ORISSA

BY

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CONTENTS.

VI. Orissa under Foreign Governors, Mughul and Marhatta. 1-35
VII. The English as Settlers and Governors in Orissa 36-173
VIII. The Calamities of Orissa, Floods and Famines 174-199
IX. Village System and Growth of Private Rights in the Soil 200-278

APPENDICES I to IX. 1-210
INDEX 211-219
APPENDICES.
APPENDIX I.

STATISTICAL ACCOUNT OF THE
DISTRICT OF PURI.

GEOGRAPHICAL.—Puri District forms the southernmost division of Orissa. It lies within the twentieth and twenty-first degrees of north latitude, and within the eighty-fifth and eighty-sixth of east longitude. It is bounded on the north by the Tributary States of Dompara, Banki, and Khandpara; on the east by the District of Cattack; on the south by the Bay of Bengal; and on the west by the Tributary State of Ranpur and the Madras District of Ganjam. Its greatest length from Nandla, on the south-east of the Chilka, along the coast to the mouth of the Kaloí River, beyond Marichpur, is ninety miles. Its total area is 2504 square miles, and its population 540,995 souls.

A belt of sandy ridges, the home of the black antelope, stretches along the shore, and varies from four miles to a few hundred yards wide. The District may be divided into three tracts, west, middle, and east. The western extends from the right bank of the Dayá across the stone country of Dandimal and Khurda, till it rises into the hills of the Tributary States. The middle is the delta, watered by the Bhargavi branch of the Mahanadi, and comprises the richest and most populous Fiscal Divisions of the District. The eastern portion runs from the left bank of the Kushhadrá to the boundary of the Cattack District. It is less thickly peopled, and in the extreme east loses itself in the jungles around the mouths of the Devi River.

The western division contains the only mountains that are to be found in the District. A low range, beginning in Dompara and running south-east in an irregular line towards the Chilka Lake, forms a watershed between Puri District and the valley of the Mahanadi. Almost
all the peaks, sufficiently important to have names, are within the subdivision of Khurdhá. Most of them are covered with dense jungle. They are too steep for carriages, but except where the bare rock is exposed towards the summit they are accessible to ponies. Their slope may, therefore, be put down at seldom exceeding sixteen degrees. On the north of the Chilká they are bold and very varied in shape. They throw out spurs and promontories into the lake, forming island-studded bays, with fertile valleys running far inland between their ridges.

The middle and eastern divisions consist entirely of alluvial plains. They form the south-western part of the Mahánadal delta, and are watered by a network of channels, through which the most southerly branch of that river finds its way into the sea. This branch is called the Koyákháí, and the following scheme exhibits the river system into which it divides:—

\[
\begin{aligned}
&\text{Kushhadrá} \\
&\quad \{ \text{Práchó} \} \\
&\quad \{ \text{Kushhadrá} \} \\
&\quad \{ \text{Bhágaví} \} \\
&\quad \{ \text{Bhágaví} \} \\
&\quad \{ \text{Nun} \} \\
&\quad \{ \text{Dayá} \} \\
&\quad \{ \text{Dayá} \} \\
\end{aligned}
\]

The whole of these rivers are navigable by large boats during the rainy season. None of them are deep enough for boats of four tons burden throughout the whole year. Only one of them, the Kushhadrá, enters the sea. It follows a very winding course, and is of little value for navigation. Its bed has silted up, and its floods devastate the surrounding country. The three rivers most important to the people of Puri are the Bhágaví, the Dayá, and the Nun. These all enter the Chilká Lake after running widely diverse courses. In the rainy season they come down in tremendous floods which burst the banks and carry everything before them. In the dry weather they die away till nothing is left of them but a series of long shallow pools in the midst of vast expanses of sand. Their banks are generally abrupt, and in many parts are artificially raised and protected by strong dykes. The total length of Government embankments in the Puri District amounted, in 1866, to $316\frac{3}{4}$ miles, with forty-three sluices, maintained at an annual cost of £7, 16s. per mile. The following table shows the capacity of the principal rivers in the rainy season, and the number of breaches which they made in their embankments in 1866:—
RIVER SYSTEM.

PURI RIVERS AT A SECTION HALF-WAY BETWEEN CATTACK CITY AND THE SEA.

