of a large industry. Of the other iron fields mentioned, the last, or Bengal, field contains the only ironworks of importance hitherto established. These works, situated at Barrakur, were first started about 1865. For some time, after the failure of two companies, the Government ran the business, at an annual loss; finally the present company was formed and, after considerable difficulties, and with the assistance of large standing orders from the Government and the East Indian Railway Company, appears to have entered upon a prosperous career. Not only has the production of pig-iron been increased, but a steel plant has been set up. In 1902 negotiations were in progress with regard to the starting of another enterprise, having as its object the development of the Chanda iron ores. A difficulty which has to be met is the inferior coking quality of the Central Provinces coal, including that of the Warora mine. Considering India as a whole there are undoubted possibilities of a considerable growth in the iron and steel industry; but large capital is essential for success, as any enterprise must be on a large scale. Mention may also be made of the manufacture of steel for projectiles and gun-carriages at the Government factory at Cossipore, which has been successfully carried on since the year 1891. At present the production of iron ore, according to the latest figures available, has grown from 33,000 tons in 1891 to 63,000 tons in 1900, of which 57,000 tons were produced in Bengal. The figures are not, however, of much value, since the output of iron ore includes that worked by the various local iron and brass foundries which are scattered throughout India. All these works are insignificant in size, and supply only local needs, and there are no trustworthy returns of the amount of iron ore which they use. Their number, including brass foundries, is given as 124 in the returns for 1900.

The great oilfields of the Indian Empire are in Burma, which province supplies 98 per cent. of the total output. Of the remainder nearly all comes from Assam. In both provinces the growth of the yield has been very great, and the output throughout India was in 1901 six times as great as it was in 1892. Here again, as in the case of coal, most of the development has occurred in quite recent years (*see table in margin*). But great as has been the increase in production, the growth of the Indian demand has been far larger. The imports of petroleum in 1870-71 were worth £40,000, the home production being insignificant; in 1880-81 the imports were valued at £360,000, and in 1890-91 at £1,575,000. By the year 1900-01 the value of the imports had risen to £2,304,000, and it stood at £2,558,000 in 1901-02, the number of gallons of oil imported being 99 millions. There is, therefore, room for great expansion in the oil-producing industry in India if Burma oil can continue to compete with the Russian product, which has already to a large extent displaced the dearer American oil in the Indian market. A regular service of steamers carrying oil in bulk from Rangoon to Calcutta was started in 1900. Very little Burma oil is exported to foreign countries, but paraffin wax manufactured in Burma figures in the export returns of 1901-02 to the amount of about 2,700 tons. The principal seats of the industry in Upper Burma are the Yenangyaung field in the Magwe district and the Yenangyat field in Pakokku, the former being the oldest and the most important. There is also an oil-bearing tract in Arakan, but its value is apparently small. The total area of the oil-bearing tract in Upper Burma, so far as has hitherto been ascertained, is 234 square miles, of which 88½ square miles are in the

	Burma.	Elsewhere.
	Gallons (in Thousands).	Gallons (in Thousands).
1892	8,475	5
1893	10,462	2
1894	11,234	219
1895	12,966	38
1896	14,804	236
1897	18,875	224
1898	18,424	549
1899	22,309	623
1900	36,974	756
1901	49,142	633

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- MINERAL RESOURCES.** Yenangyaung field, and 145½ square miles in Yenangyat. Concessions had been granted, at the end of 1901-02, over 78½ square miles of the area. The Burma Oil Company works a large part of these oilfields, including the wells belonging to the State, and it also takes at its refineries nearly the whole production of the wells owned by native workers. The Government obtains a revenue from petroleum royalties, leases, &c., which amounted to £52,000 in the fifteen months ending in June 1902. The rate of royalty is 3 annas per 40 gallons in Burma.
- Manganese ore.** Manganese ore is found in very large quantities on a tract on the Madras coast about midway between Calcutta and Madras. Exploitation of this ore has grown steadily, and the shipments from India in 1901-02 amounted to about 133,000 tons, valued at nearly £100,000. Most of the ore shipped goes to Great Britain. There are also valuable deposits of manganese in the Central Provinces, and Burma is believed to possess some of this mineral.
- Mica.** Mica has long been obtained in Bengal, chiefly in the Hazaribagh district, and there is a ruby-coloured variety which is held in great estimation. The mica lands are leased to the native miners at a fixed royalty of Rs. 50 per acre. In Madras also a mica industry has grown up during the decade. The mica outturn of India has grown, according to the returns, from 122 tons in 1891 to 1,138 tons in 1901. The export of mica (commercially known as talc) was 815 tons in 1901-02, valued at £70,000.
- Tin.** Tin is found in the Tavoy and Mergui districts of Lower Burma, and has for many years been worked in an unprogressive manner chiefly by Chinese labour. Attempts have been made to develop the industry, the latest being an agreement with a firm in 1899 by which 400 acres were leased for tin mining. The output, however, was only 70 tons in 1901, compared with 98 tons in 1894. Rules were made in 1900 governing the working of the tin deposits, and the royalty was fixed for the time at the low rate of Rs. 3 per picul (133½ lbs.) of tin smelted, subject to future increase if considered advisable. In the year 1900 attention was drawn to tin produced in one of the Southern Shan States, which was found to be of good quality; and it is hoped that the tin deposits are more extensive than has hitherto been known. There are some other mineral products which are known to exist, for the most part in unimportant quantities, such as copper ore in many tracts throughout India, and plumbago in Madras, of which it is not necessary to speak. Corundum is found in Southern India, and the possibility of using it for the manufacture of aluminium gave a considerable impetus to its production during the decade. With regard to aluminium, mention is made elsewhere of the action of the Madras School of Art in promoting the industry.
- Rubies.** In the class of gems and semi-precious stones the most important are the rubies and jade of Burma. The former are worked by the Ruby Mines Company or by licensed native miners under the Company. The value of the rubies found has increased rapidly, and the Company, which was for some time working unprofitably under the lease granted in 1896, has now, with the aid of favourable treatment from the Government, become more prosperous. The returns do not go further back than 1894, in which year the rubies found are valued at £450 only; in 1901 the Company produced 230,811 carats of gems, comprising 210,784 carats of rubies, 9,786 carats of sapphires, and 10,241 carats of spinels, with a total value of £104,500. Of the jade industry little need be said from a commercial point of view. The value of the jade exported was only £29,000 in 1901-02, but is usually rather higher. There is little prospect of expansion.
- Jade.**
- Mining rules.** Except in permanently settled estates, it is presumed throughout India that, in the absence of any distinct judicial precedent or proof of established usage, the State has a right to minerals. A new set of rules was promulgated in 1899 to regulate the issue of licenses for prospecting or mining in British India. Prospecting licenses are issuable by the local authority for a period of one year, renewable for two more years, on certain conditions; and the licensee has a right, subject to the provisions of the rules, on or before the expiry of his license, to the grant of a mining lease in the case of minerals or mineral oils, or to the first offer of a mining lease in the case of precious stones. Mining leases are granted by the local Government for periods not exceeding 30 years, and provide for the payment of dead rent, as well as of

royalty, at specified rates. The area over which a mining lease may extend varies in respect of different minerals. But there is a provision that the local Government may not, without the consent of the Government of India, grant to one lessee, or to those joint in interest with him, leases over areas exceeding an aggregate of 10 square miles. In addition to the dead rent, which is, except in the case of coal and iron, generally one rupee per acre, the royalty payable is fixed at one anna (penny) per ton of coal, 3 annas per 40 gallons of oil, $7\frac{1}{2}$ per cent. on the net profits in the case of gold or silver, $\frac{1}{2}$ anna per ton of ironstone, $2\frac{1}{2}$ per cent. on sale value in the case of other metals, and 30 per cent. on the net profits of each year in respect of precious stones. These rules apply only to British India.

MINERAL
RESOURCES.

Another administrative change of first-class importance has been the passing of a Mines Act after a lengthened discussion. By this Act for the first time legal power to inspect mines was taken; and three inspectors have since been appointed. Provision is made for the constitution of Mining Boards and Committees with various powers and duties in connection with the regulation of mines. Generally speaking, the Act is an enabling one, giving large rule-making powers. The matter round which most of the discussion centred was the employment of women and of children below 12 years of age; a question which differs very largely, in the conditions of Indian life, from the similar question in England. As the new Act stands, there is no limitation of their employment; but the Government has power to make rules prohibiting, restricting, or regulating it either below ground or on particular kinds of labour where such employment is attended by danger to the life, safety, or health of such women and children. The rules must be referred to the Mining Board for their opinion, and cannot be made without full previous publication.

Mines Act.

The first report of the Chief Inspector of Mines appointed under the Act relates to the year 1901. In that year the number of persons employed daily on an average in and about the mines and quarries of India was 142,491, of whom 93,231 (including 20,595 women and 2,461 children) worked underground in mines or inside quarries. Coal mining employed 95,300 persons in 1901, and gold mining 25,500, while the mica industry comes next with about 10,000, and manganese with 4,200. The report contains particulars of the mining operations of the year, including the output of minerals, and also details of accidents and death-rates. It is stated that the suggestions made by the Inspectors have been carried out with general readiness by the managers of mines in Bengal. Mining Boards had not been constituted, but in Bengal and Madras officers were appointed to decide appeals against the orders of the Inspectors. Definite orders were only issued in one case during the year. No prosecutions could have been instituted during the year, as the Act contained a clause prohibiting prosecutions during the first year of its operation.

CHAPTER XVI.

EXTERNAL TRADE.

SEABORNE FOREIGN TRADE.

EXTERNAL
TRADE.

The values of trade mentioned in this chapter are, although expressed under the denomination "£," really rupee values. As explained in the chapter on Finance, "£" is used throughout this Statement as equivalent to Rs. 15. For the last few years of the decade Rs. 15 have been equal to a pound sterling, but this was far from being the case in the earlier years, and it is therefore necessary to observe that, although the rupee figures of those earlier years are also expressed, for the purpose of comparison, in £=Rs. 15, the sterling value of the trade, if converted at the then existing exchange rates, would often differ considerably from the figures now shown under the symbol "£."

The trade of India with foreign countries is conducted partly by sea and partly across the land frontiers; but the frontier trade, though capable of much extension, is only a small fraction of the whole; and as, for reasons to be given hereafter, the figures cannot be stated with such accuracy as those of the seaborne trade, it is convenient to treat them separately. The totals of the seaborne foreign trade have varied as follows during the ten years:—

SEABORNE
FOREIGN
TRADE.

	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
ON PRIVATE ACCOUNT.										
Imports:	£	£	£	£	£	£	£	£	£	£
Merchandise	41,730,667	49,304,638	46,778,299	46,210,930	47,862,683	46,177,775	45,680,804	47,141,242	50,851,923	54,313,878
Gold	1,187,850	2,097,687	1,170,853	3,352,846	2,094,119	4,854,148	6,893,300	7,631,912	7,014,255	5,531,747
Silver	10,152,014	10,185,817	5,201,818	6,553,144	5,722,783	8,798,709	6,029,269	6,340,430	3,061,484	7,567,172
Total	53,070,530	61,588,142	53,150,963	55,116,920	55,679,585	59,870,632	58,603,373	61,113,584	61,927,662	67,412,798
Exports:										
Foreign merchandise re-exported.	2,060,193	2,954,650	3,371,809	2,145,011	2,689,091	2,500,781	2,347,444	2,194,994	2,129,021	2,173,211
Indian merchandises	67,062,803	68,010,410	69,171,723	73,030,418	68,587,107	62,674,067	73,900,186	70,456,797	69,440,332	80,808,378
Gold	2,062,981	1,670,169	4,486,916	1,608,878	1,468,780	1,681,822	1,657,784	1,338,798	2,870,590	2,244,319
Silver	1,856,848	1,012,969	951,762	1,152,636	1,617,167	3,174,391	3,381,023	3,061,230	2,115,380	3,397,292
Total	74,643,827	73,648,218	77,962,310	72,936,961	72,560,125	69,780,961	80,086,436	77,980,819	76,552,323	89,618,297
Total on Private account.	128,719,867	135,236,360	131,122,973	134,118,881	130,139,710	129,651,593	137,689,809	139,094,403	138,480,985	156,031,095
ON GOVERNMENT ACCOUNT.										
Imports:										
Stores	2,440,163	2,042,983	2,241,037	2,413,572	2,882,363	2,020,248	2,480,791	3,061,745	3,077,803	4,841,047
Treasure	—	24,000	14,800	6,000	6,140	30,221	7,771	10,115	6,408,709	635,304
Exports:										
Stores	39,652	37,186	66,853	47,732	46,532	63,072	82,168	71,423	333,024	286,941
Treasure	19,953	50,301	43,370	18,340	7,737	8,652	2,160	4,231	4,501,960	2,005,529
Total	2,499,770	2,154,470	2,367,060	2,485,644	2,952,772	2,022,798	2,570,726	3,147,514	13,221,556	7,768,821
Total Imports, Private and Government.	63,516,723	63,656,125	55,406,800	67,531,492	59,467,368	62,765,101	60,398,000	64,126,444	70,314,734	72,680,149
Total Exports, Private and Government.	76,702,827	73,738,708	78,093,233	79,163,033	72,614,394	69,854,265	80,140,764	78,028,478	81,297,307	90,910,767
Total Seaborne Trade	131,219,647	137,395,833	133,500,033	136,599,525	132,082,352	129,619,386	140,188,864	142,311,917	161,611,641	163,790,916
Net exports of merchandise.	26,286,786	19,644,625	23,589,837	27,538,638	18,677,814	15,900,497	27,132,131	22,519,228	17,882,531	24,108,602
Net imports of Treasure	6,700,691	9,874,012	903,434	6,072,117	5,431,378	8,921,913	6,989,461	8,678,199	6,899,376	6,086,984
Excess of Exports	20,186,307	10,080,593	22,686,403	21,466,521	13,146,436	7,009,184	20,142,670	13,841,029	10,983,155	18,021,618

There is always a surplus of exports over imports in the trade of India, but this table shows that, taking into account all transactions, its amount

has varied largely in the ten years. The variations are striking, even if the treasure transactions are left out of consideration. The net imports of Government stores have not varied sufficiently, with the exception of the year 1901-02, to affect seriously the balance of trade. It is proposed in this chapter to deal first and principally with the trade in merchandise on private account, passing then to a brief notice of treasure movements and of Government transactions.

EXTERNAL
TRADE.

A review of Indian trade, by the Director-General of the Statistical Department in India, is annually presented to Parliament, and it is unnecessary, therefore, to enter into great detail here. It will be seen from the table given above that the chief features of the decade are the high imports of 1893-94; the large exports of 1895-96; the disorganisation of trade by crop failures and plague in 1896-97 and 1897-98, resulting in a fall in the exports in those years; the effect of famine on the exports of 1900-01; and the great growth of trade in the last year of the decade. It also deserves attention that the re-export of imported merchandise has shown a steady decline. The fluctuations of trade in the last five years are shown in proportional form below. The total of imports and exports of private merchandise in 1895-96, the year before the famine, was almost exactly equal to the total of 1900-01. But the former year was an exceptional one, and a more useful comparison can be made with the average of the first five years of the decade.

Merchan-
dise.
Trade on
private
account.

	Average of five Years, 1892-95 to 1896-97.	1897-98.	1898-99.	1899- 1900.	1900-01.	1901-02.
Private imports of merchan- dise, less re-exports.	100	100·8	100	103·7	112·4	120·1
Private exports of Indian merchandise.	100	90·7	105·7	102·2	100·8	117·2

These figures show that the Indian consumption of imported goods, which was checked by the famine of 1897 and other causes, has experienced a great growth in the last three years of the decade. The exports of 1900-01 show the effect of the later famine, owing to the diminution of grain exports, and especially to the diversion to India of Burmese rice, which would under normal conditions be exported to foreign countries. The fluctuations can only be understood by means of an examination of the more important staples. As a preliminary, however, it is necessary to direct attention to the variations in exchange as influencing the stated value of imports and exports. The values of imports and exports are reckoned at the Indian ports, and they have always therefore been rupee values. But a large amount of the goods is bought or sold in gold-using markets, and the gold price given for such imports, and perhaps to a less degree the gold price received for exports, has in many cases remained comparatively constant while the exchange value of the rupee has gone up or down. As a result of this, the rupee values with which this chapter deals exhibit some fluctuations which do not correspond to changes in the quantity of goods imported or exported, or to ordinary price movements. But while it is well to bear in mind the varying value of the rupee, it is impossible to compute how great was its influence on the statistics of trade. It can only be said that up to the year 1894-95 the effect was generally to exaggerate the growth of trade, and after that year, as the exchange rate recovered, to depreciate it. The increase in the value of the trade in 1901-02 as compared with that of the preceding year is due to its greater volume, since prices ranged at a lower level in 1901 than in 1900. The economic question, whether the fall in exchange tended to depress or stimulate trade, need not be discussed here. But the particulars given on a later page seem to show that the trade with the silver using countries has kept up with the general advance in trade. The figures of trade with China bear practically the same proportion in 1901-02 as at the beginning of the decade, in spite of the circumstances which have adversely affected that market in some recent years.

EXTERNAL
TRADE.
Imports of
private
merchandise.

The following table shows the value of the merchandise imported on private account for each of the ten years under the more important headings:—

FIGURES IN THOUSANDS OF £ ; 000 BEING OMITTED.

Imports.	1892-3.	1893-4.	1894-5.	1895-6.	1896-7.	1897-8.	1898-9.	1899-00.	1900-1.	1901-2.
Cotton woven goods	15,295	12,512	19,882	15,190	17,616	15,268	16,459	18,001	18,231	20,165
Cotton yarns	1,789	2,073	1,901	1,981	2,217	2,829	1,701	1,633	1,559	1,765
Metals	3,420	4,097	3,452	4,393	3,638	4,120	3,453	3,121	4,288	4,599
Sugar	1,750	1,888	1,917	2,071	2,101	3,189	2,678	2,251	3,770	3,902
Mineral oils	1,794	2,184	1,416	1,978	2,059	2,436	2,163	2,120	2,906	2,558
Machinery and mill-work	1,573	1,679	1,628	2,158	2,340	1,907	2,039	1,695	1,505	2,004
Woolten manufactures	1,015	1,261	1,028	964	1,129	765	1,016	1,172	1,408	1,313
Provisions	1,241	1,189	1,051	1,198	1,025	1,137	1,021	1,125	1,317	1,323
Hardware and cutlery	812	920	888	989	1,084	977	953	1,060	1,228	1,188
Silk, raw and manufactured	1,878	2,125	1,543	1,958	1,495	1,213	1,439	1,137	1,788	1,530
Liquors	965	971	972	1,129	1,095	1,058	1,097	1,065	1,078	1,110
Apparel	923	1,052	957	1,063	1,011	816	920	976	1,026	1,129
Railway material	689	839	1,038	1,014	1,706	1,889	1,883	1,851	894	1,024
Chemicals, medicines, and dyes.	951	1,059	1,098	1,250	1,084	1,185	1,147	1,065	1,230	1,306

Imports of grain are generally small in comparison with the exports; but in view of the special interest of the subject, a table is appended showing the variations in recent years. The imports of rice from Burma into peninsular India are added at the foot of the table.

Imports of Grain and Pulses from	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Hongkong	5,000	64,000	6,000	114,000	386,000	184,000
Straits Settlements	29,000	622,000	17,000	129,000	62,000	94,000
Australia	7,000	16,000	3,000	276,000	412,000	204,000
Turkey in Europe	—	—	—	334,000	378,000	—
Turkey in Asia	397,000	189,000	23,000	406,000	427,000	68,000
United States	558,000	22,000	—	—	147,000	—
Other countries	72,000	159,000	10,000	251,000	543,000	17,000
Total foreign imports	1,068,000	1,072,000	59,000	1,510,000	1,955,000	567,000
Value - - £	370,000	407,000	21,000	485,000	639,000	194,000
Burma rice imported into peninsular India.	cwt. 6,600,000	12,243,000	5,921,000	13,542,000	21,600,000	14,629,000

Cotton yarn
and manu-
factures.

Cotton yarns and manufactures are imported almost exclusively from the United Kingdom. They constitute a large proportion of the total import trade, varying between 38 and 42 per cent. in the last five years. The amount of yarns imported has, however, recently declined in face of the competition of the Indian mills. India now produces in increasing quantity yarns of the medium counts, between 31 and 40, the amount of such yarns spun in Indian mills in 1901-02 having been more than half as large as the quantity imported. With regard to cotton piece goods, the increase shown in the table given above has occurred in the imports of bleached or coloured goods. Grey or unbleached goods have shown a downward tendency; the average import of these in each of the ten years 1889-99 was 1,216 millions of yards; but in the two most recent years only 1,192 millions and 1,187 millions respectively have been imported. As to the causes of this change, the Director-General of Statistics (Mr. O'Connor) makes the following remarks:—"This gradual shifting may be regarded as due to two causes. In the first place the increase in the weaving capacity of the Indian mills has steadily affected the demand for imported goods of similar classes. In the second place, there can be no doubt that fashion is veering towards the use of white and coloured garments where hitherto grey goods were almost exclusively used."

The most important items under the heading of metals are the imports of iron and steel. There is a decided tendency for steel to take the place of iron, but the amount of iron imported in 1901-02, namely 3,612,000 cwt., was still 1.4 per cent. in excess of the amount of steel. A large quantity of the imports of both metals takes the form of bars, coming principally from Belgium, which supplies iron and steel of inferior quality and cheaper than the goods exported from Great Britain. The figures given in the margin show the position in 1892-93 and in 1901-02 in respect of the iron and steel imports as a whole. Copper imports have often been said to be an index of the prosperity of the people, since the copper utensils of the household are the first articles to be dispensed with in the pinch of distress. The special conditions of the copper market in recent years have, however, interfered with the value of the test. The amount of copper imported during the ten years is shown in the margin, and it will be seen that, although the famine year 1899-1900 is marked by an exceptionally low import, the imports in each of the later years of the decade have been also checked, owing to the high price of copper. With the return of lower prices in 1901-02 the trade has begun to revive, and the imports during 1902 have been large. The above three metals constitute 95 per cent. of the imports of metals, and the other details do not require comment.

EXTERNAL TRADE.
Metals and hardware.

	Percentages of Value.			
	Iron.		Steel.	
	1892-93.	1901-02.	1892-93.	1901-02.
From United Kingdom	73	63	52	32
From Belgium	25	29	40	57
Other countries	2	8	8	11
	100	100	100	100

still 1.4 per cent. in excess of the amount of steel. A large quantity of the imports of both metals takes the form of bars, coming principally from Belgium, which supplies iron and steel of inferior quality and cheaper than the goods exported from Great Britain. The figures given in the margin show the position in 1892-93 and in 1901-02 in respect of the iron and steel imports as a whole.

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Imports of Copper.	
	Cwt.
1892-93	420,762
1893-94	591,109
1894-95	354,107
1895-96	471,824
1896-97	240,648
1897-98	322,348
1898-99	251,301
1899-1900	90,846
1900-01	169,971
1901-02	193,822

The hardware and cutlery trade also belongs now less exclusively to the United Kingdom than was the case in 1892-93, the percentage of British imports having fallen from 83 per cent. to less than 70 per cent. The very cheap goods made on the Continent for export to Asiatic and African markets find an easy outlet in the Indian bazaars.

The large imports of bounty-fed beet sugar into India, and the measures taken by the Government of India to countervail the unfair advantage which such sugar had in competing with the cane sugar grown in India, have already received notice in dealing with Customs legislation. The following figures show both the cause and the effect of the first of those measures; the additional duty, to countervail the "cartel" bounties, was only imposed after the close of the period under review, and its effects do not therefore appear in the table.

Imports from	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
Austria-Hungary.	Cwt. 115,514	Cwt. 945,745	Cwt. 1,063,737	Cwt. 777,821	Cwt. 1,321,310	Cwt. 2,257,928
Germany	758,806	1,203,309	413,971	60,526	401,980	577,139
Other countries.	12,272	57,010	48,583	34,168	69,300	101,129
Total beet sugar	886,592	2,206,064	1,526,291	872,515	1,792,590	2,936,196
Mauritius	1,438,851	1,406,047	1,793,607	1,417,115	2,085,156	1,759,203
Java	97,458	140,485	162,500	190,553	225,217	310,592
Other countries.	209,562	482,793	282,512	455,809	738,643	422,112
Total cane sugar	1,745,871	2,029,330	2,238,619	2,063,477	3,049,016	2,491,907

EXTERNAL
TRADE
Other
articles.

Imports of Petroleum in gallons.		
	1892-93.	1901-02.
From United States	18,201,557	5,768,226
From Russia - -	15,483,752	84,477,876
From other Coun- tries.	785,998	1,221,364
Total - -	64,471,307	91,467,466

Among other important features may be mentioned the growth in the imports of petroleum, which come now for the most part from Russia, to the exclusion of the dearer American oil. The figures are shown in the margin. There has been a large expenditure on railway materials in many years of the decade, which is only partially shown in the table of imports given above, since the Government imports generally an equal, or even larger, quantity of rolling stock, rails, &c., for the State railways, and there are also to be taken into account considerable purchases of iron in India.

In the last two years the increase in the mileage of railways constructed and maintained by the State has resulted in a fall in the imports of railway material on private account to £1,024,000; but the value of the Government imports in 1901-02 amounted to £2,367,000, and the total was about equal to that of recent years. A cognate branch of imports, under the heading "machinery and millwork," has shown considerable fluctuations, owing to the vicissitudes of the Bombay cotton mill industry. The rise in 1901-02 is partly due to the rapid expansion of the demand for electric machinery in Calcutta.

Exports of
private mer-
chandise.

Among exports of merchandise on private account the following articles take the most important place:—

FIGURES IN THOUSANDS OF £; 000 BEING OMITTED.

	1892-3.	1893-4.	1894-5.	1895-6.	1896-7.	1897-8.	1898-9.	1899-00.	1900-1.	1901-2.
Exports of Indian merchan- dise:—										
Oilseeds - - -	7,754	11,169	9,468	6,478	5,341	5,729	7,898	6,733	6,009	11,186
Raw cotton - - -	8,496	8,874	5,805	9,394	8,647	5,915	7,457	6,617	6,752	9,617
Rice and rice-flour - -	8,272	6,926	9,205	9,025	7,965	7,804	10,543	8,781	8,313	9,280
Raw jute - - -	5,296	5,633	7,651	6,662	7,034	6,763	4,627	5,381	7,245	7,865
Cotton yarns - - -	4,516	3,316	3,781	4,487	4,782	4,645	4,402	4,601	2,780	6,211
Jute yarn and manufac- tures.	2,159	2,294	2,807	3,165	3,476	3,954	3,866	4,176	5,243	5,807
Opium - - -	6,170	5,346	6,043	6,539	5,349	4,065	4,751	5,469	6,304	5,682
Hides and skins - - -	3,728	3,867	4,373	5,092	4,668	5,545	4,966	6,975	7,655	5,487
Tea - - -	4,195	4,391	5,037	5,110	5,416	5,372	5,363	6,061	6,367	5,433
Wheat - - -	4,960	3,463	1,710	2,609	557	894	6,480	2,606	20	2,175
Indigo - - -	2,761	2,788	3,164	3,570	2,914	2,038	1,980	1,705	1,424	1,235
Cotton piece goods - -	817	783	915	999	802	710	705	841	956	950
Coffee - - -	1,378	1,335	1,415	1,465	1,057	1,013	1,167	990	819	833
Re-exports of imported mer- chandise:—										
Cotton piece goods - -	1,114	1,060	1,373	1,165	882	847	828	708	753	867

Oilseeds.

Oilseeds, which head the list of exports in 1901-02, are liable to great fluctuations, dependent on the conditions of the season and the extent of the crop. In 1900-01 they held the seventh place in order of magnitude, and the amount exported was less than 54 per cent. of the 1901-02 figures. The question of demand hardly affects the dimensions of the trade, a good crop being always followed by an extensive import. The chief markets for the seeds are France, the United Kingdom, Germany, and Belgium. Linseed, rapeseed, and sesame or gingelly seeds are generally the most important items. In the year 1901-02 there was a considerable export of cotton seed, valued at £309,000; but it remains to be seen whether this development is a permanent one.

The exports of raw cotton have been much affected by the famines and the consequent rise in the price of food grains, which have caused a contraction of the area under cotton. But apart from these fluctuations, two notable tendencies are observable in the records, namely, a great falling off in the exports to the United Kingdom and a still greater increase in the amount of raw cotton taken by Japan. The check in the Japanese consumption in 1900-01 was due to the financial and commercial crisis in that country and the shortage of the Indian supply. Japan formerly took large quantities of yarn, but now buys the raw cotton and spins her own yarns. Next to Japan the largest quantity was taken by Germany in 1901-02 (754,000 cwt.).

EXTERNAL
TRADE.
Cotton
exports.

	Exports of Raw Cotton	
	To United Kingdom.	To Japan.
Average of 3 years	cwt.	cwt.
1888-89 to 1890-91	1,820,000	46,000
1891-92	710,000	401,000
1893-94	521,000	863,000
1895-96	644,000	856,000
1897-98	206,000	1,311,000
1899-1900	133,000	2,319,000
1900-01	381,000	634,000
1901-02	166,000	2,526,000

Remarks on the export trade in cotton yarns and piece goods will be found in the portion of this Statement which deals with the cotton mill industry.*

Exports of jute, both raw and manufactured, have been very large in the last two years of the decade. The fluctuations in the price of raw jute render this crop to some extent a speculative one; but as Bengal is practically the sole source of supply, and as there is a constant demand from the United Kingdom, the Continent, and the United States, and an increasing consumption in the Indian jute mills, the trade in jute may justly be considered to be one of the most flourishing branches of Indian commerce. In the year 1901-02 manufactured jute accounted for about 42 per cent. of the value of jute exports, compared with 21 per cent. in 1892-93, this increased proportion having been attained in spite of a large increase in the exports of raw jute, which were 10½ million cwt. in 1892-93 and 14¾ million cwt. in 1901-02. In the latter year about 42 per cent. of the raw jute exported went to the United Kingdom, and about 19 per cent. to Germany, the bulk of the remainder being taken by the United States or France. About half of the jute grown in Bengal is worked up within the province, either in the villages or in the mills. The jute mill industry has developed rapidly of recent years, as has been shown above.† The export figures given above do not take into account the value of the millions of jute bags, &c., which annually leave the ports of India containing grain or other produce.

In ordinary years an export trade in rice exceeding 35 million cwt. may be expected, but the trade is subject to disturbance when the seasons in India are bad. About two-thirds of the exports are shipped from Burma, whence also, even in ordinary years, a considerable quantity of rice is sent to Bengal and other parts of India. In famine years this internal traffic increases largely, as was shown above. The area under rice is far greater in Bengal than in Burma, but the produce is for the most part consumed locally. Rather less than half of the exports of rice from India to foreign countries goes to Europe, and most of the remainder is consumed by Indians and Chinese in Asia, Africa, and America. As regards the supply, the rice trade is in a more secure position than the trade in wheat; but prices are to a considerable extent influenced by the competition of rice from Japan, Siam, and Cochin China, and of other substances which can be used in place of rice for distillation or for the manufacture of starch. A duty is levied on Burma rice exports at the rate of 3 annas per maund, which is about equal to, or rather less than, the export duty borne by the inferior rice of French Indo-China.

No article of the Indian export trade has experienced greater vicissitudes than wheat. The trade may be said to have taken its full development in 1881-82, when the value of wheat exported amounted to £5,746,000. This figure was scarcely surpassed in any year until the exceptional year 1891-92, when the value of the exports was £9,587,000. The average of this and the preceding nine years was £5,194,000, while for the ten years ending in

* Page 230.

† Page 230.

EXTERNAL
TRADE.

1901-02 the value of the exports averaged only £2,548,000. The influence of famine on the area and yield of the wheat crops was of course the main factor. The bulk of the wheat produced is consumed in India, and the exportable surplus is apt to be very small in unfavourable seasons. Other factors determining the amount of the wheat exports are the exchange value of the rupee and the state of the world's wheat market. It is often alleged that a falling exchange benefited the Indian export trade, but it is to be remarked that the average total exports of 1883-87 were very much larger than those of the four years 1887-91, although exchange fell rapidly after 1887. The wheat exports are controlled to a very large extent by the price of wheat in Europe, which is dependent on the harvests of the great wheat exporting countries. Most of the Indian wheat goes to the United Kingdom, which took 54 per cent. of the total in 1901-02 compared with 50 per cent. in 1892-93. Besides this, about 23 per cent. went to Egypt in 1901-02, for transhipment to various European ports, and nearly 17 per cent. went to Belgium.

Tea.

The great expansion of the Indian tea industry, the difficulties in which it has been involved, and the attempts which are being made to find new markets or to check overproduction, have been noted in the portion of this Statement devoted to agricultural industries.* The table of exports given above shows that the amount exported in 1901-02 was little above the level of the three years 1896-99, and considerably lower than that of the two years 1899-1900 and 1900-01. The United Kingdom takes, each year, chiefly for home consumption, between 88 and 90 per cent. of the Indian tea exports, and this tea formed in 1902 nearly 54 per cent. of the British imports of tea, compared with 36 per cent. from Ceylon and 6 per cent. from China.

Indigo.

The indigo industry also receives separate treatment elsewhere,† and it is only necessary here to call attention to the continuous decline in the exports since the year 1895-96.

Hides and
skins.

Exports of hides and skins have been exceptionally large in many years of the decade, owing to the large cattle mortality during the famines. In 1896-97 many European countries prohibited the import of hides and skins from India, with a view to preventing the introduction of plague into their ports. This prohibition was withdrawn in the following year. In the two years 1899-1900 and 1900-01 the abundant supply of these commodities in India, due to the famine, coincided with an exceptionally active demand, and the exports were the largest on record.

Trade with
countries.

The value of India's trade (imports and exports combined) in merchandise on private account with some of the chief countries, and the proportion assignable to each country, are shown in the marginal table. It is to be noted that the proportions attributed to some European countries might need

	Volume of Trade in 1901-02.	Proportion borne by each Country in		
		1891-92.	1896-97.	1901-02.
	£			
United Kingdom	55,772,000	47.4	47.2	40.6
Germany	8,810,000	3.8	5.6	6.4
France	6,848,000	5.9	4.1	5.0
Belgium	5,161,000	3.9	3.1	3.8
Austria-Hungary	4,216,000	1.7	2.3	3.1
Italy	2,610,000	2.0	2.0	1.9
Russia	2,266,000	.8	1.4	1.7
United States	6,379,000	2.9	3.6	4.6
China	12,986,000	9.6	9.1	9.5
Straits Settlements	5,997,000	4.4	4.1	4.4
Ceylon	8,663,000	2.1	2.2	2.7
Japan	5,118,000	.8	2.6	3.7

revision if the destinations of the exports to Egypt were known. These exports are considerable, as is shown in a later table. But taking the figures of the present table as they stand, the trade with all European countries constituted in 1901-02 about 63½ per cent. of the total. There is a marked decline in that year in the proportion belonging to the United Kingdom, owing chiefly to the diversion of Indian exports to European countries direct instead of through England.

Great Britain has still, however, a great preponderance in the trade. China has practically the same proportion in 1901-02 as she had in 1891-92. France has sunk from the third to the fourth place, Germany now standing third instead of sixth; the United States has risen from seventh to fifth, but the greatest proportional growth is shown in the trade with Japan, which country

now stands eighth in respect of her volume of trade with India, chiefly owing to larger purchases of raw cotton. The German and Austro-Hungarian proportions have increased largely, on account of the growth in the imports of bounty-fed sugar into India. Russia shows an advance, which is due to the larger supplies of petroleum imported from that country. It must be borne in mind that Ceylon and the Straits Settlements are to a large extent entrepôts for trade with other countries.

EXTERNAL
TRADE.

The following table shows the variations in the values of the direct trade with the countries which figure most largely in the Indian returns. For the purpose of continuity with the table given on page 325 of the last Decennial number of this Statement, comparison has been made with the figures of 1881-82, which are taken as = 100, except in two instances noted at the foot. Treasure and Government stores are not taken into account.

	Imports of Merchandise into India.						Exports of Merchandise from India, including re-exports.						Actual Figures, 1901-2.	
	1892-3.	1894-5.	1896-7.	1897-8.	1899-1900.	1901-2.	1892-3.	1894-5.	1896-7.	1897-8.	1899-1900.	1901-2.	Imports.	Exports.
United Kingdom	135	132	129	120	126	138	101	99	106	88	92	90	£ 25,034	£ 20,734
China (Hongkong - Treaty Ports)	190	181	137	96	82	81	89	80	87	81	86	105	736	6,639
Germany	2,190	2,213	2,093	3,111	2,153	2,961	1,008	1,018	1,063	949	898	1,342	2,025	6,788
United States	433	387	346	307	267	353	125	217	219	216	268	211	786	8,592
Straits Settlements.	164	136	136	156	126	154	137	160	176	129	166	188	1,388	4,409
France	168	127	144	130	161	203	133	106	108	70	83	111	918	8,920
Japan*	1,815	1,512	2,177	2,788	2,606	2,706	1,030	1,236	2,074	2,068	4,672	5,122	474	4,644
Egypt	356	486	620	396	458	527	217	272	303	231	314	213	162	2,662
Belgium*	2,619	2,380	2,482	2,914	2,342	2,843	391	192	201	144	174	240	2,009	2,152
Ceylon	173	112	126	266	150	226	199	214	227	254	266	284	604	2,069
Austria-Hungary	464	346	349	726	804	1,322	121	100	136	67	70	98	2,626	1,590
Italy	86	65	80	95	141	186	115	96	101	87	89	95	660	1,960
Russia	112	80	165	184	215	282	277	200	167	87	52	89	2,124	142
Total Indian private trade in Merchandise.	157	140	147	147	180	173	130	183	140	119	138	102	54,314	82,977

* In the case of Imports from Belgium and Japan, comparison is made with the figures of 1882-83, the returns of Imports in the preceding year being insignificant. The growth in the trade with Russia has been recent, and comparison is made with the figures of 1891-92, which in that instance are taken as 100.

In addition to the imports and exports of merchandise on private account, with which the foregoing portion of this chapter is concerned, large quantities of goods are imported on Government account. About one-half of these consists of railway plant and rolling stock, while hardware, metals, and military stores constitute a large proportion of the remainder. The value of imports of merchandise on Government account was £2,440,000 in 1892-3, and £3,078,000 in 1900-01, and it rose to £4,841,000 in 1901-2. Exports of merchandise on Government account are insignificant.

Government
transactions.

The movements of treasure are shown in the table at the beginning of the chapter. The results are summarised in the following table, which includes transactions on private and on Government account:—

Treasure.

	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
Gold - Net import	—	£ 427,498	—	£ 1,632,968	£ 1,427,259	£ 2,172,326	£ 4,233,608	£ 6,292,734	£ 161,423	£ 1,291,761
Gold - Net export	£ 1,376,122	—	£ 3,316,063	—	—	—	—	—	—	—
Silver - Net import	£ 2,576,713	£ 9,140,544	£ 4,219,167	£ 4,366,740	£ 3,904,021	£ 6,644,967	£ 2,633,656	£ 2,364,468	£ 8,322,156	£ 4,795,728
Total - Net import	£ 6,700,501	£ 9,574,042	£ 903,424	£ 6,072,117	£ 4,631,378	£ 6,021,313	£ 6,869,461	£ 8,078,199	£ 8,890,578	£ 6,086,986

The change by which a large annual net import of gold has taken the place of the net export usual in former years, while the net import of silver has steadily declined, is due to the operation of the new currency law, under which the exchange banks find it profitable to import gold and to tender it to the Government in exchange for rupees. In the year 1900-01 the Government found the amount of gold so accumulated to be inconvenient in consequence of the withdrawal of the equivalent value in rupees. They therefore exported gold in large quantities to London, buying therewith silver for coinage into rupees. This transaction deserves special notice in this place because, apart from its importance from the point of view of the currency, it

EXTERNAL TRADE. causes a somewhat fictitious increase in the total of the seaborne trade of 1900-01, as given in the general table above.

Balance of Trade. Taking the seaborne foreign trade as a whole, there is a surplus of exports over imports in each year, the amount of which was shown in the table at the beginning of this chapter. But that calculation takes into account the stores imported by the Government, the greater portion of which are purchased out of the proceeds of the Council bills sold in England by the Secretary of State. Without entering upon the difficult subject of the adjustment of the balance of trade, it may be remarked that the imports of stores or treasure purchased with the proceeds of Council bills must be excluded in reckoning the excess of exports against which those bills are drawn.

Shipping. The number of vessels which entered Indian ports from foreign countries has declined in recent years, and the total was 4,495 in 1901-02, against 5,384 in 1892-93. But the increase in the size of the vessels has more than compensated for this fall, and the tonnage entering Indian ports grew from 3½ to nearly 5 millions of tons. About 96 per cent. of this tonnage was steam tonnage in 1901-02, against 77 per cent. at the beginning of the decade; and 79 per cent. flew the British flag, compared with 81 per cent. in 1892-93. The employment of German and Austrian vessels in the Indian trade is increasing; the tonnage of such vessels entering Indian ports in 1901-02 was 561,200 against 392,600 in 1899-1900.

Principal Ports. The most noticeable feature in the distribution of the trade among the Indian ports has been the decline of the port of Bombay, owing to the continued misfortunes which have afflicted Western India. In the following table are shown the variations in the foreign imports and exports of the chief ports in relation to the figures of 1891-92, which have been taken as = 100. The figures are those for private merchandise only.

	Imports.					Exports.				
	1893-94.	1895-96.	1897-98.	1899-1900.	1901-02.	1893-94.	1895-96.	1897-98.	1899-1900.	1901-02.
Calcutta	114·4	106·0	110·1	117·2	129·2	106·1	117·7	114·8	128·3	138·8
Bombay	113·2	108·3	95·3	102·1	110·1	95·3	93·3	67·6	74·4	93·1
Karachi	106·1	95·7	116·7	106·4	162·1	93·0	86·7	62·6	86·2	120·7
Madras	101·8	91·8	103·6	89·4	118·1	134·1	155·1	127·9	133·8	117·5
Rangoon	94·0	85·5	101·1	88·2	112·9	79·4	106·5	93·3	102·7	111·9

In the year 1898-99, which is not shown in this table, the export trade of Bombay and Karachi showed a considerable recovery, the figures for the latter port standing nearly 22 per cent. above the level of 1891-92. It is to be observed that the figures relate only to the foreign trade, and that this limitation is of special importance with respect to Rangoon, since an exceptionally large share of Burmese exports has been diverted to India during the decade in consequence of the famines. Including imports from and exports to all Indian ports outside Burma, the total trade of Rangoon has grown rapidly in recent years, and in 1901-02 it was 42 per cent. greater than in 1891-92.

LAND FRONTIER TRADE.

LAND FRONTIER TRADE. The value of the trade across the land frontiers of India has increased in a very satisfactory way during recent years, and it has now attained considerable proportions. The total imports and exports of merchandise and treasure across the frontiers in 1901-02 is given in the trade returns as £9,575,000, compared with £9,113,000 in 1900-01, and with £5,545,000 in 1891-92; but, owing to the difficulty of registration on the extreme frontiers, these figures include the trade with countries such as the Shan States and Kashmir, much of which cannot properly be regarded as trans-frontier trade. Trade with Afghanistan has been weak for the greater part of the decade, and though it showed an upward tendency in 1901-02, it was still far below its amount in 1891-92. Of the frontier trade in merchandise, excluding

treasure, Nepal has the largest share (£2,728,000 in 1901-02), Kashmir being second (£1,718,000); and the growth has been rapid in either case during recent years. The new caravan route to Persia, from Quetta by way of Nushki and Seistan, offers facilities to traders, of which increasing advantage has been taken, but the trade is still small. The projected railway from Quetta to Nushki may be expected to foster this trade. The amount of the trade with the tribes which inhabit the country lying to the north of the Malakand Pass, viz., Dir, Swat, and Bajaur, has grown from £491,000 in 1898-99 to £684,000 in 1901-02. On the other side of India, trade with Western China continues to be small, though it has increased from £189,000 in 1898-99 to £457,000 in 1901-02 (merchandise only in each case). It is considered that the last three years have shown this trade to be capable of development; the year 1901-02 showed a sudden increase, which was due perhaps to special conditions, and may not be continued. Orders were issued in 1896 for the construction of a line of railway from Mandalay eastward to Kunlon Ferry, on the Salween river. It was, however, subsequently determined that the line should not be continued beyond Lashio, which is about two-thirds of the way to Kunlon.

EXTERNAL
TRADE.

The only laws of importance directly affecting trade, which were passed during the decade, were the Cotton Duties Act and the General Import Duties Act, which have already received notice under the heading "Customs."* The imposition of countervailing sugar duties is also described in the same place. It need only be stated here that the general import tariff is based on a rate of 5 per cent. *ad valorem*, with certain exceptions. The present import duty on cotton goods is at the rate of 3½ per cent. The remaining exceptions, with the tariff valuations fixed by the Governor-General from time to time under the Act in respect of the articles taxable *ad valorem*, are shown in the annual Statistical Abstract.

Legis-
lation
affecting
trade.
Import
duties.

The Merchandise Marks Act, passed in 1889, amended the Penal Code and the Sea Customs Act with a view to bringing the Indian law relating to fraudulent marks on merchandise into accord, so far as possible, with the British Act of 1887. It applies alike to the internal trade and to the import trade of India. With regard to the latter, annual reports are received from the Customs authorities at the principal ports on the working of the Act, and these show that a considerable number of offences is annually detected. The frauds consist partly in misleading indications of the length, weight, &c. of the contents of packages, and partly in unfounded claims, expressed or implied, on the part of foreign goods, to a British or British-Indian origin. It is claimed that the Act has done much to protect the Indian consumer.

Merchandise
Marks Act.

* Page 190.

CHAPTER XVII.

REGISTRATION OF DOCUMENTS.

REGISTRATION.
Registration
law.

There was no important alteration during the decade in the law relating to the registration of assurances and other documents. The Act of 1877 remained in force throughout British India, with the exception of Upper Burma, for which there is a special Regulation, and certain other tracts in which the conditions are peculiar. For the purpose of registration, documents are divided into (a) those of which the registration is compulsory, or necessary to the validity of the deed, and (b), those which are not required by the law to be registered, but which can be so treated or not at the option of the holder. In the former class are deeds of gift of immovable property, or other documents, excluding wills, which affect rights in such property of value more than Rs. 100, and, with certain exceptions, annual or longer leases. In the second category, that of optionally registrable documents, are those relating to immovable property not included in the above-mentioned classes, deeds affecting movable property, wills, and other documents. As concerns transfers of immovable property, however, the situation is affected in most provinces by the Transfer of Property Act of 1882. This Act is in force throughout British India, with the exception of Burma, the Punjab, and Sind, and other "Scheduled districts." Under its provisions all transfers by sale or mortgage of immovable property must be registered, excepting that in the case of tangible immovable property of value below Rs. 100 transfer may alternatively be effected by delivery of the property. *Ad valorem* fees are charged for registration, and a small fixed fee for searching the records.

Administration.

The administration of this important department is conducted through a Provincial Inspector-General and a staff of local inspectors. The actual work of registration is performed by a large establishment of sub-registrars, one of whom is generally attached to each revenue subdivision. The District Officer is usually the registrar for his territorial charge, and supervises the working of the offices in it, hearing the appeals, settling disputed cases, and obtaining the ruling of higher authorities on points of special difficulty or affecting the general interpretation of the law. In many cases the sub-registrars are full-time workers, though in light charges the duties are performed by a member of the general staff deputed for the purpose, in addition to his ordinary work. The remuneration of the registering agency is either by salary or by a percentage on the fees taken, or both. Special registrars are appointed to some of the larger towns, where the number of transactions is particularly heavy. The case of the village registration under the Deccan Agriculturists Relief Act will be mentioned later. The registration of Joint Stock Companies, which forms part of the duty of this Department, is so closely connected with industrial development that it is more convenient to treat of it in the chapter relating to that subject.

Number of
deeds and
value represented.

The fluctuations in the number of registrations in recent years are of special interest in so far as they show the effect of famine. The registration figures have not much value as indications of changes in the occupancy of the land, because they do not show the ultimate effect of mortgages in that respect, and because they are not complete in the matter of the small transfers, to which may be added the fact that they include transfers of buildings or non-agricultural lands; but their rise and fall indicates to some extent the need of agriculturists for capital and the degree to which it was

obtainable. In the first place, the registration statistics of the 10 years for the whole of British India are as follows:—

REGISTRATION.

Year.	Number of Registration Offices.	Number of Registrations.				Aggregate Value of Property transferred by Registered Documents, excluding Wills.			
		Immovable Property.			Wills and other Registrations.	Total.	Affecting Immovable Property.	Affecting Movable Property.	Total.
		Compulsory.	Optional.	Total.					
1892-93	1,889	1,729,850	582,360	2,312,210	284,289	2,596,499	£ 38,470,000	£ 3,873,368	£ 42,343,368
1893-94	1,951	1,793,406	577,725	2,371,131	294,791	2,665,922	38,268,418	3,659,570	41,927,988
1894-95	1,965	1,826,635	588,054	2,414,689	296,062	2,710,751	40,780,126	3,857,198	44,637,324
1895-96	1,934	1,817,767	565,456	2,383,223	293,795	2,677,018	41,986,396	4,008,010	45,994,406
1896-97	2,010	1,959,808	630,519	2,590,327	310,347	2,901,174	46,378,009	3,999,789	50,377,798
1897-98	2,037	2,053,045	694,197	2,747,243	312,325	3,059,568	44,625,217	3,803,005	48,428,222
1898-99	2,050	1,940,419	621,756	2,562,175	278,021	2,840,196	42,172,393	3,906,828	46,079,221
1899-1900	2,077	1,886,886	627,854	2,514,740	270,010	2,784,750	43,916,314	3,597,016	47,513,330
1900-01	2,061	2,037,250	645,974	2,733,233	284,850	3,018,083	44,955,482	3,816,147	48,771,629
1901-02	2,076	2,131,260	643,930	2,775,190	295,613	3,070,803	45,162,863	3,786,135	48,948,998

The number of registrations of immovable property was 19 per cent. higher in 1897-98 than in 1892-93, and has not been so high since that year until the last year of the decade, when the figure stood 20 per cent. above that of 1892-93.