<table>
<thead>
<tr>
<th>Names of Rivers</th>
<th>Fall per mile at point of section</th>
<th>Mean depth of section</th>
<th>Calculated velocity by Etelwyn's formula</th>
<th>Calculated discharge per second</th>
<th>Number of breaches made in 1866</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kushhadra,</td>
<td>1'70</td>
<td>10'64</td>
<td>5'40</td>
<td>9,855</td>
<td>8</td>
</tr>
<tr>
<td>Prachi,</td>
<td>1'70</td>
<td>10'43</td>
<td>5'40</td>
<td>9,580</td>
<td>8</td>
</tr>
<tr>
<td>Bhargavi,</td>
<td>1'45</td>
<td>15'42</td>
<td>6'00</td>
<td>59,220</td>
<td>36</td>
</tr>
<tr>
<td>Daya,</td>
<td>1'70</td>
<td>16'78</td>
<td>6'80</td>
<td>33,100</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Av. 1'64</td>
<td>Av. 13'31</td>
<td>Av. 5'90</td>
<td>111,755</td>
<td>52</td>
</tr>
</tbody>
</table>

* Including the smaller tributaries.

It will be seen, therefore, that of the 111,755 cubic feet per second poured down upon Puri, the Kushhadra, with its branch, the Prachi, obtains only 19,435 cubic feet with which to water the eastern part of the District. Of the remaining 92,320 cubic feet, about two-thirds is carried off by the Bhargavi, and after watering the middle part of the District, finds its way, by a most tortuous course for many miles almost parallel to the sea, into the Chilka Lake. On its way it forms a series of marshes and backwaters; one of which, the Sar Lake, to the north-east of Puri Town, is four miles long from east to west, and two miles broad from north to south. It has no outlet to the sea, and is separated from it by desolate sandy ridges. It is utilized neither for navigation, nor to any extent for fisheries. The sandy desert that divides it from the Bay is destitute of population; and on the north, a few miserable hovels at wide intervals dot its shores. Its waters, however, are used for irrigation when the rainfall proves deficient.

The Daya spreads its 33,000 cubic feet of water per second over the south-western part of Puri. It also receives a few small tributaries from the watershed which separates the district from the upper valley of the Mahanadi. During the rainy season boats of twenty tons burden carry on a traffic between Cattack and the Chilka Lake by means of its main stream. Towards the Chilka it divides into many channels, and the Fiscal Divisions of the lower part of its course are annually devastated by resistless floods. Full details will be found of one of these calamities in the latter part of chapter II. of my work on Orissa. I have also explained in that chapter the total cost to Government of inundations in Puri District; amounting, for two items alone, to £79,963 in fifteen years, or equivalent to a charge of ten per cent. on the total land revenue of the district. In addition to this large sum I have
shown that the single flood of 1866 destroyed standing crops to the value of £643,683 in Puri District alone, notwithstanding that 10,620 acres of fertile land are permanently left untilled for fear of inundation. The truth is, that the Mahánadí, in time of flood, pours double the quantity of water into the Puri rivers that they are capable of carrying down. The result is, that the surplus overflows in spite of embankments and protective works. The whole District lives in readiness for such calamities; and the deaths by drowning reported to the police, during the three years ending in 1870, averaged only 117 per annum. These figures, however, by no means represent the total loss of life from this cause. The excessive floods depreciate the productive powers of the soil; and in the localities most subject to inundations, the rents are brought down to one-fifth of the rates obtained for the same quality of land in parts of the district protected from the violence of the rivers. Of the twenty-four Fiscal Divisions of the District, twelve are still so completely at the mercy of the rivers that more than fifty per cent. of their area was flooded in 1866. In Sayyidâbâd and Domârkhand, two Fiscal Divisions of which less than twenty-five per cent. are liable to inundations, the average rate of two-crop land is 3s. 4d. per acre. In Chaubiskúd and Sirâi, two Fiscal Divisions of which more than fifty per cent. are liable to inundations, the average rent for the same quality of land is 1s. 9d. In Domârkhand the average rate of winter rice land is 4s. 9½d.; in Chaubiskúd and Sirâi, it is 1s. 5½d. If, instead of the average rent, the highest rates were taken in these Fiscal Divisions, the difference becomes still greater.

LAKES.—The only two lakes of importance in Puri are the Sar and the Chilkâ. The former I have briefly described as a backwater of the Bhârgavî. To the latter I have devoted chapter II. of my Orissa. The water supply of the District is used in a few of the Fiscal Divisions for irrigating the lands. The difficulty, however, is to keep it from flooding the crops, rather than in leading it on to the fields. Solar salt is extensively manufactured from the brackish water of the Chilkâ, and the process is fully described in chapter II. About one-fiftieth of the whole inhabitants live by fishing. No important fishing-towns have grown up, however; and the fish caught are consumed by the local population. The right of fishing is vested by Government in the landholders, and is included in the general settlement for the land revenue of their estates. The total sum paid into the Treasury under this head amounts to £157, 10s. a year.