Taking the "compulsory" class of deeds, which is the most trustworthy index, the provincial variations are shown in the following table:—

PROVINCIAL VARIATIONS OF NUMBER OF "COMPULSORY" REGISTRATIONS.

	Actuals.	Variation during Decade; 1892-93 = 100.			
	1901-02.	1896-97.	1897-98.	1899-1900.	1901-02.
Bengal	971,273	118	127	114	133
United Provinces	154,274	118	113	106	124
Punjab and Frontier Provinces	54,617	123	131	116	64
Burma	26,557	112	116	140	177
Central Provinces	18,763	134	126	58	80
Assam	34,232	131	126	126	141
Madras	672,592	100	108	102	121
Bombay	168,521	122	118	106	113
Berar	82,663	127	122	132	136
British India, including minor provinces	2,131,260	113	119	109	123

* Exclusive of registrations at the special offices established under the Deccan Agriculturists Relief Act, for which see below.

Both these tables show that in the parts of India which were affected by famine the number of deeds relating to immovable property tended to vary in direct accordance with the intensity of the distress. The exceptions are Bombay, where sales and mortgages decreased in number in the famine year 1899-1900 as compared with 1898-99; and the Central Provinces, where the new Tenancy Act restricted land transfers. Burma stands apart, and the increase of transactions in that province is ascribable to the growth of prosperity and to the inclusion of registrations in Upper Burma. The figures given below show that on the whole there has been a slight tendency in the direction of registering documents of lower value, but that it is not very marked; and it cannot be said that there has been any

REGISTRATION.

great increase in the number of registrations belonging to the optional class. With regard to documents relating to movable property, there has been little or no increase in registrations. In Bengal, where they are most numerous, they amount only to about 13 per cent. of the total of the documents registered; in Madras they are less than 5 per cent. of the total.

	Mean Value of Registration Transactions relating to					
	Immovable Property.			Movable Property.		
	1892-93.	1897-98.	1901-02.	1891.	1897-98.	1901-02.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bengal - - -	164	166	155	147	136	145
United Provinces - -	485	456	512	205	230	256
Punjab & Frontier Prov. -	417	357	512	228	213	256
Central Provinces - -	424	375	423	135	102	133
Assam - - -	160	168	163	254	293	295
Madras - - -	198	216	206	283	295	293
Bombay - - -	505	473	503	437	643	612
Berar - - -	316	318	363	147	161	245
Burma - - -	1,254	980	1,170	1,197	1,611	918
British India - - -	250	243	224	194	191	202

Sales and mortgages.

The most important classes of documents registered are sales and mortgages of immovable property, and the figures for these heads may be given separately:—

	Number of Registered Deeds relating to Sale of Land.		Number of Registered Deeds relating to Mortgages.	
	Value over Rs. 100.	Value under Rs. 100.	Value over Rs. 100.	Value under Rs. 100.
1895-96 - - -	357,988	403,693	523,255	481,496
1896-97 - - -	381,889	440,153	551,524	491,162
1897-98 - - -	402,437	476,917	586,143	550,847
1898-99 - - -	390,457	441,874	541,442	484,362
1899-1900 - - -	388,307	441,713	530,526	475,422
1900-01 - - -	440,846	485,206	571,559	491,735
1901-02 - - -	447,079	492,122	547,985	487,008

Putting aside the petty transactions, in which the value concerned is less than Rs. 100 (£6 13s. 4d.), the provincial statements show that in Madras mortgage deeds are registered in excess of sales, whilst the number of leases thus insured is relatively insignificant. In Bengal, on the other hand, leases and sales are about equally numerous, and in each case the figure largely exceeds the number of mortgages. In the Punjab, where the Act of 1882 is not in force, and in Bombay, mortgages hold the first place, as in Madras; sales come next, though at a longer interval in the Punjab than in western India. Leases are scarcely registered at all in the Punjab, and in Bombay they do not reach half the sales in number.

Deccan Agriculturists Relief Act.

In accordance with the provisions of the Deccan Agriculturists Relief Act of 1879, a special extension of the registration system was carried out in 1880 in the four Bombay districts to which that enactment was applied. The innovation consisted mainly in the appointment of the village accountant to be the registrar of instruments of the character specified in the Act, so that registration of these documents might be effected without the need of a journey, occasionally one of considerable distance and at a highly inconvenient season, to the ordinary sub-registry office at the subdivisional head-quarters.

The instruments in question were at first those relating to agricultural land, or to which agriculturists were parties. But in 1886 the law was amended, and instruments, the registration of which is compulsory under the general Act of 1877, were thenceforth to be taken for registry to the ordinary office.

REGISTRATION.

	Number of Documents Registered.
1892-93	137,521
1893-94	139,512
1894-95	142,575
1895-96	144,956
1896-97	153,282
1897-98	180,553
1898-99	138,072
1899-1900	136,946
1900-01	143,837
1901-02	116,906

It was also found that the village accountant was in a considerable number of cases not competent to fulfil the duties of registrar, and that the requirements of the public in this respect could be met by a less general appointment of that class of functionary to such important duties. After three years, accordingly, the number of village registry offices was reduced from 2,567 to 183, and it remains at about that figure. To these were appointed full-time registering officers, men of some experience in the subordinate ranks of Government offices being nominated. The general working of these offices is placed, as in the case of other registration centres, under the District Registrar, and, departmentally, under the Inspector-General and his staff of supervising officers.

On the whole, the system is reported to work well and to be more convenient to the parties concerned than the ordinary process. Owing to the relatively small nature of the transactions that come before the village registrars, these offices do not receive in the shape of fees, &c., as much as covers the expenses of their maintenance, but this point was anticipated at their establishment as a probable consequence of the step, and was not held to out-weigh its advantages. The marginal statement above gives the number of transactions during the period under review.

The fees charged for registration vary in different provinces; they are rather larger in Madras and Bombay than in Bengal. The receipts and charges in 1901-02 are shown below:—

Receipts and charges.

	India, General.	Bengal.	United Provinces.	Punjab and Frontier Province	Burma.	Central Provinces.	Assam.	Madras.	Bombay.	TOTAL.
Fees for registering documents. -	£ 661	£ 106,392	£ 27,410	£ 10,148	£ 6,016	£ 2,620	£ 3,007	£ 81,421	£ 30,311	£ 278,706
Fees for copies of registered documents -	116	1,706	1,883	3,464	123	1,739	48	2,065	734	11,728
Miscellaneous - - - - -	48	3,162	3,002	1,144	527	875	21	12,312	631	22,511
Total Receipts - - -	1,145	111,310	32,095	14,756	7,281	6,423	2,670	96,809	39,666	312,910
Deduct Refunds - - - - -	9	228	9	15	1	11	9	226	364	684
Net Receipts - - - - -	1,143	111,082	32,086	14,741	7,280	6,423	2,670	96,473	39,302	312,081
Superintendence charges - - -	—	2,457	721	—	—	686	—	2,472	538	7,941
District charges - - - - -	421	33,193	13,096	6,838	2,924	2,446	2,194	58,892	18,915	163,775
Total Charges - - - - -	421	62,753	16,817	6,838	2,924	3,132	2,194	63,269	19,410	171,736

CHAPTER XVIII.

POST
OFFICE.

POST OFFICE AND TELEGRAPHS.

I.—POST OFFICE.

The Post Office of India is under the control of a Director-General, in subordination to the Finance Department of the Central Government; and this officer has under him a Postmaster-General or Deputy Postmaster-General in each province. But the postal system of India is not one homogeneous whole, since there is a distinction between the Imperial post office and the District post offices. The latter were originally opened to keep up communication between the heads of the districts and the police in the interior of the districts. They have been extended to keep up communication between the head offices and the different branches of administration in the district. Advantage was taken of this official post for the distribution of private letters. Thus the District post acts as a pioneer for the Imperial post office. As the district administration develops the District post develops, and the Imperial post takes over the District post as soon as it begins to pay. The District post charges are met in some provinces by a local or provincial cess, in others by a grant from provincial revenues. In the following pages the statistics of the Imperial and District posts are considered as a whole.

There has been a large and uninterrupted expansion of post office business during the ten years. In the year 1901-02 the total number of letters, post-cards, packets, parcels, and inland money orders received for delivery amounted to 573½ millions, which is 65 per cent. larger than the corresponding number for 1891-92. This proportional rate of increase is smaller than that of the preceding decade, but the actual addition to the numbers is

Postal Circle.	Number of all "Postal Articles" (Figures in thousands; 000 omitted).			Rate of Increase Per Cent.	
	1891-92.	1901-02.	Increase in Ten Years.	In the Ten Years under Review.	In the preceding Ten Years
Bengal - - -	51,591	94,387	42,796	83	91
Dohar - - -	14,303	23,013	8,710	61	87
Eastern Bengal - -	11,752	19,369	6,617	56	128
Total Bengal - -	77,646	136,769	68,123	75	101
Bombay - - -	65,889	103,759	37,870	57	108
Sind and Baluchistan	7,978	12,624	4,646	58	73
Madras - - -	62,345	102,255	39,910	64	116
United Provinces - -	48,657	72,973	24,316	50	87
Punjab and N.W. Frontier Province.	24,682	77,115	52,433	97	77
Assam - - -	6,115	10,248	4,133	68	87
Burma - - -	13,148	20,717	7,569	58	424
Central Provinces - -	14,400	21,929	7,529	52	93
Rajputana - - -	8,103	16,119	8,016	99	111
Central India* - -	2,989	—	—	—	31
Total - - -	247,133	573,528	326,395	65	102

* Ceased to exist as a separate postal circle in 1894.

much greater. The marginal table gives a broad view of the progress in each postal circle. The figures include an estimate of the number of letters, postcards, newspapers, and book packets, based on an enumeration made twice during each year for a period of a week on each occasion; and the actual number of parcels and money orders. In the total number of letters issued for delivery there has been a large and progressive increase during the ten years, amounting on the whole to 38 per cent. The registered class shows the greatest proportional growth. There has been some variation in the number of unpaid letters, but the total has never reached 30 millions, and their proportion has been sensibly decreasing

in relation to paid letters. The constantly growing popularity of the post card, and the general use of the half anna embossed envelope account for this to a great extent, and the old belief that an unpaid letter was more sure of being delivered, at any rate in the interior of districts, than a letter on

which the postage had been prepaid, is gradually being given up. It is in Burma, Assam, Behar and the United Provinces that the belief has always been

Post Office.

Figures in thousands ; 000 omitted.

	1891-92.	1896-97.	1900-01.	1901-02.	Increase in the Ten Years.
Letters paid -	154,145	181,818	211,019	219,563	42
" unpaid -	27,310	29,469	29,229	28,462	4
" registered -	6,416	8,860	10,610	11,299	76
Total letters -	187,871	220,147	250,858	259,324	38
Postcards -	112,749	166,803	218,352	236,368	110
Newspapers, book and pattern packets.	86,621	49,120	60,394	61,263	67
Parcels registered -	2,109	2,555	2,178	2,256	7
unregistered -	-	154	501	735	-
Inland money orders	7,783	10,948	12,922	13,582	75
Grand Total -	347,133	449,726	545,205	573,528	65

most prevalent ; but in these tracts also it appears to be dying out. The most remarkable feature of the second statement shown in the margin is the increase in the number of postcards. The rate of postage for these cards, a quarter of an anna (i.e., one farthing), is one of the cheapest postcard rates in the world, and the stamped postcard is issued to the public for the de-

nominated value of the stamp. It is not possible to show the increase in the number of newspapers sent by post, as the returns since 1898 include only registered newspapers, for which separate rates were introduced in that year.

But a comparison of the figures for 1897-98 with those for 1891-92 shows that up to that date there had been an increase of 23 per cent. A service for unregistered parcels was introduced in 1895, and most of the increase which has occurred in parcels has been under that head. But there had been comparatively little growth in the number of parcels until the year 1901, when a material reduction was made in the rates of postage for parcels between 2 lbs. and 11 lbs. in weight. The result of the change was a marked increase in the number of parcels posted. The extent to which the people avail themselves of postal facilities is shown by the figures given in the margin for the year 1901-02. No exact calculation on the same lines is

Postal Circle.	Number of Postal Articles in 1901-02 per head of	
	Total Population.	Literate Population.
Bengal -	2.08	31.68
Behar -	.95	26.91
Eastern Bengal -	1.54	14.66
Bombay -	4.34	61.16
Sind and Baluchistan -	3.27	111.60
Madras -	2.26	36.76
United Provinces -	1.38	46.64
Punjab and N.W. Frontier Province.	2.76	88.60
Assam -	1.60	44.24
Burma -	1.89	8.95
Central Provinces	1.44	46.83
Rajputana -	1.27	34.71
Total -	2.05	36.91

available for the beginning of the decade ; but the number of " postal articles " per head of the total population in 1891-92 may be stated at about 1.3. The prominent place taken by western India is due, no doubt, to the relatively large commercial population, since Bombay is behind Madras in respect of the number of literates among the population. The high place taken by the Punjab may be ascribed for the most part to the correspondence of the Supreme Government during the time of its annual sojourn at Simla.

The mileage over which mails are carried by railway has been constantly increasing with the development of the railway system. But the total length of postal lines classed under "runners and boats" has also shown some increase, and is still far the most important item in the list, as shown in the marginal table, in which a comparison is made with the figures of 1890-91. This increase, where a decrease might have been expected, is explained by additions in Native States, as, for instance, the amalgamation of the Kashmir posts in 1894, by which 1,200 miles of runners' lines were added to the register of the Post Office, and also by the opening of numerous small post offices each year in the interior of districts, and the establishment of connecting lines. On the other hand, runners' lines are continually being

Postal communications.

	Length of Postal Communications.	
	1890-91.	1901-02.
By railway	Miles. 16,722	Miles. 23,450
By runners and boats	74,630	87,668
By mail carts and horse and canal boats.	4,400	8,130
By steamer	13,680	16,002
Total -	109,232	135,250

Post
OFFICE.

closed as railway facilities become available; the completion of the East Coast Railway into Calcutta has closed the last links of the longest runners' line in India, originally more than a thousand miles in length. The larger part of the runners' lines connect villages in the interior of the districts, and more than 35,000 miles of them belong to the District post.

Post offices
and letter
boxes.

There has been a steady increase in the number of post offices and letter boxes during the last decade, to which Madras and the Punjab have contributed the largest share. There were 13,845 post offices and 28,902 letter boxes at the end of 1901-02, compared with 9,763 and 15,287 respectively at the beginning of the decade. The new post offices opened year by year are chiefly small village offices, though the addition of the Kashmir offices in the year 1894 and the incorporation of the posts of various minor Native States since that date have helped to swell the figures. The new village offices have for the most part been opened in charge of Government schoolmasters or other agents who are not regular servants of the Post Office Department; the number of offices so managed was 8,527 at the end of the decade. The growth in the number of letter boxes has been on the average

almost a thousand in each year; but the year 1901-02 has shown an exceptional expansion, owing chiefly to the addition of 2,000 letter boxes in the Bombay presidency. A comparison of the number of offices and boxes with the area and population gives the results shown in the margin, from which it will appear that there is still much room for additional facilities, so far as area is concerned. It is, however, the rule that all post offices experimentally opened at new sites must be

Postal Circle.	One Post Office serves			One Letter Box serves		
	Square Miles.	Total Population.	Literate Population.	Square Miles.	Total Population.	Literate Population.
Bengal	65	23,410	1,542	17	6,259	413
Berar	68	27,795	1,337	29	16,243	875
Eastern Bengal	48	22,326	2,330	14	6,637	698
Bombay	89	13,975	991	16	2,861	303
Madras	62	15,669	965	22	5,343	341
United Provinces	76	29,776	850	23	8,038	264
Punjab and N.W. Frontier Province. Assam	93	11,578	360	39	4,935	168
Central Provinces	168	18,072	656	72	7,904	280
All circles	157	17,176	527	90	9,848	302
	116	19,719	1,094	37	6,386	354

found to pay their way according to a strict test before they are permanently established.

Foreign
post.

Correspondence with the United Kingdom has grown rapidly, under the influence, first, of the reduction of the letter rate from 4½d. to 2½d. the half ounce at the beginning of 1891, and subsequently of the introduction of the penny rate with effect from Christmas 1898. Letters and postcards received from the United Kingdom in 1901-02 numbered 4,707,000, book packets and samples 7,933,000. Those sent home from India are fewer in number, amounting in 1901-02 to 3,912,000 in the case of letters and postcards, and 1,308,000 in respect of other postal matter. Mention may be made of the revision of the Eastern Mail contract with the Peninsular and Oriental Steam Navigation Company, with the result that the time of transit between London and Bombay was very materially reduced. The contract time is now 14 days and 16 hours, and the mails generally arrive well within that limit, the shortest times occupied in transit having been 13 days 7 hours and 46 minutes from London to Bombay and 12 days 23 hours and 28 minutes from Bombay to London.

Value-pay-
able system.

The value-payable system, by which the post office undertakes to recover from the addressee the value of an article sent by post and to remit the amount to the sender, has found great popularity. The number of articles so sent in 1901-02 was 2,847,000, compared with 1,251,000 in 1891-92. The system was extended at the beginning of the decade to articles sent by post to Ceylon; but this accounts for a small part only of the increase. Calcutta has taken the lead in this respect, and no less than 938,000 value-payable articles were posted in that city in 1901-02, the sums recovered and paid over by the Department in respect of them aggregating £702,000. Bombay follows at some distance, with 462,000 articles valued at £407,000. The number sent from Madras was 247,000, representing a value of £144,500. The large towns of the United Provinces and the Punjab also contribute a

considerable share of this business, which consists for the most part of unregistered book packets and parcels. The limit of value for articles sent in this manner to be recovered by the postmen at the house of the addressee, was raised in 1896 from Rs. 10 to Rs. 25, and in 1898 the system was extended to unregistered parcels.

Post
Office.

The money order business of the post office has grown steadily, and the number of inland orders, which was 7 $\frac{3}{4}$ millions in the year 1891-92, amounted to 13 $\frac{1}{2}$ millions in 1901-02. The value represented by these orders issued in the latter year amounted to 26 $\frac{3}{8}$ crores of rupees (£17,896,700), the average value of each inland money order being Rs. 19 annas 12, compared with Rs. 21 annas 2 in 1891-92. A recent analysis of the money orders, carried on for a month, showed that 31.76 per cent. of them were for sums not exceeding Rs. 5 (6s. 8d.) compared with 32 per cent. in 1891-92, and that 59 per cent., compared with 60 per cent. in 1891-92, were for sums not exceeding Rs. 10. It is with small remittances that the legitimate work of a postal money order system is concerned, and these figures sufficiently prove that the business of this branch of the Department is proceeding on right lines. The rate of commission charged is low, and the services rendered include the free transmission of the money order by post, its payment at the door of the person for whom the remittance is intended, and the free return to the sender of an acknowledgment for the amount. Payment is made, except at certain large towns, by the agency of the postmen and village postmen, nearly 20,000 in number, and it is worth noting that the sums misappropriated by men of this class in connection with this duty are practically negligible, being less than £400 in the year 1900-01.

Inland
money
orders.

A system of payment of revenue, rent, and miscellaneous sums due to the Government by means of postal money orders was already in force in the United Provinces and part of Bengal at the beginning of the decade, and it has been extended to other provinces and to additional classes of payments during the ten years.

Of the other branches of the work of the Department, the only one requiring notice is that in connection with Savings Banks. The Post Office Savings Banks were established in 1882, and the savings bank business of the district treasuries was absorbed by them in 1886-87, and by the end of the year 1891-92 the number of their depositors had grown to 463,000, and to 654,000 at the end of 1895-96.

Savings
Banks.

	Number of Depositors.	Deposits in each Year (including Interest).	Withdrawals in each Year.	Balance of Deposits (including Interest).
		£	£	£
1892-93	560,366	2,562,051	2,024,926	5,950,794
1893-94	613,205	2,612,349	2,880,621	6,232,523
1894-95	650,532	2,488,401	2,417,633	6,303,290
1895-96	684,323	2,778,893	2,458,950	6,628,233
1896-97	713,320	3,225,078	3,427,150	6,426,161
1897-98	730,387	2,332,885	2,567,513	6,191,532
1898-99	755,871	2,389,887	2,296,088	6,285,336
1899-1900	785,729	2,508,484	2,360,857	6,430,964
1900-01	816,651	2,604,345	2,349,805	6,693,505
1901-02	866,693	2,975,855	2,549,945	7,121,415

The Presidency Savings Banks were closed in 1896-97, and the accounts of their depositors were transferred to the Post Office Banks. The table given in the margin includes this class of deposits in all the years of the decade, both before and after their transfer to the Post Office Banks. The number of accounts transferred in 1896-97 was approximately 23,000. The most important change during the decade in the general conditions governing the business of the savings banks has

been the lowering of the rate of interest from 3 $\frac{3}{4}$ per cent. to 3 $\frac{1}{4}$ per cent., with effect from the 1st April 1894. It is difficult to discriminate between the effect of this change and the effect of the famine conditions on the growth of savings bank business. It may, however, be noted that the year 1895-96 shows a considerable excess of deposits over withdrawals, and it was not until 1896-97 that, for the first time since 1889-90, withdrawals exceeded deposits. This was reversed in 1898-99 and the succeeding years, when there was again an excess of deposits over withdrawals. The total amount of the accounts stood at £5,413,000 at the end of 1891-92, and had increased to £7,121,000 by March 1902. The average balance at credit of each depositor had, however, fallen from Rs. 152 in 1891-92 to Rs. 123 in 1901-02. Some of this decrease is due to the closing of the large East Indian Railway Provident Fund in 1896-97, and to the operation of the rule introduced in that year limiting the total balance in the case of a public account to Rs. 10,000 (£677). But the decline in the average size of the accounts has been steady, and may be ascribed, in some part at least, to the spread of the practice of thrift

Post
Office.

	Number of Depositors.		
	1891-92.	1901-02.	Percentage of increase.
Professional, with fixed income	145,737	233,108	60
" with variable income	40,231	58,130	44
Domestic	63,089	151,204	140
Commercial	20,009	32,065	60
Agricultural	6,657	12,387	86
Industrial	11,925	27,450	130
Indefinite	175,805	352,349	100
Total	463,453	866,693	87

among a poorer section of the population.

The classification of depositors in the years 1891-92 and 1901-02, shown in the margin, affords evidence that the savings banks do not meet the requirements of agriculturists. Of the most important classes of depositors, the professional classes have shown a lower rate of increase than

the class described as "indefinite," which includes persons who have no occupation, or whose incomes are derived from others or from their own property.

The Postal Insurance Fund, started in 1884 to provide life insurance and to contract for monthly allowances for servants of the Post Office and Telegraph Departments, was extended in 1898 to all Government servants who are subject to the civil rules, and a scheme of endowment insurances was added. By the end of 1901-02 7,114 policies had been issued, for a total value of £744,500, and 6,177 of them were still active, including 3,264 endowment policies.

Legislation.

In the year 1898 the law regulating the operations of the Post Office was consolidated and amended. The Act of 1866 which, with slight amendments, constituted the law on the subject, had been rendered unsatisfactory by the large expansion of Post Office business, and especially by the development of new branches of business, such as value-payable post, money orders, and the insurance of postal articles. The new law, modelled on an English bill, provided for these and other matters in which the responsibility and powers of the Government required to be defined.

Finance.

The net financial result of the working of the Post Office has been a surplus in all but the first year of the decade. It is not, however, the policy of the Indian Government to cultivate the post office as a source of revenue, but to use the growing receipts in increasing the efficiency of the Department. Expenditure therefore tends to keep pace with revenue, in spite of the large increase in the receipts. The following table contains a summary of the figures as given in the Finance and Revenue accounts:—

	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
RECEIPTS:	£	£	£	£	£	£	£	£	£	£
Sale of postage stamps:										
Ordinary	577,375	615,543	638,149	675,627	701,545	742,042	766,853	791,942	825,419	844,061
Service	180,417	154,810	158,580	163,137	172,837	177,622	179,578	185,502	194,021	194,589
Commission on money orders.	147,625	150,648	166,283	177,019	190,903	208,237	210,581	220,831	227,231	231,904
Other receipts, less payments to foreign post offices and refunds.	117,165	113,510	124,260	126,547	124,691	124,574	119,033	109,960	112,335	113,155
Total receipts	992,583	1,040,512	1,087,272	1,142,333	1,189,976	1,252,776	1,276,045	1,308,315	1,357,156	1,383,709
EXPENDITURE:										
Establishment charges	570,937	587,036	597,857	610,278	635,238	648,129	654,157	659,622	716,512	729,707
Conveyance of mails and subsidies.	322,981	314,543	221,429	227,017	240,718	248,426	241,683	249,376	268,064	264,624
Other charges in India	114,906	122,343	124,809	133,432	136,049	146,383	142,373	147,814	153,318	161,316
Contribution to Eastern mail subsidy.	59,900	51,475	60,800	60,600	60,600	59,559	57,409	49,426	53,067	52,000
Payments for stores in England, &c.	35,758	42,519	43,188	46,066	46,859	47,608	53,801	45,939	43,053	43,077
Total expenditure	1,065,882	1,037,916	1,047,983	1,077,393	1,123,457	1,146,473	1,150,136	1,182,247	1,239,314	1,250,624
Net receipt (+) or expenditure (-).	-13,299	+12,597	+39,289	+64,937	+66,519	+104,302	+125,910	+126,068	+117,842	+133,085

The charge for exchange on payments in England is not included in this table, as this is brought to account, by the present system, under a separate heading of "Exchange." Two points deserve notice. In the first place the growth of establishment charges, including the cost of the headquarters' offices and audit, and of the provincial establishments, has been considerable, owing to increase of staff and to the higher wages which become necessary

as greater responsibility is thrown on the subordinates. But the rate of increase in these charges is far short of the rate by which the stamp receipts have grown. Secondly, the table includes "Service" stamps, or in other words the postage on letters carried for the public service, differing in this respect from the practice of the British Post Office. The inclusion of this item is necessary in order to show the real result of the post office as a commercial concern.

II.—INDIAN TELEGRAPH DEPARTMENT.

TELE-
GRAPHIC.

Excluding the Indo-European telegraph line, which extends from Karachi into Persia, the whole telegraph system of India forms an Imperial charge, administered, as in the case of the postal service, through a Director-General. It comprised, in the year 1901-02, 55,827 miles of line, in addition to 283 miles of cable, chiefly in Eastern Bengal, Assam, and Burma. The mileage of wires, apart from cables, was 190,604 miles, of which 118,794 miles were used by the Department, 64,912 miles were used by railways, 3,172 miles by canals, and 4,009 miles were worked in connection with telephone exchanges and lines.

The progress which has been made in extending public telegraphic communication can be gathered from the following table :—

	Miles of Line.	Miles of Wire.	Miles of Cable.	Offices open to the Public.		
				Departmental, including combined Post and Telegraph Offices.	Railway and Canal Offices.	Total.
Up to the beginning of 1892-93	38,625	120,159	252	1,001	2,245	3,246
During 1892-93	2,405	6,092	22	99	79	178
" 1893-94	1,678	8,004	—	124	79	203
" 1894-95	1,941	4,001	—8	138	42	180
" 1895-96	1,726	4,670	—8	99	140	239
" 1896-97	2,209	5,210	6	102	104	206
" 1897-98	1,722	6,688	—5	71	99	170
" 1898-99	1,463	5,826	11	85	192	277
" 1899-1900	1,140	10,116	8	132	117	249
" 1900-01	2,146	11,117	13	88	142	230
" 1901-02	772	8,721	—13	67	47	114
To end of 1901-02	55,827	190,604	283	2,006	3,286	5,292

The proportional growth of the number of messages sent over the wires is shown in the margin, the figures of 1891-92 being taken as = 100. The actual number of messages in 1901-02 was 6½ millions, of which rather less than a million were foreign telegrams. Inland telegrams, other than those sent on the service of the State, have increased in number from 3 to 5 millions in the ten years. There are three rates for the transmission of deferred, ordinary, and urgent telegrams respectively, and a marked feature of the statistics on this subject is the constant increase in the proportion borne by the deferred class of telegrams to the whole. In the year 1901-02, 70 per cent. of the inland telegrams were sent at the "deferred" rate, which is one anna (one penny) per word with a minimum charge of 8 annas. The increasing popularity of this class of telegram is a clear and satisfactory indication of the general efficiency of the service.

Telegraphic communication with Europe was maintained throughout the decade by two routes, the cable of the Eastern Telegraph Company *via* Suez, and the Indo-European system, of which the eastern portion, from Teheran and Fao to Karachi, belongs to the Government of India. The most important event to record in this connection is the reduction of the tariff for telegrams between India and Europe from 4s. to 2s. 6d. a word from the 1st March 1902. Telegrams from Europe to Australia are also sent by these lines, and a share of their value, amounting to £150,000 in 1901-02, is credited to the Indian Telegraph Department for transit charges. But in November 1901 a cable connecting Durban in South Africa with Perth in Western Australia was successfully laid, establishing an alternative route between

TELE-
GRAPHS.

England and Australia. The rates *via* Durban are the same as those *via* India, and as a consequence a considerable decrease in revenue to the Government of India on the traffic passing through India may be expected. The reduction of the rate between England and Australia to 3s. a word, brought into effect in 1902, did not affect the Indian transit share on that traffic.

There has been no great development of the telephone companies, which are confined to a few of the more important towns, and had 2,062 subscribers with 2,005 exchange connections and 273 private lines in 1899, the most recent year for which the particulars are available. The Telegraph Department also maintains a few telephone exchanges, numbering 43 in the year 1899; the revenue received for these services was £10,800 in 1901-02. From the 1st January 1902 the rate chargeable to the public for the rent of telephones was reduced by 25 per cent.

Finance.

The Department began to work in 1851-52. Since that date nearly £5,000,000 has been expended out of revenue on the construction of lines and buildings and provision of apparatus and plant. The net financial result of the working of the system since its inception, including the capital expenditure, is a deficit of £2,270,000. Since the year 1888-89, however, the receipts have exceeded the combined capital and revenue expenditure in each year with the exception of 1901-02; and in 1897-98 the amount of this excess was as high as £148,000. The following table contains particulars of the finances of the Indian Telegraph Department, taken from the Departmental Report:—

	Gross Receipts.				Working Expenses.	Net Profit.	Capital Outlay in each Year.	Percentage of Net Profit on Total Capital Outlay.
	From Private Messages.	From State Messages.	From Railway and Canal Telegraphs.	Total, including other Sources.				
	£	£	£	£	£	£	£	Per Cent.
Up to the beginning of 1892-93	4,375,307	1,282,320	914,671	6,903,428	6,849,837	553,596	3,478,920	—
During 1892-93	301,077	83,453	102,644	505,545	843,800	161,745	144,187	4.46
" 1893-94	327,988	76,743	106,227	533,820	858,651	180,170	150,292	4.78
" 1894-95	348,802	80,656	80,302	535,978	879,548	156,430	52,220	4.09
" 1895-96	383,377	88,329	100,256	598,330	885,582	212,748	92,286	5.43
" 1896-97	389,502	79,402	104,122	597,627	414,333	183,248	116,388	4.64
" 1897-98	406,017	199,566	98,892	728,379	417,772	310,607	162,469	7.40
" 1898-99	376,400	94,584	102,794	599,648	427,549	172,099	151,941	3.35
" 1899-1900	437,620	116,266	111,069	691,060	447,758	243,302	163,235	5.39
" 1900-01	453,203	162,657	117,766	766,579	472,292	291,287	217,289	6.22
" 1901-02	434,396	145,050	123,210	740,944	503,338	237,606	247,742	4.77
To the end of 1901-02	8,234,689	2,409,526	1,967,953	13,201,333	10,495,465	2,705,868	4,975,969	—

This table, like that relating to postal finance, includes the cost of the telegraphic correspondence of the Government, which has been increased in some years by the military operations on the North-West frontier, the expedition to China, and the South African war. If this column were excluded there would still be a surplus of receipts over working expenses.

III.—INDO-EUROPEAN TELEGRAPH DEPARTMENT.

The system of telegraph lines and cables connecting the terminus of the Indo-European Company's telegraphs at Teheran with the Indian telegraph system at Karachi is controlled by the Indo-European Government Telegraph Department. The administration of the Department, which in 1888 was amalgamated with the Indian Telegraph Department, was re-transferred to London in 1893, and placed under the direct orders of the Secretary of State. The system comprises two sections. The first, called the Persian Gulf section, consists of various cables, 1,942 knots in length, running from Karachi to Bushire, from Jask to Muscat, and from Bushire to Faq, where a connection is made with the Ottoman Government line. It includes also the Mekran Coast land lines, 698 miles with 1,392 miles of wire, running from Jask to Gwadur and thence to Karachi. The second section, known as the Persian section, consists of land lines, 693 miles in length with 2,079 miles of wire, running from Bushire to Teheran. These land lines, as well as the section on the Mekran coast between Jask and the Perso-Baluch frontier, are worked under a treaty with the Persian Government. The Department also maintains a line from Teheran to Meshed, 568 miles, which is the property of the Persian Government. A convention

between the United Kingdom and Persia for extending the system of telegraphic communication between Europe and India, through Persia, was signed in August 1901. The route to be followed by the line is from Kashan, 189 miles south of Teheran on the existing telegraph line from Teheran to Bushire, to the Baluchistan frontier *via* Yezd and Kerman. Arrangements were made to proceed at once with the construction of the line.

Under the Cis-Indian Joint Purse Agreement originally made in 1878, the traffic receipts of the Indo-European Telegraph Company, the Eastern Telegraph Company and the Indo-European Telegraph Department, for messages transmitted by their respective lines (1) originating in or destined for India, and (2) originating in or destined for places beyond India were pooled, and the total amount was divided among the three parties in fixed proportions. In 1901-02 the Eastern and South African Telegraph Company was admitted as a fourth partner, and the percentages to be drawn out of the Purse were revised. During the ten years the amounts paid in to the Purse by the Department have aggregated £1,139,081, and the Department's share of the receipts has amounted to £1,041,983.

The share of the Trans-Indian receipts which arises from Australasian traffic is paid into the "Australasian Message Fund," and is distributed in fixed proportions. Into this pool the Eastern Extension Telegraph Company also pays in its receipts on such traffic, and receives back 61·18 per cent. of the whole amount of the fund, while the remainder is divided in the proportions fixed for the trans-Indian part of the Cis-Indian Joint Purse. The receipts of the Department from this source, which in 1889, before the Australasian Message Fund was established, amounted to £6,235, rose to £10,436 in 1900-01, but were £8,823 in 1901-02 owing to a general falling off

in the traffic during that year. The gross receipts of the Department consist of the traffic earnings of all kinds after adjustments have been made in respect of the Joint Purse and Australian Message Fund. The marginal table shows that there has been an upward tendency in the receipts, gross and net, while the working expenses have never exceeded the figure reached in 1892-93. In the year 1901-02 the percentage of net receipts on capital was little less than 8 per cent., although the total capital outlay was augmented by expenditure on the new cable between Jask and Muscat.

So far, the financial results of the Telegraph systems have been shown in the form in which they are given by the Departments. In conclusion, the receipts and charges, as they affect the accounts of the Government of India, may be summarised as follows:—

	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
RECEIPTS:—										
Indian Telegraph Department.	504,887	528,439	522,425	590,921	584,726	724,051	587,437	683,119	749,868	728,141
Indo-European Telegraph Department.	110,104	111,602	124,649	126,413	125,305	144,438	125,662	143,110	138,334	171,483
Receipts in England -	9,826	2,061	4,414	8,733	3,819	4,183	7,417	6,444	19,014	8,485
TOTAL - - -	624,816	630,102	651,488	726,067	713,850	872,672	720,516	832,673	897,216	908,109
CHARGES:										
Indian Telegraph Department.	286,509	401,430	282,593	421,043	452,826	467,708	474,194	608,304	510,805	561,951
Charges in England -	86,604	84,445	26,071	48,010	43,482	98,219	90,345	93,394	187,330	166,060
Indo-European Telegraph Department.	44,988	46,689	47,016	48,931	46,779	44,373	42,888	48,866	48,252	48,706
Charges in England -	38,650	32,395	23,188	37,024	37,220	57,137	43,967	51,391	41,372	111,424
Red Sea and Indian Telegraph Company Annuity.	18,027	18,027	18,027	18,027	18,027	18,027	18,027	18,027	18,027	18,027
Subsidy to Eastern Telegraph Company for Zanzibar-Mauritius Cable.	—	3,500	10,000	10,000	10,000	10,000	10,000	10,000	10,000	—
TOTAL - - -	378,743	537,497	318,775	565,065	618,422	693,264	684,421	736,722	789,687	904,187

CHAPTER XIX.

PUBLIC WORKS.

PUBLIC
WORKS.

Public works in India fall under three categories—

- (1.) Railways, which are administered by the Public Works Department of the Government of India ;
- (2.) Irrigation works ;
- (3.) Roads, buildings, and miscellaneous Public Improvements.

The third head comprises all classes of works not included in the first two, and is divisible into civil and military works, of which the latter are executed by the military authorities, and do not fall within the scope of this chapter. Irrigation and roads and buildings are carried out through the agency of separate departments in Madras and Bombay, and of officers of the Government of India Public Works Department, either under local or central control, in other provinces. The marginal table shows the number and description of the officers employed on all kinds of public works. In addition to these, there is a considerable staff occupied with the accounts.

—	1892.	1902.
Engineering Branch—		
Royal Engineers	81	65
Other Military Officers	9	8
Civil Engineers—		
Appointed in England	466	408
Europeans appointed in India	214	158
Natives appointed in India	98	119
Total	868	753
Including { Madras	83	86
{ Bombay	88	79
Upper Subordinate Establishments—		
Europeans	390	258
Natives of India	571	647

Imperial and Provincial, the former of which is recruited in England and the latter in India. The pay, and leave, and pension rules of the two services are different, but in other respects there is no distinction between the members of the two divisions, and the highest posts in the Department are open to both. The civilian element of the Imperial Service is recruited mainly from the Royal Indian Engineering College at Cooper's Hill ; the Provincial service draws its recruits from students of the Indian colleges and from upper subordinates of the Department.

I.—RAILWAYS.

Agency.

The railways of India may be broadly divided into the Guaranteed, the State, and the Assisted. In the early days of railway enterprise the agency of private companies guaranteed by the State was exclusively employed, and nearly all the great trunk lines were made under this system. The chief terms of the contract between the old guaranteed companies and the State were as follows :—The Government gave the land required free of charge ; it also guaranteed interest, generally at the rate of 5 per cent., on the share capital raised with its consent, and a lower rate upon debenture capital. A general control and supervision over the proceedings of the company was also retained, and Government stores and troops were to be carried on favourable terms. If the net profits in any half-year fell below the amount of guaranteed interest, the Government made up the deficiency. If they exceeded this amount, the surplus was equally divided between the Government and the company. Moreover, the Government had the right of buying the undertaking at specified dates, on payment of the value of the stock calculated at its market price on the average of the three preceding years. In this way the East Indian Railway was acquired in 1880, the Eastern Bengal Railway in 1884, the Sind, Punjab, and Delhi Company's lines in 1885-86, the Oudh and Rohilkhand Railway at the end of 1888, the South Indian Railway in 1890, and the Great Indian Peninsula Railway in 1900.

In 1870 a new policy of railway development by the direct agency of the State was inaugurated; and in 1880-81 the system of encouraging private enterprise by State assistance was again resorted to. Both agencies are now employed side by side. The experience gained of the working of the old guarantee system has, however, suggested various modifications in the relations between the State and the companies which have more recently been formed for the construction and working of railways, and the nature of the assistance granted now varies considerably. In some instances, of which the Bengal and North-Western Railway is the most important, lines have been constructed without any direct pecuniary assistance; in others a subsidy or limited guarantee has been granted.

In 1893, with the view of encouraging the investment of capital in branch and "feeder" lines to the main railway systems, while avoiding the grant of guarantees secured on the general revenues of India, the Government of India formulated certain terms which they would grant to companies undertaking to provide capital for such lines. The chief points were that in each case the main line would, if desired, construct the branch for the company, would work it at a fixed rate not ordinarily exceeding 50 per cent. of its gross earnings, and would allow the company a rebate not exceeding 10 per cent. of the gross earnings of the main line from traffic interchanged with the branch, towards making up a dividend of 4 per cent. on the capital of the branch company. Power was reserved to the Government to purchase the branch after 21 years, and at successive intervals of 10 years thereafter, at a price equal to 25 times the average net earnings for the five previous years, it being stipulated, however, that the amount payable should not be less than the capital expenditure, and should not exceed that expenditure by more than 20 per cent. After 50 years the Government might acquire the line on payment of the actual capital expenditure. These terms applied primarily to branches of the State railways, but the Government undertook to endeavour to secure terms approximating to them in the case of branches of companies' lines.

Branch line terms.

The terms of 1893 did not prove sufficiently attractive, and the rebate clause was modified in 1895 by making the maximum amount payable as rebate the "net earnings" of the main line from interchanged traffic; that is to say, the limit was raised from 10 per cent. to probably 50 or 60 per cent. of the gross earnings from such traffic. On the other hand, the rate of dividend to be made up by the aid of rebate was reduced from 4 to 3½ per cent.

The terms still failed to attract capital to the extent that had been hoped, and the Government came to the conclusion that it was necessary to revert to the guarantee system. In 1896 they accordingly revised the branch line terms, and, while retaining the 1895 rebate clause, they offered, as an alternative method of assistance, a firm guarantee in rupees of not more than 3 per cent.

The following companies have been formed on the basis of the branch line terms above described:—

New Companies.

The Southern Punjab,* 1895. Rebate from the North-Western State Railway.

The South Behar,* 1895. Rebate from the East Indian Railway.

The Ahmedabad-Prantelj,† 1896. } Rebate from the Bombay, Baroda, and

The Tapti Valley,† 1896. } Central India, and from the Rajpu-

The Ahmedabad-Dholka,† 1902. } tana-Malwa Railways.

Noakhali,* 1901. Rebate from Assam-Bengal Railway.

Hardwar-Dehra,† 1897. Guarantee of 3 per cent.

Brahmaputra-Sultanpur,† 1897. Guarantee of 3 per cent.

A rebate-aided branch of the Eastern Bengal State Railway from Mymensingh to Jagannathganj has also been constructed under a contract entered into with the India General Steam Navigation and Railway Co. in 1897.

The following companies have been formed since 1891-92, in addition to those under branch line terms:—

The Assam-Bengal Railway Company was formed in 1892 with a guarantee of 3 per cent. (3½ until June 1898) on the capital raised by the company, to connect the province of Assam with the port of Chittagong.

* English Companies.

† Indian Companies.

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The Barsi Light Railway Company was formed in 1895, without Government assistance, to construct a short line on the 2' 6" gauge from Barsi Road Station on the G. I. P. Railway to Barsi town. Extensions are in contemplation.

The Burma Railways Company was formed in 1897 with a capital of £2,000,000, carrying a guarantee of 2½ per cent. (2¾ until 1st July 1901) to take over the working of the then existing State railway system in Burma and to construct extensions, especially a line from Mandalay towards the Chinese frontier. This line has been carried out as far as Lashio.

The above three companies are domiciled in England. Another company, the Segowlie-Ruksaul, was formed in India in 1896, without financial aid from Government, to construct a branch line from Segowlie on the Tirhoot State Railway to Ruksaul, near the Nepal frontier: The line is worked by the Bengal and North-Western Railway Company.

The contracts with the East Indian Railway Company for working the East Indian Railway Company, with the Bombay, Baroda, and Central India Railway Company for working the Rajputana-Malwa and other State railways, and with the Rohilkhand and Kumaon Railway Company for working the Lucknow-Bareilly State Railway, which were terminable at different dates within the ten years, have all been renewed with modifications in each case securing to the Indian exchequer a larger share of the profits.

An Act of Parliament was passed in 1894 to enable Indian railway companies to pay interest out of capital during construction. This permission was subsequently embodied in the Indian Railway Companies Act passed by the Governor-General's Council in 1895. In these Acts it is provided, amongst other conditions, that the interest so paid must not exceed a sum which, together with the net earnings of the railway, shall make up the rate of 4 per cent. per annum. The provisions of the Indian Act have since (1902) been extended to tramways.

One other matter remains to be mentioned in this connexion, the purchase of the Great Indian Peninsula Railway, one of the three remaining guaranteed lines, by the Government on the 30th June 1900, in accordance with the terms of the contract of 1849. The purchase price (the value of the Company's stock of £20,000,000 at the average market price during the three years ending on the 17th August 1899), was £34,859,217 17s. 6d., and the Secretary of State decided to exercise the option, reserved to him in the contract, of paying this by means of an annuity, the amount of which was calculated, on the principles of the contract, at £1,335,563 18s. 4d. per annum, payable until 1948. The Company continues to work the line, together with the Indian Midland Railway, under an arrangement with the Secretary of State, who guarantees interest at 3 per cent. per annum on a nominal capital of £2,575,000, made up of £1,750,000 issued in exchange for a portion of the annuity payable by the Secretary of State, and £825,000 in exchange for £750,000 of stock of the Indian Midland Railway Company. In addition to the guaranteed interest, the Company are entitled to one-twentieth of any surplus profits earned by the system worked by them. The arrangement is to continue for 25 years (until 30th June 1925). The two remaining guaranteed companies are the Bombay, Baroda, and Central India and the Madras Railway Companies, which are liable, under the terms of the guarantee, to be purchased by the Government on the 31st December 1905 and 1907 respectively.

The mileage of Indian railways open at the end of each of the 10 years 1892 to 1901 is shown in the marginal table. The total for 1902, as shown on page

Railway
expansion
in the
decade.
Mileage.

	Standard Gauge 5' 6".	Metre Gauge 3' 3¾".	Special Gauges 2' 6" and 2' 0".	Total.
	Miles.	Miles.	Miles.	Miles.
1892	10,199	7,368	327	17,894
1893	10,572	7,587	361	18,510
1894	10,868	7,668	370	18,906
1895	11,215	7,947	393	19,555
1896	11,614	8,254	394	20,262
1897	12,162	8,500	471	21,133
1898	12,786	8,774	488	22,048
1899	13,461	9,404	663	23,528
1900	13,900	10,110	750	24,760
1901	14,037	10,506	810	25,373

268 below, is larger by 7,929 miles than that for 1892, and if to this be added the mileage of the railways excluded from the later figures (q.v.) the result is an addition of rather more than 8,000 miles. The distribution of the new railways may be learnt from the appended map. The largest mileage

opened in any one year was 1,480 miles in 1899. The figure for 1900 was also large, 1,232 miles; but in 1901 the net addition to the mileage was 613 miles only. Sanction was given during the year 1901 to the construction of 715 miles of railway, making up a total of 2126 miles sanctioned and still to be constructed on the 31st December 1901.

The principal railways constructed within the last ten years, in addition to those of the companies mentioned above, are—

- (1) a direct line between Calcutta and Madras along the East Coast. The working of this line has been divided between the Bengal-Nagpur, and the Madras Companies since the 1st January 1901;
- (2) the Moghul Serai-Gya line, the first section of the East Indian Grand Chord or direct route between Benares and Calcutta. The remaining section is now in course of construction;
- (3) extensions of the Bengal-Nagpur Railway, giving that line an independent route to Calcutta and access to the Jherria coalfield (the latter line still under construction);
- (4) the Godhra-Rutlam Railway, a State branch to the Bombay, Baroda, and Central India system;
- (5) the Hyderabad-Godavery Valley Railway, a metre gauge line across the Nizam's dominions, carried out by the Nizam's Guaranteed State Railway;
- (6) considerable extensions of the Jodhpur-Bikanir system in Rajputana, including a line connecting Jodhpur with the North Western Railway at Hyderabad (Sind);
- (7) extensions of the Bengal and North-Western Railway in the Ganges-Gogra Doab and elsewhere.

In addition to these may be mentioned the Cawnpore-Burhwal metre gauge link, a short line, but one of considerable importance as connecting the metre gauge systems of northern and western India.

In 1899 the Government of India decided on the adoption of 2 feet 6 inches as the normal gauge for light railways in rough and mountainous districts, whether for commercial or military purposes. In accordance with this decision, lines on the 2 feet 6 inch gauge have been constructed for military purposes on the north-western frontier from Nowshera to Dargai, and from Kushalgarh to Kohat and Thal. The same gauge has been adopted for the Kalka-Simla Railway (which was commenced on the 2-feet gauge) and for certain branches of the Bengal-Nagpur Railway (Raipur-Dhamtari and Satpura lines).

The volume of the passenger and goods traffic during each of the ten years is shown in the margin. The most marked development in the traffic began in 1893. The check noticeable in 1897 and 1898 was ascribed to plague and famine; but it does not appear that the famine of 1899-1900 had any important effect on the volume of passenger traffic.

—	Number of Passengers* in Thousands.	Weight of Goods carried, in Thousands of Tons.
1892 - -	127,457	26,334
1893 - -	135,520	28,847
1894 - -	145,727	32,648
1895 - -	153,081	33,628
1896 - -	159,509	32,471
1897 - -	150,584	33,926
1898 - -	151,566	36,354
1899 - -	161,727	40,592
1900 - -	176,308	43,739
1901 - -	194,749	44,142

* Season tickets are counted once only, and the actual number of journeys made is therefore greater, and has increased more rapidly, than the above figures would indicate.

Volume of traffic. The most marked development in the traffic began in 1893. The check noticeable in 1897 and 1898 was ascribed to plague and famine; but it does not appear that the famine of 1899-1900 had any important effect on the volume of passenger traffic. Third-class passengers numbered 170½ millions in 1901, and the increase under this and the "intermediate" class is quite out of proportion to that of the first and second-class passengers, the number of whom is comparatively stationary. The average distance travelled by each passenger has increased steadily, and was 40·42 miles in 1901.

In 1896 it was decided that Companies guaranteed by the Government should not be permitted to borrow capital in India, but that all money raised in that country for railway purposes (except that required by unassisted or rebate-aided Companies) should be borrowed by the Government of India, who would make advances to Companies. As a result of this decision, the expenditure to be incurred on railways in connection with which the Government has any financial liability, that is to say, with State lines and guaranteed companies' lines, is now determined by the Government before the beginning of each year; and funds to meet the authorised outlay are

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allotted to the different lines in accordance with a programme which is made out annually. The relative urgency and importance of new projects is considered each year, and the lines which appear to be most required are included in the programme. The number so provided for in any year depends on the balance remaining of the sum fixed for the year's capital expenditure, after the amounts required for open lines and for lines already under construction have been supplied. The capital expended by private companies and by Native States is distinct from that included in the programme of the Government.

The total capital outlay on railways during each of the ten years ending on the 31st December 1901 is shown in the following table. For many years

(Figures in thousands of £, omitting 000.)

	From Funds Provided or Guaranteed by the State.			Private Companies' or Native States' Lines.			Grand Total.
	Rolling Stock, Improvement of Existing Lines, and Suspense.	New Lines, including those in Extension of, or now Worked by, Existing Lines.	Total Capital Expenditure.	Rolling Stock, Improvements of Existing Lines, and Suspense.	New Lines, including those in Extension of, or now Worked by, Existing Lines.	Total Capital Expenditure.	
1892	1,093	1,693	2,786	267	187	454	3,240
1893	1,373	1,993	3,366	133	167	300	3,666
1894	906	2,227	3,133	93	300	393	3,526
1895	1,293	2,040	3,333	133	907	1,040	4,373
1896	1,340	2,253	3,593	100	1,520	1,620	5,213
1897	1,667	3,680	5,347	180	1,780	1,960	7,307
1898	1,160	3,707	4,867	273	1,853	2,126	6,993
1899	2,680	4,000	6,680	413	1,883	2,246	8,926
1900	3,020	2,626	5,646	473	987	1,460	7,106
1901	2,867	2,726	5,593	280	900	1,180	6,773

the amount of money which was available for capital expenditure was so limited that the larger portion of it had to be devoted to new lines if any progress was to be made in railway construction. But the needs of existing lines yearly grew more pressing, and to meet them, without at the same time retarding the construction of new lines, the "railway programme" has from time to time been increased, until it stood in the official year 1902-03 at 7½ millions. Rather more than half of this sum has been appropriated to the

Lines open or partly open :—	£
Guaranteed Railways	16,727,493
State Lines worked by Companies	131,339,158
State Lines worked by the State	54,800,530
Assisted Companies	11,750,168
Native State Lines	11,426,342
Lines in Foreign Territory	1,175,624
Total	226,719,315
Lines wholly under construction	956,234
Total Outlay on Railways	227,675,549
Unclassified expenditure, including Surveys and Collieries	1,217,610
Grand Total Capital Outlay in India	228,893,159

improvement of existing lines, which is regarded as the first charge; next comes the steady prosecution of lines in progress, preference being given to Companies' lines against State lines; and lastly, provision is made for new projects which require to be financed by the State.

The whole expenditure borne against capital to the close of the calendar year 1901 was £228,893,000, distributed as shown in the margin. If all the railways in India were treated as one undertaking, the net earnings would show a return of 5½ per cent. on the railway capital in 1901, compared with 4½ per cent. in 1897 and intermediate rates for the intervening years. But while some railways are productive others are still worked at a loss to the State, and the sum of £846,616 by which the revenues of the Government profited in the financial year 1901-02, as shown on the next page, is obtained by setting off against the profits of the East Indian, Rajputana-Malwa, Eastern Bengal, and some other lines, a loss on many other railway systems.

RAILWAY STATISTICS OF 1902.

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The following particulars for the year 1902 have been furnished as a preliminary statement by the Government of India. The figures are in many cases not comparable with those already given for the ten years, and the absence of further detail makes it impossible at present to bring them into exact harmony with those contained in the foregoing pages.

There was a surplus of revenue over expenditure amounting to £846,616, in the year 1901-02, and this result has been coincident with an addition of 1,190 miles to the whole system during the past two years. The table below is taken from the Finance and Revenue Accounts of 1901-02 and is for the year ended 31st March 1902 :—

Financial result to the State.

	Imperial.	Provincial and Local.	England.	TOTAL.
REVENUE.				
	£	£	£	£
Railways—				
State railways.—(Gross traffic receipts.)	19,248,434	25,562	3,230	19,277,226
Guaranteed companies.—(Net traffic receipts.)	914,989	—	—	914,989
Subsidised companies.—(Repayment of advances of interest.)	32,392	—	1,361	33,753
TOTAL	20,195,815	25,562	4,591	20,225,968
EXPENDITURE.				
Railway Revenue Account—				
State Railways—				
Working expenses	9,475,304	17,030	—	9,492,334
Interest on debt	3,036,779	—	1,147,748	4,184,527
Annuities in purchase of railways	—	—	2,997,759	2,997,759
Interest chargeable against companies on advances.	148,186	3,293	218,884	370,363
Interest on capital deposited by companies.	32,519	2,703	1,042,438	1,077,660
Guaranteed companies—				
Surplus profits, land and supervision.	147,703	—	—	147,703
Interest	6,970	—	1,009,544	1,016,514
Subsidised companies—				
Land, &c.	13,304	137	—	13,441
Miscellaneous railway expenditure—				
	71,533	7,518	—	79,051
TOTAL	12,932,298	30,681	6,416,373	19,379,352
		Net gain	£	846,616

In the figures for expenditure are included all charges falling on the Government for management and working expenses of railways, for interest on their 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, and Great Indian Peninsula 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 land required by the companies, for control, and for miscellaneous items, such as headquarters establishment and surveys.

The statistical results of the working of the various classes of railways during 1902 are given in the following table. The aggregate net earnings of all Indian railways amounted to 5.10 per cent. on the total capital outlay

Statistical results of working.

STATEMENT EXHIBITING THE MORAL AND MATERIAL

PUBLIC
WORKS.

on open lines, including premia, steam-boat service and suspense items, but excluding other indirect charges, against 5.41 (a) per cent. in the previous year:—

Class.	Length of Line Open on the 31st December 1902.	Total Capital Outlay on Open Lines to the 31st December, including Premia, Steam-boat Service and Suspense.	Total Number of Passengers Carried.	Total Weight of Goods Carried.	Gross Earnings, including Steam-boat Service.	Working Expenses, including Steam-boat Service.	Net Earnings, including Steam-boat Service.	Percentage of net Earnings on Capital Outlay on Open Line.
<i>5' 6" gauge.</i>								
State lines worked by companies	Miles, 6,617.46	£ 90,919,400	No. 51,271,977	Tons. 18,760,824	£ 9,344,711	£ 4,121,316	£ 5,223,395	
State lines worked by the State	4,638.01	50,066,493	36,442,990	9,853,135	4,368,929	2,422,518	1,946,411	
Lines worked by guaranteed companies.	1,349.00	16,637,867	26,671,596	2,792,523	1,321,046	916,860	404,186	
Assisted companies - - -	982.33	5,186,242	4,965,657	869,454	482,981	223,744	259,237	
Lines owned by Native States and worked by companies.	723.50	4,794,757	3,181,836	1,483,230	391,405	132,314	259,091	
Lines owned by Native States and worked by State railway agency.	201.68	800,743	1,723,171	271,903	74,954	41,241	33,713	
TOTAL FOR 1902 - - -	14,312.13	167,523,502	120,266,327	34,131,169	16,434,646	7,968,039	8,466,607	5.12
TOTAL FOR 1901 (a) - - -	14,176.67	165,700,592	122,566,738	32,344,837	16,354,861	7,348,546	9,006,315	5.44
<i>5' 3 1/2" gauge.</i>								
State lines worked by companies	7,603.13	43,228,415	58,178,644	5,405,402	4,700,069	2,466,236	2,233,833	
State lines worked by the State	619.48	2,438,867	4,596,610	819,670	495,720	233,260	262,460	
Assisted companies - - -	463.80	2,117,534	2,496,773	633,589	189,867	95,590	94,267	
Lines owned by Native States and worked by companies.	712.66	2,949,916	3,006,324	869,940	213,134	119,080	94,074	
Lines owned and worked by Native States.	1,223.04	2,789,207	2,633,705	580,222	236,531	144,633	111,878	
TOTAL FOR 1902 - - -	10,822.11	54,520,039	70,912,116	11,381,823	5,835,311	3,078,799	2,776,622	5.08
TOTAL FOR 1901 (a) - - -	10,394.94	52,664,123	67,949,839	11,203,063	5,878,393	3,041,552	2,836,841	5.39
<i>Special (2' 6" and 2' 0") gauges.</i>								
State lines worked by companies	66.24	62,380	(c)	(e)	4,000	2,778	1,222	
State lines worked by the State	30.25	59,585	139,239	11,244	5,837	5,822	- 235	
Assisted companies - - -	232.00	662,177	2,377,727	362,091	112,899	68,821	44,078	
Lines owned by Native States and worked by companies.	342.31	417,140	592,110	78,995	24,259	17,762	6,497	
Lines owned by Native States and worked by State railway agency.	23.80	92,915	141,090	74,660	8,413	3,447	4,966	
Lines owned and worked by Native States - - -	94.36	169,267	246,400	19,230	20,534	12,567	7,967	
TOTAL FOR 1902 - - -	688.76	1,497,364	3,386,686	648,120	176,392	111,597	61,865	4.33
TOTAL FOR 1901 (a) - - -	688.94	1,489,299	3,404,311	402,760	174,643	114,768	60,068	4.03
TOTAL OF ALL RAILWAYS FOR 1902 (b).	25,823.00	223,715,905	200,555,129	46,039,113	22,469,349	11,953,333	11,411,014	5.10
TOTAL OF ALL RAILWAYS FOR 1901 (a) and (b).	25,280.55	219,854,014	193,940,818	43,054,687	22,407,897	10,804,853	11,592,244	5.41

It will be observed that, with an increase of 562.45 (d) miles or 2.23 per cent. in the open mileage, as compared with 1901, the gross earnings and working expenses show increases of £58,452 or 0.26 per cent., and of £550,682 or 5.24 per cent., respectively, resulting in a decrease of £492,230 or 4.14 per cent. in the net earnings.

There was an increase of 6,614,211 in the number of passengers and of 2,104,425 tons in the weight of goods carried as compared with the previous year.

(a) These figures serve to show the variation of the year, but they do not afford a basis for comparison with the figures of the decade.
 (b) Excluding the West of India Portuguese, Pondicherry, Karaikal-Peralam, and Parakkimedi railways.
 (c) Included with the 5' 6" gauge.
 (d) The difference between this figure and the total length shown as opened during 1902 in a later paragraph is due to minor corrections of mileage.

The transactions of the original guaranteed lines are illustrated by the following table. In this table the rupee is converted into sterling at contract rates :—

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Guaranteed railway transactions.

	Total Capital Outlay.	Net Revenue.	Guaranteed Interest.	Interest in Excess of Revenue.	Net Revenue in Excess of Interest.	Surplus Profits.
HALF-YEAR ENDED THE 30TH JUNE 1902.						
	£	£	£	£	£	£
Bombay, Baroda, and Central India.	10,716,306	338,726	236,595	—	102,131	102,131
Madras - - -	12,042,199	300,563	279,264	—	21,299	(a) 10,394
Total -	22,758,505	639,289	515,859	—	123,430	112,525
HALF-YEAR ENDED THE 31ST DECEMBER 1902.						
Bombay, Baroda, and Central India.	10,748,676	180,423	237,906	57,483	—	—
Madras - - -	12,147,932	228,196	278,779	50,583	—	—
Total -	22,896,608	408,619	516,685	108,066	—	—
Total for the year 1902	22,896,608	1,047,908	1,032,544	—	15,364	122,525
Total for the year 1901.	22,512,705	1,118,647	1,018,572	—	100,075	160,220

(a) Passed provisionally.

The total railway mileage on each gauge opened during the year and the sections opened were as follows : Mileage opened.

	Miles.	Miles.	Miles.	Miles.
5' 6" gauge.				
East Indian—			Bengal and North Western—	
Sitarampur-Domohani extension—			Tirhoot section—	
Mile 132 from Howrah to Sitarampur - -	6.99		Kosi bridge and approaches—	
Barun-Daltonganj branch—			Katareah to Kursela - -	3.75
Sone East Bank (Barun) to Daltonganj - -	78.13		Jodhpur-Bikaner—	
		85.12	Bikaner section—	
Bengal Nagpur—			Suratgarh to Bhatinda - -	88.00
Hooghly foreshore to Kidderpore Docks - - -	—	0.60	South Indian—	
Madras—			Travancore branch—	
Calicut - Mangalore extension—			Tinnevely bridge to Kallidaikurichi - -	19.07
Badagara to Tellicherry - -	—	14.73	Pamban branch—	
TOTAL 5' 6" GAUGE - -	—	100.45	Madura to Mandapam - -	90.96
				110.03
3' 3 3/4" gauge.				
Eastern Bengal State—			Tanjore District Board (Mayavaram Mutupet)—	
Mogalhat - Dhubri extension—			Mutupet to Pattukottai - -	17.03
Mogalhat to Dhubri Ghat - -	—	38.71	Burma—	
Vijapur-Kalol-Kadi—			Bassein to Henzuda - - -	82.25
Vijapur-Kalol section—			TOTAL 3' 3 3/4" GAUGE - -	437.50
Kalol to Vijapur - - -	—	29.44	Special (2' 6") gauge.	
Shoranur-Cochin—			Khushalgarh-Kohat-Thal—	
Shoranur to Ernakulam - -	—	64.83	Khushalgarh West to Kohat - -	29.70
Bengal Doars—			TOTAL 2' 6" GAUGE - -	29.70
Western extension—			GRAND TOTAL - - -	567.65
Oodlabari to Bagrakote - -	—	3.46		

PUBLIC WORKS. Mileage sanctioned.	The additional lengths sanctioned for construction were :—			
	5' 6" gauge.	Miles.	Miles.	Miles. Miles.
East Indian—			Bengal and North-Western—	
Gya-Katrasgarh line—			Company's section—	
Manpur to Hariharpur -	99.79		Aunrihar to Jaunpur -	36.14
Shikohabad - Farukhabad branch—			Famine lines (Madras Presidency)—	
Shikohabad to Farukhabad	65.82		Bellary to Rayadrug -	33.00
		165.61	Hospet to Kottur -	38.10
Agra-Delhi Chord -		121.16	South Indian—	
Eastern Bengal State—			Marina loop—	
Moorshedabad branch—			Saidapet to Madras Beach -	
Ranaghat to Moorshedabad	75.00		8.38	
Kankurgachi Chord -	2.25		TOTAL 3' 3 3/4" GAUGE -	
Kankurgachi to Canal junction -	1.53		267.24	
		78.78	Special (2' 6") gauge.	
Oudh and Rohilkhand State—			The Gaekwar's Dabhoi—	
Balawan to Madhoganj -		14.47	Padra to Mhoba -	
North Western State—			9.20	
Junction with main line 12 miles from Quetta to Nushki -		82.50	Famine lines (Madras Presidency)—	
Indian Midland—			Morappur to Dharmapuri -	
Ait to Kunch -		8.85	Tirupattur to Krishnagiri -	
Bombay, Baroda, and Central India—			26.47	
Godhra to Baroda -		44.85	Moharbhauj (Orissa)—	
Madras—			Baripada to Baripada Road Station -	
Azhikal to Mangalore -		77.27	28.50	
Madras (North-East line)—			Dwaru-Therria (Assam)	
Korukkuppettai to Basin Road -		0.93	Noorpore to Therria Ghat -	
		594.42	19.50	
TOTAL 5' 6" GAUGE -			TOTAL 2' 6" GAUGE -	
			102.04	
			Special (2' 0") gauge.	
			Howrah-Antu—	
			Jagatbullubpur to Champadanga -	
			17.50	
			Antpur to Rajbulhat -	
			3.50	
			21.00	
			TOTAL 2' 0" GAUGE -	
			21.00	
			GRAND TOTAL -	
			984.70	

Mileage under construction.

The total mileage under construction or sanctioned for construction at the close of the year, i.e., on the 31st December 1902, was as follows :—

	Miles.	Miles.
5' 6" gauge—		
State lines worked by companies	487.73	
State lines worked by the State	329.48	
Lines worked by guaranteed companies	139.37	
Assisted companies	0.79	
		957.37
3' 3 3/4" gauge—		
State lines worked by companies	499.56	
State lines worked by the State	151.62	
Assisted companies	107.10	
Lines owned by Native States and worked by companies -	70.55	
Lines owned and worked by Native States	72.85	
		901.68
Special (2' 6") gauge—		
State lines worked by companies	297.51	
State lines worked by the State	62.03	
Assisted companies	106.20	
Lines owned by Native States and worked by companies -	37.70	
		503.44
Special (2' 0") gauge—		
Assisted companies	21.00	
Lines owned by Native States and worked by companies -	56.82	
		77.82
TOTAL		2,440.31

The following gives a brief abstract of the important works completed and in progress during 1902 :—

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Agra-Delhi Chord Railway.—The construction of the line is in hand. It is expected that the line will be completed by October 1904.

Important
works com-
pleted and
in progress.

Ahmedabad-Dholka Branch Railway.—This branch line, 33·35 miles, will probably be opened for traffic in March 1903. It is being constructed by the Bombay, Baroda and Central India Railway Company on behalf of the promoters, Messrs. Killick, Nixon & Co., and will, when completed, be worked by that company.

Assam-Bengal Railway.—Work on the Damchara-Lumding section is still in progress, and it is expected that this portion of the railway will be opened for traffic by October 1903, and that from Lakwa to Tinsukia in February 1903.

Bengal and North-Western Railway System.—The permanent bridge (18 spans of 200 feet) over the Gogra river at Turtipur on the Company's section was completed and opened for traffic on the 15th January 1903. The permanent bridge (15 spans of 200 feet) over the Kosi river, near Katihar, on the Tirhoot section, was completed and opened for traffic on the 10th July 1902.

Of the lines under construction on the Company's section, it is expected that the Azamgarh-Shahganj extension, 35 miles, will be opened for traffic in February 1903, and the Ghazipur-Ballia extension, 31 miles, in March 1903. Arrangements are being made to start work on the Aunrihar-Jaunpur extension, 36·14 miles.

Bengal-Dooars Railway.—The remaining section of the Western extension, from Oodlabari to Bagrakote, was opened for traffic on the 20th July 1902. Of the Eastern extension, the section Chalsa to Daina, 15 miles, was opened for traffic on the 1st January 1903. It is expected that the extension will be completely opened by April 1903.

Bengal-Nagpur Railway.—Work on the Midnapore-Jherria extension and Jherria connection lines is progressing rapidly, and the extensions will probably be opened in February 1903. The construction of the Jubbulpore-Gondia extension and branches, on the 2' 6" gauge, is well in hand. It is expected that the first section of about 25 miles in length from Gondia to Balaghat will be opened early in 1903.

Bombay, Baroda, and Central India Railway.—The doubling of the line between Bulsar and Sachin, 33 miles, was completed during the year. The second line between Anklesvar and the Nerbudda bridge, 4·17 miles, has also been completed and will be opened on completion of the protective works at the bridge. The extensions of the Parel workshops are approaching completion.

Work on the Baroda-Godhra Chord is in progress. The line will probably be opened by June 1903.

The Wadhwan-Viramgam section was converted from 5' 6" to 3' 3½" gauge and opened for traffic on the latter gauge on the 14th December 1902.

Burma Railways.—The section of the Letpadan-Henzada-Bassein extension from Bassein to Henzada, 82·25 miles, was opened for traffic on the 15th December 1902. It is expected that the remaining length to Letpadan will be completed early in 1903.

On the Mandalay-Kunlon extension, the branch from Hsipaw to Lashio, 50·30 miles, is approaching completion.

Calcutta Port Commissioners' Railway.—A commodious yard has been added at Shalimar with facilities for storage and shipment of bunker coal. Sheds covering 2½ acres have also been added to the grain depôt, and large sheds have been provided for the hide trade.

Eastern Bengal State Railway.—Work in connection with the scheme for quadrupling the line between Naihati and Ballygunge is in progress, and that in connection with the extensions of the Chitpore terminus has nearly been completed.

The line from Mogalhat to new Gitaldaha, the junction with the Cooch Behar railway, over the Dharila bridge was opened for traffic on the 2nd

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January 1902, and that from new Gitaldaha to Dhubri Ghat on the 23rd September of the same year.

The construction of the Moorshedabad branch from Ranaghat to Moorshedabad has been started. The line will probably be opened for traffic about December 1904.

East Indian Railway.—Of the Barun-Daltonganj line, the section from Sone East Bank Station (Barun) to Rajhara was opened for traffic on the 3rd May 1902, and the remaining portion of the line on the 15th December 1902.

The Sitarampur-Domohani extension was opened on the 15th April 1902, and the construction of the Gya-Katrasgarh railway has been commenced. Additional crossing stations to allow of trains throughout the main line and Jubbulpore branch being worked on the "Absolute Block System" have been sanctioned. Some of these stations have been provided and others are in course of construction.

Great Indian Peninsula Railway System.—The new station at Itarsi was completed and brought into use. The construction of a surface line from Ait on the Jhansi-Cawnpore section of the Indian Midland railway to Kunch, 8.85 miles, is in hand. A siding four miles in length to Belingunj, the business centre in Agra, and the most suitable site for a goods depôt for the traffic of all railways entering the city, and a new station at the junction of this siding with the Agra-Delhi Chord line are under construction. The new station is expected to be opened before next rains.

Gaekwar's Dabhoi Railway.—The extension of the Vishvamitri-Padra section to Mhoba, 9.20 miles, is under construction.

Jaipur-Sawai Madhopur Railway.—The Jaipur Darbar are still unable to provide funds for the completion of this railway.

Jodhpur-Bikaner Railway System.—The last section of the Bikaner-Bhatinda railway from Suratgarh to Bhatinda, 88 miles, was opened for traffic on the 9th September 1902.

Kalka-Simla Railway.—Works on this 2' 6'' gauge railway are in progress. Rails have been laid from Kalka to mile 26 and between miles 27 and 30. It is expected that the line will be opened for traffic by October 1903.

Lucknow-Bareilly Railway.—The Dudhwa branch extension to the Mohan river is expected to be completed by the end of March 1903.

Madras Railway.—Of the Calicut-Mangalore extension, the section from Badagara to Tellicherry, 14.73 miles, was opened for traffic on the 1st May 1902, and that from Tellicherry to Azhikal, 17.25 miles, is expected to be opened by the end of March 1903. Beyond Azhikal the line has been located to Mangalore, and the acquisition of land is in progress.

Good progress has been made on the works at the junction of the North-East line (East Coast Railway) with the Madras Railway at Madras, and work on the extension from Korukkuppetai to Basin Road is in hand.

Morvi Railway.—Works in connection with the conversion of this line from the 2' 6'' to the 3' 3½'' gauge are in progress, and are expected to be completed in 1904.

Noakhali (Bengal) Branch Railway.—The Laksam-Noakhali section, 30 miles, is expected to be opened for traffic by June 1903, and the Noakhali-Ichakhali section, 4.95 miles, by June 1904.

North-Western State Railway.—The permanent bridge over the Kabul River at Nowshera was completed and opened for traffic on the 29th October 1902.

The Khushalgarh-Kohat section of the Khushalgarh-Kohat-Thal branch was opened for traffic on the 25th May 1902. It is expected that the remaining length to Thal, 61 miles, will be completed shortly.

The construction of the Northern section of the Jech Dqab branch from Malakwal, on the Sind-Sagar section of the North-Western State Railway, to Sargoda, in the Karana Hills, 51.40 miles, is well in hand.

Work was commenced on the Spezand tunnel of the Quetta-Nushki branch, and on 7 miles of line to the tunnel.

Oudh and Rohilkhand State Railway.—The construction of a branch to this railway from Balamau to Madhoganj, 14·47 miles, is in progress.

Work on the Allahabad-Fyzabad branch is sufficiently advanced for the section from Phaphamau to Pertabgarh, 28·50 miles, to be opened about the end of March 1903, that from Pertabgarh to Sultanpur, 24½ miles, about May, and that from Sultanpur to Fyzabad about August of the same year. The bridge over the Ganges between Phaphamau and Allahabad will not be ready for another eighteen months.

Rajputana-Malwa Railway.—The locomotive shed and the tranship yard at Delhi have been removed from their old site in the Central Station, to Serai Rohilla, 2½ miles out.

Shoranur-Cochin Railway.—This line, 64·83 miles, was opened for traffic on the 2nd June 1902. The railway is the property of the Native State of Cochin, and is worked by the Madras Railway Company.

Southern Punjab Railway.—A new station named Punjabi Serai, near Delhi, was opened for traffic on the 20th December 1902.

South Indian Railway.—The Pamban branch from Madura to Mandapam near the Pamban Pass, 90·96 miles, was opened for traffic on the 1st August 1902.

The British section of the Travancore branch from Tinnevely Bridge to Kallidaikurichi, 19·07 miles, was opened for traffic on the 1st June 1902. It is expected that the remaining length of the British section, 31 miles, and the portion of the Native State section from Quilon to Ponulur, 28·26 miles, will be opened by the beginning of May 1903, and the connecting link of 30 miles on the 1st April 1904.

Tanjore District Board's Railway.—The first section of the Mutupet-Arantangi extension, 17·03 miles, was opened for traffic on the 20th October 1902, and the remaining portion of the line, 28·35 miles, is expected to be opened on the 1st October 1903.

Vijapur-Kalol-Kadi Railway.—The first section of this line, the property of His Highness the Gaekwar of Baroda, from Vijapur to Kalol, 29·44 miles, was opened for traffic on the 10th June 1902. Work on the remaining portion of the line is approaching completion.

The following were the principal events in 1902 :—

Principal
events.

Comforts of Lower Class Passengers.—As representations had been made to the Government of India that the inconvenience and hardships experienced by lower class passengers, on account of the absence of latrine accommodation in carriages, had in no way abated, all railways in India were invited to take steps for the provision of such accommodation—

- (a.) as early as possible in all intermediate and third class carriages running on mail and fast passenger trains, that is, trains which are not timed to stop at every station; and
- (b.) as opportunity arises in all other carriages of these classes except those intended for use on suburban trains running for distances of less than 50 miles.

From the replies received to date it appears that Railway Administrations are giving the matter their earnest attention, and that satisfactory progress is being made in the provision of the required accommodation.

Standardisation of Locomotives.—Mr. C. W. Hodson, the Director of Railway Construction, was appointed by His Majesty's Secretary of State for India to consult the English authorities in regard to—

- (i.) the revision of the existing Standard Dimensions for Indian railways; and
- (ii.) the placing of orders for rolling-stock in advance.

Mr. Hodson in submitting his report, which is now under the consideration of the Government of India, made the following recommendations in regard to (i) :—

- (a.) That modifications in the Standard Dimensions affecting the clearance between moving and fixed structures shall be dealt with in India;

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- (b.) That items 15 and 21 of Chapter IV. of the Standard Dimensions shall be cancelled, and that the rules relating to the design and inspection of railway girder bridges shall be modified as shown in enclosure 1 to the report ;
- (c.) That items 11 to 14 of Chapter IV. of the Standard Dimensions shall be retained pending the adoption of some better method of ensuring that rolling-stock unduly severe on the existing permanent-way shall not be introduced without full consideration.

Of these, the Secretary of State has been pleased to accept (a) and (b) and, with reference to (c), commends, for the consideration of the Government of India, that it would be a sufficient safeguard against damage to permanent-way to provide a general limit to the axle load in its proportion to the weight of the rail.

In regard to the question of placing orders for rolling-stock in advance of actual requirements, the suggestions of the Government of India on the subject are asked for by the Secretary of State.

Report on the working of Indian Railways.—Mr. T. Robertson, C.V.O., who had been appointed by His Majesty's Secretary of State for India to investigate the difficulties which exist in the management of Indian railways, financially or otherwise, and to report on the best means of overcoming these difficulties, arrived in India in October 1901, and after certain investigations left the country in April 1902, for the United States. He returned in November 1902 and has recently (April 1903) submitted his report, which is under consideration.

Chamber of Indian Railways.—A conference of railway delegates assembled at Calcutta in February 1902, to consider whether—

- (a.) a permanent conference should be established independent of Government, with a paid secretary and a president elected by the members ; and, if so,
- (b.) what the name, powers and functions of this conference should be ; or
- (c.) if they were unable to recommend the establishment of a permanent conference, whether the "Standing Committee" which was created under resolutions Nos. 51 and 3 of the conferences of 1899 and 1900, respectively, should be continued.

The conference recommended the adoption of proposal (a), and, as regards (b), suggested that the body be called "The Chamber of Indian railways." They also framed rules defining the functions of the proposed "Chamber of Indian railways." These have been referred to the Boards of the several railways in England and are still under their consideration.

Rates dispute as to the routing of Bombay traffic from the Southern Mahratta Railway.—The dispute between the Great Indian Peninsula, the Southern Mahratta and the West of India Portuguese railways, as to the routing of traffic between Bombay and Southern Mahratta railway stations, was settled by a territorial division of the traffic.

Contracts for working of lines executed.—On the 27th June 1901, an Indenture was executed for the construction and working by the South Indian Railway Company of the Pamban and Travancore branches.

On the 23rd January 1902, an Indenture was executed for the construction and working by the Bengal-Nagpur Railway Company of the Sini-Howrah, Midnapore-Cuttack, Midnapore-Jherria, Jubbulpore-Gondia and Raipur-Dhamtari extensions, and for the working of the Cuttack-Waltair section of the East Coast railway.

On the 21st February 1902, an agreement was entered into between the Administration of the Oudh and Rohilkhand State railway and the Bengal and North-Western Railway Company for the exercise by the latter of running powers over the Cawnpore-Burhwal metre gauge link of the Oudh and Rohilkhand State railway.

On the 18th March 1902, an agreement was entered into for the working of the West of India Portuguese railway by the Southern Mahratta Railway Company ; the arrangement having effect from the 1st July 1902.

On the 25th March and 18th July 1902, Indentures were executed for the construction and working of the Sabarmati-Dholka Branch railway by the Bombay, Baroda and Central India Railway Company.

On the 27th March 1902, an Indenture was executed between the Government of the French Settlements in India and the South Indian Railway Company for the working of the Peralam-Karaikkal railway.

On the 17th May 1902, an agreement was executed for the working of the Cambay State railway, from Tarapur to Cambay, by the Bombay, Baroda and Central India Railway Company.

On the 23rd June 1902, an agreement was entered into between the Administration of the Oudh and Rohilkhand State railway and the Great Indian Peninsula Railway Company for the exercise by the latter of running powers over the Cawnpore-Lucknow section of the Oudh and Rohilkhand State railway.

On the 1st August 1902, an agreement was entered into between the South Indian Railway Company and the British India Steam Navigation Company for the through booking between stations on the Railway Company's system and Colombo *viâ* Tuticorin of coaching and goods traffic, excluding parcels, and of passengers, *viâ* the same route to London.

General.—On the 1st January 1902, the working of the Parlakimedi Light railway was made over to the Bengal-Nagpur Railway Company by the owning Native Chief.

On the 17th March 1902, the Mariani and Titabar junction stations of the Jorhat State railway were made over to the Assam-Bengal Railway Company for joint working.

From the 10th April 1902, through booking of goods traffic was introduced between the Eastern Bengal State and the Bengal-Nagpur railways *viâ* Dock Junction and the Shalimar wagon Ferry.

Consequent on the opening of the Kaunia-Dhubri extension of the Eastern Bengal State railway, the section of the Kaunia-Dharlla, 2' 6" gauge, branch from Kurigram to Jatrapur was abandoned from the 23rd September 1902, and through booking with the River Steam Navigation Company's Assam service was introduced *viâ* Dhubri Ghât instead of *viâ* Jatrapur.

During the months of November and December 1902 there were several heavy slips on the Nilgiri Railway, which necessitated transshipment of traffic and the closing of the line to traffic for short periods. Arrangements have been made for the purchase by the State of the property of the Nilgiri Railway Company as on 1st January 1903.

On the 14th December 1902, through connection was established between the Kathiawar Railways and the Rajputana-Malwa Railway system by the conversion of the 5' 6" gauge line between Wadhwan and Viramgam to the 3' 3½" gauge.

Alternative Line to the Jherria Coalfields and to Northern India.—In connection with the recommendation of the Committee, referred to in the last report, which investigated the question of the entry of the Bengal-Nagpur railway into the Jherria coalfields and the provision of an independent access to Calcutta from the United Provinces of Agra and Oudh, the following lines were sanctioned for construction :—

(a.) By the East Indian Railway Company :—

Manpur (Gya) to Hariharpur.

Katrasgarh to Khanoodih.*

Jherria to Dhanbaid.*

Northern half of the Mulkeera-Katrasgarh cross connection,* and Tasra siding* ; and

(b.) By the Bengal-Nagpur Railway Company :—

Bhojudih to Hariharpur.*

Bhojudih to Parthadihi,*

Bhojudih to Mhoda.*

Bhaga connection,*

Southern half of the Mulkeera-Katrasgarh cross connection,* and Bhowra siding.*

* Sanctioned during 1901.

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Madras Famine Lines.—With the object of increasing the facilities for distributing food to the population in the Madras presidency and of lessening the difficulties and troubles incidental to periods of scarcity, sanction was accorded to the construction of feeder lines from Bellary and Hospet on the Southern Mahratta Railway to Rayadrug and Kottur respectively, and from Morrapur and Tirupattur on the Madras railway to Dharmapuri and Krishnagiri respectively. It is intended to employ the agency of the Southern Mahratta Railway Company for the construction and working of the first two lines and that of the Madras Railway Company for the two latter lines.

Projects for new Lines.—The negotiations which, at the close of last year, appeared to have been practically concluded for the construction, on the 3' 3½" gauge, of the Kurnool Road-Dhone-Kurnool railway (Madras), 32 miles, and the Bezwada-Masulipatam railway (Madras), 50 miles, are still proceeding, the promoters having asked for certain modifications of the terms offered.

The scheme for the construction, on the 2' 6" gauge, of the Raichur-Wondalli railway (Hyderabad), 43 miles, the concession for which was granted to the Wondalli (Deccan) Gold Mines Company and the Hyderabad (Deccan) Company in June 1900, has not advanced any further.

Revised proposals, which are under consideration, have been received from the promoters for the construction of the Amritsar-Taran Taran-Patti railway (Punjab), about 27 miles in length.

The negotiations for the following lines, which were stated in last year's report to have been progressing, still continue:—

	Miles.
Kangra-Valley (Punjab) - - - - -	87
Jullundur-Hoshiarpur (Punjab) - - - - -	24
Vizianagram-Raipur with Sointilla branch (Madras and Central Provinces) - - - - -	359
Barun-Ajmer-Marwar (Rajputana). - - - - -	213
Negotiations are also proceeding for the—	
Berhampore-Russelkonda (Madras) - - - - -	49
Macleodganj Road - Fazilka - Ferozepore - Ludhiana (Punjab) - - - - -	150
Rawalpindi-Murree with extension to Kuldana and Gharial (Punjab) - - - - -	50

The concession which was granted for the Tilagaon-Sylhet railway (Assam), 39 miles, and Akhaura-Bhairab Bazaar railway (Bengal), 19 miles, has lapsed, while the negotiations for the Fatehpur-Markundi railway (United Provinces), 61 miles, have been allowed by the promoters to drop.

North and South Line connecting Ceylon and Upper India.—The Government of India have appointed a Commission, which will sit in Madras early in February 1903, with a view, chiefly, to the collection of such evidence and information as will enable the Commission to advise Government in regard to the general question of the best means of effecting 5' 6" gauge connection between the Indian system of 5' 6" gauge railways and the Ceylon railways on the same gauge; and also to report on (a) the best means for linking Mysore with Southern India; (b) the Podanur-Palni (or Dindigul) connection, and (c) the suggested conversion to 3' 3½" gauge of everything west of Erode or Podanur.

Branch or Feeder Line Terms.—The questions of the general revision of the terms for the construction, outside the Government of India programme, of branch or feeder lines of railway by private enterprise, of the construction of feeder lines by Local District Boards from taxes expressly levied for the purpose, and of the financing of such lines, are under consideration.

II.—IRRIGATION.

Irrigation.

Facilities for irrigation vary widely, and irrigation works differ both in extent and in character. The main distinction arises from the fact that the rivers of northern India are fed by the Himalayan snows, and therefore

afford a supply of water which surpasses in constancy and in volume any of the rivers of the south. In Bombay proper and in Madras almost all the irrigation systems, excepting some in the deltas of the chief rivers, are dependent on reservoirs or "tanks" which collect the rainfall of the more or less adjacent hills. In Sind and in the Punjab there are many canals which act merely as distributaries of the overflow of the great rivers at the time of inundation; but where the utility of the canals has been increased by permanent head-works the supply of water is perennial and practically inexhaustible, thus contrasting favourably with the less certain protection given by the tanks.

In the classification adopted by the Public Works Department, irrigational undertakings are grouped as major and 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 on sums spent on their construction, and also the works classed as "famine protective," which are constructed out of the grant for famine relief and insurance. Minor works are constructed and maintained out of revenue, and they fall into two divisions according as separate capital and revenue accounts are or are not kept for each. The former alone are under the Public Works Department; the latter, which are most numerous in southern India, are controlled by the revenue authorities. There remain the wells, with which we are not now concerned.

The capital outlay on major irrigation works in India up to the end of 1901-02 was just short of £24,000,000. The net revenue, after deduction of working expenses only, amounted in that year to 7 per cent. on that capital; if interest also be deducted, the return on the capital was 3 per cent. Particulars of the finances of major and minor works during 1901-02 are shown in the following table:—

	Burma.	Bengal.	United Provinces.	Punjab.	North-West Frontier Province.	Madras.	Bombay and Sind.	Minor Provinces.	Total.
MAJOR IRRIGATION WORKS.									
Estimated cost of construction, including indirect charges.	£ 515,652	£ 4,433,998	£ 5,515,007	£ 6,543,729	£ 266,020	£ 4,598,230	£ 3,017,488	—	£ 23,001,141
Actual capital outlay: During 1901-02	82,858	30,213	21,252	257,615	472	50,932	160,110	—	594,358
To end of 1901-02	326,197	4,200,022	3,498,311	6,338,176	266,020	4,598,230	2,717,469	—	22,958,425
Direct receipts, chiefly water rates	—	112,461	454,991	599,420	9,679	26,323	50,686	—	1,259,576
Land revenue credited to irrigation, less collection charges.	—	—	55,865	59,727	1,525	830,471	106,768	—	812,597
Total revenue	—	112,461	510,856	659,147	11,204	346,804	157,474	—	2,372,975
Working expenses	—	75,509	304,095	276,785	2,378	98,901	44,262	—	701,920
Net revenue	—	36,952	206,761	382,362	8,826	247,903	113,212	—	1,671,055
Profit or loss per cent. on capital	—	+ 1.03	+ 6.13	+ 11.37	+ 10.41*	+ 9.74	+ 4.13	—	+ 6.97
Simple interest on capital at 4 per cent. until March 1900, thereafter 3½ per cent.	11,100	167,539	219,280	247,970	10,641	162,701	104,992	—	644,123
Net revenue deducting interest	-11,100	-130,587	117,481	474,411	-1,814	265,202	7,220	—	726,932
Profit or loss per cent. on capital	- 3.40	- 2.97	+ 2.14	+ 7.46	+ 6.41*	+ 5.77	+ .27	—	+ 3.04
MINOR WORKS AND NAVIGATION.									
Expenditure: Irrigation and Navigation	106,961	42,783	17,483	79,421	2,902	186,571	102,368	9,342	541,111
Agricultural	12,471	44,377	6,597	2,006	382	48,641	47,073	—	167,547
Receipts	6,765	46,177	12,755	64,914	2,917	10,818	16,266	2,366	264,898
NET TOTAL IRRIGATION REVENUE	-150,767	-166,432	206,156	487,898	-1,182	38,238	-126,983	-6,544	172,972

* Including the portion of the revenue from the Swat River Canal which is credited to the Punjab.

The Irrigation department has left very little to be ascertained in respect to the irrigating capacity of the large rivers of northern and southern India. The Famine Commissioners of 1898, in their review of the position of irrigation up to that date, showed that the principal recommendations of the Famine Commission of 1878 had been carried out, and that beyond the projects, chiefly in the Punjab and Sind, which were already in hand or in

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contemplation, no large works of a productive character remained to be carried out. They advised, however, that as many suitable protective works as could be found should be gradually constructed out of the Famine Grant, and recommended that investigations should be undertaken in all provinces, with a view to determining the particular works to be undertaken. In order to carry out these recommendations, the local governments were directed to take steps for accumulating the necessary information, and an Irrigation Commission was appointed in the year 1901. Its object may be best explained by giving the terms of reference, which ran as follows:—

“(I.) To ascertain the utility of irrigation under local conditions of agriculture, whether in generally increasing the produce of the land or in securing it from the effects of failure of rainfall.

“(II.) To report upon the extent to which irrigation has been provided by works constructed by the State, and the results—productive, protective, and financial—which have been attained.

“(III.) To determine the scope which exists for further extensions of State irrigation works, with particular regard to such proposals for new works as may be laid before the Commission by local officers, and to estimate in general terms, after considering the results attained on completed projects and the data available from others which, whether sanctioned or not, have been investigated in sufficient detail, the probable net cost to the State of carrying out such extensions.

“(IV.) To consider the extent to which local capacities for irrigation have already been utilised by private individuals. There are in some districts a great number of private tanks or canals on which a considerable area of cultivation depends, and the question of stimulating private effort in extending such works deserves careful consideration. It may be found that when irrigation ordinarily yields too small a profit to attract the investments of private capital, the Government can extend it more economically by the grant of loans, or by foregoing the recovery of a portion of its loans, than by itself undertaking the construction of works. It may also be possible to assist the construction of works of this class by systematic arrangements for including them in the provincial programmes of relief works, and by executing them as far as may be possible by relief labourers on occasions of famine. Under this head also falls the important question of the extension of well cultivation, which in many tracts will probably afford greater and more reliable protection than any other form of irrigation work. The attention of the Commission is particularly invited to this branch of the subject.

“(V.) To consider the character and utility of the works on which relief labour has been employed during the late famine; to make recommendations whenever possible either for the completion or definite abandonment of such works as have not been completed; to examine the existing programmes of relief works, and to suggest the arrangements permanently required for revising and maintaining them in the most efficient manner so as to ensure the application of relief labour as far as may be possible to works which will have a real protective value. It is essential, with a view to the possible recurrence of famine, that in each province the arrangements for meeting it and for the employment of local labour should be in so advanced a state that operations may commence, as part of a continuous programme, without the dissipation of force or the delays resulting from hastily prepared and often imperfect schemes.”

The report of the Commission had not been received at the time of writing and as it will no doubt be made public at an early date there is no need or justification for dealing with the topic of irrigation in detail. But the following paragraphs give an outline of recent progress in the chief provinces.

Bengal.

The major irrigation works in Bengal are the Orissa, the Midnapore, and the Sone canals for irrigation and navigation, and the Hijili Tidal canal for navigation only, these four being in operation and classed as productive works; and the Tribeni and Dhaka canals which are intended for irrigation only and are now under construction as protective works. Among the canals classed as minor works are the Calcutta and Eastern canal, through the Sundarbans, the Nadia Rivers canal, north of Calcutta, and the Orissa Coast canal, which with the Hijili Tidal canal connects Orissa with Calcutta. These are exclusively navigation canals, and the area irrigated from minor works amounts only to some 30,000 acres. Irrigation from Government

	Area Irrigated from Government Canals.		
	Average of Three Years ending 1891-92.	Average of Three Years ending 1901-02.	Year 1901-02.
Orissa Canals -	Acres, 181,537	Acres, 201,955	Acres, 201,498
Midnapore Canal.	78,262	78,190	82,134
Sone Canals -	853,673	481,333	557,494
	613,472	761,478	841,126

canals is therefore represented for the most part by the three first mentioned systems. Of these, the Orissa distributaries were not finished until 1895, but the other two systems were practically complete at the beginning of the decade. It will be seen, however, from the marginal table that the increase of irrigation on the Orissa canal has been inconsiderable, while on the other hand the people in the Behar districts commanded

by the Sone canal are realising more and more the benefits of canal irrigation. The year 1901-02 was marked by a scanty rainfall, and irrigation was therefore in special demand; but there was a similar deficiency in 1891-92, and the triennial averages afford a fair basis for comparison.

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Taking the four open major works as a whole, they rather more than pay their working expenses, but the charge for interest on the capital expended is far from being covered, and is not likely to be covered in the future, by the net revenue. The financial results are, however, improving, in spite of a decline of the receipts from navigation caused by the competition of railways. The Orissa system shows an average loss of £3,487 on its working, exclusive of interest, for each of the three years ending in 1901-02; the Sone system an average profit of £33,832; the four canals together an average profit of £33,181. But against this are to be set interest charges of which the average amount, in each of the three years was £166,715. On the other side is to be set the increase in the yield of food, the protection afforded against drought, and the facilities for communication with Orissa and with Eastern Bengal. It is estimated that in the famine year 1896-97 and in 1901-02 something like a million and a quarter tons of grain were added to the food supply of Behar by the Sone canals.

The length of the main canals and branches of the major irrigation works of the United Provinces amounted to 1,509 miles at the end of the year 1901-02, compared with 1,420 miles in 1891-92, the increase, being due to the extension of the Lower Ganges Canal. The Eastern Jumna Canal and the two Ganges canals supply irrigation to the greater part of the Doab between those two rivers. The Agra canal stretches parallel with the Jumna river, on its right bank, between Delhi and Fatehabad. Further to the east, the Betwa protective canal and the distributaries of the Jhansi and Hamirpur lakes (minor works) irrigate the western portion of Bundelkhand. Other minor works are the small canals of Rohilkhand, the Dun canals, and the Bijnor canals. Including main canals and branches, distributaries, escapes, and drainage cuts, the total length of channels had grown from 10,400 miles in 1891-92 to 12,919 miles in 1901-02. The area of crops irrigated by canals, as shown in the irrigation reports, amounted to 2,741,400 acres in the latter year, a figure which had only twice been exceeded. This was partly due to deficient rains for the autumn crops, but the normal area of irrigation is also gradually rising, as a result of recent extensions and improvements. The value of the crops grown on this area in 1901-2 is estimated at 5½ millions sterling, or nearly as much as the entire capital outlay on canals in these provinces. The irrigated area is liable to great fluctuations in accordance with the character of the season; in 1891-92 it stood at 2,045,000 acres, and it sank to 929,500 acres in 1894-95; but the circumstances of 1896-97 and 1899-1900 expanded it to 3,024,000 acres and 2,830,000 acres respectively in those two years. In reviewing the work done by the Irrigation Department during the six years of his tenure of the post of Lieutenant Governor, ending with 1900-01, Sir Antony MacDonnell shows that 1,800 miles of new channels had been opened, including 105 miles of branches; 3,083 miles had been remodelled, and the system of irrigation outlets had been rearranged in 3,413 miles of canals and distributaries. Remunerative irrigation projects for the dry zone in the Agra district, to cost £103,000, and projects for protective works in Bundelkhand, to cost altogether about £326,000, had been prepared, and other minor protective works had been completed or designed.

United
Provinces.

It has been shown in the table on a previous page that the major irrigation works of the United Provinces gave a net return of 6·13 per cent. on the capital outlay, or 2·14 per cent. after allowing for interest. On the Upper Ganges canal the net receipts, without taking account of the charge for interest, amounted to 8·35 per cent. on the capital in the year 1901-02; the corresponding figure for the Lower Ganges canal was 3 per cent., for the Agra canal 4 per cent., and for the Eastern Jumna canal 23 per cent.

The conversion of the Chenab canal from an inundation to a perennial water supply and the settlement of a large colony on the area irrigated by it, have been the chief cause of the increase in the irrigated area of the Punjab, which was 5,527,800 acres on an average of the three years ending in

Punjab.

PUBLIC WORKS. 1901-02, against 3,022,700 acres in the corresponding period ten years ago. The major works, which are practically all perennial canals, include the Western Jumna, taking off from the right bank of the Jumna river, and irrigating parts of the Delhi division; the Sirhind canal, which supplies a large area, especially in Native State territory, on the east of the Sutlej; the Bari Doab canal, lying between the Beas and Ravi rivers, from the latter of which it takes its water; the Sidhnai canal, further to the south, but on the left bank of the Ravi; between the Ravi and the Chenab rivers, the Chenab canal; and the Jhelum canal, which is to irrigate the triangle between the Chenab and the Jhelum. These, with the Lower Sohag and Para inundation canal, com-

prise what are known as the major, or productive, irrigation works, and irrigate some 4½ millions of acres. The minor works are all inundation canals, and as such are of less value; but they supplied with water 1½ million acres in 1900-01, and nearly a million acres in 1901-02. It will be seen from the marginal table that on all the more important works the irrigated area has been largely extended during the ten years.

Area Irrigated from Government Canals (Major Works).			
	Average of Three Years, ending 1891-92.	Average of Three Years, ending 1901-02.	Year 1901-02.
	Acrea.	Acrea.	Acrea.
Western Jumna	381,274	606,500	549,955
Bari Doab	517,080	826,476	856,041
Sirhind (British)	591,584	793,312	728,908
Sirhind (Native States)	197,821	341,063	341,553
Chenab	42,407	1,643,959	1,748,129
Jhelum	—	—	66,367
Lower Sohag and Para	52,912	62,220	47,758
Sidhnai	129,707	103,392	114,132
	1,912,785	4,376,719	4,491,838

As regards the Chenab canal enough has already been said in the chapter on Agriculture, where the subject was discussed in the light of the Colonisation Officer's report for the agricultural year 1900-01. The Jhelum canal, which is excepted to irrigate an area of about 612,000 acres annually, was opened in October 1901, and appears for the first time in the irrigation returns of 1901-02. The tract known as the Sind-Sagar Doab, lying between the Jhelum and the Indus rivers, is as yet unprovided with a large irrigation scheme, and it has been proposed to construct a canal to supply a large area with water from the Indus. The character of the tract is, however, less promising than in the case of those irrigated by any of the other productive works in the province, about a third of it being covered with mounds and sandhills which will not be irrigable.