FORESTS.—There are no revenue-paying forests, but the jungles in the hilly part of the district yield honey, beeswax, tasar silk, the dye called gundi, and various medicinal drugs. Tribes of Savars,
Kandhs, and Bauris live by trading in jungle products. The timbers of the district comprise sál, sísu, ebony (kendu), jack-wood, mango, piásál, kurma, and all the common varieties. Bamboo is plentiful. The rattan-cane abounds. The palms include the cocoanut, palmyra, and date. Oil is manufactured from the cocoa-nut and pulang among trees, and from rape and mustard among seeds.

**The Animal Kingdom.**—In the open part of the country the larger wild beasts have been pretty nearly exterminated. Of the following list several are now becoming rare:—Tigers, leopards, bison, buffalo, wild cows, hyenas, bears, wild pigs, wild dogs, antelopes, sambardeer, hog-deer, and kurangas (small deer). Alligators swarm in the lower parts of the rivers. The sum spent in keeping down tigers and leopards does not exceed £5 a year. The number of deaths from wild beasts and snakes formally reported to the police amounted to ninety-three in 1869. Snakes are very numerous. Among pythons are the ajagar and ahiráj. Among deadly snakes the black cobra (kutú), the tampa, the gokhura, and the spotted slow-killing bora. Among water-snakes the dhemna and dhanra, etc. The nág is the generic name for a variety of serpents. Among smaller wild beasts are jackals, foxes, hares, monkeys of many sorts, porcupines, and squirrels in immense numbers. Among land birds are the pea-fowl, jungle-fowl, partridge, golden plover, ortolan, dove, green pigeon (pára), owl, vulture, eagle, hawk, kite, crow, and jay, besides the ordinary kinds of smaller tree-birds. On the Chilka Lake are found the flamingo, wild goose, Bhrámaní duck, wild duck of various sorts, teal (bálihansá), snipe, pánikuú, crane, and gaganbhel. Of paddy birds the five following sorts are most common—The kantiyábag, the dhalá, the rám, the kuji, and the tár.

Of fishes there is an endless variety. Among salt-water fish, the most important are the khaingá, dákhangirí, ilsá, or as it is usually called by Europeans, hilsa; the khúrántí, chándí, bhekí, patá, jhurangá, kántábalangi, phirkí, kokálí, and sahálía. Among fresh-water fish are the rohí, bhákur, gágár saul, káú, tori, bámí, karaní, rátá, báliá, guáchopí, and the chital. There are also turtles, tortoises, crabs, prawns, and oysters. There is no trade in wild-beast skins; nor are the fera, with the exception of the fisheries, made to contribute in any way to the wealth of the District. The oysters are large and coarse, but palatable when cooked, and not unpleasant even in their raw state, after the eye has become accustomed to their size and colour. No attempt has been made to improve the oyster-beds, or to turn them into a subject of commerce.

**The Population.**—A census roughly taken by the police in 1854,
returned the population of Puri District at 700,000. In 1866, after the famine, the houses were counted by the police, and, allowing five inhabitants to each, the population was returned at 528,712. In 1869, the houses were again counted by the police, and returned at 108,199, which would give a population, counted as before, of 540,995.