As regards the financial results of the major irrigation works in the Punjab, if the capital expenditure on the Jhelum canal, which was under construction and earned no revenue, be excluded, the average net revenue received in each of the three years ending in 1901-02 was £645,800, equivalent to a return of 10·83 per cent. on the capital invested, or if interest charges be taken with account the average return was at the rate of 7·08 per cent. The average annual value of crops raised on the areas irrigated by these works is nearly equal to 1½ times the total sum invested in them up to the present date.

Bombay.

The water system of Bombay proper does not admit of the construction of large irrigation works. The rivers or streams are 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." The Nira and Mutha canals, both in the Poona district, are the most important, supplying between them 61,522 acres, out of the 139,040 acres irrigated by Government canals in 1901-02. The remainder of the works, 7 classed as major works and 27 as minor works, are scattered among the Deccan and Gujarat districts, and most of them are of very small importance. The area irrigated in the year 1891-92 was 96,000 acres, so that the ten years have shown some advance in this respect. With the stimulus of the recent years of drought, progress will perhaps be more rapid in the future.

Sind.

Cultivation in Sind depends almost exclusively on the flood waters of the Indus, conveyed by the various canal systems; and the variations of the

irrigated area are a good index of the fortunes of agriculture. In this respect

	Area of Crops irrigated from Government Canals.
	Acres.
1892-93	2,393,541
1893-94	2,609,066
1894-95	2,858,138
1895-96	2,218,384
1896-97	2,650,755
1897-98	3,041,067
1898-99	2,677,312
1899-1900	2,771,902
1900-01	3,221,906
1901-02	3,077,466

Sind differs from northern India, where a fall in the area of land under irrigation is usually the consequence of a good rainfall. The combined areas of autumn and spring crops irrigated in each of the ten years are shown in the margin. The inundation of 1900-01 was exceptional; that of 1901-02, however, was a good average one, and the figures for that year may be taken as representing the area of cultivation under normal conditions, though a large extension may be expected on the Jamrao canal. The area commanded by the canals is stated as being rather over 9 millions of acres, and the culturable area of the province about 12½ millions. The work of the Irrigation Department

consists not only in the care and improvement of existing canals and the construction of new channels, but also in the protection of agricultural lands against the destructive floods of the Indus. In all these directions substantial progress has been made during the ten years. The capital expenditure has risen from £805,000 at the end of the year 1891-92 to £1,746,000 at the end of 1901-02. In each of the years the net revenue amounted to rather more than 10 per cent. on the capital outlay, direct and indirect; and in 1901-02 the net revenue due to improvements is shown separately as amounting to 8½ per cent. on the outlay. The works classed as major works are the Desert, Unharwah and Begari canals, the Eastern Nara works, and the Jamrao, Dad, Naulakhi, Nasrat, and Mahiwah canals; the minor works, some of which supply larger areas than the major works, are seven in number. New works of the greatest importance have been set on foot during the ten years in accordance with the recommendations of the Sind Irrigation Committee which sat in 1891-92. Two sets of great works for irrigating the waste areas on the east of the Hyderabad district, the Jamrao costing £520,400, and the Dad, Naulakhi and Nasrat, estimated to cost about £300,000, were initiated. The former was partially opened in 1900-01, and irrigated 223,000 acres in 1901-02, in which year its construction was completed. It is estimated to command 822,000 acres. The latter are also partially open. The new Mahiwah canal in the extreme north of the province was begun in 1900 and was expected to run with full supply by the inundation of 1902, commanding an area of 120,600 acres. Other canals have been largely improved and extended. A permanent Commission was appointed in 1900-01 to act as an advisory board in all matters connected with the river Indus; and the year 1901-02 has shown the usefulness of the Commission for the revision of proposals made by local officers.

In Madras, as in Bombay, the supply of water for irrigation is largely dependent upon dams or reservoirs which retain the rainfall of the hills, and to that extent is therefore more precarious than the supply from the snow-fed rivers of the north. Many of the tanks depend entirely on the local rainfall. The major irrigation works in the presidency are nine in number, and include the Cauvery, Godavari, and Kistna delta systems, which together supply more than two million acres with water, the Penner river canals, the Barur tank, the Srivaikuntam anicut (dam), and the Periyar and Rushikulya systems. The two latter have come into being during the decade. The Periyar system, which irrigated 154,000 acres in 1901-02, consists of a dam across the Periyar river on the Travancore side of the Ghats, and a tunnel, about 1,900 yards in length, through the Ghats to the eastern side, in the Madura district. The Rushikulya project included reservoirs on the Rushikulya and Mahanadi rivers, in the extreme north of the presidency. It was executed as a protective work, and furnished irrigation for 84,300 acres in 1901-02. Besides the above-mentioned works, there are 22 irrigation works, some of them of great value, which are classed as minor works; and there is a large number of tanks scattered throughout the presidency, which are under the control of the Revenue Department and have no separate accounts kept. An investigation of the latter means of irrigation, with a view to their being put into proper repair, has been in progress during the decade, and up to the end of the year an area of 49,844 square miles had been examined, and

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6,582 estimates approved, with an aggregate amount of £460,000. Including these tanks, the crop area irrigated in 1901-02 is given as 6,884,554 acres, of which three millions were supplied by major works, and rather more than half a million by the 22 minor works for which separate accounts are kept.

The chief navigation canals are the Kurnool-Cuddapah and the Buckingham canals, and portions of the Godavari and Kistna systems—1,252 miles in all in the year 1901-02. The construction of the East Coast Railway has lessened the receipts from this source.

The capital cost of the major productive works has been £4,595,000, and the net revenue of the year 1901-02 gave a return of 9·5 per cent. on this amount. The Rushikulya, constructed as a protective work out of revenue, gave a return of 7 per cent. only. Minor works for which separate accounts are kept showed a return of 3·5 per cent. on a capital of £1,289,000. The estimated value of the crops grown on the land irrigated by the irrigation works was £7,332,600 in the year 1901-02.

III.—BUILDINGS AND ROADS (CIVIL).

Under this head is classed all work undertaken by the Department of Public Works that does not fall within either of the two previous sections. The greater part of the work consists in the provision and maintenance of roads and the construction of public buildings, but it also includes all works of a public nature, such as water supply, sanitation, embankments, lighthouses, ferries, and bridges, which require special technical skill. In the annual numbers of this Statement considerable space has been given of late to a description of the various undertakings of the year. On the present occasion such a task, for the whole decade, would be both lengthy and superfluous. But there is one matter, namely, the development of road communications, which deserves attention. The vast amount of labour at the disposal of the public authorities in the form of famine relief works was utilised for the most part on road-making. The report of the Famine Commissioners of 1898 shows that in the famine of 1896-97 relief works were almost exclusively roads in the Central Provinces and Madras, and that roads figured very largely in those of the United Provinces, Bengal, and Bombay. The selection of the roads for construction was necessarily determined in some part by the needs of famine relief; but the Commission were of opinion, in view of the general difficulty in finding funds for making and maintaining new roads, that the effective value of the work done might be taken as two-thirds of its actual value. This represents a large sum in all provinces. In the Central Provinces, the length of new roads constructed in the 1896-97 famine is given as 579 miles, that of roads improved as 819 miles. Similar figures might be given for other provinces in which there was much famine relief; and so far as the local boards, who are to a large extent responsible for road maintenance, have been in a position to maintain the roads opened then or in the succeeding famine, the improvement of the communications has been accelerated by the famine conditions.

The following table shows the amount spent on civil works from Imperial, Provincial, and local funds respectively in each of the ten years, and the distribution by provinces in the year 1901-02 :—

EXPENDITURE ON CIVIL WORKS.

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	Expenditure during the Decade.					Expenditure, 1901-02.	Receipts, 1901-02.	Net Expenditure, 1901-02.
	Imperial, including Expenditure in England.	Provincial.	Local.	Total.				
	£	£	£	£		£	£	£
1892-93 -	509,331	1,441,572	1,143,062	3,093,965	India, General -	105,474	5,422	99,052
1893-94 -	548,692	1,411,208	1,118,096	3,077,096	Bengal -	790,409	69,939	720,330
1894-95 -	418,487	1,327,383	1,132,510	2,878,380	United Provinces-	458,213	56,171	402,042
1895-96 -	494,014	1,375,439	1,185,305	3,054,758	Punjab -	832,793	47,681	285,112
1896-97 -	529,792	1,421,187	1,123,417	3,074,396	North - West Frontier.	52,482	3,730	48,752
1897-98 -	282,279	1,505,346	1,042,673	2,830,298	Central Provinces	153,297	8,295	145,002
1898-99 -	371,689	1,662,794	1,070,199	3,104,682	Burma -	622,914	80,386	592,529
1899-1900	323,063	1,874,884	1,100,143	3,298,090	Assam -	163,617	13,830	149,787
1900-01 -	352,796	1,846,512	1,087,293	3,286,601	Madras -	493,205	91,624	401,581
1901-02 -	547,697	2,012,935	1,107,219	3,667,851	Bombay -	390,311	75,196	315,015
					England -	105,176	28,649	76,527
					Total -	3,667,851	431,923	3,235,929

The expenditure in England includes the cost of the Royal Indian Engineering College at Cooper's Hill, which amounted to £42,720 in the year 1901-92.

CHAPTER XX.

MILITARY AND MARINE SERVICES.

ARMY SERVICES.

MILITARY
AND
MARINE
SERVICES.

The military expenditure of the Government of India is summarised in the following table. About one quarter of the disbursements under this head are made in England, and under the old system of accounts, in which the figures were stated in ten-rupee units, the payment of these sterling sums entailed considerable entries in the column for "exchange" in each year. Under the present system of fifteen-rupee units, the adjustment required is much smaller, and has in fact practically disappeared since the year 1898-99, when the average rate of exchange rose to 1s. 4d. per rupee, at which a pound sterling equals Rs. 15. The table below does not include these exchange adjustments, which appear under the separate heading of "Gain or loss by exchange." There are, however, other ways in which the fall of the gold value of the rupee increased the military expenditure of India, namely, by the augmentation of the number of rupees due to the British soldier, who draws his pay in gold, and by the necessity of compensating officers for their diminished receipts. These additional charges are included in the present figures.

FIGURES IN THOUSANDS, OMITTING 000.

	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
EFFECTIVE SERVICES.	£	£	£	£	£	£	£	£	£	£
Army and garrison staff	336	352	351	373	369	357	362	356	361	367
Administrative staff	128	138	137	138	126	130	137	137	135	137
Regimental pay, allowances, and charges.	6,212	6,320	6,666	6,617	6,789	6,548	6,400	6,289	6,727	6,617
Commissariat establishments, supplies, and services.	2,488	2,289	2,108	2,075	2,641	2,531	2,441	2,522	2,656	2,787
Remount and veterinary establishments, supplies, and services.	184	188	183	189	243	212	198	263	411	265
Clothing establishments, supplies, and services.	401	363	349	339	362	341	366	290	396	364
Barrack establishments, supplies, and services.	161	154	163	145	156	166	187	148	117	130
Administration of martial law.	27	27	28	28	28	27	27	26	25	25
Medical establishments, supplies and services.	808	814	822	825	836	828	816	491	503	499
Ordnance establishments, stores and camp equipage.	1,121	1,111	883	910	914	847	842	697	1,156	1,601
Ecclesiastical	19	19	19	19	19	19	20	21	20	24
Education	31	32	31	31	31	30	31	31	32	31
Sea transport charges	285	312	333	296	267	291	326	206	229	230
Miscellaneous services	383	221	320	1,370	103	2,867	879	290	194	226
Volunteer corps	107	118	123	120	127	124	180	124	142	147
	12,298	12,183	12,205	13,311	12,741	14,811	12,923	11,261	12,103	12,800
Unadjusted expenditure	-16	2	6	-10	5	-22	34	276	2-12	-9
Total Effective	12,272	12,185	12,211	13,301	12,746	14,789	12,957	11,537	12,091	12,791
NON-EFFECTIVE SERVICES.										
Rewards for military services.	10	8	7	6	6	13	26	21	6	7
Military pensions to Europeans.	2,369	2,222	2,276	2,291	2,340	2,379	2,380	2,380	2,337	2,306
Military pensions to Natives.	486	494	470	466	470	477	474	474	481	485
Widows' pensions and compassionate allowances.	110	112	110	111	112	119	121	122	125	122
Departmental pensions	40	40	42	42	42	42	42	42	42	42
Total Non-Effective	3,009	2,876	2,905	2,915	2,973	3,030	3,044	3,020	2,992	2,973
Total Army Charges	15,281	15,061	15,116	16,216	15,719	17,819	16,001	14,557	15,083	15,764
Army Receipts	573	562	659	632	628	586	616	719	817	978
Net Charges	14,708	14,499	14,457	15,577	15,091	17,233	15,385	13,838	14,266	14,786

These statistics include payments in England on account of military services, which were specially augmented in the last two years by the costs of re-armament. The same is true of the year 1892-93, as is shown by the marginal table.

MILITARY AND MARINE SERVICES.

FIGURES IN THOUSANDS, OMITTING 000.

	Military Expenditure of India in England.					
	1892-93.	1894-95.	1896-97.	1898-99.	1900-01.	1901-02.
EFFECTIVE SERVICES :-						
Regimental pay, allowances, and charges.	1,337	1,100	1,057	1,079	937	379
Clothing	285	210	159	191	250	191
Ordnance	594	531	299	291	663	1,158
Sea transport	245	290	246	288	111	204
Other effective charges	100	55	81	71	95	100
NON-EFFECTIVE SERVICES (chiefly military pensions).	2,383	2,302	2,369	2,422	2,384	2,351
Total charges	4,809	4,286	4,211	4,342	4,438	4,843
Receipts	46	68	78	57	33	277
Net charges	4,843	4,217	4,133	4,285	4,405	4,106

If these special causes are put aside, the payments for Army stores in England amount to about half a million pounds annually. The most important part of the effective charges in England is usually the amount, included under "Regimental pay, &c.," paid to the Home Government for recruiting, training, and other depôt services in respect of the British troops sent to India. Under the existing system, which follows the lines laid down by Lord North-

brook's Committee at the beginning of the decade, the sum payable is fixed by a capitation rate of £7 10s. on every soldier who is sent to join the British Army in India, and it is generally about £700,000; but in 1901-02, owing to deductions on account of previous over-payments and other matters, into which it is not necessary to enter, the payment was only £64,000. The Indian Expenditure Commission took the question of the capitation rate into consideration, and reported in 1900 that they saw no reason for immediately revising it, but recommended a general revision at the end of five or six years from that time.

The chief permanent additions to the annual cost of the Army may be classed under two heads: (1) increase of rates of pay, and (2) increase of strength. Under the first class are to be noted an increase in the pay of the Native army in the year 1895, and the raising of the pay of British troops in accordance with the decision of His Majesty's Government in 1902. The latter cause, which may ultimately increase the annual charge on Indian revenues by about £786,000, had not come into operation at the end of the period covered by this Statement. The increase of the pay of Native soldiers applied to all non-commissioned ranks in the Native Artillery, Sappers and Miners, and Native Infantry. The Madras Cavalry, the Viceroy's Bodyguard, and the local corps also shared in the increase, which amounted to an additional Rs. 2 per mensem. The increase in annual expenditure from this cause is about £200,000. Mention may also be made of an increase of the rate of wound pensions for non-commissioned officers and men of the Native Army in 1899. In the year 1893 exchange compensation allowance was granted to military as well as to civil officers under the same conditions, and a privileged rate of exchange (Rs. = 1s. 6d.) was fixed for furlough allowances calculated in Indian currency, when paid in England.

Increased rates of pay.

The sanctioned strength of the Army in 1891-92 and in the last two years of the decade is shown in the margin. There have been few changes of

Strength of the regular army.

	1891-92.	1900-01.	1901-02.
British troops	72,437	73,013	73,341
Miscellaneous officers	968	792	907
Native troops (including their European officers).	144,839	144,785	146,582
Total	218,244	218,590	220,830

importance. A battalion of British Infantry was withdrawn in 1893-94, the loss in numbers being made up by the addition of 20 men to the strength of the other battalions. An addition was made to the establishment of British as well as Native mountain

batteries in the year 1900-01. In 1898-99, and again in 1900-01, a Native mountain battery was added to the strength, and it had been decided at the end of 1901-02 to add a brigade division consisting of three howitzer batteries. Five fresh Native infantry regiments were raised in 1900-01 in order to provide

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for the permanent employment of native troops in certain colonial garrisons under an agreement with the War Office. Indian troops were first employed in this manner in the year 1898, and the decision to make the practice a permanent one, which formed part of the general reorganisation scheme of the British Army, entailed the provision of additional regiments for the purpose. These regiments do not throw any additional cost on Indian revenues. The above figures, it is to be observed, do not include the Hyderabad Contingent, which was not during the decade under the orders of the Commander-in-Chief. The recent agreement with the Nizam, by which the position of the Contingent was materially altered, is subsequent to the period with which the Statement is concerned, and need not here be noticed.

The actual strength and distribution of the Army in India on the 1st April 1902 was as follows:—

	Number of Officers and Men.		Number of Officers and Men.
PUNJAB COMMAND.		MADRAS COMMAND—cont.	
<i>British.</i>		<i>Native.</i>	
Cavalry (1 regiment) - - -	782	Cavalry (3 regiments) - - -	1,631
Artillery (23 batteries and companies)	3,466	Artillery (1½ battery, and Native drivers of British batteries).	784
Engineers - - - - -	21	Sappers and Miners (6 companies) -	971
Infantry (13 battalions) - - -	11,420	Infantry (22½ battalions) - - -	17,941
	<u>15,689</u>		<u>21,327</u>
<i>Native.</i>			
Cavalry (15 regiments) - - -	9,327		<u>32,038</u>
Artillery (8½ batteries, and Native drivers of British batteries).	4,077	BOMBAY COMMAND.	
Sappers and Miners (6 companies) -	1,123	<i>British.</i>	
Infantry (41 battalions) - - -	39,042	Artillery (26 batteries and companies)	
	<u>53,569</u>	Engineers - - - - -	
	<u>69,258</u>	Infantry (10½ battalions) - - -	
		<u>18,514</u>	
BENGAL COMMAND.		<i>Native.</i>	
<i>British.</i>		Cavalry (8½ regiments) - - -	
Cavalry (1 regiment) - - -	691	Artillery (Native drivers of British batteries).	
Artillery (23 batteries and companies)	4,174	Sappers and Miners (6 companies) -	
Engineers - - - - -	54	Infantry (26 battalions) - - -	
Infantry (13½ battalions) - - -	14,045	<u>27,679</u>	
	<u>18,964</u>	<u>41,193</u>	
<i>Native.</i>		IN CHITRAL AND GILGIT.	
Cavalry (10 regiments) - - -	6,220	<i>British.</i>	
Artillery (Native drivers of British batteries).	246	Engineers - - - - -	
Sappers and Miners (4 companies) -	739	<u>2</u>	
Infantry (30½ battalions) - - -	25,624	<u>2</u>	
	<u>32,829</u>		
	<u>51,793</u>	<i>Native.</i>	
MADRAS COMMAND.		Artillery (½ battery) - - -	
<i>British.</i>		Sappers and Miners (1 company) -	
Cavalry (1 regiment) - - -	628	Infantry (1 battalion) - - -	
Artillery (13 batteries and companies)	2,389	<u>1,006</u>	
Engineers - - - - -	49		
Infantry (8 battalions) - - -	7,645	<u>1,008</u>	
	<u>10,711</u>		

	Number of Officers and Men.		MILITARY AND MARINE SERVICES. Number of Officers and Men.
TROOPS NOT UNDER THE ORDERS OF THE COMMANDER-IN-CHIEF IN INDIA.		GRAND TOTAL—cont.	
		<i>Native.</i>	
Hyderabad Contingent* :—		Cavalry (40½ regiments) - - -	24,608
Cavalry (4 regiments) - - -	2,015	Artillery (14½ batteries, and Native drivers of British batteries).	6,235
Artillery (4 batteries) - - -	519	Sappers and Miners (23 companies) -	3,925
Infantry (5 battalions) - - -	4,310	Infantry (126 battalions) - - -	108,849
Bodyguards (Governor-General's and Governors').	268		143,617
Resident's escort, Nepal - - -	95		202,497
	7,207	Officers on the staff - - -	617
			203,114
GRAND TOTAL.			
<i>British.</i>			
Cavalry (3 regiments) - - -	2,101		
Artillery (87 batteries and companies)	14,424		
Engineers (1 company) - - -	204		
Infantry (45 battalions) - - -	42,151		
	58,880		

* The Hyderabad Contingent is not included in the "Sanctioned Establishment" shown above.

In the year 1901-02, as in the two preceding years though in a less degree, the actual strength of the Army in India was diminished in consequence of the campaigns in South Africa and in China. These were not the only occasions on which Indian troops were utilised for Imperial purposes outside the Indian frontiers during the decade. The principal other instances are the force sent to Suakim from India in 1896, the regiment of Bombay infantry sent to Mombassa in the same year, and the forces sent to the Juba river in 1898 and to Somaliland in 1901. The question of the allocation of the charges in the case of the Suakim force aroused considerable attention. It was finally decided that the United Kingdom should pay all the extraordinary charges, and India the ordinary charges which would have been incurred if the force had remained in India. But the general question as to the payment of troops of the Indian Army employed beyond the external frontiers of India still required a solution, and was taken into consideration by the Indian Expenditure Commission. They concurred in the three following propositions which had been laid down by the Secretary of State :—

"1. That on all occasions when the temporary loan of a military force is required, either by Great Britain or by India, such assistance will be promptly given, so far as the ability, resources and situation of either country at the time may permit.

"2. That if the object for which such assistance is required is one in which the Government supplying the troops has no special interest beyond that which must be common to all members of the Empire, the whole cost of the force, so long as it is required, including both ordinary and extraordinary charges, must be borne by the country that needs its assistance.

"3. That if the circumstances are such that the Government supplying the troops has a [distinct and special] * interest in the matter at stake, then, although the interest may be less strong than that of the Government requiring assistance, the Government supplying the troops should be content to bear, in one form or other, a portion of the burthen which the operations involve."

But the acceptance of these principles did not solve the crucial questions, namely, what are the grounds upon which India may justly be held to have a direct and substantial interest in military expeditions beyond her frontiers; and secondly, what tribunal should, subject to the ultimate authority of Parliament, decide the issue. The Commission answered these questions by

* The Commission expressed a preference for the terms "direct and substantial" in lieu of the words enclosed in brackets.

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propounding the following principles, which were accepted by the British Treasury and by the Government of India:—

- "1. That India has not a direct and substantial interest in the employment of forces in Europe; in Africa, west of the Cape of Good Hope; in Asia, east of China.
- "2. That India has a direct and substantial interest in keeping open the Suez Canal, and in the maintenance of order and established government in Egypt so far as the security of the Suez Canal is affected thereby. This interest might extend to the coasts of the Red Sea only so far as to maintain the inviolability of that shore, but not to the Soudan, or further extensions of Egypt up the valley of the Nile or its affluents.
- "3. That India may have a modified interest in questions affecting the East Coast of Africa as far as Zanzibar, and the African islands in the Indian Ocean, except Madagascar.
- "4. That India has no direct or substantial interest in the African coast south of Zanzibar.
- "5. That India has a direct and substantial interest in questions affecting Persia, and the coast and islands of Arabia and of the Persian Gulf.
- "6. That India has a direct and substantial interest in questions affecting Afghanistan and that part of Central Asia which is adjacent to the borders of India or Afghanistan.
- "7. That India has sole interest in punitive expeditions on her borders.
- "8. That India has a direct and substantial interest in questions affecting Siam.
- "9. That India has a modified interest in questions affecting China and the Malay peninsula.
- "10. That India has no direct or substantial interest in Japan or countries or islands east and south of China.
- "11. That special cases may arise giving to India a direct and substantial interest in questions connected with Europe or other territories in which the minute declares her to have, as a general rule, no interest.
- "12. That in every case where the Governments are not agreed, no contribution should be made by India until the sanction of Parliament has been obtained."

The Commission also suggested that in the event of disagreement between the Governments of the United Kingdom and India as to the existence of a direct and substantial interest in any specific case which might arise, the matter should be settled, subject to the ultimate consent of Parliament as required by law, by a Departmental Committee. This suggestion has been adopted.*

Reserves.

The military strength of India is supplemented by the Reserves, the Imperial Service Troops, the Military Police, the Border Police, Militia and levies on the North-West Frontier, and the Volunteers. The Military Police have been noticed already in the chapter on the Police. The Indian Army Reserve was formed in 1886, though the scheme was not extended to the whole Army until the following year. Two Reserves were originally formed, the Active Reserve and the Garrison Reserve, but the latter was abolished in 1892. Under the scheme, men passing into the Reserve still belong to their respective regiments. They are required to do an annual training, and when called up for service rejoin their regimental depôts. The arrangements were revised in the year 1899, with the object of increasing the number of Reservists in the infantry regiments of the Punjab and Bengal commands, in some of those of the Bombay command, and in the Burma battalions of Madras infantry, while decreasing the number in other regiments of the Madras Command. The strength of the Reserves on the 1st April 1902 was 22,233, or about twice as many as at the beginning of the decade. Sanction was given in 1900 to the formation of a Reserve of mule-drivers and artificers, numbering in all 4,135 men. In order to provide officers on mobilisation taking place, the formation of an Indian Army Reserve of Officers was sanctioned in 1894. Retired military officers not otherwise liable to be called up for service, volunteer officers, or others who have some military training may belong to this Reserve, which, however, numbered only 41 on the 1st April 1902. The conditions of service in this Reserve have recently been revised with the object of making it more attractive.

Volunteers.

There has been some expansion in the number of volunteers, but it not to be compared with their increase in the preceding ten years. Their enrolled strength and number of efficient were 31,400 and 29,500 respectively on the 1st April 1902, compared with 27,000 and 23,000 at the beginning of the decade. They include foot and mounted rifle regiments, artillery, light horse, and naval artillery. The employes of the great railway companies are bound to join their respective corps, and in all Government establishments

* Parliamentary Paper 387, Sess. 2, 1900.

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in which the European and Eurasian element is strong, corps have been formed. In 1892 the Government sanctioned small annual grants for volunteer buildings, and for field days, and raised the camp of exercise grant to £4,000. Wound and injury pensions to volunteers, and pensions to their widows, have been granted under certain conditions. The capitation for mounted and artillery volunteers has been raised by Rs. 10 to Rs. 30, Rs. 10 is also paid to members of some Volunteer Infantry Corps trained in gun drill in addition to the ordinary capitation (Rs. 20). The volunteer officers' decoration and volunteer long-service medal have been extended to India, and volunteer officers are given an outfit allowance of Rs. 100 on first appointment. Mention should be made of the contingent of European volunteers which was raised in India for service in South Africa by Lieut.-Colonel D. M. Lumsden, C.B., formerly commandant of a volunteer corps.

The chiefs of Native states have on many occasions shown their desire to place their military resources at the disposal of the Indian Government, and a movement which originated at the time of Her late Majesty's Jubilee in 1887 resulted in the construction of a scheme, sanctioned in 1889, for the organisation of bodies of troops belonging to various Native states. These are known as the Imperial Service troops, and their numbers amounted on the 1st April 1902 to 305 artillery (two mountain batteries), 6,707 cavalry, 7,141 infantry, 508 sappers and miners, and camel corps numbering 617 men. All corps maintain obligatory transport under the rules in force in the Indian Army, and there are also in addition transport corps including 2,125 men, with 2,463 ponies, 1,537 carts, and 1,013 camels. The Kashmir state furnishes a large proportion of the troops, and important contributions are made by the leading states of Central and Northern India, besides Hyderabad and Mysore. The control and management of these forces remains in the hands of the Native chiefs, and they are almost exclusively raised from, and officered by, natives of the state to which they belong. They have been employed during the decade in the Tirah campaign of 1897 and in the China expedition of 1900-01, and have acquitted themselves with much distinction.

The most important of the changes which have to be recorded in respect of Army organisation is the abolition of the Presidential Army system in 1895. Up to that time there were three separate armies in India, the Bengal Army under the direct command of the Commander-in-Chief in India, and the Madras and Bombay Armies under the Commanders-in-Chief of Madras and Bombay. The Commander-in-Chief in India also exercised a general control over the Madras and Bombay Armies, but this was limited chiefly to the British troops in those commands. The Governments of Madras and Bombay had administrative control over their armies, subject to the general control of the Government of India, which also exercised a direct control over the Bengal Army. That Government had, in part, a dual function. It acted as a local government in regard to the Bengal Army, and had at the same time supreme authority over the whole of the forces in India.

This system of divided control had long been found productive of inconvenience, especially in time of war, and after a correspondence extending over twelve years it was finally decided in 1893 that the system of maintaining separate Presidential Armies should be abolished, and that the whole Army of India should come under the direct command and control of the Commander-in-Chief in India and the Government of India. For some years prior to 1893 the way had gradually been prepared for this change by the amalgamation of the several Army Departments under one head, responsible solely to the Supreme Government. The Military Accounts Departments had already many years earlier been amalgamated, and more recently the Ordnance, Commissariat, and Remount Departments were reorganised in the same way, the Clothing Department became Imperial, and the Military Works Department was extended to the whole of India. The Medical Department was the only one which had remained under the control of the local governments.

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The change required the authority of Parliament, and it was not till the close of 1893 that this was obtained. The Madras and Bombay Armies Act received the assent of the Crown on the 5th December 1893, but much time was necessary to work out the necessary details, and the new organisation did not come into force until the 1st April 1895. The Act abolished the offices of the Provincial Commanders-in-Chief; it provided that the powers which had been exercised by them should be transferred to such officers as the Commander-in-Chief in India, with the approval of the Governor-General in Council, might appoint; that the powers of the Commander-in-Chief in India should extend to the whole of India; that the military control which had been vested in the Governments of Madras and Bombay should cease, and be exercised by the Governor-General in Council, and that the officers commanding the troops in those Presidencies should no longer be members of the Provincial Councils. The Army in India was divided into four great commands, each under a Lieutenant-General, the whole being under the Commander-in-Chief in India. The Punjab Command includes the whole of the Punjab, with the Punjab Frontier Force, which, however, continues to retain its separate and local organisation. The Bengal Command includes the territories under the civil governments of Bengal, Assam, and the United Provinces, and part of the Central Provinces. The Madras Command includes the whole of the Madras Presidency, Burma, and the Belgaum district. The Bombay Command includes the Bombay Presidency, Baluchistan, and parts of Rajputana, Central India, and the Central Provinces. The Hyderabad Contingent and other local corps remained under the Government of India.

This, though the most far reaching, has not been by any means the only reorganisation carried out during the decade, which has been a period of much activity in this respect. In the first place, progress has been made with the reorganisation of regiments in order to secure a proper proportion of recruits from the best fighting races. The method adopted is that of "class" regiments or companies, composed of men of specified race or caste. An account of the measures taken up to the year 1891-92 was contained in the last decennial number of this Statement. During the ten years under report, a further development was given to the system by the formation of class regiments among the "Hindustani" infantry of the Bengal Army. The troops in question had already, since 1863, been organised in class companies, but experience had shown that not only was a better quality of recruits attracted to class regiments, but that all ranks were more contented when serving exclusively with men of their own race and caste, a condition which the regimental class system secures. The Bombay Army was not considered to be ready for the formation of class regiments, but it was decided at the same time to constitute class squadrons and class companies in place of the "general mixture" organisation which had hitherto prevailed. A similar reform was introduced into the Madras Army in the following year, and the principle has received further extension in recent years. The measures adopted in 1892 for the reconstitution of part of the Madras Army for service in Burma were noticed in the last decennial number of this Statement. There are now seven Burma battalions, composed of Punjabis and Gurkhas with some men drawn from the hill districts of the north-eastern frontier, a corresponding reduction having been made in the military police.

Experience having shown that suitable recruits to maintain the 25 Madras infantry battalions cannot be obtained within the limits of that Command, orders were passed at the end of the decade for the reconstitution of ten battalions of Madras infantry from the fighting races of northern India; and another Madras infantry regiment is being reconstituted experimentally as a regiment of Coorgs. A similar course is being adopted with one regiment of Madras cavalry, which is being reconstituted partly of recruits from northern and central India and partly of Madras Mahomedans. Improvements have been made in the system of recruiting.

An important measure affecting the Native Army was the reorganisation of the Native infantry regiments, including the Hyderabad Contingent, on the double company system in the year 1900-01.

Another change of the first importance was the increase in the number of British officers of the Native Army. In the year 1900-01 provision was made for 92 fresh officers, by the addition of one officer to each battalion of Native infantry in the Punjab and Bengal Commands, and a further increase of 28 officers in order to institute a general reform, namely, the discontinuance of the practice of appointing fresh officers to regiments to officiate in place of absentees. A further step was taken in the same direction in the following year, by the addition of another officer to each Native infantry regiment, involving an increase of 128 officers; and 64 more officers were included in the Budget proposals for 1902-03. Mention may be made in this place of the abolition of the term "Indian Staff Corps" with effect from the 1st January 1903. The officers of the Corps are for the future to be known by a term which more accurately describes their position, namely, "Officers of the Indian Army."

Among British troops, the conditions of service in the Garrison Artillery were improved in 1893-94, and the constitution of British cavalry regiments was revised in 1897, the strength remaining unchanged. It has recently been decided to reorganise the Field Artillery in brigade divisions of three batteries, with a view to increased tactical and administrative efficiency.

Under the head of reorganisations, reference may also be made to the revised arrangements with respect to military works, which are described below.

On the conclusion of military operations on the Punjab frontier in 1898, the whole question of the military position on the north-western frontier was thoroughly considered by the Government of India, and in 1899 it was decided to withdraw regular troops from the Khyber, expanding the Khyber rifles; that regular troops should be withdrawn from the Samana, Kurram, Tochi, and the Gomal and Shahur valleys, and that those places should for the future be garrisoned by militia or military police.

Special attention has been given to the provision and training of a force of mounted infantry, for whom five schools of instruction have been provided. A reserve of 1,000 horses was established in 1896, at an initial cost of about £46,500, and an annual charge of £10,000, and in view of the increasing difficulty experienced by Native cavalry in obtaining suitable remounts, a scheme for the establishment of horse runs on irrigable land on the Chenab Canal was sanctioned in 1899.

It is impossible, within the limits of this Statement, to mention more than a few of the steps which have been taken to improve the efficiency of the Indian Army. During 1893 the British infantry were re-armed with the Lee-Metford rifle at a cost of £327,500, and it was decided in 1897 to re-arm the seven regiments of British cavalry with Lee-Enfield carbines and the Royal Artillery with converted Martini-Enfield artillery carbines. This re-armament was completed in 1899. In that year it was decided to begin the re-armament of the Native Army and of the volunteers with the Lee-Enfield rifle, at a cost of £912,800 and £102,900 respectively. The former operation was nearly completed by the end of the decade, in spite of considerable delay in obtaining the rifles from England owing to the pressure of the South African war. The re-armament of the volunteers was to be then proceeded with. The Imperial Service troops were also being re-armed with a magazine rifle. No less important is the improvement in the armament of the artillery, which includes the provision of new guns for the mountain batteries and the establishment of three howitzer batteries. These measures, as well as the improvement of the organisation of the horse and field artillery and the provision of additional machine guns for the Field Army, were in progress during the year 1902.

Re-arma-
ment.

The operations of the Ordnance Department have been extended during the decade, and the factories were placed under the direct control of the Director-General of Ordnance in 1898, with a view to increased efficiency and control of manufacture, the Department being subsequently reorganised. It was determined at the end of 1898 to establish a central gun carriage

MILITARY AND MARINE SERVICES. factory at Jubbulpore in place of the three existing factories at Fatehgarh, Madras, and Bombay, but the new factory had not been built before the end of the decade. The manufacture of rifles has not hitherto been carried on in India, and the supply for re-armament has been obtained from England. Owing, however, to the difficulty which has been experienced in obtaining the necessary supply, and to the possibility of making rifles with economy in India, a rifle factory is being started at Ishapore in the Madras Presidency. A similar course has been taken in respect of cordite, and a factory is being established at Wellington in the Nilgiri hills. It was decided in 1900 to fill lyddite shell in India, and a branch of the Kirkee Small Arms Ammunition Factory is being utilised for this purpose.

Transport. Questions connected with the maintenance of a large standing transport have been very prominent in the years under review. The complement of transport which had been developed in 1885 was increased in 1891 by 2,000 mules at a cost of £53,000. A further increase of 1,750 mules was sanctioned in 1896 in connection with the provision of mobilisation equipments for the divisions of the Field Army, and the number of mules was augmented by 2,000 in March 1900, when the total authorised complement of mules became 22,270. The experience of the Chitral and Tirah campaigns led to a consideration of the whole question of the organisation of transport, and measures for this purpose were carried out during 1901-02. Twelve cadres of pack mules were organised, with their full complement of officers and non-commissioned officers, and are now capable of rapid expansion in time of need into full corps of 840 mules each. Nine cadres of camels, whose owners undertake to supply their own animals on what is known as the sillahdar system, have also been formed, and are each capable of being expanded quickly into complete corps of 1,068 camels each. There are also two cadres of pony carts, which form the nucleus for two full cart trains of 1,164 ponies and 580 carts each. It is hoped to extend this organisation to the rest of the standing transport. A number of officers are engaged in preparing a census of suitable transport animals throughout northern India. The terms to be allowed for hire of animals for transport purposes in time of war have been detailed and widely published, and a scheme has been formulated for their organisation into suitable units.

Mobilisation. A general mobilisation committee was formed in 1886, and it was decided that the plan of mobilisation should be by "army corps" for service beyond the frontier, and "divisions" or "brigades" of all arms, according to circumstances, for service within the frontiers of India, or beyond sea. This was changed in 1890 to the system of mobilisation by divisions. The basis of the plan is mobilisation by stations, *i.e.*, certain stations are detailed from which the troops will be withdrawn in order to form the Field Army. Obligatory garrisons for all India have been laid down. Special grants have been made from time to time to facilitate mobilisation arrangements.

Health of the troops. The questions of the health of the troops, and of the measures which have been taken to secure better sanitary conditions, have already been noticed in the chapter on Vital Statistics.

MILITARY OPERATIONS.

Occasions on which the Army has been engaged on active service during the decade have been many and varied. A brief account of them has been given from year to year in the annual numbers of this Statement, and it is not necessary, nor would space permit, that the information should be repeated here at length. It is desirable, however, to mention briefly the names, dates, and results of the chief campaigns, with the strength engaged, and, where possible, the cost of the operations, as this has an important bearing on the financial results shown above. For the first seven years of the decade the information is contained in a return which was specially prepared and presented to Parliament in 1900*; and the particulars there given are reproduced below.

* No. 13, H. of C., 1900.

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Date.	Locality, in which the Troops operated.	The Causes of the War or Operations.	The Number, approximately, of the Troops employed.	The Results obtained.	Cost of the operations where shown separately in the Accounts of the Government of India.
1892	Trans-Indus Isazul Country	Certain sections of the tribe, contrary to their agreement with Government, allowed Hushim Ali, an outlaw, to settle in their country, and, when asked, refused to surrender him.	5,997	British troops entered their country and destroyed the defences.	₹. 22,408
1892-93	Kachin Hills	Attack by Kachins on military police proceeding to Sima to establish a post.	1,200	Submission of all the hostile Kachin villages, except two, which were destroyed.	3,262
1892-93	Chin Hills	The Chins committed a treacherous attack on a Burmese Myook, who was going, with an escort, to meet the Kaptial Chief.	2,250	The villages implicated were destroyed, and a large number of guns were withdrawn from the tribes as a punishment.	28,627
1893-94	Bor Abor Country, Assam.	Murder of military police sepoy in British territory.	600	The villages concerned in the murder, and also all other villages that opposed the expedition in any way, were destroyed.	1,030
1894	Border of ditto	Treacherous murder of two small patrols.	100	Punishment of the tribes.	
1893-94	North Chin Hills (Siyin operations.)	Troops were sent to collect the fines and to disarm the country on account of the previous rebellion.	500	The fines were collected and the country disarmed.	2,301
1891	Waziristan	Attack on the British camp at Wano.	10,983	British troops traversed the country of the tribes, and their towers, &c. were destroyed.	167,425
1894-95	Chin Hills	Raids committed by the Thetta Clan of Raungthe Chins.	300	Thetta and the surrounding villages were disarmed.	
1895	Swat, Bajaur, Chitral, &c.	Anarchy in Chitral. Advance of Umra Khan and Sher Afzal into Chitral, where they besieged the British Agent at Gilgit and a party of officers and Native troops.	16,399	British troops marched into the country and raised the siege; Umra Khan fled, and Sher Afzal was taken prisoner. Chitral has since been occupied by British Indian troops, though the country is administered by the Mehtar aided by a Council of Chitrali Adamzadas.	1,122,610
1895-96	Kachin Hills	Raids on British territory by the Sana Kachins.	700	The tract was visited by military police and the offending tribes punished.	
1895-96	North Lushai Hills.	Persistent refusal of the Chief of Kairuma and the other Chiefs of his group to meet the Political Officer, and to comply with demands for labour.	800	Complete subjugation of the villages.	
1896	Suakim	Advance of the Egyptian Army for the reconquest of the Soudan. Indian troops lent to garrison Suakim.	2,444	Recapture of the Soudan up to Abu Hamad.	(Borne by H. M. Government.)
1896	Mombasa, East Africa.	Raids by the Arab Chief Mbaruk on Malindi and other places on the Mombasa Coast.	737	Defeat of Mbaruk and pacification of the country.	
1897	Manipur Border (Somra).	Raid on the Tangkhul Naga village of Shorafunghi, in which one man and three women were killed, and the heads of two of the latter were carried off.	200	The raiders' village was burnt, large quantities of grain and property were destroyed, and three of the raiders were arrested.	

MILITARY
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Date.	Locality in which the Troops Operated.	The Causes of the War or Operations.	The Number, approximately, of the Troops employed.	The Results obtained.	Cost of the Operations where shown separately in the Accounts of the Government of India.
1897	Uganda . . .	Mutiny of the Sou-lanese troops in the Uganda Protectorate.	1,121	Mutiny quelled.	£
1897	Tochi Valley -	Treacherous attack on Mr. Gee, the Political Officer in the Tochi, and his escort, in which many officers and men were killed and wounded.	7,188	British troops traversed the country of the tribesmen, destroying fortified kots. The sections concerned subsequently made their submission and agreed to Government terms. Certain ringleaders surrendered and were imprisoned.	256,359
1897	Swat and Bajaur (Malakand).	Fanatical outbreak in the Swat Valley. Attack on the British positions at Malakand and Chakdarra.	11,826	The insurgents were defeated, and the fanatical gatherings were dispersed. Large fines were taken in money and arms.	
1897	Mohmand Country.	Unprovoked aggression by the tribe. Attack on a British frontier post.	6,799	British troops traversed the country of the tribesmen inflicting severe punishment. Fines of money and arms were recovered.	
1897	Utman Khel Country.	The tribe joined in the attack on the Malakand.	3,200	The tribe made complete submission, and gave in the arms demanded.	
1897	Buner Country	Many Bunerwals took part in the Malakand rising.	7,315	The British troops traversed the country of the tribe, who were reduced to submission, and paid up the fines demanded.	
1897	Kurram Valley	Unprovoked aggression. Attacks on British posts.	14,231	British troops traversed the country, and the tribesmen were severely punished.	
1897	Tirah . . .	Unprovoked aggression by the Afridis and Orakzais. Destruction of the Khyber posts, in violation of agreement.	43,703	British troops traversed the country of the tribes, inflicting severe loss on the tribesmen, who were ultimately reduced to submission, and paid large fines in money and arms.	
1898	Makran . . .	A column was despatched to Makran by sea, owing to the rebellion in Makran against the authority of the Khan of Kalat, and an attack by some Makran chiefs on a British survey party.	600	Some of the rebels were fined, and the property of others was confiscated. The country was traversed and pacified, and many of the Makran forts were demolished.	
1898	East Africa (Juba River).	Rebellion of the Ogaden Somalis.	450	Suppression of the rebellion.	

Mahsud-
Waziris.

In the year 1898-99, 1899-1900, and 1900-01 there were no military operations of any importance in India. But a large force was despatched to South Africa on the outbreak of the war, and by March 1900 the total of the British troops so sent was 8,200. Later in the year 1900 an expeditionary force, consisting in all of four brigades, with divisional troops, &c., and including some Imperial Service troops, was detailed for service in China. The cost of both these forces was borne by the Imperial Revenues. There were no military operations of great importance during 1901-02, but operations at two points on the North-West Frontier call for mention.

The Mahsud-Waziris having incurred the displeasure of the Government of India by many acts of aggression, and having refused to pay the fines assessed thereon, a blockade was instituted during the cold weather of 1900, by which they were deprived of their usual trade with our stations in the plains. Notwithstanding the blockade, however, the tribesmen succeeded in raiding our territory and even in capturing some of the ports of the Militia

and Border Police. It was accordingly determined to send raiding parties into their country to exact reprisals. During November and December 1901 columns penetrated into the very heart of their country and inflicted very serious losses, the details of which, as ascertained by the local authorities, are shown in the margin. Our own losses amounted to 5 British officers wounded, of whom one died, and 24 Natives killed, and 115 wounded, of whom six died. The operations were under the able direction of Major-General C. C. Egerton, C.B., D.S.O., commanding the Punjab Frontier District, and were well carried out by his subordinates. The service was arduous and trying, and the behaviour of the troops was admirable.

Killed	-	-	126
Wounded (estimate)	-	-	350
Captured	-	-	213
Towers destroyed	-	-	64
Defences of villages	-	-	153
Live stock captured	-	-	8,047

Some notorious outlaws, with a following of ruffians and desperadoes, having taken possession of Nodiz Fort in Mekran; it was found necessary to send a small force against them. This force was under the command of Major M. J. Tighe, D.S.O., 27th Baluch Infantry, whose operations were well planned and skilfully carried out. The post was taken by storm on the 20th December 1901, and its defenders killed or captured. Our loss was two British officers wounded and three Natives killed and six wounded. All ranks behaved with great gallantry.

MILITARY WORKS.

In May 1894 a committee was appointed to report on the possibility of reducing establishment charges and percentages in the Military Works and Public Works Departments, and on the best means of effecting economy without interfering with efficiency in the execution of military and public works. One of the recommendations of this committee was that the Military Works Department should be abolished, and that works done by that service should be transferred to the Public Works Department, which was to be manned by Royal Engineer officers only. The Government of India, however, decided that a separate agency for the execution of military works should be maintained, but that the organisation of the Military Works Department should be largely modified. It was proposed to abolish the graded system, which had become unworkable, and to constitute the service on a purely military basis. Detailed proposals for carrying out this change were submitted to the Secretary of State in July 1897. Under the revised arrangements, which involved the abolition of the Military Works Department, employment upon military works duties was to be the normal duty of Royal Engineer officers in India, and this employment was to be considered regimental duty. It was proposed that the new organisation should follow the lines of the system in force in the Imperial Service at home and in the colonies, adapted to suit the reorganisation of the Army in India in four commands. These proposals received the sanction of the Secretary of State in March 1899, and the reorganisation was brought into effect from 1st October of that year.

The expenditure on military works is shown in the following table, which also includes an account of the expenditure during the decade on coast and frontier defences under the Special Defence scheme matured in 1885. The execution of scheme was practically completed in 1897, since which date the expenditure has been small, though the account has not been closed. The total expended in pursuance of the scheme up to the end of 1901-02, including the moiety of the cost of the Aden defences paid by His Majesty's Government, was £3,068,400, of which £846,600 was spent on coast defences, £740,000 on frontier defences, and £1,385,000 on armaments. Further development of the defences has recently been held to be necessary, and a new scheme, involving the expenditure of about £750,000. was sanctioned after the expiry of the period now under review.

MILITARY
AND
MARINE
SERVICES.

	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
	£	£	£	£	£	£	£	£	£	£
A.—MILITARY WORKS.										
New buildings:										
For accommodation of troops.	160,351	166,745	88,441	157,853	171,917	182,769	142,207	140,619	107,340	106,112
General cantonment works	76,174	76,206	46,244	41,902	23,953	60,976	66,449	51,869	68,997	39,081
Fortifications	8,796	6,529	10,374	29,354	14,240	32,786	21,006	42,090	28,078	58,286
Other works	96,501	79,467	61,936	92,932	71,177	69,630	79,537	68,586	57,363	180,323
Repairs	210,056	219,297	218,657	232,009	230,384	230,841	245,465	249,255	238,080	242,705
Establishment and other charges	206,606	226,370	217,917	213,602	232,395	188,478	199,456	246,271	216,307	213,624
Stores in England	40,628	16,965	24,972	30,947	24,738	69,633	52,531	31,782	41,037	34,612
Total expenditure	795,113	765,477	666,441	798,599	768,689	775,993	807,849	835,592	782,942	904,783
Receipts	30,182	30,596	39,769	33,132	40,845	35,041	36,156	34,780	35,755	47,643
Net expenditure	764,931	734,881	626,672	765,467	727,844	740,952	771,693	801,782	747,187	911,140
B.—SPECIAL DEFENCE WORKS.										
Coast defences	89,223	40,521	20,528	6,911	7,629	—	—	—	—	—
North-western frontier defences	70,165	51,107	18,844	4,407	9,897	—	—	—	—	—
Armaments	104,389	84,637	99,537	61,496	16,916	45,753	18,826	3,692	3,049	—
Establishment and other heads	20,981	68,266	90	26,362	31,612	—38,951	—17,881	—3,022	—7,972	—
Total	304,868	244,531	138,989	101,176	65,054	16,802	975	870	1,076	—
Deduct—Amount paid by H.M. Government as half of expenditure at Aden.	—2,656	—1,254	—720	—80	—68	—	—	—	—	—
Payments by Secretary of State brought to account in India.	—131,730	—131,646	—93,068	—80,619	—50,484	—10,482	—945	—870	—1,076	—
Expenditure in India	170,482	108,631	44,881	14,477	14,502	—2,680	30	—	—	—
Expenditure in England	134,386	98,206	82,176	46,552	43,868	17,789	944	874	6,964	—
Total expenditure on special defence works.	297,814	206,837	127,057	59,729	58,270	15,089	974	874	6,964	—

Coast
defences.

The expenditure on coast defence works, besides providing the necessary batteries complete with arrangements for range and position-finding, &c., at the various ports, includes the cost of the following additional works:— At Aden, barracks for three batteries of Royal Artillery (£39,600); at Karachi, a new lighthouse (£7,500) and the removal of deep-water point and the extension of the east groyne (£20,000); at Bombay, a wet basin (£102,700); in the Hooghly, land communications and new jetty (£16,000), also a harbourage for two torpedo-boats (£8,500); at Rangoon, the protection of Syriam Bank against erosion which was threatening the battery (£19,700), and accommodation for one garrison battery of Royal Artillery (£7,200) at this place. The outlay on armaments represents the provision of 10-inch B.L. guns, 6-inch B.L. guns, quick-firing guns, and R.C. machine guns with the necessary ammunition. The floating defences comprise seven first class torpedo-boats, two torpedo gun-boats, and two turret ships at Bombay re-armed with breech-loading guns.

The frontier defences may be divided into three main groups, those in advance and rear of the Bolan Pass and Peshin plateau; those for the defence of the Khyber Pass and its debouchure; and, thirdly, those for strengthening certain important strategical points in rear and for the protection of our supply depôts. The high level road through the Bolan Pass, which was commenced in 1882-83, was completed in the year 1897, at a total cost of £145,300.

MARINE SERVICES.

Frontier
defences.

The Indian Navy, which had existed under the East India Company, in one form or another, since its creation under the charters of Charles II. and James II., was abolished in the year 1862, and the duties which it had performed, in conjunction with H.M. Navy, were taken over for the

most part by the latter. Until the year 1869 the question of a contribution from Indian revenues towards the performance of these duties was not raised; but in that year it was decided that India should contribute £70,000 a year, and this arrangement continued until 1887, when the amount was reduced to £38,500 a year. During the earlier years of the decade under review, the question was reopened, and finally referred in 1895 to the arbitration of Lord Rosebery, then Prime Minister. His Lordship decided that the duties performed by the Indian Navy included some portion, at any rate, of the duties devolving on the Royal Navy for the defence of India and the protection of trade in Indian waters, and that the British Government might justly claim a contribution from India in respect of the performance of those duties. He advised that the basis of calculation for the contribution should be periodically settled between the two Governments. In compliance with these decisions, the sum of £117,000 was fixed as the proper charge, but in the subsequent year, 1896-97, the Imperial Government agreed to reduce this figure to £100,000, and to waive claims on account of previous years amounting to £183,000. This arrangement subsisted up to the end of the decade, and received the approval of the Indian Expenditure Commission.

MILITARY
AND
MARINE
SERVICES.

When, however, the duties of general defence and the protection of trade were taken over by the Royal Navy, there remained certain local services, such as the local transport of troops and stores, marine surveys, and the protection of the ports. These duties are performed by the Royal Indian Marine, which was constituted in 1877, and received the prefix "Royal" in 1892. The ranks and ratings of this Service are established as ranks and ratings of the Royal Navy, and the rank and position of the officers are intermediate between those of the Navy and those of the Reserve. The Director of the Royal Indian Marine has his headquarters in Bombay, whilst a Deputy-Director holds office in Calcutta. The Service on its constitution was subject neither to the Naval Discipline Act nor to that relating to merchant shipping. In 1884, accordingly, the Governor-General in Council was empowered by Statute (Act 47 & 48 Vict. cap. 38), to make laws on the subject. Act XIV. of 1887 was passed under this authority, followed in 1888 by Act XVII. of that year. The former adopted the general lines of the Naval Discipline and Indian Navy Acts as far as possible, whilst the latter merely supplied deficiencies in regard to grading and rating. An amending Act was passed in 1899, but contains no provisions which call for notice here.

Royal
Indian
Marine.

The Royal Indian Marine includes eight harbour and sea-going vessels, of which the largest is the "Hardinge," added in 1901, at a cost of £198,000, to replace the "Warren Hastings," which was wrecked on the coast of Mauritius in January 1897. There are also four inland steamers for river work, and two marine survey vessels, besides smaller steamers and launches. The trooping service between England and India is for the most part carried out by means of hired transports, but vessels of the Royal Indian Marine have been used for this purpose on occasion. Troops are conveyed in Eastern waters to and from India by these vessels so far as possible. For the troops sent to South Africa, and again for those sent to China, transports were hired, in addition to the use of Royal Indian Marine vessels, and the despatch of these troops was carried out with much success under the management of Royal Indian Marine officers. The work of the survey vessels has already been noticed in the chapter on Surveys.

The dockyards at Bombay and the Kidderpore dockyard at Calcutta are under the control of the Department. The former were greatly improved at the beginning of the decade, and a wet basin was opened in the year 1893. In the last year of the decade 51 vessels were admitted to the dry docks at Bombay and 65 to the wet basin, including in each case a large number of vessels of the Royal Navy, for which only actual expenses for labour and material are recovered from the Admiralty.

In accordance with an arrangement concluded in 1891, the defence flotilla was handed over to the executive control of the Admiral commanding the naval squadron on the East India Station, who, however, may be restrained by the Viceroy in Council from moving any of the vessels from the ports for the defence of which they are intended. The vessels constituting this flotilla

Harbour
Defence
vessels.

**MILITARY
AND
MARINE
SERVICES.**

at the end of the decade were two turret vessels for the defence of Bombay harbour, two gun-boats, seven torpedo-boats, and a hulk. But some of these were obsolete, and the arrangements were being reconsidered. The amount payable annually to the Imperial Government on account of these vessels under the agreement is £61,600. The actual payments varied between £45,000 in 1898-99 and £79,600 in 1900-01.

**Marine
charges.**

The marine charges of the Government of India also include pilotage, pilot establishments and vessels, coast lights, and other items. But these are balanced for the most part by the corresponding receipts. The total charges and receipts during the ten years are shown in the following table:—

	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
<i>Charges in India:—</i>										
Dockyards - - -	36,279	34,030	32,438	29,474	30,026	59,647	21,361	30,190	28,625	49,416
Salaries and allowances and victualling of officers and men afloat.	67,311	73,519	80,445	60,643	83,270	76,081	76,429	73,179	76,293	81,656
Pilotage, pilot establish- ments and vessels.	36,725	35,086	36,798	37,430	35,434	42,235	41,461	41,165	46,244	46,429
Other charges - - -	120,905	90,237	72,545	70,389	95,848	81,679	74,786	61,358	86,736	106,367
<i>Charges in England:—</i>										
Contribution towards the expenses of H.M. ships employed in the Indian seas.	52,083	50,140	50,121	117,550	97,721	100,088	100,686	100,154	100,061	107,333
Subsidy to the Admi- rality for manning and maintaining defence vessels.	50,000	51,608	59,500	59,600	59,600	59,600	45,000	59,600	79,600	62,337
Stores, &c. - - -	168,323	134,589	75,491	59,449	56,464	54,165	59,701	168,216	172,362	144,661
Total charges - - -	551,726	478,315	407,126	454,434	457,362	447,695	422,894	623,492	689,921	596,249
Receipts - - -	101,570	101,616	103,255	112,916	107,985	133,816	127,169	136,154	154,163	145,439

CHAPTER XXI.

SURVEYS.

SURVEYS.

The Survey of India Department was reorganised in 1895 and brought into harmony with the recommendations of the Public Service Commission. The upper or Imperial division of the service is recruited from officers of the Royal Engineers or the Indian Staff Corps, though civilians may be appointed with a view to securing special technical qualifications. Ten of the higher posts were assigned to the Provincial Service, which is recruited in India. The ultimate effect of the reorganisation is to fix the numbers of the Department at 182, including 40 Imperial Service and 142 Provincial Service posts. To this staff is entrusted the management of the Great Trigonometrical Survey of India and the chief control of the various survey operations by which the spaces between the principal triangulation lines are filled, whether topographical, cadastral, or forest surveys. In addition, officers of the Department conduct geographical surveys and reconnaissances on or beyond the frontiers and in the less known parts of India. The Department has during recent years on more than one occasion complied with requests from the Home Government for the loan of trained surveyors for service in British Central Africa or in China. In Madras and Bombay there were during the decade separate Survey Departments, and in the latter province the assessment of revenue rates was included in the duties of the Department. The Bombay Survey has now, however, been finished, and the Department has been by degrees disbanded. The work has been carried out with great completeness, and it is claimed that field survey operations will be unnecessary in the Presidency in all future revenue settlements, owing to the minuteness of the division into units of assessment, and to the system of classification of soils which has been adopted. In the other provinces local surveys are for the most part conducted by the provincial revenue organisations. The extent to which the conduct and maintenance of these surveys are, or should be, under the control of the Survey Department in professional matters has formed the subject of discussion in recent years. In the United Provinces they are entirely under the Local Government, but are superintended by officers selected from the Survey Department; the actual field work is executed by local surveyors (*amins*) trained by these officers in the system in vogue in the Department. In Punjab, the field surveys are based on squares measured on the ground, and are entirely under the control of the Local Government; but in order to increase the accuracy of the work generally, and to allow of the maps being utilised to revise the old standard sheets, traverses are run by the Survey Department, thus checking the sides of the squares and connecting them with triangulated points. In Burma there is one cadastral party supplied by the Survey Department; the field surveys are to a great extent made by *amins* imported from India, but a considerable number of Burmans are trained to the work. In Assam most of the cadastral work up to October 1899 was in the hands of an Imperial Survey party, but is now entirely under the control of the Local Government, an officer from the Survey Department being placed in executive charge of it; traverse surveys are made by a detachment from the Department to strengthen the old maps turned out locally and to demarcate certain boundaries.

The various branches of the survey work are noticed below. The details relate for the most part to 1900-01, the latest year for which report is available.

The Great Trigonometrical Survey of India was begun more than a hundred years ago, and has been completed so far as peninsular India is concerned. The work since taken in hand consists of the principal series of triangulation through Makran to Persia, which had, however, been discontinued for the time owing to the disturbed state of the country; the connection of the principal triangulation in India with the Burma triangulation, completed in 1898-99; a

Great Tri-
gonometrical
Survey and
scientific
operations.

SURVEYS. minor series in Upper Burma; and a principal series in the same province, which is to run eastwards as far as the Salween river. Among special scientific operations in which the Department has been engaged may be mentioned the electric determination of the difference of longitude between Karachi and Greenwich, completed in 1896, by which the important question of the longitude of Madras was fixed with great accuracy; and the part taken by the Department in the observation of the solar eclipse of 1898. The determination of astronomical latitudes and azimuth, and experiments in regard to the measurement of base lines, formed part of the special operations of the Department in 1900-01. Levelling operations have been continued with little intermission. The line of levels between Vizagapatam and Allahabad has been finished, affording a second line between Vizagapatam and Karachi. The levelling work during 1900-01 consisted in a line carried north from Calcutta along the Eastern Bengal State Railway, crossing the Ganges at Damukdia Ghat and closing at Siliguri. The Department has also been continuously engaged in taking tidal observations at a large number of stations, 13 of which were open in 1900-01. Of these seven are to be kept up permanently. It was decided in 1898 to undertake a magnetic survey of India; and in 1900, the intermediate period having been occupied in consulting with English scientific authorities and procuring the necessary apparatus, a party of the Survey was detailed to make preparations for the work. Base stations are required at Bombay, Calcutta, Kodaikanal in Madras, Dehra Dun, and Rangoon. At Bombay and Calcutta such observatories already exist, but the introduction of electric tramways into those cities will vitiate their magnetic records, and it has become necessary to arrange for other observatories.

Topo-
graphical
Surveys.

Geographi-
cal surveys
and recon-
naissances.

The topographical, cadastral and forest surveys serve to fill up the picture of which the Great Trigonometrical Survey has provided the outline. These detail surveys have been made on various scales to suit local requirements. Thus the standard scale of the topographical operations is one inch to the mile, though in the earlier years of the decade some surveys on the half-inch scale are included under this denomination. The older revenue surveys in Bengal, the Central Provinces, the Punjab and the United Provinces are on the scale of 2 or 4 inches to the mile, and are for the most part of a rough description, while the more recent cadastral surveys are on a scale of 16 inches, and show every field or holding. In the case of most forest tracts, and in some topographical surveys in other parts of British territory, the scale is 2 or 4 inches to the mile, though in some classes of forests the scale is still larger; and in special circumstances, such as the surveys of towns and cities, a specially large scale is required. The Calcutta City Survey, completed in 1894, was on the scale of 50 feet to the inch. The total of the work classed as topographical in the reports of the Department during the ten years ending in 1901 is about 157,000 square miles. This figure includes $\frac{1}{2}$ -inch surveys up to 1897-98, but not in subsequent years. If such surveys during recent years be added, the total of the ten years is 166,000 square miles. Putting aside the frontier tracts, the only parts of India which are now blank on the survey map are a large portion of the Madras Presidency, the western corner of Rajputana, part of the United Provinces, and some parts of Burma. But there is much need for a more accurate survey in considerable areas for which only the old settlement maps are available. Many parts of Burma, the whole of the Hyderabad State, Kashmir, Baluchistan and the North-Western Frontier have been surveyed only on scales, for the most part, smaller than $\frac{1}{2}$ inch to a mile. Hyderabad especially may be said to have been reconnoitred rather than surveyed. These surveys are classed as "geographical survey, or reconnaissance," and no less than 688,000 square miles has been surveyed in this manner during the ten years, including considerable areas in Persia and Arabia. In this connection must be noticed the boundary delimitation following on the Durand Agreement of 1893 with Afghanistan, the Pamir Boundary commission of 1896, the settlement of the Perso-Baluch frontier, and, on the other side of India, the fixing of the Burma-Siam frontier, and the prolonged operations of the Mekong delimitation, each of which was the occasion of a considerable extension of knowledge as to the regions on the frontier.

An accurate survey of the forests is necessary as a basis for the formation of plans for their management. This is performed by parties of the Survey of India in Bombay and Madras. Up to October 1900 the forest surveys in the Bengal Presidency, and some of those in Burma, were entirely under the control of the Inspector-General of Forests, and were only nominally under the Surveyor-General, who inspected the office once a year. In 1899 the party of the Survey of India which was working in the Burmese forests was added to those under the Inspector-General of Forests. From October 1900, however, these parties in Burma and in the Bengal Presidency have been placed under the control of the Surveyor-General, who consults with the Inspector-

SURVEYS.
Forest
Surveys.

	Surveyed up to March 1901.
	Sq. Miles.
Bombay	7,951
Madras	9,290
Rest of India	32,139
Total	49,380

General of Forests as to the programme. Thus all the forest surveys now belong to the Survey of India Department. Setting aside the larger part of the unclassified forests, the total area of forests surveyed up to the end of 1900-01 on the 4 inch or larger scales was 49,380 square miles as shown in the margin, and some 50,000 square miles remained unsurveyed. In that year two Survey of India parties were at work in the Madras forests and one

in those of Bombay. Of the Forest Survey Branch, nine detachments were engaged in the Central Provinces, Bengal and the Punjab, while six detachments (No. 20 Party of the Survey of India) were working in Burma. The whole outturn of forest surveys in this year amounted to 4,892 square miles, chiefly on the scale of 4 inches to a mile. Minor survey operations, in connection with roads and forest boundaries, are for the most part performed by local officers.

The cadastral surveys need not be considered in detail apart from the question of revenue settlements, which receive notice in the Land Revenue chapter; but a brief conspectus of the present position may be of service. In Bombay, as has been already stated, the survey is completed; the ryotwari portions of the Presidency have been plotted out into survey numbers or units, and the relative excellence of the soil in each has been ascertained. The Department has been disbanded, and the maintenance of the Survey Records is in the hands of the Land Records authorities. In Madras the survey was begun in 1858, and it was expected to be finished in 1897, but there is still much to be done. The original survey of Government lands has been practically completed, but large areas have to be resurveyed, owing to failures in the maintenance of the survey records in some districts; special surveys are also required of areas excluded from the original survey; and applications are received from time to time from the owners of private estates for the institution of a survey under the Survey and Boundaries Act, 1897. For these reasons the Madras Survey Department will have to be retained, in addition to the Land Records Department. In Upper Burma, cadastral survey is being carried out by a Survey of India party; and in the lower province revisions of survey are being conducted by local agency. The province is under a ryotwari system, and a supplementary survey is being introduced in the settled areas. In Bengal, for the greater part of which only old surveys exist, operations have been in progress on temporarily settled and Government estates. The most important of such surveys have been those of Orissa and Chittagong. In the permanently settled districts of Bengal surveys have been undertaken under the Tenancy Act for the benefit of the landlords and their tenants, as mentioned in the Land Revenue chapter. In Berar a revision survey has been completed during the decade. In the United Provinces there is still a considerable area which has not been accurately surveyed, the existing maps being based on rough settlement surveys, or requiring revision. The work done has consisted chiefly in the revision of existing maps and the writing of field registers. In the Punjab the survey maps have not for the most part the minute accuracy of cadastral surveys made by professional agency. They are based on a system of squares measured on the ground, on which the detail surveys are made by patwaris. They are, however, reported to be sufficient for purely village purposes, for which they are intended. In the Central Provinces the resurvey was completed early in the decade, and the records are maintained by the patwaris under the Land Records Department.

Cadastral
Surveys.

SURVEYS.
Map printing.

With regard to the various Headquarters offices, for the provision of mathematical instruments and the preparation of maps and charts, it is only necessary to allude to the progress made with the important maps of India. Additional sheets of the Atlas of India, on the scale of 4 miles to the inch, have been published, covering portions of northern Bombay not included before 1892; and revised sheets have been issued for other parts of Bombay and a large portion of Madras. Roughly speaking, about half of peninsular India is covered by sheets based on recent published surveys, and the chief portions of India for which sheets have still to be issued are the western part of Rajputana and Burma, besides some frontier areas. A new engraved map of India and the adjacent countries, on the scale of $\frac{1}{16}$ or nearly 16 miles to the inch, has been projected in accordance with views expressed at an International Geographical Congress. The old 32-mile map of India is to be superseded by a new and greatly improved map on the same scale, and this work was in progress in 1901. Steady progress has been made with the publication of revised sheets of the standard maps on the scale of one inch to the mile, and fresh sheets have been issued for considerable areas in Burma. Among the large amount of maps published for local governments, municipalities, other departments, &c. may be mentioned the fresh edition of the Statistical Atlas of India (1895), a revised railway map of India on the 48-mile scale (1901), and a new railway and canal map in six sheets on the 32-mile scale (1902).

Geological surveys.

A geological map of India was published in 1893. The record of the geological investigations which have been conducted in India is to be found in the memoirs and reports of the Geological Department; and in the "Palæontologica Indica" a description is given of the organic remains discovered in the course of survey. The operations of the Department may be divided under two heads, economic inquiries and geological surveys. For the former purpose special officers have been of late years temporarily engaged from England for the purpose of reporting on the coal, gold, and other mineral resources of the country. Other matters of economic importance have also received attention, among which may be noticed a review of the position of India in respect of artesian irrigation. The inquiries in 1901-02 included gold prospecting in Chota Nagpur in Bengal, investigation of copper ores in Darjeeling, and examination of certain coal seams in Central India and Bengal, in Upper Burma, and Assam. None of the latter can be said to have given any decided result as yet. An interesting question as to the alleged exhaustion of the Sambhar Lake brine also formed the subject of inquiry, from which it appears that the fears which have been entertained are not well founded, and that with the return of good monsoons the production of salt may be expected to rise to its former amount. The results of the geological surveys are fully described in the annual reports of the Department. One subject of special interest, which was included in the operations of the Department, was the effect and causes of the earthquake which occurred in 1897 in Assam and Northern Bengal. A report on this subject was published among the memoirs of the Survey. The operations of 1901-02 comprised surveys in the Central Provinces, Madras, the Shan States of Burma, Assam, Kumaon in the Himalayas, and Baluchistan.

Marine Survey.

Marine survey operations are carried out by the vessels "Investigator" and "Nancowry," belonging to the Royal Indian Marine. They have been engaged during most of the decade in surveying various portions of the coast and of further India for which a survey was of immediate necessity, and in preparing large scale maps of the important ports. This work was completed in 1901, and it was considered that the time had come to take the survey of the coast in hand systematically. It was decided to begin with Burma, which requires most examination. The Tenasserim coast as far as Whale Bay and Bentinck Island, and the whole of the Arakan coast, are expected to be finished within five years. Satisfactory progress was made during 1901-02 towards the completion of the marine survey at Chittagong, in spite of unfavourable weather.

Meteorological survey.

The following statement of the chief changes between 1887 and 1901 in the system of collecting and utilising meteorological data is abstracted from the report of Sir John Eliot, K.C.I.E., who is retiring from the headship of the Meteorological Department :—

- (1.) The number of observatories working under or in connection with the Department, furnishing information for inclusion in the Daily Weather Reports and Monthly Reviews, has been increased from 135 on the 1st April 1887 to 230 on the 31st March 1901.
- (2.) The number of ports warned of the approach of storms on the Indian coast has been increased from 15 in 1886-87 to 45 in 1900-01. The system of storm signals has been improved and additional signals introduced to meet defects shown by actual working and experience.
- (3.) The number of officials and other authorities to whom flood and weather warnings are sent whenever necessary by special urgent (storm signal) messages has increased from *nil* in 1886-87 to 77 in 1900-01.
- (4.) In 1886-87 there were only three Daily Weather Reports issued for the information of Government and the public, viz., the Simla and Bay of Bengal reports, of which only the latter included a chart. There are now issued five daily weather reports and charts of which the following give data :—

		Number of Stations 1886-1887.	Number of Stations 1900-1901.
India	Daily Weather Report	97	158
Bengal	Bay of Bengal Daily Weather Report	20	28
	Bengal Daily Weather Report	41	66
Bombay	Daily Weather Report	Nil.	54
Madras	Daily Weather Report	Nil.	39

Current weather information is now placed as rapidly before the more important Governments and the public as is possible under the conditions of Indian telegraphic and postal facilities.

- (5.) The introduction of a uniform system of the registration of rainfall throughout India (more especially the adoption of a common type of rain gauge, common hour of registration and methods of inspection) and of the publication of the data of observation. The number of rain gauge stations has been increased to some extent, chiefly by increase in Rajputana, Central India, Baluchistan, Kashmir, and other districts in which the work was previously very imperfectly performed. An important improvement in connection with this was the introduction of weekly rainfall telegrams to Simla from district officers, for the preparation of weekly rainfall reports and of charts showing the distribution of the rainfall of each season to date for the information of the Government of India.
- (6.) A large extension of the work of collecting meteorological information relating to the Indian seas. The data now systematically collected are sufficient to enable daily weather charts to be prepared which show the character of the weather changes in the sea area almost as fully as is done for the land area by the charts in the Daily Weather Reports. Pilot charts for the Indian seas are, as a result of this, now prepared and issued by the office.
- (7.) The establishment of a Solar Physics Observatory for the systematic examination and study of the changes in progress in the sun and their correlation with the larger features of Indian meteorology.

Archæological work in India, like many other functions which in European countries are performed by private effort, falls to be carried out by the Government. Suggestions have been made from time to time that the learned societies should undertake the control of these operations, but without effect. In the year 1898, as a result of the Congress of Orientalists at Paris, an International Indian Exploration Fund was formed, under the auspices of a central council, of which the President of the Royal Asiatic Society was to be chairman, for furthering archæological efforts in India.

SURVEYS.

But this is only an auxiliary to the Government staff, with whom rests the main responsibility for the classification of archæological remains, their conservation, and the prosecution of archæological research. Between 1885 and 1889, as was described in the last decennial number of this Statement, the survey was divided into three surveyors' charges, under the general superintendence of Dr. Burgess. After his retirement no successor was appointed, and the three surveyors were left without central technical control in charge of the three divisions, Western India, Southern India, and the

- *1. Bombay, including Sind and Berar.
- 2. Madras and Coorg.
- 3. Punjab, Baluchistan, and Ajmer.
- 4. United Provinces and Central Provinces.
- 5. Bengal and Assam.

United Provinces. In 1899 it was decided to divide India for this purpose into six circles, five in peninsular India* and one in Burma, and a scheme was laid down for the conduct of archæological work. It was held that the

limited sum which could be spent on the operations should primarily be devoted to the conservation of existing material, although fresh research was not to be neglected. Later, with a view to securing a general supervision and supplying the local Governments with the most skilled advice, a gentleman of high archæological qualifications was engaged in England to be Director of Archæology. The local Governments are still responsible for the actual execution of the work, though the Government of India provide a sum of about a lakh of rupees (£6,700) to assist them in carrying out operations of special importance and magnitude.

In the United Provinces archæological work was at a low ebb between 1885 and 1895. Since that date more care and money have been bestowed on the conservation, repair, and restoration of the monuments of Agra, Sikandra, Fatehpur Sikri, Allahabad, Lucknow, and other places. Much, however, still remains to be undertaken. It is reported that in all kinds of restorative work the Department has tapped a vein of latent natural talent, which has given excellent results, many of the artificers claiming to be descendants of those who worked under the Emperors Akbar and Shahjehan. In Madras the survey has been occupied in recent years with the temples of Trichinopoly, Conjeeveram and Tinnevely, the Sonpalle temple in Cuddapah, and the temples in the Malabar district. An important discovery has been made at Adichanallur, in the Tinnevely district, of a large pre-historic burial ground, from which are being excavated immense quantities of iron and bronze articles. Recent reports of the Madras Archæological Survey give some particulars of the relics, but their full description has yet to be completed. The reports of the Western India Survey contain details of the tours made in Hyderabad, Kathiawar, Rajputana, Berar and elsewhere, and of the conservation work undertaken. Note may be made of the series of photographs of the Sanchi Tope taken in 1900. In Burma, archæological work was carried on to some extent between 1893 and 1899 by an honorary archæological officer, and though considerable work was done in the deciphering of inscriptions, the systematic conservation of public monuments was in abeyance. As already mentioned, in the latter year an archæological surveyor was appointed for the province, and a scheme of conservation was taken in hand.

The publications of the Archæological Survey during the decennial period include "South Indian Inscriptions" (4 parts), "The Moghul Architecture of Fatehpur Sikri," two volumes on "Muhammadan architecture in Gujarat and Ahmedabad," and others. Mention must also be made of the "Ajanta Cave paintings," published by private subscription in 1896. A large amount of Indian archæological material is being gradually worked up in England by Dr. Burgess, but progress is slow. The important manuscript brought from Central Asia by Captain Bower is being reproduced in facsimile, with a translation, under the editorship of Dr. Hoernle, who has also published a report on the investigation of a large number of manuscripts, &c. collected by political officers and others on the North-Western Frontier. A journey to Central Asia undertaken by Dr. Stein, of the Indian Educational Service, under the orders of the Government of India, has resulted in the collection of much valuable material. A preliminary account has already been issued, and a full report is being prepared. The explorations made in the Nepal Terai have thrown great light on the Kapilavastu of the Chinese Buddhist pilgrims, and have fixed the site of the traditional birthplace of

Gautama Buddha. An interesting discovery was that of a *stupa* at Piprava, containing relics of Buddha.

The Aryan section of the Seventh International Oriental Congress, held in the year 1886, passed a resolution in favour of the institution of a systematic survey of the vernacular languages of India. Inquiries were thereupon made, with a view to the preparation of a scheme, but owing to financial exigencies some time elapsed before anything was done. In the year 1895 a beginning was made, in accordance with recommendations of the Asiatic Society of Bengal, with the preliminary work of collecting specimens of every language and dialect spoken in Northern India and Bombay, as it had been decided that Madras, the Hyderabad State, and Burma should not be included in the survey. The work consisted in obtaining a translation of the Parable of the Prodigal Son and a folk-lore story in each language. The second stage is the preparation of a grammar for each language and the compilation and editing of a report on the whole. The survey, which was entrusted to Mr. G. A. Grierson, C.I.E., Ph.D., a member of the Indian Civil Service, is now approaching completion.

Linguistic
Survey.

In August 1882, when the statistics of the census of 1881 were still in process of compilation, the Census Commissioner suggested that steps should be taken to collect full information regarding castes and occupations throughout British India. As a consequence, the Bengal Government undertook an ethnographic survey of the customs of all important tribes and castes in Bengal, and published the four volumes entitled "Tribes and Castes of Bengal," by Mr. H. H. Risley, C.I.E. A similar work was subsequently done by Mr. W. Crooke for the United Provinces. In 1891 Mr. Risley submitted a scheme for continuing the ethnographical inquiries in Bengal and for extending them to other parts of India, where much preliminary work had already been done by individuals, without Government assistance and organisation. Owing to financial exigencies, the Government of India were unable to assist in the enterprise at that time with a money grant, but the execution of the scheme was left to amateur effort, centering in the Ethnographic Branch of the Asiatic Society of Bengal. Before the census of 1901, a suggestion was made by the British Association for the Advancement of Science that an inquiry into the physical and sociological characteristics of the races and tribes of India should be conducted together with the collection of the ordinary census information. The Government of India did not see their way to adopt this suggestion; but they framed a scheme, which was sanctioned by the Secretary of State, for the collection of ethnographical data and the preparation of a systematic account for each province on the lines of the work already done in Bengal and the United Provinces. This work, which was expected to take four or five years at most, was put under the general direction of Mr. Risley; and sanction was given to the expenditure of £10,000 from the funds of the Supreme Government. It was at the same time determined to undertake a series of physical measurements in selected castes and tribes. It is as yet too early to say anything of the progress of the work.

Ethno-
graphical
investiga-
tions.

CHAPTER XXII.

EDUCATION.

EDUCATION.

The present Indian educational system dates from the despatch of the Court of Directors in 1854, and is still, therefore, barely fifty years old. Education had, it is true, received much encouragement from the Governors-General under the East India Company, from Warren Hastings downwards; but their efforts had been directed for the most part towards higher education, at first in the Oriental classics which contain not only the religious teaching but also the science of the East, and later, after the famous minute written by Lord Macaulay in 1835, in the English language and modern branches of knowledge. Popular education, so far as it can be said to have existed at all in India in the earlier years of the nineteenth century, was left to the humble village schools, used chiefly by the trading classes, or to the efforts of missionaries and private societies. Dating from about the year 1840, Councils or Boards of Education had been established in the chief provinces, by whom many investigations were made and some practical steps were taken in respect of the diffusion of education among the masses. But it was not until 1854 that it was declared to be the object of the Government's policy to convey useful and practical knowledge, suited to every station in life, to the great mass of the people. The system which was constructed in that and the following years remains in its broad outlines the basis of the educational system of the present day. It was examined, approved, and amplified by the Education Commission of 1883, whose report formed a fresh starting point for educational work. "Few declarations of policy," they said, "have been so comprehensive or have so well stood the searching test of time." And in reviewing the report in 1884 the Government of India expressed their opinion that "if in any province unsatisfactory results are brought to notice, or if the progress made in any particular respect is shown to have been less than might have been hoped for, this will almost invariably be found to have been due to a departure from, or failure to act up to, the principles upon which the whole educational system rests."

It is not within the scope of this Statement to give a description of the system, beyond such details as will appear in the following remarks on educational progress. Its working has, since the report of the Commission, formed the subject of three quinquennial reports, for the periods ending in 1886-87, 1891-92, and 1896-97 respectively, and a further report of the same character would be due in ordinary course for the five years ending in 1901-02. This report, however, is not yet available, and the review contained in this chapter is therefore based on the quinquennial report by Mr. J. S. Cotton published in 1898,* supplemented by the quinquennial reports prepared in 1902 by the educational authorities in the various provinces.

The Educational Conference held at Simla in September 1901, and attended by the provincial Directors of Public Instruction and others, under the presidency of the Governor-General, forms a landmark in the history of Indian education. In his presidential address Lord Curzon reviewed the most important points with which the Conference would have to deal. One of the suggestions made in that address, the appointment of an educational expert as Director-General of Education, has now been carried out. The function of this officer is to advise the Government of India and the local Governments, with a view to securing community of aim and continuity of policy. With regard to the other questions raised at the Conference, discussion was in progress and orders had not been issued at the close of the period to which this Statement relates.

The first point for consideration is the progress of education as a whole, in all institutions, primary and secondary and collegiate, including those known as private institutions, namely, schools which are not inspected by

General
statistics.

* Parliamentary Paper [C. 9190], 1898.

the Education Department, and do not conform to the Department's standards. EDUCATION. The figures are given in the following table :—

	1891-92.		1896-97.		1901-02.		Increase or Decrease per cent. in the last Five Years.		Increase or Decrease per cent. in Ten Years.	
	Schools.	Pupils.	Schools.	Pupils.	Schools.	Pupils.	Schools.	Pupils.	Schools.	Pupils.
Madras - - -	23,304	693,965	26,879	822,853	26,490	861,479	-1.4	+4.7	+14.3	+26.1
Bombay - - -	12,372	634,188	13,934	672,703	12,351	639,868	-5.3	-4.9	- 2	+ 9
Bengal - - -	67,824	1,531,965	67,847	1,674,775	61,790	1,667,234	-8.9	- 4	-8.0	+8.0
United Provinces - -	10,862	282,570	12,666	352,973	14,338	432,517	+14.0	+26.3	+32.2	+60.3
Punjab - - -	9,408	260,237	8,507	265,922	6,633	218,123	-6.3	+3.3	-18.3	+3.6
North-West Frontier Province - - -					1,118	26,581				
Central Provinces - -	1,988	117,483	2,584	149,507	2,562	142,658	+1.5	-4.3	+28.4	+21.4
Burma - - -	12,007	196,028	15,820	265,137	18,293	316,136	+15.6	+24.0	+59.3	+81.3
Assam - - -	2,800	83,638	3,534	103,541	3,426	108,020	-3.0	+4.0	+22.4	+20.3
Cooch - - -	104	5,004	120	5,115	99	4,738	-17.5	-7.0	-4.8	-4.0
Bihar - - -	1,322	61,463	1,381	54,342	1,160	62,379	-15.6	-1.8	-18.0	+3.7
TOTAL - - -	141,791	3,656,821	152,025	4,366,870	148,380	4,320,693	-3.4	+2.6	+4.6	+17.2

The unsatisfactory features disclosed in this table are attributable for the most part to plague and famine. In Bombay, where the increase in the number of pupils was less than one per cent. in the decade, the first four years had shown a growth of about 10 per cent., when the plague epidemic and the resulting panic caused a disorganisation which was shared by all classes of schools and colleges. When Bombay was suffering from famine in the later years, and in other provinces similarly affected, the fall in the number of pupils occurred for the most part, as might be expected, in the primary schools. It should be explained that Bombay throughout this chapter includes most of the native States within the geographical limits of the presidency, but not the Baroda State, where education is specially efficient. In Madras the rate of extension in education appears to be diminishing, partly owing to the above-mentioned causes, and partly to the more stringent application of the rules of recognition, which has prevented inferior schools from being started, while strengthening the position of those of a better type. In Burma and the United Provinces the progress of education, judged by the broad test which we are now applying, has been satisfactory, and in the latter province especially great advance has been made. It appears from the returns that the Central Provinces and Assam were on the way to show equally satisfactory improvement, had not the famines and the earthquake intervened. In the Punjab, on the other hand, though a steady decline in the number of "private institutions" for boys accounts to a large extent for the lowness of the figures, pupils receiving primary education have decreased in numbers during the last five years. Bengal made fair progress at the beginning of the decade, but in recent years a check has been experienced. So far as concerns the decline in the number of schools there is nothing to regret, since it signifies the elimination of schools of an inferior class. But the fall in the number of pupils in the last five years is unsatisfactory, and the cause of it is not clear. It may be due partly to agricultural losses; or it may be that the old style of primary education does not appeal so much to the masses as was formerly the case. It is hoped that the new codes of vernacular and primary education, with the new conditions of subsidising and improving primary schools, may effect a change.

On the whole there has been an increase of 16.6 per cent. in the ten years. If "private institutions," in which the education is generally of an inferior kind, and for which the statistics are defective, are left out of consideration, the total number of pupils in the institutions which are to a greater or less degree within the sphere of the Education Department was 3,873,400 in 1901-02, showing an increase of 16 per cent. as compared with 1891-92.

EDUCATION.

The United Provinces, which stand first in respect of the progress made during the decade, are still at the bottom of the list if the number of pupils in all institutions is compared with the population of school-going age, which

	Percentage of Number of Pupils on the Population of School-going Age.					
	1891-92.			1901-02.		
	Male.	Female.	Total.	Male.	Female.	Total.
Madras	22.5	3.6	12.9	25.6	4.4	14.9
Bombay	27.0	3.7	15.8	27.9	5.0	16.7
Bengal	26.3	1.8	14.0	27.1	1.8	14.5
United Provinces	7.4	.4	4.0	11.7	.6	6.3
Punjab*	14.2	1.4	8.3	13.5	1.9	8.1
Central Provinces	11.3	.8	6.0	14.9	1.2	8.0
Burma	30.1	3.7	17.3	38.9	5.9	22.8
Assam	18.7	1.3	10.3	21.1	1.9	11.7
Coorg	21.1	4.3	13.1	16.4	4.5	10.6
Berar	22.0	1.0	11.8	24.0	1.5	12.9
Total of above provinces - }	19.8	2.0	11.1	22.3	2.5	12.5

* Including North-West Frontier Province districts in 1891-92.

is taken, in accordance with the usual practice, at 15 per cent. of the total population. The marginal table shows the figures for male and female education, and it will be seen that there has not been a decline in any province, excepting the Punjab, where the figures are not properly comparable, for the reason given in the footnote; and Coorg. The table further shows the backward state of education in India, judged from an European standpoint, even if allowance is made for the special difficulties attending female education in India. It has to be remembered, however, that with the exception of an experiment in a small part of the Baroda State there is no such thing as compulsory education in India, and that the introduction of a compulsory system is precluded not only by the practical impossibility of enforcing it, but also by the absence of the funds which it would require. In view of this and of the other circumstances of India, such as the agricultural character of the population, the general state of Indian education cannot properly be compared with English standards. But there is unquestionably great room for improvement, and it must be allowed that, with some exceptions, the progress made during the decade is unsatisfactory. It was hampered during the last six years both by the famine distress which affected the demand of the people for education and by the financial position of the local boards and private sources from which a considerable part of the expenditure is met. Account must also be taken of a third factor, namely, the extent to which the energies of the local officials were concentrated during the latter part of the decade on famine duties in many provinces.

By race.

The preponderance of Hindus among the pupils is shown in the following table:—

	Public Institutions.					Private Institutions.				
	Hindus.		Mahomedans.	Others.	Total.	Hindus.		Mahomedans.	Others.	Total.
	Brahmins.	Non-Brahmins.				Brahmins.	Non-Brahmins.			
Madras	104,483	491,688	72,173	72,284	740,628	6,481	76,109	88,702	2,728	121,013
Bombay	93,333	229,099	98,392	37,912	568,776	3,088	27,940	36,427	3,069	71,092
Bengal	172,351	1,932,010	387,830	58,522	1,648,023	13,292	30,302	71,826	1,309	119,839
United Provinces	68,617	217,484	55,360	10,091	388,498	14,114	22,263	36,122	1,778	84,278
Punjab	19,903	97,866	68,678	8,388	182,303	4,067	18,130	42,078	947	65,820
North-West Frontier Provinces.	513	6,069	8,347	27	12,956	37	1,578	12,010	6	12,826
Central Provinces	19,408	97,192	10,114	16,006	142,730	—	—	—	—	—
Burma	413	2,385	4,004	155,880	162,748	97	308	4,129	147,968	153,502
Assam	7,371	59,763	19,293	16,037	102,468	1,365	96	4,180	26	5,537
Berar	6,981	38,388	7,598	874	82,982	13	24	148	362	447
TOTAL OF ABOVE PROVINCES	809,528	3,269,830	731,837	370,760	3,882,042	43,032	186,849	246,209	159,064	614,974

The encouragement of education, and of higher education in particular, among the Mahomedan population was one of the subjects to which the Education Commission devoted special attention. In a certain sense the Mahomedans, as a class, are no less educated than Hindus. Their own

institutions, for elementary instruction or for teaching Arabic or Persian, are numerous and well attended. If we take these into consideration, statistics show that the proportion of Mahomedans under instruction in all India is higher than for the rest of the community. But, generally speaking, Mahomedan education does not advance much beyond the primary stage. The number under instruction in public and private institutions has increased from 887,000 in 1891-92 to 978,000 in 1901-02, or by 10·3 per cent. In Bombay the figures bearing on this point are fairly satisfactory, though Mahomedans have not maintained their advantage relatively to other classes during the last five years. There has recently been an awakening within the Mahomedan community, evidenced by two conferences which were organised in 1901 and 1902 by leading Mahomedan gentlemen, with a view of popularising education in the community and of raising funds for the assistance of poor students. In Bengal also it is reported that Mahomedans are awaking to the necessity of giving their children a general education as the only means of bettering their condition. In the Punjab, where the proportion of Mahomedans to the population is greater than in any other part of India with the exception of Sind, special concessions are allowed to them in the matter of fees in schools maintained or aided by public funds. It is reported that although the percentage of Mohamedans of school-going age who attend school in the province was only 11·5 in 1901-02, against 12·7 in 1896-97, there has been a marked advance in the number who passed the higher examinations, and the efforts of the Anjuman and of private individuals to provide additional facilities for the education of Mohamedans, by the establishment of private schools and otherwise, justify the belief that the community is rapidly becoming more kindly disposed towards modern education.

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Broadly speaking, the system of education administered in British India operates through three grades of institutions: primary schools, secondary schools, and colleges. The primary school aims in the first place at teaching the elements of reading and writing, and such simple rules of arithmetic and land measurement as will enable the peasant in a purely agricultural country to look after his own interests. Secondly, the primary schools are intended to afford, and do afford in varying degrees in the different provinces, courses of instruction for those whose means, inclination, or ability enable them to proceed to higher steps of the ladder. Primary schools contain 84 per cent. of the pupils under instruction in public institutions. The secondary schools, in which a substantial knowledge of English and an advanced instruction in the vernacular are conveyed, include about 14·5 per cent., while the remainder (about 1·5 per cent.) consists of students of all the colleges which impart the highest English education or teach the various professions of law, medicine, engineering, &c.

Grades of institutions.

A preliminary note must be made of the fact that education of a primary type is not confined to primary schools so called, but is in most cases given also in the lower classes of the secondary schools. Under recent orders of the Government of India, such primary instruction is to be classed in the returns with the general primary system, and this causes in some cases an unreal augmentation of the number of primary pupils for 1901-02. But for most years of the decade the primary pupils in secondary schools are included in the returns of secondary education.

Primary schools.

Allusion has already been made to the dual character of primary schools, as giving purely elementary education, or as forming the first rung of a ladder leading to the University. In Bombay, where the Government was the leading spirit, and is still the guiding hand, the whole of education is organised on a system that extends continuously from the primary school to the University. The primary system aims at giving boys, roughly speaking between the ages of 5 and 17, a sufficient education in and through the vernaculars. Those who wish to proceed to the Anglo-vernacular education of the secondary schools have first to pass through the primary school standards. In Bengal, where indigenous education has always been popular and widespread, the Government had for the most part been content to develop the existing village schools by grants of money and by Departmental

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inspection. But under the vernacular education scheme, introduced towards the end of the decade, it was provided that the top classes of primary schools should supply for those who intend to advance to higher grades the preliminary education which they had hitherto found in the primary departments of secondary schools. In Madras, the influence of the Government, the missionaries, and of indigenous traditions has combined to produce a primary system of great elasticity. Simple subjects form the groundwork, but there are also a number of optional subjects, among which English was included until orders were passed removing it from the curriculum of the lower standards. In the other provinces, the system varies between these three dominant types, except in Burma, where Buddhism has fostered a system of religious instruction, universal and gratuitous, extending to girls as well as to boys. The different systems have produced different types of schools. In Bombay, the representative school is one maintained from the local cess, but entirely managed by the Department, with a strength of about 70 boys. In Bengal, the representative school is one under private management, often aided from public funds, and subject to Government inspection, but largely dependent on the popularity of its teacher, who can rarely collect more than 25 pupils.

The statistics of public primary schools are given below in the following table, which includes the figures of 1900-01, as an indication of the effect produced by the change in classification noted above. The figures as they stand are, owing to the change, valueless as a basis for comparison with earlier years, and the proportional increase or decrease given in the last two columns of the table relate, not only to pupils attending primary schools, but also to pupils in secondary schools who are in a "primary" stage of instruction.

	1891-92.		1896-97.		1900-01.		1901-02.		Increase or Decrease of Pupils in "Primary" Stages in the last Five Years.	Increase or Decrease of Pupils in "Primary" Stages in Ten Years.
	Primary Schools.	Pupils.	Primary Schools.	Pupils.	Primary Schools.	Pupils.	Primary Schools.	Pupils.		
Madras - - -	18,885	548,712	30,732	617,936	30,305	621,627	19,875	627,661	+ 1.7	+14.2
Bombay - - -	9,021	518,284	8,872	551,160	9,067	514,923	8,967	512,211	- 0.6	- 0.8
Bengal - - -	51,289	1,176,062	62,864	1,307,867	48,621	1,251,073	48,586	1,270,081	- 1.7	+ 0.6
United Provinces - - -	4,429	166,816	6,292	216,273	3,993	276,206	7,850	339,165	+30.4	+77.6
Punjab - - -	2,046	99,078	2,770	110,046	2,682	117,420	2,588	112,097	+ 4.1	+23.1
North-West Frontier Province - - -							162	7,886		
Central Provinces - - -	1,627	89,376	2,262	122,616	2,120	116,784	2,290	131,478	- 6.9	- 6.5
Burma - - -	6,058	181,827	4,932	126,586	4,091	127,638	4,250	127,668	+ 7.0	+ 9.9
Assam - - -	2,265	66,913	3,046	84,267	2,006	80,090	2,977	86,720	+ 3.2	+31.1
Coorg - - -	72	4,067	76	4,039	73	3,813	74	3,790	- 7.9	- 8.1
Benar - - -	1,296	46,682	1,224	50,065	929	41,915	1,104	48,182	- 2.6	- 2
TOTAL - - -	97,109	2,387,607	102,969	2,214,065	98,226	2,164,269	98,588	2,211,379	+ .9	+14.3

* Including Ajmere, excepting in 1891-92.

This table includes female education, a subject which will receive separate treatment later. It is enough for the present to say that the special schools for girls constituted 5½ per cent. of the total primary schools in 1901-02, compared with about 5½ per cent. in 1891-92, and that the pupils attending them comprised 10.7 per cent. of the whole in the last year of the decade. The proportion of boys receiving primary education in 1901, compared with the total male population of school-going age was approximately 22.5 per cent. in Bombay, 23.2 per cent. in Bengal, 19.6 per cent. in Madras, 14.8 per cent. in the Central Provinces, and between 8 and 9 per cent. in the United Provinces and the Punjab, and 16.7 per cent. in Burma.

The progress of primary education has been unsatisfactory in respect of the number of pupils, and fault has also been found with the methods of instruction. In the first place, the Education Commission advised, and later authorities have agreed, that primary education should be in the

vernaculars; but this course has not been exclusively followed. Secondly, primary education has shared in the disadvantages caused by an undue extension of the system of examinations. It may be added that although the Government of India have consistently held that the larger proportion of expenditure on education from public funds should be devoted to primary education, this has not always been done, at all events to the extent desired. These are some of the points to which the attention of the Government of India has been given. Other indicated lines along which progress is to be sought are increase in the number of primary schools, improvement in school buildings and equipment, and addition to the pay of teachers and to the facilities for training them. It does not fall within the scope of this Statement to summarise the recent orders of the Government on these and other kindred subjects, since they and their effects belong to a period subsequent to the year 1901-02. Allusion is only made to them because they show that primary education was defective at the end of the decade, and that the authorities were alive to the deficiency.

When this has been said, however, it must be added that there has been much activity during the decade directed towards the improvement of the schemes of elementary education, especially in their relation to the agricultural population. The recommendations contained in Dr. Voelcker's report on the improvement of Indian agriculture were considered at the Agricultural Conference of 1893, when various resolutions were passed, including the following:—"That, as a general rule, instruction in agriculture should be combined with the existing course of education, and not depend exclusively on separate special institutions." This idea was adopted by the Government of India, who added that "such general enlightenment and intellectual expansion of the agricultural classes as would enable them to perceive for themselves the small reforms which are within their means and opportunities would be more likely to produce substantial results than special instruction in particular agricultural processes." In Bengal this matter was referred to a Committee, whose report was published by the Provincial Government in July 1899, and adopted in their resolution of the 1st January 1901. It comprises a complete scheme of kindergarten training, or training of all the faculties of young children by means of object lessons and the like, on the principles adopted in Europe, but with details modified to suit Indian circumstances. The introduction of the system was limited in the first place to schools from which boys are sent to compete for scholarships. In the Bombay presidency, the standards of primary education have been revised during the last five years, and include, besides the existing curriculum, such subjects as kindergarten occupations, object lessons, drill and gymnastics, singing, mensuration, instruction in simple agriculture and science, drawing and manual training. The general aim of the revision of standards has been to develop the minds of the boys by training their power of observation and developing the powers of hand and eye, and to substitute for mere book work a method of instruction by practical illustration. In the Central Provinces a system of kindergarten teaching was established during the decade, but found unsatisfactory in the form adopted, and it was withdrawn in respect of rural schools. But it is reported that instruction by illustration and practical methods and exercises pervades the whole educational system of the province. There is also a special curriculum for agriculturists, under which the pupils attend school in the morning only, and are taught such subjects as will fit them for their calling. Not to labour this point further, it may be added that the scheme drawn up by the Bengal Committee has been recommended as a model for other provinces, where the development of primary or vernacular education on the desired lines has made less advance.

Secondary education is, except as hereafter described, carried on in English, and its progress has, chiefly for this reason, been greater and more steady during the decade than the other branches of education. A table is given below corresponding to that relating to primary education, and the figures of 1900-01 are shown for the same reason as was there expressed; the increase

Secondary schools.

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is calculated, as in the former case, after adjustment of the figures, where necessary, by the deduction of primary pupils.

	1891-92.		1898-97.		1900-01.		1901-02.		Increase or Decrease of Pupils in the Secondary Stages in the last Five Years.	Increase or Decrease of Pupils in the Secondary Stages in Ten Years.
	Secondary Schools.	Pupils.	Secondary Schools.	Pupils.	Secondary Schools.	Pupils.	Secondary Schools.	Pupils.		
Madras	813	73,402	748	90,610	732	100,126	736	103,431	+28.8	+77.1
Bombay	410	43,420	466	36,104	484	47,628	494	48,633	+51.0	+12.0
Bengal	2,369	202,684	2,582	224,094	2,528	242,536	2,510	250,592	+18.0	+22.0
United Provinces	494	53,857	500	59,172	546	70,270	535	22,944	+49.8	+56.2
Punjab	287	80,587	346	61,128	406	68,067	385	65,474	+25.1	+71.3
North-West Frontier Province							28	5,082		
Central Provinces	257	23,833	268	26,216	258	8,884	266	10,257	+11.8	+39.0
Burma	101	10,989	260	21,508	329	30,000	369	32,639	+51.8	+175.2
Assam	112	10,353	137	11,623	150	13,980	151	14,335	+9.2	+24.3
Coorg	3	600	2	647	2	630	2	522	-9.0	+45.7
Berar	28	4,639	26	3,392	28	4,187	29	4,569	+5	+41.8
TOTAL*	4,972	473,294	5,361	537,819	5,477	589,427	5,507	56,642	+22.2	+39.4

* Including Ajmere, excepting in 1891-92.

The manner in which the pupils were distributed among the various classes of secondary schools is shown in the margin.

	1891-92.		1901-02.	
	Schools.	Pupils.	Schools.	Pupils.
For Boys:				
High Schools	755	164,693	1,070	241,782
Middle English Schools	1,789	187,326	2,054	165,807
Middle Vernacular Schools	1,894	136,969	1,941	111,663
Total	4,438	438,988	5,045	522,252
For Girls:				
High Schools	76	7,770	100	8,908
Middle English Schools	157	11,046	159	10,821
Middle Vernacular Schools	201	15,490	203	17,661
Total	434	34,306	462	38,390

secondary education is confined to English teaching. But even in Bombay the vernacular instruction given in the highest standards of a primary school is also carried on partially in the lower standards of a secondary school. It will be observed that among boys' schools there has been a considerable decrease, both in schools and pupils, in the case of the middle vernacular schools. This has occurred especially in the last year, and is to a large extent due to the reclassification of schools; but the circumstances of almost every occupation in life more and more tend to make even a smattering of English an advantage to a boy, and the growing demand for English education is one of the most striking features in the recent history of education in India. The number of pupils learning English in all provinces, which was returned as 388,650 in the year 1892-93, had risen to 440,686 at the end of 1901-02. It is the policy of the Government of India to restrict the amount of public funds spent on education of this character, with a view to its being provided from private sources, while public funds are to be devoted as much as possible to primary education.

The Education Commission made an important recommendation to the effect that in the upper classes of High Schools there should be two divisions, one leading to the entrance examination of the Universities, the other, of a more practical character, intended to fit youths for commercial or other non-literary pursuits. In accordance with this suggestion, the local governments have generally arranged, some to a greater and some to a less degree, for a bifurcation of studies in the last two years of a High School course. In Bengal and the Punjab, there has been provided, besides the two branches of literary and commercial studies, a third branch of a scientific character. In Madras the tendency has been towards special schools rather than towards modern sides to literary schools.

It has been explained that primary teaching is not confined to primary schools. It will therefore be useful to append a general table showing the number

Stage of Instruction.		1891-02.	1901-02.
High Stage (not having passed the matriculation examination).	boys	57,462	80,686
	girls	926	1,677
Middle Stage	boys	124,886	173,397
	girls	6,105	8,147
Upper Primary Stage	boys	348,734	413,383
	girls	18,972	27,004
Lower Primary Stage :			
(a.) Reading printed books	boys	1,819,849	2,208,847
	girls	179,577	262,168
(b.) Not reading printed books.	boys	668,758	565,213
	girls	100,616	101,499

of pupils classed according to the education which they actually receive. The figures relate only to primary and secondary education, and do not include the pupils at colleges or, on the other hand, the pupils at "private institutions." The ratio borne by the pupils in the two upper stages to the population of school-going age in 1901-02 was 2 per cent. in Bombay, 1.3 per cent. in Madras, .8 per cent. in Bengal, 1.2 per cent. in the Central Provinces, .7 per cent. in the Punjab, .6 per cent. in the United Provinces, and .5 per cent. in Burma. The various systems of examinations by which pupils advance from stage to stage have been considered to be one of the worst points in the general educational scheme, as it is said that "cramming" is encouraged at the expense of real education. The number of examinations in vogue during the decade varied in different provinces, but with the exception of Madras, and, since 1898-99, the Punjab, where the lower primary pupils had no public examination, the general practice has been to hold at least one examination at the end of each stage. It has, however, recently been laid down as a principle that no public examination is as a general rule required at the end of the primary or vernacular course, and that it is sufficient that schools of this description should be examined by an inspecting officer *in situ*. At the end of the secondary course there is the matriculation examination for those who wish to proceed further with their education; and there was also during the decade in Madras, Bombay, and the United Provinces a final school examination for those whose education, commercial or other, ends at that stage. It was in contemplation to institute a similar examination in other provinces.

It is impossible to approach the question of collegiate education without some reference to the report of the Universities Commission of 1902 and their recommendations. But the character of this Statement, as a review of progress during the decade, renders it out of place to deal at length with the discussion which has arisen out of the report. The Indian University system was described in the following words by the Viceroy in opening the Simla Conference of 1901 :—

"The University has no corporate existence, is not a collection of buildings, scarcely even a site. It is a body that controls courses of study and sets examination papers to pupils of affiliated colleges. They are not part of it; they are frequently not in the same city, sometimes not in the same province. The affiliated colleges of the Calcutta University are scattered in regions as remote as Burma and Ceylon. . . . The colleges . . . are not residential institutions with history, traditions, *genius loci*, tutorial staff of their own. Collections of lecture-rooms and class-rooms and laboratories, they are bound to each other by no tie of common feeling, and to the University by no tie of filial reverence."

EDUCATION. The number of Universities was five throughout the decade. The growth in the number of affiliated colleges and their pupils is shown below.

	1891-92.		1896-97.		1901-02.		Percentage of Variation in number of Students during Five Years ending 1901-02.	Percentage of Variation in number of Students during Ten Years.
	Colleges.	Students.	Colleges.	Students.	Colleges.	Students.		
Arts Colleges:								
English . . .	100	12,424	116	14,155	141	17,430	+ 23.1	+ 40.3
Oriental . . .	4	561	5	487	5	503	+ 3.8	- 10.3
Professional Colleges:								
Law . . .	22	1,753	29	3,697	30	2,767	- 25.2	+ 57.4
Medicine . . .	4	778	4	1,067	4	1,466	+ 37.4	+ 88.4
Engineering . . .	4	494	4	667	4	865	+ 29.7	+ 78.7
Teaching . . .	1	60	2	58	5	190	+227.6	+216.6
Agriculture . . .	1	45	1	47	3	70	+ 48.9	+ 55.5
TOTAL . . .	136	16,110	161	20,178	192	23,291	+ 15.4	+ 44.0

The returns of the examinations of the Calcutta University show that during the ten years no less than 55,610 candidates competed for the entrance examination, of whom 53.6 were successful. The rapid growth of the number of candidates is shown by the fact that, of the above number, 32,437 came up in the last five years, against 23,173 in the five years ending in 1896-97—an increase of about 40 per cent. The number of candidates who succeeded in passing this matriculation examination was 36.8 per cent. larger in the second quinquennium than in the first; and a somewhat similar growth appears in the numbers who passed the First Arts, B.A., and M.A. examinations, the percentages of increase being 37.3, 23.9, and 30.3 respectively. The colleges under public management have maintained their superior position in all the years of the decade by educating large numbers of candidates for the highest degrees. Aided and Unaided colleges occupy a much lower position, as they turn out few students who possess the highest qualifications. The Presidency College, Calcutta, passed the highest number of candidates at the M.A. and B.A. examinations. The total number of candidates successful in passing the Arts examinations of the Calcutta University in 1901-02 was as follows:—M.A., 84; B.A., 447; B.Sc., 2; F.A., 1,390. There was a large increase in the number of candidates who passed the University examinations in Law and Engineering; but the medical examination shows a slight decrease, from 925 in the first five years to 879 in the five years ending in 1901-02. On the other hand, the number of students at medical colleges has shown a steady increase, and stood at 595 in the year 1901-02.

At the Bombay University there have been 32,120 candidates for matriculation during the ten years, of whom 32.4 per cent. were successful. There were 8 per cent. more candidates in the second quinquennium than in the first, and those who matriculated were 16 per cent. more numerous, in spite of the disorganisation of the schools by plague. With respect to the higher Arts examinations, the increases in the number of successes in the second period as compared with the earlier five years were 16, 32 and 63 per cent. respectively in the First Arts, B.A. and M.A. examinations. The results of the higher Arts examinations in 1901-02 were:—M.A., 12 successful candidates out of 33; B.A., 238 successful out of 384; B.Sc., 6 successful. The number of candidates who passed in Law and Engineering during the ten years—1,816 and 1,021 respectively—shows no important growth; but there has been a satisfactory development in the medical examinations, at which 717

Results of some of the more important College Examinations.

	1891-92.	1896-97.	1901-02.
Arts Colleges ; degrees taken :			
M.A. - - - -	79	132	137
B.A. - - - -	898	1,366	1,444
B.Sc. - - - -	3	15	13
First B.A. - - -	379	958	1,004
First B.Sc. - - -	6	9	5
First Arts and other corresponding examinations.	2,305	2,819	3,573
Professional Colleges ; number passed :			
Oriental - - - -	283	395	352
Law - - - - -	166	651	707
Medicine - - - -	264	416	587
Engineering - - -	47	70	145
Agriculture - - -	19	9	9
Number of Matriculations :			
Boys - - - - -	7,758	7,786	8,723
Girls - - - - -	173	170	193

candidates passed during Education. the last five years, compared with 416 in the preceding quinquennium.

Without going into similar detail in respect of the Universities of Madras, Allahabad, and the Punjab, it may be seen from the marginal table that the results of the University examinations generally show a very considerable increase, as might be expected from the growth in the number of affiliated colleges and of their students which is shown in the table on the preceding page.

The general verdict of the Universities Commission

upon the value of the education given at the colleges is summed up in the following extract from their report.

" Having visited a considerable number of these institutions, we are not disposed to confirm the sweeping condemnation which has sometimes been passed upon our University system. Many of the colleges command the services of able and devoted teachers ; and we do not consider the students as a class to be wanting either in natural talent or in industry. In comparing our graduates with those of other Universities, it must be remembered that the Indian student often enters on his college course at an age when boys of other countries are still at school. We must also remember that the Indian Universities are of comparatively recent foundation, and that the resources of our Universities and colleges are very small when compared with the vast endowments of England and America and the large sums placed by the Governments of other countries at the disposal of their Universities. . . . At the same time we must admit that the acquirements of Indian graduates are in many cases inadequate and superficial . . . After all allowance is made, it is most unsatisfactory to be told that the Indian B.A. not infrequently lacks the general training which he requires to fit him for the business of life, or for a further course of study."

Mention has already been made of the efforts directed towards giving a practical turn to the courses of primary education. It has, in fact, been recognised as being desirable that education with special reference to agriculture should form part of the ordinary primary school teaching. Provision is also being made for a commercial branch of secondary training.

Technical Education.

	1891-92.		1901-02.	
	Schools.	Pupils.	Schools.	Pupils.
Schools of art -	6	1,048	7	1,399
Law schools - -	5	206	5	41
Medical schools -	19	1,985	22	2,727
Engineering and surveying schools.	24	1,043	31	1,175
Industrial schools -	69	3,360	84	4,977
Other schools -	282	8,609	749	19,152

But the establishment of schools for teaching crafts and industries lies outside the general scheme. The institutions known as special schools include, besides schools for the training of teachers, schools of art, law schools, medical schools, engineering and surveying schools, industrial schools, and other schools, agricul-

tural, commercial, and miscellaneous. There are also, as shown above, specialising colleges affiliated to the Universities. The schools referred to are returned as having contained 29,471 pupils in 1901-02, against 16,753 in 1891-92, but the chief increase has occurred in the class of "other schools" in Bengal, which includes miscellaneous items having little to do with technical training.

There has been a considerable development in the scope of the technical colleges, which are now turning out not only men trained for Government service, but also men who meet the requirements of private employers of labour. The Thomason Engineering College, at Rurki in the United Provinces, was reorganised in 1896, with a view to its being no longer a purely engineering college. It has since that date taken an important place

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in the development of technical and industrial education in the province, and the number of students has expanded greatly. At the Sibpur Engineering College in Bengal an artisan class was reopened in 1893, and an agricultural class has been instituted. Another engineering college is that known as the College of Science at Poona, where the curriculum embraces both theoretical training and practical instruction in workshops and on the farm. The remaining engineering college is that at Madras, which has been conducted with marked success. The apparent increase of one in the number of agricultural colleges is due to revised classification. Higher education in agriculture has been conducted, it is considered, on too theoretical a basis at Poona and at the Saidapet College in Madras. The classes at Sibpur and the training given to pupils at various experimental farms have had a more practical character.

Among schools for technical instruction the schools of art take the foremost place. The working of the Madras School was examined by a Committee in 1895. They indicated that an important part of the work of such a school was the introduction of new industries suitable for adoption in the country. Since that time the aluminium industry carried on at the school has attained considerable proportions and a weaving department has been opened. The work of the school is now divided into two branches, fine arts and industrial. There were 321 pupils in 1901-02, enhancement of the fees having caused a falling off as compared with the preceding year. The Bombay School of Art has made great progress. It provides the schools in the presidency with drawing masters, and besides teaching painting and sculpture, maintains art workshops in which craftsmen are trained. The Calcutta School of Art had 228 pupils in 1901-02, compared with 261 in 1897-98. The Government Art Gallery is attached to the school. The Mayo School of Art at Lahore had 302 pupils on its rolls at the end of the year 1901-02, compared with 134 ten years ago. Important as is the artistic direction of handicrafts in all countries, it is specially vital to Indian industries of the indigenous type. The development of the schools of art is, therefore, in a very real sense an advance in technical instruction. There are also other schools of a more purely industrial character in which carpentry, cabinet making, blacksmith's work, and other handicrafts are taught. Their number is given as 84 in 1901-02, and the number of pupils attending them as 4,977; but they differ much in their character and value. They have been started in different parts of the country upon no definite principle and with no clear aims, and have, so far, been attended with insignificant results. A general inquiry into the question has recently been made by Sir Edward Buck, K.O.S.I., under the orders of the Government of India. The newly appointed head of the Madras School of Art, Mr. Chatterton, has been put on duty for three years with a view to furthering the progress of technical and industrial education in the Madras presidency; and efforts are being made in the other provinces towards the same end. Under the head of "other schools" are included agricultural and commercial schools and classes, schools of music, &c., and in Bengal a large number of miscellaneous schools. Of these there is no need to give any account.

Female Education.

Female education in India has to struggle against the indifference of the people and opposing social customs; but other causes have also been assigned for its backward condition, namely, want of schools, want of trained teachers, and want of earnest effort on the part of the authorities. There has, indeed, been a gradual increase in the school attendance of girls, but the number of girls under instruction at public institutions, which was 307,388 in 1891-92, had only reached 393,571 in 1901-02, out of about 17 million girls of a school-going age. Thus only 2·3 per cent. of girls of an age to be at school are attending schools recognised by the Education Department, compared with nearly 20 per cent. in the case of boys. Even this figure is discounted, so far as the general population is concerned, by the comparatively large number of European and native Christian girls educated in secondary schools. Instructions have recently been issued by the Government of India, with the object of carrying out the recommendations of the Education Commission that special encouragement should be given to female education. It is not to be expected that any great and sudden improvement can result. But it is reported from Bombay that, if there is no great enthusiasm for

female education, at least there is now no active opposition to it. In Bengal the last five years have shown an actual fall in the number of girls receiving secondary education, though the progress made in the earlier part of the decade results in a slight increase for the ten years, and it is said that the quality of the education is better. The causes which have brought about the general decline shown above have doubtless much to do with this result. Energetic steps are being taken to provide teachers and funds. In Madras there has been some progress, at least in the higher stages of female education. In the Punjab, female education is still in its infancy, but considerable progress has been made in recent years. From the United Provinces, on the other hand, it is reported that a demand for primary education for girls is well nigh altogether wanting, and that the difficulties to be contended with are almost insurmountable.

In villages where no girls' school exists, girls are in many cases admitted to the boys' schools, as the early age at which Indian girls, for the most part,

	1891-92.			1901-02.		
	Secondary Schools.	Primary Schools.	Total Public Institutions.	Secondary Schools.	Primary Schools.	Total Public Institutions.
Madras	72	274	347	72	283	400
Bombay	21	224	245	27	410	437
Bengal	10	151	161	10	164	174
United Provinces	05	27	32	02	46	49
Punjab	13	70	83	19	87	106
North West Frontier Province.				—	26	26
Central Provinces	08	75	83	10	101	111
Burma	24	289	313	20	446	538
Assam	02	127	130	09	179	188
Bihar	—	85	85	—	141	141
TOTAL	21	158	180	24	204	231

leave school renders this practice unobjectionable. The number of girls attending boys' schools in 1901-02 was 198,130. Including these, but excluding the "private institutions" at which the pupils generally learn little but recitation by rote from sacred books, the proportion of girls attending school to the total female population of school-going

age is shown in the margin, with the proportions for primary and secondary schools respectively.

The institutions for training teachers numbered 180 in the year 1901-02, and there were 5,709 students attending them. Madras takes the lead in this respect. It possesses two professional colleges affiliated to the University, and it is provided with a system of training schools, intended to afford both theoretical instruction and practical training for the profession of teacher, and elaborately classified. Their number was 77 in 1901-02, with 1,529 students. There are also in this province Sessional schools at which untrained village teachers can prepare themselves for the primary examination. In Bengal an affiliated college for the training of teachers was opened in the year 1900 at Kurseong. Up to 1896, the only provision in the province was for the training of vernacular teachers. But in that year arrangements were made to promote the training of English teachers for secondary schools. In Bombay, the 14 training schools are all for primary teachers, with the exception of the small classes which prepare female teachers for girls' secondary schools. There is an affiliated training college at Allahabad in the United Provinces, and five training schools for teachers in boys' schools, and two for mistresses in girls' schools appear in the returns. In the Punjab there is a Central Training College at Lahore, and five normal schools, the latter being intended for the training of teachers for primary schools. The large majority of primary school teachers in all provinces have very low qualifications, and many have no qualification at all worthy of the name. In secondary schools matters are on a better footing; but even for them it is difficult to find a sufficient supply of headmasters who have received a proper training at a special college, or who have matriculated at the University.

Training Schools.

With religious teaching the Government of India, following their general policy, do not interfere; but the moral training of the pupils forms a part of their educational aims. They seek to secure it not so much by means of moral primers and text books as by the influence of suitable teachers, associating with the pupils in playgrounds and elsewhere, and by discipline. Physical training also has made rapid advances during the decade; gymnastic

Moral and physical training, and boarding houses.

EDUCATION. instruction has been provided in many schools, and such games as cricket, football, and tennis have been widely taken up by pupils. Lastly, efforts are being made, with much success, to provide well-managed hostels or boarding

	1895-96.		1901-02.	
	Hostels.	Boarders.	Hostels.	Boarders.
Madras	107	6,429	178	10,720
Bombay	50	2,624	95	7,189
Bengal	210	7,384	316	11,341
United Provinces	218	5,749	311	9,086
Punjab	256	8,010	324	10,603
Central Provinces	51	1,449	44	1,111
Burma	60	2,993	83	4,120
Assam	33	458	57	852
Coorg	1	85	1	63
Berar	7	176	10	188
Total	993	35,857	1,419	55,273

houses, especially in connection with the colleges and schools of all kinds in large towns. The growth in the number of such institutions has been remarkable, as may be seen in the marginal table. The decrease shown in the Central Provinces does not imply inactivity in this respect during the decade, as it has occurred in the lower classes of hostels, while several Government institutions have been established, and orders have been passed in 1901 that

pupils are not to be admitted to colleges or secondary schools in the Central Provinces unless they reside either with their parents or suitable guardians, or in recognised hostels, or in lodgings licensed for the purpose.

Expenditure. The expenditure on education is not drawn entirely, or even principally, from Government revenues, and endowments are small in relation to the mass of the charges. The expansion of the sums available for education is therefore peculiarly liable to be checked by causes which affect the prosperity of the people. This is illustrated by the following table, showing the annual expenditure from all sources on education:—

	1891-92.	1893-94.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.	1901-02.
	£	£	£	£	£	£	£	£	£
Madras	391,714	420,547	452,384	445,808	459,844	475,132	477,544	495,806	527,892
Bombay	418,714	447,410	485,787	491,529	491,779	483,016	492,475	493,365	518,438
Bengal	623,513	638,364	712,084	731,242	729,500	740,360	759,637	769,754	813,321
United Provinces	223,558	241,462	254,463	242,660	244,035	247,864	300,343	303,684	302,727
Punjab, including the North-west Frontier Province.	178,033	192,075	201,864	204,847	210,434	214,711	221,552	220,136	227,120
Central Provinces	57,593	60,599	66,712	70,187	67,756	70,558	70,467	67,779	72,679
Burma	73,053	78,420	89,594	86,896	89,586	96,962	107,197	117,120	119,212
Assam	34,528	37,842	41,933	43,391	44,001	44,165	48,095	54,812	50,874
Berar	81,329	92,587	93,004	30,331	28,013	28,156	20,066	29,204	31,092
Other Provinces	2,607	2,674	2,862	7,944	8,767	7,945	9,592	9,456	9,863
TOTAL	2,034,642	2,151,980	2,337,687	2,354,835	2,375,515	2,414,369	2,516,868	2,561,116	2,673,278

In Bombay and the Central Provinces the expenditure was practically stationary during the five years of scarcity and famine, 1896-97 to 1900-01, though the expansion in the preceding period, for which alternate years only are shown in the table, was rapid.

The greater part of the expenditure is devoted to secondary and primary schools, which absorbed 32 and 30 per cent. respectively of the expenditure in 1901-02. The proportions in which the total expenditure was defrayed from public funds and other sources is shown in the margin. About 44½ per cent is contributed from public funds. It is the declared policy of the Government to devote the greater portion of the public revenues which are assigned to educational purposes to primary education, on the ground that secondary and collegiate education ought, to a large extent, to be paid for by those who receive them. In Bombay, for instance, the expenditure from provincial, local, and

	1891-92.	1901-02.
Provincial Revenues	29	25
Local Funds	18	15
Municipal Funds	5	4
Total Public Funds	52	44
Fees:		
All other sources	29	32
	19	24

municipal revenues on primary schools constituted 57 per cent. of the cost of primary education in 1901-02, and nearly 56 per cent. of the total expenditure from those funds on education. On the other hand, the Bombay University is supported almost entirely by fees, which are also more important than Government contributions in the colleges of the presidency. In the Bombay secondary schools, fees provided 43 per cent. of the expenditure, compared with less than 11 per cent. in the case of primary schools. The amount of school and college fees paid in the whole of India is returned as £846,800 in 1901-02, compared with £590,000 in 1891-92, showing an increase of about 44 per cent. The heading "all other sources" consists chiefly of private subscriptions and endowments. But it includes contributions from native States, an item which is chiefly important in Bombay and the Central Provinces, and also the expenditure from Imperial revenues, which is very small except in the Punjab.

Public scholastic institutions range themselves in two main classes, namely, those under public management, by the Government, by local fund or municipal boards, or by native States; and, secondly, those under private management. In the first class, the private subscriptions and endowments are practically negligible, and the cost is defrayed by the public managing authority, with the assistance of the fees received. The second class of schools is again divided into those which do and those which do not receive financial assistance from public funds.

	1891-92.	1901-02.
Number of public institutions under public management :—		
Managed by Government	1,397	1,078
Managed by local fund and municipal boards	17,534	18,080
Maintained by native States	2,248	3,680
Under private management :—		
Aided from public funds	60,478	62,922
Unaided	21,017	19,671

Such assistance is given by means of grants in aid, based generally on the results of the examinations, though other systems of distributing the grants have been tried in some parts of India. The unaided schools draw more than half their revenues from fees, though there has been a considerable increase during recent years in the amount received from endowments and other sources by these unaided schools.

The classification of the schools shown in the above marginal table leads up to the question of Government control over schools and colleges. It will be seen that the greater portion of the schools are classed as being under private management. This does not, however, exclude Government inspection, to which all the "public institutions" are subject. The character of this inspection, and the degree in which it approaches to actual management of the schools, differ in the various provincial systems. Attention has recently been drawn to the necessity for proper inspection, and to the responsibility of the district officers in this respect. Besides the official inspecting staff, much useful work is done by members of the school committees of public bodies, and by other non-official agency.

To conclude the chapter, a reference may be made to the reorganisation of the Education Department in the year 1896, in accordance with the recommendations of the Public Service Commission. The scheme did not apply to Burma or Berar, and applied only in a minor degree to Assam and Coorg. Its general result was to abolish what had been known as the Graded Educational Service, and to divide the Education Department into a superior and a subordinate service. The former is again subdivided into (a) the Indian Educational Service, including all posts to be filled by persons appointed in England, and (b) the Provincial Service recruited in India. Appointments in England are made by the Secretary of State for India, usually from distinguished graduates of the Universities of the United Kingdom, and preferably from men who have had experience in teaching. The posts so filled include many of the college professorships and school inspectorships, besides some appointments for which special qualifications are required, such as the superintendentships of the schools of art.

CHAPTER XXIII.

EMIGRATION AND MIGRATION.

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EMIGRATION.

Regulated
emigration.

An account of emigration in its larger aspects, as bearing on the question of population, will be supplied by the general census report, and need not be attempted here. But there is one part of the subject which has a high administrative importance. Emigration of persons under contract to labour outside India is regulated by an Act of 1883 and the rules issued under its provisions, the only exceptions being in respect of emigrants to Ceylon and to the Straits Settlements and adjoining States, or those engaged by the British Government for employment in East and Central Africa. By section 8 of 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 for the protection of the immigrants. The only changes in the law have been the amending Act of 1896, enabling the Government of India to exempt from the provisions of the Emigration Act emigrants leaving India under an agreement with H.M.'s Government, and the Act of 1902, which gave the Government control over the emigration of Indians under engagement to work as artisans, public entertainers, &c. The system of recruitment is, briefly, as follows:—A country which is duly empowered under the Act to receive emigrants may appoint an Agent, residing in India, and responsible for the due observance of the provisions of the law in respect to all persons recruited or despatched through his agency. All such Agents act under the general supervision of the official Protector of Emigrants, who is entrusted with the whole working of the Act. As the emigrants have to be recruited from various parts of the country at a considerable distance from the port of embarkation, recruiters are nominated by the Agent and licensed by the Protector. Minute provision is made regarding the conduct and procedure of these subordinates, who are liable to prosecution and withdrawal of license in cases of violation of their instructions. Every precaution is taken, under the Act in question, to let the intending emigrants know the exact terms on which their labour is being engaged, and to secure good treatment for them during the interval between registration and embarkation. The latter takes place for the most part at Calcutta and Madras, but in the more recent years a large number of emigrants have been shipped for Mombassa, and some for the Seychelles, from Bombay and Karachi. A further examination of the persons brought down by the recruiters is made by the medical inspector, who is also charged with the inspection of the depôt where they are lodged pending departure from India. Only such persons as are certified to be physically fit to undertake the voyage are allowed to embark. The vessels chartered for the conveyance of emigrants are also subject to inspection, and have to be specially licensed for the purpose by the local Government, under due conditions regarding space, sanitation, and the supply of food and water. Many other details in connection with the arrangements, such as the seasons during which emigration is permissible to the respective colonies, and the relative number of women prescribed and children and other dependants allowed, are dealt with either in the Act or in the rules published under it. The terms on which emigrants are allowed to be enlisted in India are settled beforehand by convention with the colonies concerned, and are embodied in ordinances passed by the local legislatures. They vary in detail, but their main provisions relate to the rights and obligations of the emigrants, including the grant of a return passage on the expiry of a specified period, usually ten years. The British colonies to which indentured emigrants have gone during the last ten years are Demerara or British Guiana, Trinidad, St. Lucia, Jamaica, Mauritius, the Seychelles Islands, Fiji, East Africa, and Natal; the only non-British country is Dutch Guiana (Surinam). Other colonies scheduled in the Act as being countries to which emigration is lawful are Grenada, St. Vincent, and St. Kitts among British possessions, the Danish possession of St. Croix in the West Indies, and the French colonies of Martinique, Guadeloupe

and its dependencies, and French Guiana (Cayenne). Emigration to the French colonies, including Réunion, has, however, been prohibited by various notifications of the Government of India, the last of which was issued in 1888; but there still remain in those colonies some of the former emigrants, and the questions of their treatment and of their repatriation have frequently formed the subject of representations to the French authorities.

The number of emigrants in each of the last eleven years, with their destinations and the ports from which they sailed, is shown in the following table, with the total for the last ten years:—

	Destination.										Port of Embarkation.		
	Mauritius.	Natal.	British Guiana (Demerara).	Trinidad.	Dutch Guiana (Surinam).	Fiji.	Jamaica.	East Africa (Aloutas).	Other Destinations.	Total.	Calcutta.	Madras.	Bombay and Karachi.
1891-92	989	3,349	6,311	3,285	698	1,985	1,060	—	—	16,597	13,968	2,629	—
1892-93	—	3,119	4,733	3,620	1,075	781	—	—	—	12,318	10,114	2,204	—
1893-94	485	2,613	5,833	1,936	1,104	1,083	486	—	157	13,735	11,777	1,958	—
1894-95	1,029	3,593	7,300	3,185	1,370	1,432	711	—	—	16,423	16,329	2,050	—
1895-96	1,746	3,337	1,906	2,177	1,426	566	470	—	—	11,899	9,501	2,398	—
1896-97	803	4,038	2,417	3,043	600	1,352	—	2,819	—	15,373	10,110	2,643	2,619
1897-98	426	6,036	1,194	1,651	618	567	—	2,793	—	13,485	7,317	3,343	2,793
1898-99	—	4,958	2,380	1,368	616	—	623	9,479	289	19,615	6,646	3,199	2,768
1899-1900	—	1,590	4,959	1,768	—	1,490	670	9,331	—	20,438	9,399	1,108	9,331
1900-01	3,229	6,312	3,323	2,450	—	2,583	—	8,032	—	26,508	11,510	6,966	3,022
1901-02	4,351	7,763	4,276	2,642	1,342	2,319	—	4	—	32,499	12,310	10,164	4
Ten years	11,968	43,357	38,672	29,860	6,231	12,743	2,960	33,038	448	174,494	109,042	26,108	23,347

With the completion of the Uganda railway there was a great reduction in the amount of emigration to the British East Africa Protectorate in 1901-02, and 6,366 emigrants returned during the year. Some of the remainder may be induced to settle near the line.

The coolies for Mombassa are chiefly Punjabis, and start from Bombay or Karachi; those leaving Madras include a few of the Mauritius contingent and the larger part of those for Natal. The remainder take ship from Calcutta, and are drawn for the most part from the inhabitants of the United Provinces. The period of their employment appears to be a profitable one, as they make

	Average per Immigrant.
	£ s. d.
Demerara	1 8 10
Trinidad	1 3 8
Mauritius	0 17 8
Natal	1 10 11
Fiji	1 6 6
Jamaica	1 11 10
St. Lucia	1 11 9
Surinam	1 14 11
Martinique	0 0 8
Guadeloupe	0 3 8

very considerable remittances to India each year, and bring home savings to an appreciable amount. In the year 1901 the 2,948 adult emigrants who returned to Calcutta had savings amounting to about £14 per head. The ascertained savings per head of the resident Indian immigrants in the several colonies during the year 1900 are shown in the margin. The figures are based on the amounts of the savings bank balances, the value of landed and other property, the remittances to India, and the bounties given for re-engagement during the year. The table seems to show the unhappy condition of the indentured Indians in the French colonies. Particulars from Madras point to the same

conclusion, showing that while the emigrants who returned from Natal during the year 1901 brought back on the average rather more than £19, those from Réunion and Guadeloupe had little more than £9 per head.

The number of the resident Indian population in the colonies in the year 1900, the latest for which the particulars are available, is shown in the margin. Réunion also contained in that year some

Resident Indian Population.	
Demerara	125,875
Trinidad	85,615
Mauritius	265,163
Natal	65,925
Fiji	15,368
Jamaica	15,278
St. Lucia	1,200
Surinam	18,000
Martinique	3,764
Guadeloupe	15,276

13,800 immigrants, so that the total may be stated at 625,000 in December 1900. But it need hardly be said that this by no means exhausts the number of Indians resident abroad, since there have to be added about half a million resident in Ceylon, 54,000 in the Straits Settlements, a considerable number in the British possessions on the east coast of Africa, some thousands in parts of South Africa other than Natal,

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and small numbers in Australian and other colonies, besides those residing in countries, other than those enumerated above, outside the British Empire. Information as to the numbers of Indians resident in British colonies, and the disabilities or restrictions imposed on them, is contained in a return presented to the House of Commons by the Secretary of State for the Colonies in December 1900.* The most important pending questions are those relating to the treatment of British Indians in Natal and the Transvaal. In respect to the former of these, a recent amendment of the law has applied the provisions of the law of 1895, relating to indentured Indians, to the children of immigrants coming under that law, to the extent of requiring such children, on attaining majority, either to go to India with a free passage, or, if they remain in Natal, to enter into indentures under the Act of 1895 or take out a license at an annual fee of £3. As regards the Transvaal Colony, the question still awaits settlement.

Non-
regulated
emigration.

Migration to Ceylon and to Burma takes place chiefly from the Madras ports, and is for the most part of a seasonal, or at all events a temporary,

District.	Number of Passengers embarking during 1901 for—			Number of Passengers arriving during 1901.
	Straits Settle- ments.	Burma.	Ceylon.	
Ganjam -	—	29,508	—	5,449
Viragapatam -	—	13,210	624	13,383
Godavari -	—	11,603	—	13,168
Kistna -	—	8	—	22
Madras -	813	17,407	48	22,717
South Arcot :				
Cuddalore -	618	694	—	364
Pondicherry -	47	20	3	250
Tanjore :				
Negapatam -	24,648	11,876	698	17,518
Ammapatnam -	—	—	15,344	13,775
Karikal -	1,885	—	—	460
Other ports -	—	—	—	456
Madura -	—	—	13,526	45,460
Tinnevely -	—	—	87,801	89,609
South Canara -	—	—	2	12,589
Malabar -	—	3	46	3,237
Total -	37,960	84,329	117,992	238,407

character. The tea estates and the pearl fisheries of Ceylon attract a large number of labourers from the districts of Madura, Tinnevely, and Tanjore, while a smaller, but still very considerable, number crosses to Burma. The marginal table gives the particulars for the year 1901, with the port of departure and the number of return immigrants. The latter include 115,000 passengers from Ceylon, 54,500 from Burma, and 16,000 from the Straits Settlements. A scheme has recently been set on foot for developing the agricultural resources of the Federated Malay States by the introduction of permanent settlers from India, but it remains to be seen what

success it will meet with.

LABOUR IMMIGRATION INTO ASSAM.

There is at present very little indigenous labour offering itself for hire in Assam. In many parts of the Assam valley daily labourers cannot be obtained even for the most liberal wages, and in the Surma valley, where there are few carts, and coolies are the usual means of transport, porters cannot easily be hired, though the rates in some cases are as high as a rupee for a journey which can be performed in a single day. All industrial enterprises, therefore, require imported labour. The Assam-Bengal railway has been constructed almost entirely by foreign labour, imported with great difficulty and at great expense, and, to say nothing of the minor industries of the province, the tea-gardens had a total adult labour force of 398,400 at the end of the year 1901, of whom only 2½ per cent. were Assamese. The larger number are drawn from the aboriginal populations of Chota Nagpur and Orissa, persons of Bengal origin forming 66 per cent. of the adult labour force of the gardens in 1901. The United Provinces and the Central Provinces have each supplied about 14 per cent., and Madras 3 per cent. The coolie labour imported in each of the ten years is shown in the following table, which shows the effect of the famines on the numbers seeking employment in Assam. The low figures of 1901 was ascribed, in part at least, to the depressed state of the tea industry.

* Parliamentary Paper, House of Commons, 383, Session 2, 1900.

Class of Labourers.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.
Act { Sardars' Adults	13,512	11,719	9,743	2,936	10,460	22,490	12,080	7,871	16,728	8,109
Act { Contractors' Adults	14,942	14,304	13,980	21,847	18,370	18,127	10,559	11,065	12,341	8,147
Non-Act - - - -	13,347	11,179	11,983	20,689	21,971	28,711	12,977	7,298	15,075	8,639
Total Adults - -	41,802	37,143	35,706	45,501	51,301	69,328	35,616	26,272	44,144	24,897
Children - - - -	14,348	13,552	10,824	16,326	19,614	29,603	12,652	8,058	17,689	6,326
GRAND TOTAL - -	56,050	50,695	46,530	72,827	81,115	98,931	48,269	34,330	61,833	31,223

The classification of the labourers requires some explanation. In the first place there is the broad distinction between the labourers recruited under the special legislation provided by the Act of 1882 and the subsequent Acts, and those who do not come under the provisions of the Acts. Secondly, the Act labourers are divided into two classes according to the system of recruitment adopted. Apart from the so-called "free labourers," who do not enter into a contract under the Act before going to Assam, the tea gardens obtain their recruits either through the means of *sardars*, who are persons employed on a tea estate and deputed by their employers to engage labourers, or from contractors in the recruiting districts, employing recruiters for whose acts they are responsible. The special law provides in a very minute and careful manner for the licensing and controlling of these recruiting agencies. It requires that they shall bring the labourers they recruit before a registering officer in the district of recruitment, that the labour-contracts following on registration shall be executed there, and that the labourers after entering into the contract shall be conveyed to Assam under proper safeguards and official supervision. But the Act of 1882 left a loophole through which great abuses crept in. In leaving unrestricted free immigration, it rendered possible a system of unlicensed and uncontrolled recruitment by which the labourer was not brought under contract until he reached the labour districts of Assam. The *arkatis*, or unlicensed recruiters, were found to use many fraudulent devices to enlist recruits, including, it is said, kidnapping and abduction of women and other malpractices. One of the chief objects of the amendment of the law in 1893 was to secure better control over the recruitment of labourers; but it was decided not to adopt the system of initial registration of all recruits in the recruiting districts, which was proposed by the Bengal Government. So far as Bengal was concerned the Inland Emigrants' Health Act of 1889 gave some powers in respect to the sanitary regulation of the journey of free emigrants to Assam, and an attempt was made by the Lieutenant Governor, Sir Charles Elliott, to extend its usefulness by the issue of rules; but it was found that the rules were *ultra vires*. The next step was the appointment by the Bengal Government of a Labour Commission, which was to report on the whole question, and especially on the proposal to establish a central recruiting agency in Calcutta. They reported unanimously in 1896 that such a step was impracticable, that malpractices had increased since the passing of the Act of 1893, and that fresh legislation was required. This resulted in the Assam Labour and Emigration Act of 1901, which consolidated the law, and amended it, so far as the recruitment provisions are concerned, in the following manner: A local Government is empowered to prohibit all persons from recruiting or engaging or assisting any native of India to emigrate from any specified part of its territories to the Assam labour districts otherwise than in accordance with such provisions of the Act as may be specified in the notification. Upon such prohibition, unlicensed recruiting becomes a penal offence. Secondly, licensed recruiters are compelled to register the emigrant, if not in the actual district of recruitment, at least in some central place near the district. The special procedure, legalised by the 1893 Act, under which a labour contract for any Assam Valley district could be entered into by a so-called "free emigrant" at Dhubri, just within the borders of Assam, is abolished. There are also other provisions dealing with the free emigration system, among which may be mentioned the prohibition of the execution of a penal contract by a woman without the consent of the husband or lawful guardian. With the really spontaneous emigration, resorted to chiefly in the Surma Valley, the Act of 1901 was not intended to interfere, further than by requiring *sardars* deputed by their employers to collect emigrants outside the Act to have permits countersigned

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in the labour district, to report themselves to the magistrate of the recruiting district, and to report their departure and the number of persons they have engaged. The Inland Emigrants' Health Act (Bengal Act I. of 1889) was repealed, and its provisions were incorporated in the new Assam Labour and Emigration Act.

The Assam labour system rests on the basis of a penal contract enforceable through the criminal courts. It is recognised to be an exceptional and transitory system, and the Government of India are pledged to revise or put an end to it when the conditions of Assam are assimilated to those of neighbouring provinces; but that time has not yet come, and in the meanwhile there is abundant testimony that the labour conditions prescribed by the law have worked on the whole satisfactorily in Assam. A change has been introduced by the Act of 1901 in respect of the minimum rate of wages, which it was found desirable to increase. Under the provisions of that Act the maximum duration of a labour contract is four years, except in cases when contracts are made in the labour district otherwise than before a Magistrate or Inspector, when the term may not exceed one year; the minimum monthly wage, contingent on the completion of the daily tasks, is fixed at Rs. 5 for a man and Rs. 4 for a woman for the first year, Rs. 5½ for a man and Rs. 4½ for a woman in the second and third years, and Rs. 6 and Rs. 5 respectively in the fourth year; provided that the rate for the second and third years may remain at Rs. 5 and Rs. 4 for male and female labourers respectively in contracts executed before the 1st April 1903. Special provision has also been made by the Act for new coolies, who will now receive full wages for the performance of half tasks during the first six months of their residence on the garden, unless certified by an inspector to be physically fit to perform a full task. It is reported that there has been very little tendency on the part of managers to bring forward coolies to be certified as fit to perform full tasks. The local Government has power to cancel the contract when it has been obtained by coercion or misrepresentation, or on the ground of irregularity in the recruitment or in the execution of the contract; and the same power is given in cases where the condition of the labourers appears to be unsatisfactory in consequence of the insufficiency of their earnings to maintain them in health and comfort, and in some other cases.

The labour force of the tea gardens at the end of 1901 consisted of 108,861 adult Act labourers, 289,521 adult non-Act labourers, being for the most part persons who have re-engaged after the expiration of their original contract, and 246,376 children; nearly 645,000 persons in all. The death rate, calculated on the mean of the numbers on the gardens at the beginning and the end of the year, was 37·2 per mille in the case of Act labourers, compared with 43·5 per mille in the preceding year and an average of 51·6 per mille for each of the preceding ten years. The fact that fewer new coolies arrived during the year and the increased vigilance in the enforcement of sanitary regulations, together with the healthiness of the season, account for the fall. Among non-Act adults the death rate was 25·2 per mille, and among children 21·0 per mille. The birth rate for the whole was 29·1 per mille. Gardens on which the average mortality, either for the coolie population as a whole or for the Act or non-Act population taken separately, exceeds 7 per cent., are classed as "unhealthy" and inspected by a medical officer, and on his report the local Government may issue an order exempting the labourers from their obligations to serve on such a garden. The same course may be adopted in the case of gardens found by a Committee constituted under the Act to be unfit for the residence of labourers. The number of gardens on the "unhealthy" list in 1901 was 11, out of a total of 820 gardens, the proportion being the lowest on record. One of the most important questions affecting the welfare of the tea garden coolies is that of the liquor supply, to which fresh attention was called in the early part of the year 1902 by Mr. J. Buckingham, C.I.E., Chairman of the Assam Branch of the Indian Tea Association. Broadly, the allegations made are that there is a great amount of drunkenness among the coolies, which is fostered, or not sufficiently restricted, by the excise system of the province. As to the drunkenness there is no dispute; and the Government decided to make a full inquiry into the alleged defects of the outstill liquor system in Assam. The results of this inquiry are still awaited.

CHAPTER XXIV.

CONDITION OF THE PEOPLE.

CONDITION
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The foregoing chapters have to a large extent been occupied with an account of the operations of the various departments of the administration, and though an attempt has been made to keep the effects of that activity on the welfare of the people as much as possible in the foreground of the picture, this feature must be to some extent obscured by the abundant detail. The present chapter contains, in the first place, a brief review of the decade prepared by the Government of India for the purpose of this report; secondly, some particulars, drawn from memoranda received from the several local Governments, regarding the condition of the agricultural and industrial classes in each province; and, in conclusion, a short notice of the measures which have been taken during the period to deal with the question of agricultural indebtedness.

I.—GOVERNMENT OF INDIA'S REVIEW.

During the ten years which ended with 1891, the seasons were on the whole not unfavourable, and while local failures of the harvests occurred in several provinces, they were not of sufficient importance in area, duration, or intensity to affect the character of the period, which, on a general view, was one of fair agricultural prosperity. The ten succeeding years which have just ended have, on the other hand, included a succession of exceptionally adverse seasons. In these years there have occurred two of the worst famines of the century, and the sufferings caused by these calamities, from which India had long been comparatively free, have been aggravated by an entirely new visitation in the form of a widespread and fatal epidemic of plague. The decade opened with fair promise of favourable seasons and good harvests. Abundant yields of rice, wheat, and oilseeds were secured in 1892-93, though the cotton crop was somewhat below the average, and in the two following years the harvests generally were fair, notwithstanding untimely and, in parts, excessive rain. But in 1895 there was a change; and two years of insufficient rainfall and crop failure ensued, which culminated in the great famine of 1896-97. The year 1898 saw a return to more normal conditions, and was a year of rest and, in Northern India, of very rapid recovery; but it was succeeded by a more complete failure of the annual rainfall than before, and in 1899 and 1900 there was again over large areas a complete failure of the crops. Conditions continued abnormal to about the end of the decade, but have latterly improved, and it may be hoped that the cycle of scanty and ill-distributed rainfall is over, and that it will give place to a series of favourable years. Bubonic plague made its appearance about the same time as the famine of 1896-97, and after spreading over the western presidency, notwithstanding the measures taken to prevent its extension, gradually obtained a firm hold throughout the northern provinces. It is estimated that up to the end of March 1902 nearly one million deaths were caused by this disease, but the evil effects of the pestilence are not to be reckoned alone by the death-rate, which, serious though it be, is small in comparison with the mortality caused by cholera and fever. The effect of the first outbreaks of plague, wherever they occurred, has been to hamper trade, to alarm the people, and to increase the general depression caused by a succession of calamitous seasons.

Character
of the
decade:
Famines and
Plague.

It is unnecessary to refer here in detail to the figures of the last census, but the check in the general rate of increase of the population during the decade, and the actual decrease over large areas in the numbers, indicate the inevitable severity with which adverse seasons must press on the inhabitants of a purely agricultural country in spite of all efforts at relief. Of the material losses suffered owing to the droughts the statistical record is incomplete, but there are sufficient data to give some idea of their enormous proportions. In the year 1893-94, which may be taken as a fairly normal year, the total area sown with crops in British districts was 225 million acres. In 1895-96 the figures fell to 213, and in 1896-97 to 200 million acres. The

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area under food-grains during these same years fell from 181 to 172 and 160 million acres. In the great drought of 1899-1900, in which the area of British territory affected was smaller, the total area sown with crops fell to 204 million acres, and the area under food-grains to 165 million acres. Thus in three years of the decade there was a shrinkage in British districts alone of 58 million acres in the total area sown, of which 46 million acres occurred under food crops; and these figures take no account of the large area recorded as sown over which the crop failed, or gave a very poor return. No complete or accurate estimate can be framed of the loss of produce, but a careful estimate made in the "Narrative of the Famine in India in 1896-97," placed the loss of food crops during that famine at 18 or 19 million tons. The extent of the loss in the still more severe famine of 1899-1900 was referred to as follows by the Viceroy in the Legislative Council on 19th October 1900:—

"The annual agricultural production of India and Burma averages in value between 300 and 400 crores of rupees. [This estimate was subsequently increased.] On a very cautious estimate, the production in 1899-1900 must have been at least one-quarter, if not one third, below the average. At normal prices the loss was at least 75 crores, or 50 millions sterling. In this estimate India is treated as a whole. But in reality the loss fell on a portion only of the continent, and ranged from almost total failure of crop in Gujarat, Berar, Chhattisgarh, and Hissar, and in many of the Rajputana States, to 20 and 30 per cent. in districts of the North Western Provinces and Madras, which were not reckoned as falling within the famine tract. If to this be added the value of some millions of cattle, some conception may be formed of the destruction of property which a great drought occasions. There have been many great droughts in India, but there has been no other of which such figures could be predicated as these."

Famine
relief.

Between 1880, when the general lines of famine administration were first laid down on definite and authoritative principles, and 1896, various scarcities or famine occurred, the most serious of which were in the Madras presidency between 1889 and 1892. But though the failure of crops during these droughts was very great in the affected tracts, the calamity was in no case on such a scale as to put any excessive strain on the administration, and the experience gained in relieving the sufferers pointed to the conclusion that scarcities affecting a limited area could be successfully dealt with at a moderate expense and without greatly disturbing the ordinary administration. It was otherwise with the widespread famines of the last decade. The first of these affected an area in British and Native territory of 300,000 square miles, with a population of 63 millions; the second an area (the greater part of which was in Native States) of 400,000 square miles with a population of 60 millions. The failure of crops was on a scale unprecedented in times for which an accurate record exists; the measures of relief taken were on a scale entirely without precedent. The whole efforts of the Government were directed to the administration of this relief; the ordinary civil staff were supplemented by officers of the Army, from whom most valuable assistance was received, and by large additions to the native establishments, and no considerations of expense were allowed to stand in the way of such measure of relief as was needed to meet the conditions of each case.

During the twelve months October 1896 to September 1897, work and subsistence was found, on an average, for over two millions of persons daily in British territory, the numbers rising to over 3½ millions in May and June 1897; and in the height of the subsequent famine there were for weeks together over six million persons in receipt of relief in British India and Native States. In 1896-97 and 1897-98 the total expenditure on relief exceeded five million pounds sterling, in 1899-1900 and 1900-1901 it exceeded six millions, besides liberal advances made to agriculturists, loans to Native States whose finances were unequal to the cost of the measures of relief, and large remissions of arrears of revenue. At the end of 1902 remissions to the extent of over a million sterling were granted to clear off the arrears which had accumulated during the time of distress, and so to give the rural population of the affected tracts a fresh start in life.

Famine
Commission.

The opportunity was taken to bring under review the whole system of the administration of relief while the lessons learned during these two famines were yet fresh, and a Commission, appointed for the purpose after the first famine, submitted a report in 1898. Before full effect could be given to its recommendations the second famine occurred, and in 1901 another Commission was appointed whose proposals have lately been under the consideration of the Government of India and the Secretary of State, and

will involve some revision of the Famine Codes. It is worthy of notice that several of the most important recommendations of this later Commission tend to increased strictness in the administration of relief. The long continuance of the recent famines, and the elaborate organisation of relief, had familiarised the people with the grant and acceptance of State charity to an extent unknown before. In place of a reluctance to accept relief under the conditions imposed, a tendency had grown up to resort to and rely on it when no sufficient necessity existed. It was noticed that, contrary to previous experience, neither the harvesting of the spring crops nor the break of the rains had any very marked effect in reducing the number of applicants for relief; and in the slowness with which at the end of the famine the recipients of relief resumed their ordinary avocations, and in the difficulty experienced in discontinuing State charity at a time when grain was selling at prices that would in former times have been thought incompatible with scarcity, there were signs of the dangerous effect on the self-reliance and independence of the people of the long-continued provision of work and food for them by the State. It is difficult to hit the exact mean between demoralising profuseness and a fatal strictness in famine operations; but the more complete the organisation for detecting the existence of real want, and for promptly putting the system of relief in motion, the more is strictness in the administration of that relief both necessary and desirable. It was originally thought essential to provide that under no circumstances should a worker receive less than a certain minimum amount of food a day; but all experience in the recent famines has shown that the relief given to the able-bodied may safely be proportioned to the work performed, and in future the minimum wage for this class will disappear from the scheme of famine administration. At the same time the machinery for detecting serious want and for securing the co-operation of the non-official public will be improved, and a state of preparedness will be aimed at that will prevent all possibility of delay when the provision of relief by the State is really necessary.

The measures already taken to open out the country and develop its resources had fortunately placed the Government in a stronger position than at any previous period for dealing with such a calamity as famine, and above all the administration of relief was facilitated by the rapid improvement which had taken place in railway communications. Nothing was more striking in the recent famines than the freedom with which grain passed from place to place in accordance with local requirements; and the following extract from a note prepared at the time may be quoted as illustrating the results of the extension of the railway system:—

Railways.

“On the invaluable assistance rendered by railways in mitigating the effects of famine it is unnecessary to enlarge, but a brief reference may be made to the striking evidence afforded by the traffic returns of the intense activity with which trade, with the help of railways, responded to the emergency, and poured vast quantities of food from areas of surplus to areas of deficient production. Excluding the Punjab, which was able to meet its wants from its own resources, the provinces affected by famine or scarcity imported, during the twelve months ending 30th September 1900, food-grain and pulses to the extent of nearly 72 million maunds, instead of exporting,

Movements
of grain.

Province.	Net Imports, October 1899– September 1900.	Average Normal Exports.
	Mds.	Mds.
Bombay	30,439,150	2,000,000
Central Provinces	11,979,499	4,000,000
Berar	3,679,158	100,000
Rajputana and Central India - Nizam's territory	23,348,793	600,000
	2,444,765	300,000
	71,886,367	7,000,000
	Net exports. 348,799	15,000,000
Punjab		

as they would have done in an ordinary year, about 7 million maunds. The largest importer, as might have been expected, was the Bombay presidency, which took over 30 million maunds, of which about 17 millions were obtained through the chief seaport, 5 millions from the North-Western Provinces and Oudh, 4 millions from Madras, and nearly a million each from Bengal, the Punjab, and Mysore.

“The next largest importers were the Native States of Rajputana and Central India with over 23 million maunds, of which 17 millions were derived from the North-Western Provinces and Oudh, 3 millions from the Punjab, 2 millions from Bengal and about a million through

the port of Bombay. The depletion of stocks in the Central Provinces is shown by a net importation of nearly 12 million maunds, of which no less than 11 millions were contributed by Bengal and its chief seaport, Calcutta, the balance being obtained chiefly from the North-Western Provinces and Oudh. Berar imported nearly 4 million maunds, almost the whole of which was drawn from Bengal and Calcutta. Into the Nizam's territory there was a net importation by rail of about 2½ million maunds, derived almost exclusively from Madras and its seaports. The

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Punjab, as has been said, was able to dispense with outside assistance. The large area under artificial irrigation in this province prevented a total failure of crops, but, in order to feed itself, the province was compelled to reduce its exports from 15 millions to less than half a million mounds. The imports into the Central Provinces and the Bombay presidency consisted largely of Burma rice imported through Bengal and the port of Bombay."

In consequence of the comparative ease and rapidity with which, owing to the extension of railways, it was possible for trade to adjust the supply of food to the demand, prices were maintained at an almost uniform level throughout the country; the excessively high prices indicative of an absolute dearth of food, which characterized famines in the days of imperfect communications, were unknown, except in a few wild and sparsely inhabited tracts; and the supply of food could safely be left to the ordinary operation of trade, and did not require the special intervention of the Government as in some previous famines. These calamities are now commonly described as money-famines rather than food-famines; but it should not be forgotten that in the early stages of the famine of 1896-97 very different ideas were prevalent, and that a serious failure of food was anticipated in many quarters, unless Government should intervene to supplement the ordinary operations of commerce. So widespread was the feeling on the subject that in 1897 the Government of India thought it necessary to make a declaration of their policy. They recognised the possibility that in certain events the food supply of the country as a whole might prove insufficient, and might require to be supplemented by importation from abroad, but they held that even in this contingency it was advisable to abstain from any interference with trade. This policy was justified by the event; the stage at which importation from foreign countries was required on a large scale was not reached; and the experience gained during the past decade in two droughts of great severity, which followed each other in quick succession, confirms the conclusion arrived at by the Famine Commissioners of 1880 that "the surplus produce of India, taken as a whole, at present furnishes the means of meeting the demands of any parts of the country likely to suffer from famine at any one time."

The extension of railway communications during the decade has indeed been very remarkable. At the end of 1892 there were 17,900 miles open; ten years later the mileage had risen to 25,500 or by 42 per cent. The original programme of great schemes of railway communication is approaching exhaustion, but there is ample room for further development in detail, and fresh projects are being considered and taken up as fast as funds permit. Over 3,000 miles of projected lines of railway await completion, and in the construction of subsidiary lines by local bodies which has been initiated in the Madras presidency, there lie the possibilities of an extension of communications that will bring every part of the country within reach of the chief markets. In order that the administration of this great railway system may be kept thoroughly abreast of modern progress, an expert from England has been investigating its working in minute detail, and his suggestions will be received and considered in the course of the present year.

Irrigation
Works.

Only second in importance to the development of communications is the extension of irrigation, which gives an increased return from the soil in ordinary seasons and secures the crops in times of drought. The total irrigated acreage of British India in ordinary years averages 30 million acres, of which about one-half or 15 millions is watered by irrigation works* owned or controlled by the State. During the five years ending March 1901, which included four years of acute drought or scanty rainfall, the State-irrigated area was expanded to 18 million acres a year. In the "Narrative of the Famine of 1896-97"* a complete account is given of the progress of State irrigation works in each province since 1880, with statistics showing the benefits conferred on protected tracts by their canals. The programme originally laid down for the extension of the system has now been completely carried out so far as practicable in most provinces, and during the last decade the extension of canal irrigation has been especially great in the Punjab, where, owing to the unfailing nature of the supply which is poured by the glaciers of the Himalayas into the great rivers of the province, barren wastes have been brought under the plough and prosperous colonies have been established.

* Parliamentary Paper, C. 8812 of 1898.

The Government of India are fully alive to the enormous importance of fully utilising the water supply of the country for the purpose of irrigation, and a strong Commission has been appointed which will shortly report on the whole subject. Among the matters with which the Commission will deal are, the scope which exists for the further extension of large State irrigation works, the stimulation of private enterprise in the construction of small irrigation works by assistance from public funds, and the best means of profitably employing famine labour in the future in the execution of works of protective value. One of the instructions to the Commission was that, in considering proposals for new works, it should be understood that greater importance may often properly be attached to the extent and reliability of the protection that will be afforded than to the merits of the schemes as financial investments. The programme of directly remunerative works must eventually be exhausted, but it is now recognised that the construction of irrigation works may be justified as a protection against famine, even though they cannot be worked at a commercial profit; and the whole question will again be considered from this new and wider standpoint.

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But the protection of agriculture against vicissitudes of seasons is only one, though it may in some respects be the most important, phase of the problem of agricultural improvement. The Famine Commissioners of 1880 laid much stress on the institution of scientific enquiry and experiment, with a view to promote the efficiency of agricultural methods and increase the food supply of the country. The agricultural departments, when first constituted, were, however, mainly occupied in organising and developing the local agency by which village records and agricultural statistics are prepared and maintained, while in the higher branches of science, whether directly concerned with agriculture or not, the work of experts was not specially directed to the economic resources of the country; botanists explored and classified the flora; geologists examined the rocks and strata; scientific research was in the classificatory or systematic stage. In some provinces experimental work was actively carried on, but, generally speaking, the object aimed at was the careful ascertainment and collection of facts before scientific investigation was undertaken on any extensive scale. Towards the close of the preceding decade an agricultural chemist, Dr. Voelcker, was deputed by the Secretary of State to advise on the whole question of the improvement of agriculture, and his report showed the necessity of a wider and more active policy of agricultural enquiry, and of the application to it of scientific methods and expert knowledge if any results of practical value were to be attained. This policy has the full support of the Government of India, who have in recent years taken steps to encourage the active prosecution of scientific research. An Inspector-General of Agriculture has been appointed, whose staff already includes an agricultural chemist, a cryptogamic botanist and an economic entomologist. The provincial departments, hitherto crippled by adverse financial conditions, are at the same time being strengthened. In the United Provinces an expert from Europe has been appointed Deputy Director of Agriculture, an economic botanist has been added to the establishment in Madras, where a complete reorganisation of the department is imminent, while in Bengal proposals have been made for the creation of a large and well-equipped agricultural staff. In the earlier years of the decade great loss was caused to the wheat crops by rust, especially in the Central Provinces and neighbouring districts. An officer was deputed to Australia to study the experiments in progress there with a view to discovering a rust-proof wheat, and similar experiments are now being made in this country, with a fair prospect of successful results. A scheme for the creation of an Agricultural Research Laboratory and Training College, combined with a Central Experimental Farm, is now under the consideration of Government.

Agricultural
improve-
ment.

Another side of the agricultural question has reference to the improvement of the breeds of cattle, and the prevention of the excessive mortality at present caused by epidemic disease. At the beginning of the decade a Civil Veterinary Department was constituted, and though circumstances limited its efforts at the outset chiefly to the promotion of horse-breeding, a special branch was attached to it for the investigation of cattle disease; and measures have just been sanctioned which will set the staff free to devote

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the greater part of their time and attention to the important problems connected with the improvement and protection of cattle.

In 1890 a bacteriological expert was appointed for the special investigation of cattle diseases and their remedies, and in spite of various untoward circumstances that adversely affected his work, valuable results have been attained during the decade; inoculation against rinderpest has been practised on a large scale, with little opposition from the people and with most encouraging results, while the origin of, and possible remedies for, other diseases are being investigated. A large and well-equipped bacteriological laboratory has been provided in the Himalayas, with a subsidiary establishment at the foot of the hills, and at these institutions protective sera are now prepared in large quantities, and members of the veterinary staff are instructed in the method of their use.

For the direction and co-ordination of scientific work in its different branches, the spheres of which often overlap, it has always been difficult under Indian conditions to arrange effectively. Recently, therefore, the Government has constituted a Board of Scientific Advice, which will assist in directing the programme of scientific research in all its different branches in this country, and will work in connection with a sub-committee of the Royal Society in England. It is hoped in this way to co-ordinate the investigations of the various scientific Departments, and to bring them into closer connection with the results of scientific work in Europe.

Condition
of Landlords
and Tenants.

It is not possible here to do more than make a passing reference to the policy of the Government in dealing, by executive or legislative action, with many important subjects closely affecting the welfare of the land-owning and cultivating community, such as the assessment of the land revenue, the relations of landlord and tenant, indebtedness and expropriation of the proprietary body, and the supply of agricultural capital. The complete statement of the revenue policy of the Government which has recently been published, indicates the progressive steps by which, as the country has developed, the methods of assessment of that share in the produce or profits of land which by immemorial custom is recognised as belonging to the State, have been modified on principles increasingly favourable to the land-holding classes. The leniency and liberality which guide the revenue-policy of the Government are reflected in this statement, which further lays down in clear and unmistakable terms the principles to which this important branch of the administration should conform in future; and which has generally been accepted as a complete refutation of certain charges made against the policy of the Government in administering the land revenue. The recommendations of the recent Famine Commission regarding the granting of remissions and suspensions of the revenue on the occasion of serious calamities, and the advisability of introducing a system of fluctuating demand in tracts where cultivation is specially precarious, have long been acted upon and recognised as the settled policy of the Government, and are now again receiving special consideration with a view to the issue of orders which will secure the still more effectual enforcement of that policy. The fact that in 1902 alone remissions of land revenue were granted to the extent of over £1,300,000, and that during five years more than 3½ millions sterling were advanced to the people for the purchase of seed and cattle, sufficiently indicates the spirit in which such matters are treated by the Government. While moderation has thus been exercised by the State in its dealings with the proprietary body, much has been done also to improve the position of the tenantry. The great measure of reform introduced in Bengal during the previous decade, by the Bengal Tenancy Act passed during Lord Dufferin's Viceroyalty, has been developed by supplementary legislation, and has been made effective by a cadastral survey of the country and the preparation of a record-of-rights, which are still in progress. Important revisions of the rent law have also been carried through in the Central and the United Provinces, which aim at securing a greater measure of fixity of tenure for the tenant, while protecting him against excessive exaction of rent.

The development of the country and the moderation of its land revenue policy have added immensely to the value of land, and have proportionately increased the credit or borrowing power of the landowners, who as a class have been but too ready to avail themselves of the new facilities.

Unhappily these facilities have not always proved an unminged blessing. The growing indebtedness of landowners, and the consequent transfer of their rights in the soil to the non-agricultural classes, are economic and political evils, for the prevention of which it has been decided, after long and careful consideration, that legislative action is necessary. In Oudh it has been sought to find a remedy by providing a modified system of entail, by which the great proprietors of that province can restrict their own and their successors' powers of disposing of their property, and legislation with a similar object has been effected in the Punjab, is in progress in Madras, and is under consideration for Bengal. In the Punjab, where the land is mostly held by petty proprietors, the law has further imposed considerable restrictions on the power of alienation enjoyed by agricultural tribes.

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Of the ultimate effect of such measures it is too soon to judge, but it may be expected that they will lead to some contraction of the credit of the agriculturist; and the necessity of providing on easier terms for the capital required for the development of the land is fully recognised. Both legislative and executive action are about to be taken in order to facilitate the establishment of agricultural banks on the co-operative principle; and experiments already made give some hope of success, though ignorance of the elements of business, village jealousies, and the opposition of the established money-lenders are serious difficulties to be overcome.

It remains to refer to those measures which are calculated to relieve the pressure of the population on the land. The movement of the population from the country to the town, which marks the development and concentration of industries independent of agriculture, has been and will no doubt continue to be slow; but there has been a marked increase during the decade in the number of labourers engaged in the great manufacturing and mining industries, and in all probability a much more rapid increase may be expected in the near future. The question of State intervention in the promotion of commerce, arts and manufactures is a difficult one, but experience has shown that it is generally most beneficial in the shape of grants-in-aid, the publication of information, the provision of facilities for novel or difficult enterprises, or protection against unfair competition; and in all these directions action has been taken as opportunity offers or occasion requires. Reference may be made, by way of illustration, to such measures as the completion of a dictionary descriptive of the economic products of the country, the systematic inquiry into the nature and value of such products carried on by the Reporter on Economic Products in co-operation with the Imperial Institute, the grants made to assist the tea-planters at the Paris and Chicago exhibitions, the subsidies allowed for the prosecution of investigations in aid of the indigo industry, the imposition of countervailing duties on bounty-fed foreign sugars to prevent unfair competition with the produce of the country, and the proposed constitution of a Commercial Bureau. Capital is now being directed to the utilisation of the great mineral resources of the country, and the conditions on which prospecting and mining concessions may be obtained have been revised with a view to encouraging private enterprise and removing all obstacles to the exploration and development of the mineral wealth of India. For the further assistance of mining enterprise, the Geological Survey staff has been strengthened by the addition of practical experts, and a scheme for the systematic search for minerals by deep boring is being worked out.

Promotion
of diversity
of occupa-
tion.

The question of the development of indigenous arts has also engaged attention for many years past. In connection with a scheme initiated in 1883 an illustrated Indian Art Journal had already been established. This has now been supplemented by a technical art series, containing drawings of the best ornamental and decorative work extant, and the two publications illustrate the best type of Indian work. Provincial monographs have already been prepared on the more important industries of the country, and the series, which contains information of great value, is still being added to, an industry being annually selected for exhaustive treatment in each province. Recently advantage has been taken of the Delhi Coronation Durbar to hold an exhibition of the best artistic products of the Empire. Lastly, the educational system has been brought under examination to

CONDITION OF THE PEOPLE. ascertain how far it is in need of modification with a view to the advancement of arts and manufactures. In the cold season of 1900, Sir Edward Buck was specially deputed to visit different parts of the country, and to enquire into the position and progress of practical and technical education, and a Committee was recently appointed to visit the various provinces in order to study the question of industrial schools.

The labouring classes. It is difficult to judge by statistical returns of the condition of the labouring classes, which requires to be dealt with separately for each different part of the country. But from a general point of view it may be said that the scale of wages has undoubtedly risen, and that the industrial development of the country, aided by the demand from outside countries for Indian labour, promises to bring about a permanent increase in the standard of remuneration. At present the difficulty lies in securing sufficient labour for other than ordinary agricultural work. Alike in the mills, at the coal mines, and in the tea-gardens, the demand for labour is greater than the supply. It is the same in the foreign countries to which emigration is allowed. The total emigration is too small compared with the population materially to affect the condition of the working-classes as a whole; but already many thousands annually find remunerative employment beyond the seas, and the numbers will increase as emigration becomes easier and the objections to foreign countries diminish. From Natal, the Soudan, the West Indian colonies and the Straits Settlements applications for a larger supply of Indian labour are received, the annual emigration to Ceylon is on an extensive and increasing scale, while the numbers emigrating to Burma under present conditions are likely to be greatly increased when that country is brought into connection with India by rail. The outlook for the Indian labourer is therefore hopeful.

Conclusion. The unprecedented number of persons to preserve whom from starvation it has been necessary for the State to intervene in recent years, has been regarded in some quarters as conclusive proof of the growing poverty of the population. The conclusion, however, cannot be properly drawn from the facts. When of a population of close on 300 millions, nearly three-fifths depend upon agriculture alone for a livelihood, when this industry is in its turn dependent upon the seasons, and when the seasons prove continuously unpropitious or disastrous throughout a series of years, a vast amount of suffering is inevitable. ~~The explanation of the large numbers relieved lies, not in increasing poverty, but in the intensity and duration of the calamity and in the increasingly humane policy pursued by the State to counteract its effects.~~ On the other hand, every branch of statistics dealing with the material condition of the country affords indications that famine and plague have failed to check its progress, and all signs point to the existence among the people of an increased power of endurance and of recuperation, which is the best proof that the development of the country has raised the material position of the masses, and which affords ground for hope of a further and possibly more rapid advance in future. Comparing the end with the beginning of the decade, there is evidence of the revival of agriculture in an expansion of the cropped area, notwithstanding the unfavourable seasons which have intervened, from 221 to 229 million acres. The consumption of salt, and in a less degree the excise revenue, are affected by the circumstances of the rural population: under the former there has been an increase from 37 to 44 million maunds and in the latter from 3½ to 4 millions sterling. The statistics of revenue, trade, and commerce are no less favourable. The foreign sea-borne trade has risen in value from 130½ to 163½ millions sterling, the coasting trade from 48½ to 63 millions, and the foreign trade by land from 5½ to 9 millions. Signs of general progress are to be found in the development of large manufactures, the increase of commercial and industrial capital, and the extended use of the railways and the great public departments of the Post Office and Telegraph. In cotton mills the number of operatives has risen from 118 to 174 thousand; in jute mills from 65 to 114 thousand, and in coal mines from 35 to 95 thousand. In other large industries requiring European appliances nearly half a million persons find employment compared with 184 thousand ten years ago. To these figures should be added the number of natives employed on railways, which has increased

from 248 to 357 thousand. A corresponding improvement is noticeable in the co-operative investment of capital. Joint stock companies have risen in number from 950 to 1,366, while their paid-up capital has increased from 17½ to 24½ millions sterling. Banking capital has advanced from 9 to 14½ millions, and an increase of the deposits in the banks in India, excluding Government funds, from 17½ to 23½ millions, is evidence not only of accumulating wealth, but of a disposition to discard the old habit of hoarding in favour of profitable investment. The rise in postal saving banks deposits from 4½ to 7½ millions sterling points in the same direction, and is also an encouraging indication of the growth of a spirit of thrift. Statistics of railway traffic and postal and telegraph business exhibit the same features of general progress and prosperity. The passenger traffic increased from 123 to 195 millions, and the goods traffic from 20 to 34 million tons. The number of letters, parcels, &c., excluding money orders, which passed through the Post Office rose from 340 to 560 millions, and the value of postal money orders from 9 to 19½ millions sterling. Inland telegraphic messages increased from 3 to 5 millions.

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Considering the misfortunes which the country has endured, these evidences of the material development during the past decade are, not merely satisfactory, but remarkable. Everywhere there are signs of commercial activity and industrial awakening, and if, as may reasonably be hoped, a cycle of seasons favourable for agriculture is now commencing, there appears good ground for anticipating that India is on the threshold of a period of rapid material development.

II.—PROVINCIAL MEMORANDA.

BENGAL.

Bengal, the largest and most densely populated of the Indian provinces, has also been among the most prosperous during the last ten years. A comparison of the population figures shown in the 1891 and the 1901 census shows an increase of 5 per cent. only, as compared with 7 per cent. in the previous decade, or with 7·2 per cent. for the last ten years in Madras. But the fall in the rate of increase is chiefly due to the special conditions of the Behar districts; in eastern and central Bengal many of the thickly populated districts show a large increase in the population. It will, therefore, be of advantage in dealing with the progress of the agricultural population to draw a distinction between the circumstances of different parts of the province, and this can be the more readily done because we have settlement reports for portions of the Gaya district and for the districts of Champaran and Muzaffarpur, of which the two former were published in 1900 and the latter in 1901; and on the other hand similar reports for parts of Tipperah and Noakhali, published in 1899; for Chittagong, published in 1900; for part of Backergunge, published in 1896; for the Western Duars and Palamau, published in 1895 and 1898; and for Orissa, published in 1900.

Behar includes the ten districts in the north-western corner of the province, and it is cut by the Ganges into two parts in which the conditions are in many respects unlike. North Behar includes some of the most densely populated tracts of the province, such as the Muzaffarpur district, where the number of people to the square mile is 916, or considerably more than in most English counties, and not very far short of the density in Surrey (992 to the square mile). South Behar, on the other hand, carries a sparser population in the tracts more distant from the river. Again, the more northerly Behar districts have an extremely fertile soil and an abundant rainfall, though owing to the laziness and want of thrift of the inhabitants they are liable to suffer from famine if the monsoon fails. But in South Behar, where the nature of the soil and the moderate rainfall would seem to be unfavourable to the cultivation of rice, these difficulties have been overcome by the industry and ingenuity of the inhabitants, and practical immunity from famine has been secured by the Sone irrigation canal and by the indigenous system of channels and reservoirs. The famine of 1896-97 was therefore most severe in the Champaran district, followed by the districts of Muzaffarpur and Darbhanga. The latter districts, with Saran, suffered most

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from the shutting down of indigo factories and outworks; South Behar from the plague. None of these causes account for the general fall in the population. The mortality in Behar during the famine year was below the normal. But plague caused much loss in South Behar; and the Census Commissioner is of opinion that cholera and the general unhealthiness may account for the non-expansion of the population of North Behar.

The conclusion that the famine has not done any permanent harm to the Behar ryot is further suggested by the report of the Famine Commissioners of 1898, who say that "owing to high prices there has been a considerable increase in the incomes of the landholding and cultivating classes, and their standard of comfort and expenditure has also risen." The position of the tenants is good; a large proportion of them have occupancy rights; there is still much arable land to be had in the parts of Behar which are beyond the alluvial plain, and tenants can therefore protect themselves from ill-treatment by a change of holding. In Champaran in ordinary times the ryot is very prosperous. Speaking of the Gaya district Dr. Grierson says that there can be no doubt that the substantial cultivators have nowadays a larger stock of clothes for themselves and their females than used to be the case twenty years ago, and adds that clothes of the same attractive appearance were beyond the means of their fathers. Regarding Muzaffarpur, the settlement officer states that it would require a succession of very bad seasons to bring the cultivating labourer or the pure cultivator in any numbers to destitution, and the danger grows yearly less. Nearly two-thirds of the population of Bengal as a whole are either landlords or tenants. Agricultural labourers are returned at 6 per cent., and though it is estimated that many of the "general labour" class are probably engaged at times in agricultural work, and that the population dependent on the land may amount to three-quarters of the whole, the number of landless labourers is small as compared with the tenant class. In Behar, however, the labourer class is more numerous. Among the many curious customs which survive in Behar agriculture, that which creates the *kamiya*, or agricultural bond-slave, is not least remarkable. The *kamiya* is a stranger to the village community, who, in order to gain admission, formerly adopted the expedient of selling himself to someone in it, and who now, as selling is forbidden, accepts a loan which is usually ten rupees, and in return binds himself to work for ninety or a hundred years, or until the loan is repaid. These men get regular work all the year round, are fed all the same when scarcity or famine prevail, and get occasional perquisites. Their position is, on the whole, as good as that of the regular labourer. Of the unattached agricultural labourers a less favourable picture is drawn. Bad seasons, plague, and the decline in the indigo industry have had much effect on the Behar labourer, whose cash wages have not risen in spite of the rise in prices. It must, however, be borne in mind that throughout Behar and in parts of Bengal proper the labourer is usually paid in kind at customary rates or shares; and to some extent therefore he benefits by being able to sell at an enhanced price any surplus which is not needed to sustain himself and his family.

Eastern
Bengal.

In the Deltaic regions which constitute the greater part of Eastern Bengal, irrigation is for the most part unnecessary, and famine from lack of moisture need never be feared. Against this immunity, however, must be set the liability to sudden and terrible misfortunes in the shape of cyclonic storm waves. In South Behar a vast area has during the last twenty-five years been brought under rice both by the extension of cultivation and by the substitution of rice for winter or spring crops wherever the supply of water was sufficient and the soil suitable. During the same period in Eastern Bengal a counter revolution has been effected on a scale even more extensive, rice giving way to jute. The extension of jute cultivation is an extremely important factor in the agricultural progress of Eastern Bengal. The effect of these conditions has been a rise in the population exceeding six per cent. in all districts but one, and considerably higher in Dacca and some other districts. The one exception is Chittagong, where the rate of increase is rather below five per cent.; the cause being the cyclone of 1897, in which some 14,000 persons were drowned, and a much greater number must have been lost by the distress and the cholera epidemic which ensued in the tracts traversed by the storm. The evidence of the settlement reports goes to show that the

favourable conditions have resulted in increased prosperity of the ryots. The settlement officer of the Chakla Roshnabad estate, on the borders of Noakhali and Tipperah, says: "It is undoubted that within recent years the standard of comfort has increased within the estate, just as has been the case throughout Eastern Bengal." Again, Babu P. M. Basu, writing of a subdivision of Backergunge in 1896, says: "The condition of the people is good and prosperous. With scarcely a single exception, every man, including even the domestic servants whose homes are in the pargana, is a small land-holder, and has a garden of betelnuts and coconuts attached to his homestead, and he cultivates sufficient rice for the support of his family." Of Chittagong Mr. Allen writes in 1900: "The condition of the people of Chittagong is on the whole comfortable without being eminently prosperous. . . . While they have reaped none of the large profits which the cultivation of jute enables the more northern districts to earn, they share in the general affluence of Eastern Bengal, while the even distribution of wealth among the population leaves no class exposed to the pinch of poverty."

As regards the remaining portions of Bengal proper, it may be said that the climate and conditions rather resemble those of Eastern Bengal than those of Behar, though the rate of progress noted in the former area has not been attained elsewhere, owing to the unfavourable season of 1896-97, the decline of indigo cultivation, and the unhealthiness of many parts of the country. The Chota Nagpur plateau stands by itself, as it is for the most part sparsely inhabited by a backward population. The salient fact to note in connection with it is that the country has now been opened out by the railway, which no doubt accounts to some extent for the comparatively high rate of increase in the population, 7·8 per cent. The settlement officer of Orissa describes the wants of the Uriya cultivator as simple, and considers that the drought and floods of 1896 have shown that they can withstand very serious calamities if the bad season is followed by a good harvest in the next year.

Under the heading of "Preparation and supply of material substances," about 9½ million persons were returned at the census of 1901, or 12 per cent. of the total population. This number is less than that shown in 1891, but there seems to be little doubt that differences of enumeration account for some at least of the decline. At all events, it is clear that any fall in the number of the population supported by industrial occupations is not due to a lack of industrial development on modern lines. There has been an outburst of mining and manufacturing industry which is converting the metropolitan districts into a vast industrial tract. "No mere enumeration of figures," says the report by Mr. L. P. Shirres, "can convey the impression that would be derived from a voyage up the Hooghly, where the banks are studded with tall chimneys, and every new reach of the river discloses a fresh vista of factories." The number of persons working at brass and iron foundries has doubled during the decade, and at its close the 25 largest foundries employed 11,600 persons. The value of the outturn of the East Indian Railway Company's workshops at Jamalpur has increased during the same period from £68,000 to £310,000. The outturn of the paper mills has more than doubled; the quantity of tea produced is over 50 per cent. higher than in 1891; the number of cotton spindles is greater by 38 per cent. By far the most important industry, however, is that of jute, the statistics of which have been given in an earlier chapter. It is enough to say here that the number of persons employed in jute mills has risen from 64,000 to 113,500 during the ten years, and that it is almost entirely owing to these mills that exports of articles of Indian produce manufactured or partly manufactured from Bengal have risen in value by 195 per cent., and amounted to £7,260,000 in 1901-02.

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Among the indigenous industries there are some which are cannot be affected by the competition of the mills. In many districts the village barber, washerman, blacksmith, &c., each has his own defined circle within which he works, and he is protected from outside competition by the nature of his occupation, and from the competition of his fellows by the laws of caste. But of other classes, the weavers have suffered much, and seem likely to suffer more, from Western competition, and large numbers of them have taken to other occupations. In Noakhali they work as agricultural labourers, in the metropolitan districts they go to the mills, in parts of Behar they have become masons, and when

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they have been able to get land they have turned into cultivating ryots. The silk industry, which was threatened with ruin, has been saved by the application of Pasteur's methods for the detection of diseased moths and eggs, and steps have been taken to extend the use of an improved fly-shuttle. Artistic pottery, very effective, though neither glazed nor highly finished, is made at various places, and fine ivory carving is produced at Murshidabad; but in neither case is the trade very flourishing. The only indigenous industry, apart from the ordinary village handicrafts, which can be said to be prosperous is the manufacture of copper, brass, and bronze utensils, which has not yet suffered from the competition of foreign or machine-made articles.

Summary
and con-
clusion.

Bengal has immense natural advantages in the proximity of coal and iron, in an abundance of raw material and cheap labour, and in a network of navigable rivers and canals; and the past decade has been one of great industrial progress. Over 60 per cent. has been added to the length of railway line open; magnificent docks, costing over £2,000,000, have been opened in Calcutta; there are more than twice as many mills, works, and mines; the output of iron has more than doubled, while that of coal has more than trebled; and exports of Indian manufactures from Bengal to foreign countries have risen by 195 per cent. A large and increasing proportion of the trade and industry is in the hands of natives of the country, and law is no longer the only outlet for the energies of the educated classes. The price of agricultural produce has been rising throughout the last century, and the rise has benefited all who have such produce to sell. For a long time the landlords contrived to appropriate the greater part of the benefit, but partly owing to the increase in the number of districts and the creation of subdivisions, which have let the light of day into the remotest tracts, and partly owing to the Bengal Tenancy Act and the operations under it, a fair share has at last been secured to the ryot. The last decade of the nineteenth century is stated by the Famine Commission of 1901 to have been "generally one of misfortune and distress," but the greater part of Bengal has escaped and has benefited by the high prices caused by distress elsewhere; and even in Behar the events of 1896-97 showed that the position of the cultivating classes had greatly improved since 1873-74. The custom of paying in kind the wages of agricultural labourers and artisans still survives over a large part of the province, and in so far as payment is made in this way, the wage-earners have not suffered by the rise in prices. On the other hand, where wages or salaries are paid in cash, the adjustment, as might be expected in India, has been very imperfect, and may even be said to have hardly commenced till 25 years ago. The number of such persons is, however, less than might be supposed, for in Eastern, Central, and Northern Bengal outside the cities and the mills, works, mines, &c., there are few landless labourers, and elsewhere the custom of payment in kind largely prevails. The chief sufferers seem to be agricultural labourers in Behar, Government pensioners, and low-paid clerks and muharrirs. On the whole, therefore, it may be said that Bengal has suffered less from bad harvests than the other parts of Northern, Central, or Western India, and that the bulk of the people, either from getting better prices for their crops or from taking part in the industrial development, have prospered greatly during the last ten years.

ASSAM.

Agricultural
classes.

The inhabitants of Assam depend for their livelihood upon cultivation of the land even to a greater extent than those of any other Indian province. Some 84 per cent. of them returned agriculture as their chief means of subsistence in 1901, 68 per cent. being landholders or tenants; and the Census Commissioner's analysis seems to show that the actual proportion is even higher. The welfare of such a community depends upon the supply of land and its fertility, the regularity and suitability of the rainfall, good and accessible markets, the public health, the character of the people, and the incidence of the burdens on the land. Under the first three heads, the conditions may be said to be generally favourable in the Assam valley, though the earthquake of 1897 and the exceptional floods which followed in that and the following years did much damage by silting up large areas of

valuable rice land. The proprietors were reluctant to abandon their damaged fields; and remissions of land revenue were granted in the affected districts, with a view to encouraging a permanent interest in the land, and to enabling the ryots to tide over the years of difficulty. Ordinarily, however, the Assamese agriculturist earns his living easily. It is estimated that, after all deductions have been made, there is as much as 5,000,000 areas of good land awaiting settlement in the Assam valley alone. The soil is fertile, and when properly cultivated yields excellent crops of rice, mustard, sugar cane, and tea. The rainfall never fails, and though its distribution is sometimes unfavourable for agricultural operations, such a thing as a prolonged drought or a serious failure of crops is practically unknown. In the third place, the great increase in the immigrant population, chiefly employed on the tea gardens, on railway labour and the like, has afforded an improving market for agricultural produce. The fourth factor, namely, the state of the public health, has been highly unfavourable. Cholera and small-pox have been prevalent; but the principal cause of the loss of population has been the *kala-azar*, a fever which is now considered to be an acute form of malarial poisoning. This lingering disease is not only fatal in a large proportion of cases, but has been observed to sap the energy of the survivors. In 1897 the Deputy Commissioner of the Nowgong district, where its ravages were greatest, pointed out that it had not only caused a decrease in the number of the population—which the census of 1901 showed to be at the rate of 31 per cent.—but had also produced a marked indifference in the minds of the survivors. The people had been so disheartened as to feel no adequate interest in their ordinary avocations, and often did not hesitate to resign even their most valuable fields.

From the time when the administration of the Assam Valley was taken over by the British in 1826, there has been a consensus of opinion as to the indolence and apathy of its people. It would be easy to multiply evidence on this point, but one quotation from a report written in 1898 by Mr. P. G. Melitus, C.I.E., Commissioner of the Assam Valley districts, must suffice. Dealing with the question of the land revenue rates, he says:—

“The cultivators of the Assam Valley districts might be exceedingly prosperous but for their disinclination to undergo more exertion than is necessary to satisfy their personal requirements. From their point of view it can be easily understood why they should be unwilling to exert themselves. There is abundance of fertile land available to them which yields the maximum of crops for the minimum of labour; they do not know what famine or serious scarcity is; they are free from indebtedness to the mahajan; there is no pressure of competition; every cultivator has probably a little hoard laid by to be drawn upon for weddings or other big occasions; and the way in which they recovered from the earthquake and floods show that they have reserve resources to fall back upon. They get all they want according to their modest standard of living, and have no desire to work for more. The result is that, though there is an unlimited demand for labour of all kinds in the province for the tea industry and public works, and for the development of the mineral, forest, and other resources of the province, and although rice can be grown with very little trouble and sold at good profit to tea gardens, nearly all the labour, skilled and unskilled, required for the Assam Valley division of the province has to be imported, and rice has to be brought from Bengal for the tea-garden population.”

He draws the conclusion that it can hardly be said that the enhancement of the revenue rates at the last settlement pressed heavily on the cultivators. That settlement, imposed in 1893, raised the rates by about 33 per cent., an enhancement which was considered to be justified by the increase in the price of ordinary staples of produce, and also in the wages of labour since the last settlement. The revenue demand in Assam proper varies from Rs. 2.10.9 to Rs. 3.0.9 per cultivated acre. Owing to the misfortunes of earthquake and disease it has been thought well to postpone the re-settlement which fell due in 1903. On the whole it is alleged, with some appearance of truth, that the last ten years have been years of retrogression, or, at least, of stagnation, rather than of progress in the Assam Valley, especially in Goalpara, Kamrup, Nowgong, and Mangaldai. At the same time it is admitted that only a very small proportion of the people are unable to obtain two cooked meals a day; and the absence of poverty is clearly illustrated by the difficulty of obtaining labour to develop the industries of the province.

Other parts of Assam have been more prosperous. In Cachar, the opening of the Assam-Bengal railway has done much to stimulate trade; nearly all the cultivable land has been taken up; the competition for land is keen; and there has been a marked advance in the general civilization of the district.

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The greater part of Sylhet is permanently settled, the revenue assessed is light, the people are energetic and enterprising. They suffered considerably, however, from the effect of the earthquake, and from a violent outbreak of malarial fever. Among the various hill tribes, and especially the inhabitants of the Khasi hills, there has been steady progress. Eight per cent. of the males in the Khasi and Jaintia hills can now read and write.

Industrial
population.

The tea-garden labourers should perhaps be classed rather as agricultural than industrial, but, however this may be, it is unnecessary to repeat the remarks which have been made in an earlier page* regarding their condition. Of other industrial occupations there are very few in Assam. The Assamese do not possess even the ordinary village functionaries, such as the barber and the washerman, who are common in other parts of India. It may, in fact, be said that, apart from the home manufacture of garments, &c. for domestic use, there are practically no industries of any importance in Assam. The villagers weave their own clothes of cotton or silk, make and repair their own houses, and hollow out the canoes in which they fish or transport their produce; and only a small minority attempt to use anything except the produce of the soil for commerce.

UNITED PROVINCES.

The economic history of the United Provinces during the ten years falls into four periods. The first is marked by prosperity, due to the favourable seasons in 1891 and 1892. This was soon obscured by the excessive rainfall of the succeeding years, especially of 1894, when an untimely rainfall in October, following on a wet season, caused great damage to the crops. The third period includes the short rainfall of 1895 and the famine of 1896-97. Since 1897, with some exceptions, the seasons have been on the whole favourable to the recovery of the provinces. Not all parts of the area, however, were affected in the same way or to the same degree. The Bundelkhand districts in the south-west suffered terribly. Wheat and linseed, formerly the most important of the valuable spring-crops, were ruined by rust in 1893 and 1894, while the autumn crops were also damaged by the heavy rain. The two years of drought which followed brought on most acute distress, and left the people with little power of recovery, as private capital was no longer available. The eastern districts of the provinces have also suffered heavily from the capricious distribution of the rains. But the western districts present a sharp contrast. There the seasons have been less unfavourable, and the worst effects of drought have been obviated by the canal system, so that it has been possible to sell good crops at famine prices. The prosperity of the cultivators in these tracts is obvious to the most casual observer. But taking the provinces as a whole, the fever of the earlier years and the famine of the central period are reflected in the small growth of the population, which is less than 2 per cent. above the population returned in 1891.

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classes.

Over 66 per cent. of the people are dependent on pasture and agriculture for their means of subsistence. The cultivators, who form the bulk of the agricultural class, suffered severely in all but the western tract and a few isolated districts of the north and east. The period of recovery really began with the spring harvest of 1897. The loans advanced free of interest by the Government and the funds provided by private charity made it possible to extend well irrigation, and to purchase seed and cattle, and with a favourable season the position of the cultivators was secured over the greater portion of the provinces. Since that year the seasons have been satisfactory on the whole, and with the aid of high prices the cultivators have undoubtedly added to their resources; probably they are now, except in Bundelkhand, better off than they were ten years ago. In the latter region, the nature of the soil, and the unsuitability of the country for irrigation, and perhaps the character of the people, who are less industrious than those living to the north of the Jumna, rendered the losses of the lean years heavier than elsewhere. It has not yet been possible to bring all the lost land again under cultivation, and it is said that the cultivators are only securing a bare living.

The prosperity of the land-holding classes is dependent upon the lot of the cultivators. During the famine itself, when rents could not be collected and

living expenses were exceptionally high, the position of the small landholder who does not till his own land was one of great hardship; he was not of course required to pay the land revenue, but there was little or no money for the daily needs of the family. The rapid recovery of the cultivators, however, enabled the landowners to collect their rents almost as usual in the autumn of 1897, and by the end of 1900 the great bulk of the arrears of rent had been paid off. Here, again, Bundelkhand is an exception; there is so little competition for land that much pressure to pay rent tends to result in the loss of a tenant, and the landholders in many villages have received little or nothing on account of their arrears. As regards the agricultural labourers, there is little to be said. They live from hand to mouth, for anyone who manages to save a little money passes at once into the ranks of the cultivators. When, therefore, the demand for labour failed in the autumn of 1896, the labourers were at once deprived of their livelihood; but the complete system of relief works adopted throughout the famine-stricken parts of the provinces enabled them to live until the demand for field labour revived, when they returned without difficulty to their usual occupation. Since September 1897 the demand for labour has been ample everywhere, and there seems to be a tendency towards a rise in agricultural wages, though this is a point upon which it is difficult to speak with certainty, in view of the composite nature of the wages, which include such diverse items as a handful of parched peas, or the loan of a plough and bullocks, in addition to the daily wage of coarse grain or flour.

The number of persons shown in the census as artisans and their dependents represents 13 per cent. of the population. There has been steady, but not rapid, progress in the development of industries on the factory system during the decade; but the scanty information available regarding indigenous industries points, on the whole, to a decline. The cotton, woollen, and jute mills of Cawnpore and Agra employed in 1901 an average of nearly 9,000 hands, against less than 7,000 in 1891; while the increase of small factories for cleaning, ginning, and pressing cotton has been very marked. Ten years ago only 14 concerns were returned, employing about 1,300 hands; while in 1901 the number of factories was 62, and the employes numbered about 5,000. There is a large advance in the leather industry, which has its headquarters at Cawnpore, in paper making and printing, and in other industries. So far as the returns of these industries may be accepted, about 28,000 hands are employed in mills and other works, as against 15,000 ten years ago. On the other hand, the decline in the cultivation of indigo has resulted in the closing of nearly 700 out of the 1,400 factories in existence at the beginning of the decade; but the work in these factories is not highly specialised; the employes are drawn for the most part from the class of agricultural labourers, in which they are absorbed without difficulty when the indigo factories are closed. Less information is available about the industries which are wholly or mainly in native hands, but the inquiries made from time to time during the decade indicate that the great handloom weaving industry continues to decline, and that other indigenous industries are, as a rule, stationary. The manufacture of sugar, raw and refined, is an exception; it underwent a very marked expansion in the early years of the decade, and the competition of beet sugar which, before the imposition of the countervailing duties, was sold at rates lower than the cost of production in India, appears to have had little effect on the trade in raw sugar (*gur*). When the famine set in, employment failed in the towns as in the country, though not to the same extent, and relief works had to be opened for the town labourers. Artisans and handicraftsmen also suffered, though there is no reason to think that any permanent result was produced in any of these cases. The wages of artisans have risen distinctly, especially in the lower grades, and the increase appears to be at least one rupee per mensem, though some localities report a decrease. The general increase is doubtless due to the demand for skilled labour in connection with the railways and other large industries of the provinces.

PUNJAB.

In consequence of the visitations of famine and plague, the last ten years have been years of very chequered fortunes in the history of the pastoral and agricultural communities, which together form 58 per cent. of the

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population of the Punjab. Following on a failure of the 1894 monsoon in the south-eastern districts, and unfavourable rainfall in 1895, the deficiency in the monsoon of 1896 caused serious famine in the greater part of the Hissar district and such portions of the eastern districts as are not protected by the irrigation system of the Western Jumna Canal. Again, after one year of good seasons, the deficiency of the rains of 1898 and the early and complete failure of the monsoon of 1899 resulted in famine in the south-eastern districts of Hissar, Rohtak, and Karnal, and distress and enormous mortality of cattle in other parts of the province. The Hissar district has throughout suffered most from famine. From 1895 to 1900 there were two years of famine, two of extensive crop failure, and only one good year. Of the last two years of the decade, 1900-01 had a favourable season, but in 1901-02 there was again a considerable failure of crops in Hissar. Plague first made its appearance in the province in 1897, and in spite of strenuous efforts to check its extension the infection has spread very widely. Against these, however, has to be set the remarkable development of canal irrigation. Taking the Punjab and the North-West Frontier Province together, the total area returned as irrigated has increased by 25 per cent., and this result has been achieved, in spite of a fall in the area irrigated from private canals and a very small growth in the well-irrigated area, by an increase of 71 per cent. in the area commanded by Government irrigation canals. There is no question that the utilisation of the Punjab water supply, which is so ample and so favourably situated for irrigation purposes, not only benefited the whole of India, but saved the upper parts of the province from suffering in 1899-1900 as severely as the south-eastern districts from the failure of rain.

Of the 14½ millions classed in the census returns as "landholders and tenants," 62 per cent. are owners, the vast majority of them cultivating owners. But the area cultivated by owners has decreased since 1891-92, both relatively to the total cultivated area of the province and absolutely. The total cultivated area in 1900-01 was 28½ millions of acres, against 25½ in 1891-92, and the area cultivated by owners was 12½ millions, against 13½ millions in the earlier year. The proportion of the latter class of land to the whole area in 1900-01 was therefore 44·7 per cent., compared with 53·7 per cent. in 1891-92. This decline in proprietary cultivation has been mainly due to the alienation of land to non-agricultural classes, who let the land to tenants. The indebtedness of the old landholding class, and the great extent to which the land was falling into the hands of the moneylenders, led to the passing of the Punjab Land Alienation Act of 1900. This much discussed Act, of which particulars are given elsewhere,* has been quietly and, generally speaking, favourably received by those for whose benefit it was passed. Its immediate effect apparently has been to almost entirely check alienations by members of notified agricultural tribes. This conclusion, however, cannot be fully verified until the returns of transfers for the first year of the operation of the Act are available.

Far the largest part of the area cultivated by tenants is let on condition of payment of a share in kind of the produce grown. Rent in kind, at rates of $\frac{1}{2}$, $\frac{1}{3}$, $\frac{2}{3}$ or $\frac{1}{4}$ produce, is now paid on more than eight million acres of land compared with 5,786,000 acres ten years ago. The cash rent area remains very constant at about 2½ million acres. Occupancy rights are held on about three million acres, as compared with 2,650,000 acres in 1891-92. On the whole the position of the tenants has become stronger during the course of the last ten years—a result which is due to some extent to the great demand for labour and tenants on the newly opened lands on the Chenab Canal.

Agricultural labourers and village menials receive a part and sometimes the whole of their remuneration in the form of a share of the produce, which is regarded as a customary due. The agricultural labouring class and the village artisans, and the corresponding class in towns, felt the stress of famine and high prices probably more than any other class of the population. Throughout the period of the famines there was a steady influx of labourers of all classes in search of employment into the Chenab Colony, where the sudden increase in the cotton crop had created a demand for labour.

The following description by Mr. Francis, late Settlement Officer of Ferozepore, of the every-day life and character of the Moga Jat applies equally to all the Sikh tribes from which the native army is so largely recruited :—

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"The Jats of Moga are good plain cultivators; they plough well, keep their fields level and clean, manure to some extent when it seems necessary, fence their fields along the road and near the village where the crop is a valuable one, are excellent judges of the seasons, and good economists of their time; they take great care of their cattle and their farm-stuff, and their women are first-rate housewives; but they have not hitherto attempted anything like high farming. They cannot be compared with the Arain, Kamboh, or Saini, who, by his skill and industry, heavy manuring and minute attention, manages on two or three acres of land to bring up a large family and pay a heavy revenue or rent. Their agriculture really gives them very little trouble. Ploughing is easy, and there is plenty of time to do it in. Well working is confined to a very limited area. Weeding is not required, the autumn crop is generally sown in the stubble with hardly any preparation at all. The people have abundance of leisure which some spend in going about with their carts trading in grain, and some devote largely to litigation. They are tenacious of what they consider their rights and their position in the village, and rather than have it said that they have been worsted by a rival they will go on from court to court till they ruin themselves."

The riverain lands in the Punjab are almost without exception inhabited by a very different class of men. Muhammadans by religion—Sayyids, Faqirs, Wattus, Dogars, Naipals, Pathans, and others—the riverain land-holding tribes generally have a high idea of their social position, and are inclined to look down on agricultural labour. On the other hand they are open-handed and hospitable, though not always at their own expense, as many of them are addicted to thieving, especially to cattle thieving, which was formerly considered an honourable pursuit. But few of these men have taken service in the army. They prefer the easier canal cultivation to cultivation from wells, which is laborious, and they are as a class very heavily indebted.

Extravagance in the matter of expenditure on marriage and funeral ceremonies has been checked to some extent during the last few years, by the formation of local unofficial committees which have formulated caste rules, to regulate expenditure on such objects. As regards the general standard of comfort among agriculturists, Mr. Wilson, Settlement Officer, writing of Shahpur in 1894, remarks as follows :—

"In every respect in which the prosperity of the agricultural classes is capable of being measured by figures, it shows an enormous improvement since last settlement. And notwithstanding vague tradition of a golden age, and exceptional instances of families and even villages burdened with debt, there cannot be a doubt that in other respects also the peasantry, and especially the land owners, are much better off than they were thirty years ago. They eat better food and wear better clothing, own more horses and more valuable utensils and jewels, and altogether their standard of living is much higher."

The circulation of Punjab Circle currency notes, which in 1891-92 amounted to £894,500, has risen to £1,356,000 in 1901-02. The Postal Savings Banks in 1891-92 held in deposit £417,500, and now have to account for £87,400. The number of bullocks and cows in the province has been much reduced in consequence of the famine, but there has been a very large increase during the last ten years in the number of horses, mules, and camels; and as regards horses there has been a decided improvement in quality and value. The total value of the excess of exports over imports of articles of agricultural produce during the past decade amounts to £29,187,000, giving an annual average of £2,918,700—a sum which is considerably in excess of the total of land revenue, cesses and irrigation rates realised by Government. On the whole it is believed that the improvement which Mr. Wilson speaks of in Shahpur is general throughout the province, and that, despite the temporary drawback from famines, it is progressive, and extends to nearly all classes of the population.

The proportion which the rural population of the Punjab bears to the whole is 11.56 per cent., and remains remarkably constant, the slight tendency of the urban to increase faster than the general population, noted at the census of 1891, having virtually disappeared. There is no trace of a general movement towards the towns, but it is noticed that the cities have gained at the expense of some of the smaller towns, owing to their superior railway facilities and to the establishment of mill industries. Hitherto the development of such industries has been slow. The conditions of labour of the mill operatives have been decidedly improved by the Factories Act of

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1892. As to their wages, it does not appear that there has been any tendency to rise or fall during the ten years. The highest wages are those given in the Government workshops on the North-Western railway, where many skilled mechanics are employed. The ordinary rates in private factories are three annas to five annas a day for male operatives; two annas to four annas for women and children; and from Rs. 30 to Rs. 60 (£2 to £4) a month for skilled mechanics.

The condition of skilled artisans in the indigenous industries of the province, such as carpet weavers, leather workers, or brass workers, is not so favourable. In most of the centres of manufacture there are two distinct bodies, the capitalist dealers and the skilled artisans, and the relations between them have been in the past, and still to some extent are, oppressive to the artisans, who are frequently as hopelessly in the toils of the capitalist, for advances in the shape of money or materials, as is the peasant in those of the ordinary moneylender. Recent progress has, however, been in the direction of strengthening the position of the artisan. The present transitional stage from the guild or caste system to the system of free competition between capital and labour is, therefore, one of much interest. But the change is as yet only in its initial stages, and has scarcely affected the village artisans, who still receive their customary dues in kind, and are almost as much dependent on the nature of the harvests as the agriculturists themselves.

CENTRAL PROVINCES.

The Central Provinces bore the full force of the two great famines of the decade besides many other bad seasons, and the ill-effects are shown conspicuously in all the statistics in this Statement. The history of previous decades of British rule in that province had been an almost unbroken record of progressive prosperity, and long immunity from serious seasonal calamities had given rise to the opinion that the province was practically secure from famine. The pendulum has now swung to the opposite view that all the cultivation is wholly dependent upon the rainfall, which during the decade has generally been both deficient and badly distributed.

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The province is almost wholly agricultural, no less than 70 per cent. of the population being engaged in the tillage of the soil, while the occupations of a considerable portion are really dependent upon agriculture. According to the figures of the last census, landed proprietors including lessees of villages constitute 2·2 per cent. of the population. Landowners and tenants, with their dependents, are returned as forming 47·6 per cent. of the population; agricultural labourers 22·3 per cent. It is an opinion commonly held that during the famines the landlords have suffered even more severely than the tenants. Most reports agree that the burden of indebtedness has increased, whilst there can be no doubt that the value of landed property has temporarily decreased, except in the cotton tracts. Government has assisted them by large remissions of land revenue; but these involve corresponding remissions of rent, so that the income of the landlord is still diminished. His standard of living has deteriorated; gram and jowar are sometimes eaten instead of wheat and rice; houses are not kept in such good repair; and clothes are not so good. Apart from losses in his cultivation and in his rent collections, the landlord has lost largely in his transactions as village grain-lender. Formerly the position of landlord was as much coveted for the profits made out of grain-lending to tenants as it was for profits out of cultivation and rent-collecting, but the famines ruined most of the grain-lending business. Landlords now hold 19 per cent. of the occupied area, against 17 per cent. in 1891. This increase is due in some districts to landgrabbing, but is mostly caused by landlords being obliged to take into their own cultivation land abandoned by tenants.

The decade has seen a great alteration in the relation of landlords with their tenants. The patriarchal status is rapidly disappearing, and the power of the landlord in his village is much weaker, owing partly to the famines and partly to the changes introduced by the Tenancy Act of 1898.

As regards tenants, a striking fact is the persistency with which they have clung to their land, even if unable to cultivate the whole of it. In fact the

area occupied for cultivation is larger than ever, being 22 millions of acres in 1901, against 19½ millions in 1892-93. The incidence of rent per acre has fallen from 12 annas 9 pice to 12 annas, so that its burden is much the same as it was ten years ago, allowing for extension of cultivation to poorer soils. The average size of a holding is about the same, viz., 12 acres. All district officers report that the material condition of tenants has deteriorated, more especially amongst small tenants. Pulses and millets are eaten more, wheat and rice less; clothes are poorer; houses are not so good nor so well repaired. Much jewelry was pawned during the famines, and little of it has been redeemed. Tenants work harder themselves; their women are more commonly employed in their fields; and they have reduced the number of their farm labourers. Indebtedness has undoubtedly increased, principally owing to the non-payment of grain loans taken for seed.

The number of farm servants has decreased no less than 22 per cent. Many have sunk to the lower status of daily labourers owing to landlords and tenants having employed a smaller number of hands. Reports show that the general tendency has been for wages paid in grain to decrease either in amount or by the change from superior to inferior kinds of grain, whilst in some tracts cash wages are being substituted for grain wages. Where cash wages are the rule, the amount has usually increased, but not more than in proportion to the rise in prices. In the cotton tracts alone the position of the farm servant has undoubtedly improved, and he can command a better wage than in the past. With the decrease in farm labourers there has been an increase in the number of field labourers. Most districts report that there has been a considerable rise in the rate of wages for daily labour, which is to be expected with the rise in prices. This is most marked in the cotton tracts, where the extension of cotton cultivation and the establishment of ginning factories and cotton mills has created a demand for labour; manganese mining also employs an increasing number of hands. The rate of wages paid by ginning factories has risen from 3 to 4 annas a day, whilst an ordinary field labourer is now paid 3 annas a day instead of 2½ annas. In almost all towns the wages of casual labour have largely risen, particularly in Nagpur, where a man now gets at least 4 annas and generally 5 annas for his day's labour, whereas he used to be content with 3 annas. In the northern districts, cash wages have not risen to the same extent, whilst customary grain wages for special work have decreased. The social position of the labourer in the northern districts has thus deteriorated. In districts where rice is transplanted, the system which secures the best crops, labour is in demand, and wages have risen. Where the seed is sown broadcast, as in Bilaspur and Raipur, there has been a substantial decrease in wages.

Manufacturers play an unimportant part in a purely agricultural province, but there has been some development of industries during the decade, more particularly in the cotton industry. There are now seven cotton mills, employing 9,000 hands. The coal mines at Warora and Molpani have increased their outturn, and the last few years have seen the development of manganese mining. These two minerals, with iron, exist in large quantities in the province, and much may be hoped from their development. But at present the employes in large industries form an insignificant share of the population. Indigenous village industries, which are of far more importance to the welfare of the people, present a very different picture. The workers in cotton have fallen in numbers, if the census figures may be trusted, from 617,200 to 390,600, or by 37 per cent. All reports testify to the impoverished condition of the village weaver of coarse cloth, who has suffered more than the town weaver of fine cloth. In the leather industry, which stands next in importance, the workers are said to have decreased by 26 per cent.; potters and workers in iron and hardware, by 10 per cent.; carpenters, by 16 per cent. But it does not appear that the village artisans, such as carpenters and blacksmiths, have suffered so much as the weaving classes. Their numbers are not large in the rural tracts, and they have generally been able to secure a substantial rise in their rate of wages, whilst skilled hands working as journeyman carpenters in a town may get 12 annas to 1 rupee a day. The educated classes are increasing in numbers, and there is a distinct rise in their standard of comfort, shown in the larger and better houses and in a tendency to adopt European habits of dress and of life.

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All classes, save those who have been in a position to benefit by the high prices of food, have suffered from the famines; and many of them require time to recover. The cultivator of the cotton tracts has recovered entirely from their effects, and is now as well, if not better off, than he ever was. The wheat grower of the northern districts has shown wonderful staying power against an unparalleled succession of bad seasons, which, given good seasons, will soon enable him to regain his former substantial position. The rice cultivator has shown the least power of resistance. But he has by no means given way to despair; some have no doubt gone under beyond hope of recovery, but the rest have been tenacious of their land. The unstinted liberality of Government with its famine relief, its remissions, its abatements, its conciliation proceedings, has inspired all classes with a feeling of hope, which is one of the brightest auguries of future recovery. The improvement of communications, the exploitation of rich mineral resources, the development of cotton mills, the extension of education, have encouraged industrial development.

BERAR.

Up to the end of 1896 Berar had enjoyed an almost total immunity from famine for a period of 64 years, though it had suffered from temporary distress owing to scanty rainfall or rise in the price of food grains, generally caused by export to other provinces. It was pronounced by the Famine Commission of 1878 to be one of the parts of India particularly free from the apprehension of the calamity of drought. But a scanty and unseasonable rainfall in 1896-97 caused distress, which was due more to high prices than to scarcity of food, and in 1899-1900 the rainfall failed completely, and there was severe famine throughout Berar. As a result of these famine years, with the diseases which follow in the train of famine, and partly also owing to the bad state of the public health in 1894 and 1895, the population fell by about 5 per cent. in the ten years.

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classes.

Agriculturists and their dependents form 73 per cent. of the population. Their numbers have increased, with an increase in the area of cultivation, and amounted to rather more than two millions of persons, of whom nearly three-quarters are returned under the heading of agricultural labour. The chief crops of Berar are cotton, millet, and, until recently, wheat; the area under cotton has increased by about 9 per cent., and that under millet by 34 per cent., though the wheat area has shown a great decline, spring crops generally having given place to autumn crops owing to the character of the season. Almost all the cotton produced is exported from the province, and the good prices obtained have stimulated its cultivation. As a whole the area of assessed culturable land in occupation has increased during the ten years, and with the exception of the Wun district most of the culturable land is now occupied. The evidence goes to show that though the famines, and especially that of 1899-1900, gave severe blows to the prosperity of the Berar agriculturist, the state of the ryot is not by any means depressed. Of the agricultural labourer it is said that his average wage ranges between six and eight rupees per month, and though during the famine there was little demand for farm labour as such, and wages fell, the famine relief works supplied regular employment during the time when the demand for agricultural labour is usually slack. On the whole, it may be said that the cultivating and labouring classes in the province stood the famines well and have recovered from their effects very quickly. It speaks well for the general prosperity of the revenue payers that the bulk of the land revenue demand of 1900-01 was recovered with ease. The condition of the agricultural classes has not deteriorated; two good autumn harvests, good prices for cotton, and a light assessment have helped them to recover their former satisfactory condition.

There has been a marked development in the cotton industry, which is the most important in Berar. Cotton presses and ginning mills afford employment for 11,000 persons, and there is every likelihood of further increase. There is still, however, only one cotton-weaving mill in the province, namely, the large Badnera mill.

BOMBAY.

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classes.

The population of the British districts of the Bombay presidency declined to the extent of 1·7 per cent. between the census of 1891 and that of 1901; and it is therefore at first sight surprising to find that the agricultural population, which must have borne the chief burden of the famine, is shown by the last census to be rather more numerous than in 1891. But the anomaly disappears when a closer inquiry is made into the figures. In reality, the increase is practically confined to Sind, though the Konkan districts also contribute to it in a slight degree; and in Sind nearly one half of the increase is due to a mistake in classification in the earlier year, the rest being attributable to the progress of agriculture. In Gujarat, the Deccan, and the Karnatak respectively, the agricultural population in 1901 is returned as being 18·7, 9·9, and 6·3 per cent. below the corresponding totals of 1891.

The agricultural conditions in Sind are completely unlike those prevailing elsewhere in the presidency. In Sind, with the exception of the desert uplands of the eastern district, agriculture depends on the inundations of the Indus, and a failure of the always scanty rainfall has little importance. Bombay proper, on the other hand, is more entirely dependent than any other province on the rainfall, as it is singularly deficient in perennial rivers capable of utilisation for large irrigation projects. While, however, Sind is thus protected from the effects of a local deficiency of the rainfall, it has to reckon with the inconstancy of the floods of the Indus; and the area on which crops can be grown shows great fluctuations from year to year. But great progress has been made during the ten years in the improvement of old canals and the addition of new canals. The capital expenditure on canals has increased from £805,000 at the end of 1891-92 to £1,746,000 at the end of 1901-02. One canal not yet completed, the Jamrao canal, will when completed command some 822,000 acres, and did actually irrigate 223,000 acres in 1901-02, the second year of its working. There has, therefore, been room for an expansion of agriculture, in spite of seasonal fluctuations, and the number of persons dependent on that industry has increased by about 450,000, or about 31 per cent., after allowance has been made for the miscalculation in the previous census. With the extension of the irrigated area there has been an increase of 20 per cent. in the number of holdings, and though the class of landholders and tenants is shown in the latest census as having declined in comparison with 1891, it may reasonably be conjectured that the enumeration has been at fault, and that some part of the great increase shown under agricultural labourers should properly be ascribed to the tenant or peasant-cultivator class. The class of small peasant proprietor has been rising from the status of tenant-at-will. It seems likely that at no very remote date all the land was held by large proprietors, but at the present the number of holdings exceeding 500 acres in extent is less than 2 per cent. of the whole. About 25 per cent. of the holdings contain less than 5 acres, and about 50 per cent. between 5 and 25 acres. As regards the labourers, the immigration of famine refugees from Rajputana and Kathiawar considerably lowered the high wages previously prevailing for unskilled labour, reducing them from Rs. 15 to Rs. 10·10·0 a month; but the rate remained above the normal level of other places, and was adequate, while the immigration proved of great value to the landholders in a fertile province, where the chief complaint is the want of agricultural labour, by enabling them to carry out improvements on their estates.

The following description, supplied by a Hindu official of high position, gives a satisfactory account of progress in the general condition and standard of living in the rural tracts of Sind.

"It will be seen that, in Sind proper, good and bad seasons come in cycles, and consequently the improvement in the condition of the people in general, instead of being continuously progressive, receives checks at intervals. Signs, however, are not wanting to show that it is nevertheless pressing towards gradual improvement; where formerly in rural areas earthen pots were visible we now see copper, brass and pewter vessels; where formerly coarse cloth alone was visible, we now see cloth of finer texture and silk; where formerly beads were worn as ornaments we now see silver and gold; where we formerly saw straw huts we now see tolerably built mud houses and sometimes handsome houses constructed of burnt bricks and lime, roofed in with iron or teakwood beams and rafters. But the most remarkable feature of the decade is that, while formerly beggars from among the indigenous people were to be met with in the streets, none are now seen and their place has been taken up by refugees from outside the province."

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When we turn to the agricultural population of the presidency proper, a different picture presents itself. The decade ending in 1891 was a period of considerable prosperity, and enabled the tracts in the Deccan and the Karnatak, which had been afflicted by the famine of 1876-77, to recover to a great extent from its effects, which the provinces of Sind and Gujarat continued to maintain a steady progress. Save for a single season of scarcity in a limited area in the Karnatak, the condition of the whole presidency continued prosperous until the autumn of the year 1896. From that point there has occurred a succession of misfortunes such as is unparalleled in authentic history in India. To say nothing for the present of plague, the list of unfavourable seasons given in the margin shows the disastrous conditions

1896. Summer rains failed in East Deccan and Karnatak.
Winter rains failed in Deccan and Karnatak.
1897. Summer rains deficient in three districts in Deccan.
Winter rains short.
1898. Summer rains insufficient in parts of Deccan and Karnatak.
Winter rains moderate.
1899. Summer rains failed in Deccan and Gujarat.
Winter rains failed everywhere.
1900. Summer rains began late.
Winter rains insufficient everywhere.
1901. Summer rains began late and ceased early.
Winter rains almost wholly failed in Gujarat and deficient everywhere.

against which the Bombay cultivator, and the Government to whom his welfare is a first care, had to contend. The remarkable features have been the enormous area simultaneously affected in adjacent tracts and provinces, and the extension of distress to the province of Gujarat. This province had enjoyed a succession of favourable seasons unbroken since 1825, and

was believed, like the Central Provinces, to be immune from the possibility of famine. The people were soft and well fed, neither inured to hardship nor accustomed to make provision against the vicissitudes of seasons common to the less favoured Deccan tracts. Disasters have accordingly fallen upon them with intensified force.

In the marginal table the two great famine years of the decade are compared with the year 1876-77 in respect of the area affected and the

	1876-77.		1896-97.		1899-1900.	
	Affected Area in Square Miles.	Maximum Daily Average Number relieved.	Affected Area in Square Miles.	Maximum Daily Average Number relieved.	Affected Area in Square Miles.	Maximum Daily Average Number relieved.
<i>Gujarat.</i>						
Ahmadabad	—	—	—	—	3,810	102,008
Kaira	—	—	—	—	1,598	223,872
Panch Mahals	—	—	—	—	1,666	124,178
Broach	—	—	—	—	1,463	133,247
Surat	—	—	—	—	1,551	35,951
<i>Deccan.</i>						
Elhandedah	4,300	11,455	10,700 (1,700 specially). 5,817	26,560	10,454	270,523
Nasik	2,000	24,688	5,615	35,772	5,557	105,664
Ahmednagar	5,850	50,040	5,349 (2,487 specially). 4,512	109,829	6,045	269,416
Poona	2,500	69,701	4,825	42,075	5,241	96,190
Sholapur	4,136	95,617	4,825	132,649	4,542	171,335
Satara	2,682	67,515	4,825	31,561	4,632	57,768
<i>Karnatak.</i>						
Belgaum	2,660	59,731	1,642	20,083	1,645	4,677
Bijapur	5,895	105,054	5,627	134,197	3,100	24,598
Dharwar	2,000	73,523	857	4,444	—	—
<i>Konkan.</i>						
Thana	—	—	—	—	845	10,212
Kolaba	—	—	—	2,159	—	—
<i>Sind.</i>						
Thar and Parkar	—	—	—	—	8,452	10,704
Total	24,183	513,678*	40,004	453,713*	60,665	1,547,223*

* These figures represent the maximum of the whole area in any one month, not the sum of the district maxima which occurred in different months.

or by borrowing, or by reduction of expenditure than in any previous period

maximum number of persons on relief. The increase in the areas affected is obviously due to the more widespread failure of the rains, but the reason for the increase in the proportion of the numbers of persons who sought relief from the State within the affected areas deserves some examination. The Famine Commission, which sat in 1898, expressed the opinion that "of late years, owing to the high prices, there has been a considerable increase in the incomes of the land-holding and cultivating classes," and that "their standard of comfort and of expenditure has also risen"; that during the famine of 1896-97 "these classes as a rule have, therefore, shown greater power of resisting famine, either by drawing on savings

of scarcity of like severity"; but that in regard to the "great class of day labourers and the least skilled of the artisans," "the experience of the recent famine fails to suggest that this section of the community has shown any larger command of resources or any increased power of resistance." It may, however, be observed that in no country in the world would it be possible for the lower classes to subsist for twelve months continuously on their accumulated resources. As in England and elsewhere, labourers are largely dependent for their food on what they can earn from week to week.

Since the terrible experience of the famine of 1876-77, when it was found impossible for want of communications, and on account of the loss of cattle, to convey grain into the inaccessible hills and valleys of the Deccan and Karnatak, railways specially for protection against famine have been extended throughout the presidency, and (exclusive of Sind) covered 3,244 miles in the year 1902, against 1,062 miles in 1877. There has in consequence at no period in the famine been a dearth of stocks of grain. The problem has always been to supply employment for the labourers, by which they may earn the money to purchase the grain. This fact throws light on the cause of the high percentage of persons who sought relief when the famine covered the country. A complete destruction of crops may occur in a small local area, without any demand for the institution of State relief works, for the persons affected are able to support themselves by the agricultural employment offered in the surrounding villages. So, also, when one or two districts suffer, the great majority of migratory labourers disperse themselves in neighbouring tracts and leave a moderate proportion of the inhabitants to the care of the State. But when, as in 1899-1900, there is no country within reach which has escaped devastation, and is able to supply work to immigrants, the whole of the labouring population and a proportion of the smaller peasantry must inevitably be driven to the public relief works. This is the main factor of the situation, and it must be given its due weight as explaining the larger numbers on relief before any conclusions are drawn as to the increase of indebtedness or the demoralisation of the people.

The census figures show that in the presidency proper, excluding Sind, the number of landholders and tenants has declined from 7,954,000 to 7,193,000 during the decade, that of agricultural labourers from 1,912,000 to 1,854,000. That is to say, there has been a fall of 761,000 in the former class and of 58,000 in the latter. But according to the general rate of reduction of population the decreases should have been 334,000 and 80,000 respectively. The landholder class has therefore fallen off exceptionally, and possibly the 400,000 landholders who have disappeared may have gone, either in actual fact or in the census tables, to swell the class of labourers, filling up, as it might be argued, the gaps left by special mortality in that class. But this is no more than conjecture. It has already been seen in the case of Sind that the enumeration by classes is liable to error, and no conclusion of any value can be based on the figures.

When with the drought all demand for field labour ceased, the agricultural labourers and tenants, and the men who, with a holding of less than five acres, are accustomed to add the wages of field labour performed for their richer neighbours to the produce of their own land, resorted to the public relief works in great numbers. Of these classes, the labourer, who habitually lives from hand to mouth, is no worse off than before. During the famine he and his womenkind obtained regular employment, while he was relieved of all responsibility in regard to his children, who were fed and cared for in the public kitchens. The brunt of the suffering was borne by the classes who for one reason or another held aloof from Government relief. On the one hand, in the words of the Bombay Census Commissioner, "the simple-minded Bhils, deprived for a season of their ordinary means of subsistence, and ignorantly distrustful of liberal measures taken for their relief, laid down their lives in uncomplaining silence." On the other hand, the landholders of a rather higher grade, holding from 5 to 25 acres, suffered long and lost much in the struggle to save themselves from the necessity of seeking Government relief. A man of this class, which may be taken as nearly half the landholding class, owning 20 acres and paying, it may be, Rs. 20 revenue to the Government, would in normal years have a crop worth Rs. 120. If in 1899-1900 he had no crop, the payment of his revenue was probably suspended

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	Amount of Government Loans to Agriculturists.
	₹
1896-97	238,200
1897-98	168,500
1898-99	40,400
1899-1900	248,700
1900-01	638,000
1901-02	410,900

and in large measure subsequently remitted, but even if he could save Rs. 20 by economy in luxuries, it remained necessary for him to raise some Rs. 80 for the support of his family. In his reluctance to throw himself upon the State, he would incur debts at a period when credit was contracted and interest rose high. To such men great assistance was given by the liberal extension of State loans for the improvement of their lands and for the purchase of seed and cattle. Men who themselves worked at clearing their lands and constructing embankments subsisted to some extent on these loans, and were thus kept from swelling the numbers on relief works. In recognition of this fact extensive remissions of these loans have been granted.

The loss of cattle and of accumulated savings amongst the agriculturists of fair position was most severe. It is believed that in Gujarat one half of the 1½ million cattle died. This loss, which may be estimated at 120 lakhs (£800,000), fell chiefly on some 83,000 landholders of the districts of Ahmedabad, Kaira, Broach, and the Panch Mahals, while their owners, unable to realise their impotence to contend with the absence of fodder, and stimulated by their religious veneration for the sanctity of cattle, exhausted their resources in desperate endeavours to keep their stock alive. The losses in the Deccan were estimated at nearly a million head of cattle both in 1896-97 and in 1899-1900. The Deccan cattle were of less value, and the money loss perhaps did not exceed 100 lakhs (£670,000).

There are no materials for forming an estimate of the amount of silver ornaments disposed of, though there can be no doubt that it was large. Attention has been drawn to an export trade which is registered in the railway returns as "unwrought copper and brass," but which is understood to represent the household utensils of the destitute. This trade sprang up for the first time from Gujarat and the Deccan, 36,000 maunds of brass and 38,000 maunds of copper being exported from the former, while 21,000 maunds of brass and 19,000 maunds of copper came from the latter; the value of the whole being not less than 40 lakhs (£277,000). This loss, however, did not fall exclusively on the agricultural classes.

Of the recovery from these losses it is as yet too early to speak. Famine conditions prevailed in parts of Gujarat up to the end of the decade, and though the large Government loans, aided by allotments from the Central Charitable Relief Fund amounting to £322,000 in the province in 1900, besides £50,000 subscribed locally, have enabled agriculturists to make a fresh start, the permanent results of the succession of bad seasons cannot yet be gauged. It is possible that the productive power of the people may have suffered a serious set-back owing to their losses in cattle and the depletion of their other resources, but until we have seen the result of a few normal seasons the point must remain purely conjectural.

Industrial
classes.

In view of the decline in the handloom industries which has been the subject of so much comment in recent years, it is interesting to note that, according to the Bombay census report, the total population supported by the manufacture of cotton goods on handlooms is over 333,000, or still double that supported by the mills. Unfortunately the handloom workers were not distinguished in 1891 from the factory hands, and it is not possible to compare the growth of those two branches of the industry during the ten years, by means of the census figures. It appears, however, that the total number of persons dependent on the silk and cotton industries together in 1901 was 635,000, or practically the same as in 1891, and the increase in the mill industry shown below is therefore a measure of the decline of the handloom workers in these fabrics. The number of persons engaged in other home industries shows a great fall. Cotton dyers, oil pressers, leather workers, rope makers, lime burners, and wood and cane workers, contribute to the decrease; potters have increased slightly, at the expense of workers in brass and copper, a change characteristic of a famine period; on the other hand, persons engaged in the building trade, and the industries classed under "iron and steel" are more numerous. Some of these changes may be ascribed to European competition; native have been supplanted by aniline

dyes, and vegetable oils by the cheap mineral oils of Russia. But there is in the second place an industrial contest commencing within the Indian Empire, favoured by the extension in the means of cheap and rapid communication. A successful tannery in Cawnpore, for instance, may injuriously affect the tanning industry of Gujarat; and the disappearance of the hand manufacture of paper before the competition of the paper mills of Bengal is an illustration of another result of such influences. The rise in the prices of food grains, and the deterioration of the market for his wares owing to the famine, pressed hardly on the indigenous craftsman. In the case of weavers especially, a class always among the first to feel the stress of famine, distress was acute, and a special scheme was prepared for providing them with work of the kind to which they were accustomed, and thus relieving them without driving them to the unpropitious labours of the famine relief works; though in the earlier famine this plan was not extensively adopted in Bombay. The artisan class generally experienced a fall in the rates of wages. They are dependent for the provision of work chiefly on the surplus of agricultural wealth, and in part on industrial prosperity. The first being swept away by the famine, and the second impaired by the epidemics of plague, they earned smaller wages at the very time when food prices were highest. The

statistics given in the margin, which refer to the superior class of artisan, show the general tendency.

	Monthly Wages of skilled Labour.	
	1894-96.	1900-01.
	Rs. a.	Rs. a.
Gujarat - -	18 4	16 9
Deccan - -	21 14	17 13
Karnatak - -	20 15	18 2
Konkan - -	21 11	21 6
Sind - -	39 12	28 14

The number of persons supported by the factories in the Bombay presidency appears from the census to have been about 250,000, or about 1.4 per cent. of the population, 154,000 being actual workers. The returns of the factory inspectors show the number of operatives in Bombay as 166,000 in 1901, which may be compared with the number of 118,000 factory workers given in the first

factory report, relating to the year 1892. The increase is therefore considerable. But it is to be observed that, with the exception of cotton mills of one kind or another, the only industries by which more than 1,000 persons are supported are five in number, namely, the manufacture of aerated waters, railway and tramway material, and soap, and the printing and leather industries. Practically, therefore, the welfare of factory operatives has been bound up with the fortunes of the cotton mill industry, on which enough has already been said in the chapter on Industries.

MADRAS.

The leading facts respecting the population of the Madras presidency are as follows:—Total in 1901, 38,199,162 persons; increase in the ten years, 7.2 per cent.; proportion supported by agricultural and pastoral occupations, 70.9 per cent.; by industries, 17.2 per cent. Madras has therefore a better record to show than any other of the large provinces in respect of the growth of population; and this in spite of the fact that there has been a development of emigration which has led to a net loss of nearly half a million persons, or 1.4 per cent. of the population. On the other hand Madras is behind other presidencies in industrial development. The proportion borne by agriculture and pasture to other occupations is higher than in Bombay; though it must be borne in mind that the Madras presidency embraces tracts which differ widely in this and other respects from one another. Of the aboriginal population of the Agency tracts, more than 80 per cent. is dependent on the land, while in the rich and fertile West Coast districts the proportion sinks to about 66 per cent.

The distinction between the various classes of landlords, tenants, and labourers is especially vague in Madras, for two reasons. In the first place, the position of a tenant under one of the great landlords is often practically the same as that of a ryotwari occupier under the Government. Secondly, an examination of the registered holdings in the ryotwari area shows that the land is very minutely subdivided, especially in the West Coast districts. No

Agricultural
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less than 12·6 per cent of the holdings have a smaller revenue liability than one rupee, while a further 55 per cent. pay between one and ten rupees. The average area of two-thirds of the holdings is $3\frac{1}{2}$ acres, and as this, unless it is garden or irrigated land, is incapable of maintaining or occupying a family, it is obvious that some of these holders eke out their living by wages, or by renting land from the larger holders. Many of them hold shares in various holdings, and they may also cultivate a considerable portion of the minor inam area, of which there are $4\frac{1}{2}$ millions of acres. But the figures are noteworthy, especially in view of the low productive condition of much of the land. These figures relate only to ryotwari cultivators, but the position of tenants under the zamindars is probably very much the same. Similar conditions, as regards area, obtain in other countries of small holdings, as in France, where recent statistics have shown that the average area of each of the 12 million holdings is rather less than 4 acres, and in Germany; but these countries have an advantage in methods of cultivation and productivity.

That the stress of the past decade has told upon the districts most affected cannot be doubted. The Deccan cannot have lost large percentages of its crops in five years out of the ten without the most serious detriment to its cultivators. Population in certain tracts has decreased, and in others has but slightly increased, and the evidence obtainable is that thousands are impoverished, and will require liberal treatment for years to come. On the other hand, the deltaic districts, the west coast, and much of the south have been little affected by short crops, while the high prices obtainable for their produce have been a source of prosperity to their inhabitants. But though the ryot does appear to possess improved powers of resistance against the stress of famine, it is recognised by the revenue authorities of the presidency that the extension of the margin of cultivation, so that it embraces inferior lands, and the decline of the habit of grain storage, tend to create a new situation with which the petty cultivator, for the most part ignorant and resourceless, is ill-fitted to deal; and that, while the habit of thrift is undeveloped, indebtedness has grown enormously in bulk. A certain number of new wells have been dug and second crops have been more largely grown; and further, industrial and valuable crops have increased in answer to a larger demand. But of other improvements proceeding from within there is little or no sign; while the richer and more educated classes are investing in the best land, they hold aloof from the business of cultivation, and with rare exceptions content themselves with demanding as large a share as possible of the produce from the actual cultivator.

Among the agricultural labourers, especially in the Deccan and neighbouring districts, the bad seasons caused much distress, which in 1892, and especially in 1897, and again in 1900 and 1901, necessitated State relief. It is, however, only in Cuddapah and a small area in Kurnool and Kistna that the growth of population disclosed by the census among labourers falls seriously short of the general normal rate of increase for all classes. This fact, coupled with the abortive result of the opening of test works in 1900 and 1901, show that even the unattached labourer has resources in work and food to an unexpected degree.

Industrial
classes.

The census tables show that $6\frac{1}{2}$ millions of persons were found to be dependent upon various industries, and that of these 46·9 per cent. or nearly 3 millions, were actual workers. Of these workers about 42 per cent. were concerned in the provision of food and drink, including a number of petty traders and toddy-drawers, fishermen, rice-pounders, and the like. Of the remainder of this group, the most important are the weavers and other workers in textile fabrics or articles of dress, who numbered rather over $1\frac{1}{2}$ million, or 4·3 per cent. of the population of the presidency, excluding the Agency tracts. Taking the figures of silk and cotton weavers, who together form the greater part of this class, there appears a decline of 3·3 per cent.; or in other words the census shows that the people supported by weaving are 140,800 fewer than they would have been if the weaving population of 1891 had multiplied during the decade at the rate of increase shown by the whole population. These figures cannot be neglected; but the vagaries of census enumeration are manifold, and there is reason to doubt whether the handloom weavers are losing ground, at all events to

the extent indicated. Up to 1890 the number of looms steadily increased, until it reached 300,000; the net imports of woven goods have decreased during the decade by 35 million yards notwithstanding the increase in population, while the net imports of twist and yarn have increased by over 5 million pounds, chiefly Indian-spun yarns received by rail; and since the output of piece goods by the local mills, though it has increased, has not increased in proportion to the shortage in imports of cloth and the increase of exports, it seems to follow that hand-made goods are holding their own to the extent of at least keeping their customary markets, but that they use mill yarn, largely Indian-spun, in place of hand-spun thread. However this may be, the handloom weavers remain, as they have always been, a poor and ignorant class, working with primitive looms and at the mercy of the capitalist.

Employment in factories has considerably developed during the decade. The number of cotton mills has increased from 8 to 16, and the hands engaged in them from 5,942 to 15,971; the capital invested has risen from £267,000 to £793,000; the average output for each of the last five years, including the disastrous year of the Chinese War (1901), includes 3½ million lbs. of yarn and 11½ million yards of grey piece goods, while the output of fancy goods rose from 7,000 lbs. in 1896-97 to 4½ million lbs. in 1901. But Madras is still far behind Bombay in the power-loom industry, and the same may be said of other forms of organised industrial enterprise. The number of joint stock companies in the presidency in the year 1901, if the co-operative thrift and loan associations (*nidhis*) be excluded, was only 93; and among these a considerable number were enterprises worked by Europeans. A want of combining power, whether the result of want of enterprise or want of mutual confidence, blocks the development of business in Madras. Industries and manufactures await the growth of the habit of association.

The condition of the better-class artisans, especially of those living in towns and those who have been trained to labour in factories and workshops, is good, and their wages are high. The village artisans employed in merely primitive industries are seldom skilled, but owing to their possession of land and to their connection with village life they seldom suffer even in serious famines.

There can be no doubt that the professional and other similar classes are increasing in number and wealth. Merchants, lawyers, doctors, and others are more numerous; there are more bankers and moneylenders, brokers, and life insurance agents than there were in 1891, and the increased demand, chiefly no doubt in towns, for carriages, watches, jewellery, furniture and so forth is indicated by the increase in the number of persons who supply such needs. Investments by non-Europeans in Government funds have risen in the decade from £880,000 to £2,140,000, while the demand for good land is increasing, and 11 per cent. of the land in the presidency is held by the trading and professional classes or by officials.

Professional
and other
classes.

Of the three main classes of labourer, the permanent agricultural labourer, the unattached labourer, and the town labourer, the first is probably the most comfortable. His grain wages have apparently not risen since the beginning of the decade, but they suffice, with his wife's earnings or with the meals supplied to him, for the food of his family; while his small cash receipts, the allotment of land frequently given, the gifts of cloths, &c., provide his other needs and small luxuries. His hut costs him nothing; so long as his master has food to spare, he retains and feeds his labourers, who are often the regular dependants of the family; nothing but severe famine sends him adrift from his master. The unattached labourer of the rural tracts is in a worse position, unless he is really a ryot whose earnings are merely supplementary to the produce of his farm. The ryot labourer may in normal years be fairly comfortable, but in bad seasons when his own farm fails and outside employment is scant for the same reason, he is miserably off, having no richer person to depend upon, while his land is frequently mortgaged already, if of sufficient value. The mere labourer, however, forms the poorest class of the people; his money or grain wages may appear in the wage tables as Rs. 4 or more per month, but he has not always got employment; in bad seasons it is this

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class which necessarily comes first and most numerously upon the State. The town labourer is more highly paid, usually in cash, but he eats more expensively, drinks far more, and has more expenses, as in house-rent, especially if within a municipality. He can generally find plenty of work in all seasons by reason of the industries, needs, and comparative wealth of the towns.

BURMA.

Burma affords many contrasts to the other provinces, and to peninsular India as a whole. In the first place, Lower Burma and much of the upper part of the province are to all appearances—though several beliefs of this character have been upset during the past decade—secure from famine. Secondly, Burma is far behind even the most barren of Indian provinces in the density of the population. Leaving out of account the Shan States and the Chin hills, the mean density in 1901 was still only 55 per square mile. The area under crops in 1901-02, amounting to $11\frac{1}{2}$ millions of acres, was 50 per cent. greater than that of ten years ago, and though some of this increase is ascribed to more accurate survey, the crop area is extending at the rate of about a quarter of a million acres per annum. But there is still an enormous area awaiting development, for the cultivable waste is returned as $23\frac{1}{2}$ millions of acres. Another special feature of Burma is the great wealth of its forests, respecting which enough has been said in an earlier chapter. The last peculiarity of Burma which may be mentioned is the large and growing non-Burman element in the population. The Census Commissioner gives the following details:—

“Rangoon naturally shows the highest proportion of Indian immigrants. A trifle over half its inhabitants are foreigners of this class. Akyab has the next highest figure, 1,531 Indians (for the most part Bengalis), in each 10,000 of its population. Hanthawaddy has 903 and Amherst 850 out of a similar total. The districts with the largest proportion of inhabitants born in Asia beyond India are Myitkina and Bhamo (638 and 524 respectively in each 10,000 of the population). These Asian immigrants are from China and the northern regions beyond our administrative border. . . . In the province as a whole, 458 persons in every 10,000, that is to say, 4.5 per cent. of the total population, claimed countries other than Burma as their birth-place. In 1891 the number of foreign-born in each 10,000 of the population was 429. The difference (29) is no real measure, however, of the growth of the foreign population during the decade, for in 1891 the Chin hills were not at all, and the Shan States only partially, represented in the returns.”

There is no indication in the census figures of what proportion of the immigrants enumerated had come to stay and how many were merely temporary visitors; and it is well known that the Bengali and Madras labourer frequently comes to Burma for the busy season only, and in any case returns as often as not to his country immediately he has secured a moderate competence. But it is estimated that 13 per cent. of the increase in the population of Burma during the ten years is due to immigration.

Agricultural
classes.

In 1891-92 the cultivator throughout the province was ordinarily a peasant proprietor, but in Lower Burma a class of tenants, immigrants from Upper Burma and landholders who had lost their land owing to debt, was coming into existence. In the districts where land investment is most profitable these tenancies, which must be distinguished from the holding of State land direct from the Government, have become more numerous. In 1901-02 the area let to tenants was 1,831,300 acres, or 16 per cent. of the net cropped area for the whole of Burma, and the average rent per acre is given as about Rs. $7\frac{3}{4}$; but rents are for the most part paid in produce. The number of landholders who are not agriculturists has increased, and also the number of large-sized holdings. The relations of landlord and tenant are satisfactory, and tenants are found to be generally well off, and live in substantial houses. In Upper Burma the rents are all or nearly all regulated by custom, and range from one half of the produce on good lands to one-fourth, one-fifth, or one-tenth on poor lands. Tenants are not rackrented, and are said to be virtually in as good a position as the small proprietor. The wages of the agricultural labourers are still generally paid in kind, at the same rate in paddy as in earlier years, but with a rise in money value proportionate to the rise in prices (about 11 per cent.). They are in almost as good a position as the small tenants, and no social distinctions are made. Settlement officers note an

increasing tendency on the part of wealthy cultivators to put in field labourers as managers of the farm or farms, and the reaping of paddy is now largely carried out by gangs of Madrasis, at a contract price. In Pegu and Toungoo, Upper Burmans occasionally work in gangs in a similar way. The wages of each man probably average 10 to 12 annas a day.

In Upper Burma the wages of the agricultural labourer are less, and women and children take a larger share in the field work. In Sagaing the average wage of a labourer for the whole 12 months is about Rs. 35 in addition to food and lodging and occasionally certain articles of clothing. Labourers are usually engaged for 10 months, and their wages average about Rs. 30 with the above additions. The employment of monthly labour at Rs. 5 per mensem in addition to food is not uncommon during the ploughing season, both in Sagaing and Myingyan. Daily labour is, however, very largely employed, and varies according to the age and sex of the labourer and the nature of the work. Women earn 2 to 2½ annas a-day, with two meals, for transplanting paddy; men get about 4 annas a day and their meals; in Lower Burma the usual wage for transplanting is one basket of paddy (12 annas roughly) in addition to food. In Minbu the wages are much the same as in Sagaing. Here also the labourer is in almost as good a position as the poorer cultivator, and social distinctions between them do not exist, though with rich landowners he would probably not share the same food or occupy an equal position. As he has little or no security to offer, the labourer can only contract short loans.

Although the exploitation of the forest products and the petroleum and other mineral wealth gives occupation to a large number of persons, the milling of rice for export is the most important industry of the province. The activity of the industry varies with the amount of rice exported, which has ranged from 15½ million cwt. in 1893-94 to 26 million cwt. in 1898-99. In the timber industry there has been a considerable growth; the amount of teak shipped in 1891-02 was 58,000 cubic tons* valued at £455,700, compared with 42,000 cubic tons, valued at £283,000, in 1891-92. The manufacture of cutch is carried on by native methods, and is limited by the restricted supply of available wood. Of the petroleum, ruby, and other mineral industries, enough has been said in an earlier chapter. Certain of the smaller home industries are of importance owing to the aggregate number of persons who are to some extent dependent on them. Of these, silk weaving is carried on chiefly in the districts near Rangoon and Mandalay. The silk produced is durable but costly, and is gradually being superseded by cheaper materials of foreign manufacture. Similarly cotton weaving, which is a common occupation of the women in the more remote districts, is being abandoned in favour of Manchester cotton goods. Other small industries are pottery manufacture, lacquer work, wood and silver carving, and mat weaving, which are chiefly confined to local demands, and vary little from year to year.

Industria
classes.

Indian coolies constitute the large bulk of the ordinary labourers in towns, where Burmans are seldom to be seen working as coolies. The average wage for Lower Burma is given at a little over 9 annas. In Upper Burma it is quoted at 7½ annas, the lowest being in Myingyan, 5 annas a day. In most cases the Burman coolie, though he can earn from Rs. 70 to Rs. 120 in the year, is not disposed to hoard his earnings, and spends what he receives on food and small luxuries. The Indian coolie lives at a lower rate, is more frugal in his habits, and is able in a few years to earn sufficient to permit of his return home.

In the interior of Lower Burma, with the rise in the principal product, paddy, the price of other articles has risen. But their consumption by agriculturalists has not decreased, and the additional comforts and luxuries, to which settlement officers speak, are evidenced by substantial houses, furniture of European manufacture, and the crowded state of the local trains and ferry steamers. There has been an increase in comforts generally, and at the same time the line between rich and poor is apparently becoming more marked. In Upper Burma, on the other hand, the condition of the people appears to have remained almost stationary.

* A "cubic ton" is 50 cubic feet, weighing approximately a ton.

III.—AGRICULTURAL INDEBTEDNESS.

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There have been no recent investigations of a detailed and general character, such as to form a basis for accurate statements regarding the indebtedness of agriculturists in the various provinces. But there is no question that it is general and considerable everywhere. This is no new phenomenon; nor is it peculiar to India, since in all countries, especially where the land is held by petty cultivators, agriculture is largely dependent on borrowed capital. But it is specially prominent in India on account of the large expenditure prescribed by custom on social ceremonies, and also because of the great and increased facility of obtaining credit. In a country where the cultivator is bound by strong ties of caste and custom to his village, personal credit has a special value; but the credit resources of the agriculturists have received their greatest extension from the creation of proprietary interests in land. The conception of a transferable interest in land is of comparatively recent origin in India, and has originated under British rule, which on the one hand has created a valuable interest in land by limiting the land revenue assessment, and on the other has explicitly or by implication conferred on holders of land the power of free transfer, and has recognised the authority of the civil courts to sell interests in land in satisfaction of decrees for debt. As regards social ceremonies, it was said in 1896 by Mr. Lely, the present Commissioner of the Northern Division, that the marriage expenses among the class of Lewa Kunbis in Gujarat had risen in the last 30 or 40 years from Rs. 500 to Rs. 1,000, and that in other castes there had been a similar rise. Six years later, after the famines, the same officer stated that numerous marriages had taken place at a cost of Rs. 15, instead of Rs. 200 or Rs. 300, not because the parents had become more thrifty, but because their credit would not go further. In Madras Rs. 200 is a common outlay for a wedding in an ordinary ryot's house; a Government officer on Rs. 150 a month will spend Rs. 1,500, and yet be open to the charge of meanness. The Settlement officer for the districts of Noakhali and Tipperah in Eastern Bengal writes in 1899 that among Hindus of the ordinary cultivating class the cost of marrying their children varies from Rs. 60 to Rs. 150. Well-to-do people will spend from Rs. 500 upwards. Similar facts might be quoted regarding other provinces; and marriages are not the only social ceremonies upon which a heavy expenditure is required by custom. In addition to this, as has been said above, agricultural operations are financed by borrowed capital.

The moneylender is therefore a necessary part of the Indian economic system. In a large number of cases he is himself a ryot. This is especially the case in the Madras presidency, where the examination of 83,000 documents showed that, even in the case of registered loans, a proportion varying in different districts from 73 to 85 per cent. is lent by ryots; the vast mass of loans, unsecured by any document, is even more largely between ryot and ryot. The same is to a smaller extent true of other provinces. At the same time, however, there is a very great amount of land hypothecated to or already taken over by non-agriculturists, and this fact has led to the consideration of the question of restricting the transfer of land, and to the passing of the Land Alienation Act in the Punjab, to which reference has already been made.

Other directions in which action has been taken to meet the question of indebtedness are the relief of encumbered estates by means of Courts of Wards or other specially constituted agency; and secondly, the provision of other and cheaper sources of agricultural credit. On the first head, nothing need be added to what has been said on an earlier page.* With regard to the second object, the Agriculturists Loans Act of 1884 and the Land Improvements Act of 1883 provided for the utilisation of Government credit under fitting conditions; and these measures have been highly beneficial. But it is neither possible nor desirable that the Government should undertake to provide capital indiscriminately for agriculturists. The alternative is the inauguration of a system of co-operative credit, on the lines of the Raiffeisen or other systems for organising the credit of petty agriculturists which have grown up during the last forty

years on the European continent, and of the system recently started in Ireland. This difficult question had been long under consideration; but during the past decade important steps have been taken towards its realisation. The exhaustive report by Mr. F. A. Nicholson on the possibility of introducing land and agricultural banks into the Madras presidency, which was published in 1895, made generally available a large mass of information, not only on the indebtedness and the indigenous loan societies (*nidhis*) of Madras, but also with regard to the popular banks of other countries. In spite of some postponement while famine engrossed the attention of the Government officials, a full inquiry has since been made in the various provinces as to the feasibility and the methods of establishing such banks, in the light of that report and of experiments started on a small scale in the United Provinces. The views of the local Governments on the question were considered by a Committee, which met at Simla in June 1901 and formulated in its report definite schemes of management and proposals for the necessary legislation. Since that date, the recommendations of the Committee have been under consideration in India, but no final conclusions have yet been arrived at. The experimental village banks in the United Provinces have not been long enough in existence to permit of any conclusion being drawn as to their value. Evidence given before the Committee showed that mutual help associations had recently been started in the Punjab. But the extent to which the principle of co-operative credit will form a solution of Indian agricultural problems can only be ascertained by wide experience. If it contributes, as has been the case in Europe, to the formation of habits of thrift, it will remove what is now one of the greatest obstacles to the progress alike of the agriculturists and of the dwellers in towns.

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