**Immigrant Races.** The native population consists of Uriya speaking castes, but many little colonies from other parts of India have settled in the district. There is a considerable sprinkling of Bengalis among the official and landed classes. This element is steadily on the increase. It has already purchased many valuable estates, and monopolized almost all the offices of trust in the administration. Some of the richest Bengali landholders are absentees. They live in Calcutta, and seldom or never visit their estates. But a large number of Bengalis among the official classes and smaller proprietors have gradually settled down in Puri District, and consider themselves naturalized in it. Behar, and the Districts of the North-West Provinces, have sent many families of the Lalá Káyet (Káysth) caste. They are pleaders in the courts, or petty officials, such as head-constables and clerks. A number of Telingá have come from the south, and settled along the coast, on the shores of the Chilká, and around the mouths of rivers. Almost the whole boat traffic of the District is in their hands. The Kumtis are immigrants from the adjoining District of Ganjá. Most of them reside in Puri Town, and live by wholesale and retail trade. They do not intermarry or eat with the people of the District, although many of them settle permanently in it. The trading classes contain families who have come from Bhojpur, Bandalkhand, and other Districts of north-western India. The Márwháris have also effected settlements. They are the leading cloth merchants, and buy up the surplus crops of the year for exportation. A scattered Marhattá population survives from the time when the country was in the hands of their race. They live chiefly by trade, or enjoy little grants of land, and form a very respectable, although not a numerous class. The Musalmáns, who also represent a once dominant race in Orissa, exhibit no such powers of adapting themselves to their altered circumstances. They are generally poor, proud, and discontented. They contain representatives of Afghán and Pathán families beyond the confines of northern India, but as a rule, they are the descendants of the common soldiery, camp-followers, and low caste Hindu converts. Their total number certainly does not amount to four thousand, and they may be safely put down at less than a half per cent. of the population of the District. In Puri City in 1869, there were 187 Musalmáns, out of a total of 19,825. In the rural parts their proportion is
much smaller. Among them there are only two landholders of any importance,—the Málud family on the Chilká Lake, and the Marich-pur house, on the extreme north-east of the District. The Muhammadan religion never made any progress among the native population. There are also two hill tribes, the Kandhs and the Sávars, or Sars. They live in leaf huts in the recesses of the forests, and earn a precarious livelihood by bringing jungle products, firewood, and bamboos to the markets on the plains. They cultivate cotton in small quantities, and various kinds of peas and pulse, such as mug, harar, but, and cháná. There are no predatory castes, properly so called, in the district. A gypsy-like class, the Kelás, wander about begging from village to village, singing and dancing for the amusement of the peasantry. They are skilful bird-catchers, and trade on the humanity of the Hindus by offering to release their prey for a trifle. They speak a curious patois of Uriyá and Bengali, mixed with the hill language.

The native population is nominally divided according to the ancient fourfold classification of Bráhmans, Kshattriyas, Vaisyas, and Súdras. In reality, it is divided into the Bráhmans, or priests; the Kshattriyas, or the royal and military class; and the Súdras, who embrace the residue of the population. In order, however, to maintain some show of keeping up the ancient fourfold division, several classes are admitted to hold a position half-way between the Súdras and the Kshattriyas. The most important of these are the Karans, whose position will be subsequently explained. The Bráhmans are divided into two great classes—the Vaidik and the Laukik. The former are said to be immigrants from Bengal, or Kanouj, and date their oldest settlements in Purl from about the twelfth century. The legend runs that they had been settled for some hundreds of years at Jáipur, the ancient capital of Orissa, and that the Rájá Anang Bhum Deo, the rebuilding of the Temple of Jaganmith, founded four hundred and fifty colonies of them in Purl District between 1175 and 1202 A.D. They are called the southern line of Orissa Bráhmans, and will be again referred to in the Statistical Account of Balasor. They are subdivided into two classes,—the Kulins, and the Srotrfyas. The former are so highly esteemed, that a Srotfya Bráhman will give a large dower in order to get his daughter married to one of them. But the Kulin who thus intermarries with a Srotfya loses somewhat of his position among his own people. The pure Kulin rarely stoops below the Srotfyas, the class immediately next him, for a wife. The Laukik Bráhmans are supposed to represent the original Aryan settlements in the District. They now work with their hands, and are
excellent husbandmen; while the two upper classes of imported Brāhmans would lose caste by holding a plough. This subject is fully explained in my volume on Orissa.

The local subdivisions of the Brāhmans are innumerable. The most general in Puri District is that which divides the Vaidik Brāhmans into—(1) learned men (Bhatta-misra and Sāmanta); (2) ordinary Vaidik Brāhmans; (3) a class between the two (Madhyam). But the best classification I have been able to obtain is one which separates them into three great classes, and eighteen families. The first class is the Kulin Brāhmans, and includes three families,—the Bachhas, Nanda, and Gautriya. These live on lands granted by former Rājās, or by teaching private students, or as spiritual guides, or, more seldom, as temple priests. They are few in number, for the most part in middle circumstances, often very poor, but always greatly esteemed. The second class is the Srotriya, and includes nine families,—the Bhatta-misra, Upādhyāya, Misra, Rath, Odā, Tiḍiri, Dās, Patī, and Satpasti. Of these, some live on lands granted to them by former Rājās, some by teaching private students, some on presents from rich men, some as pilgrim guides, and many as domestic chaplains, spiritual guides, and priests of the temple. They are numerous, some of them rich, but many poor, and are esteemed a little less than the Kulins. The third class is the Laukik Brāhmans, who are subdivided into six families,—the Pandā, Senāpati, Pārhi, Bastīk, Pārni, and Sāhu. These live as husbandmen, holding their own ploughs, as traders, vegetable dealers, rice merchants, and lenders of rice or money on interest to the cultivators, and as pilgrim-guides. They are numerous, some of them rich, but most of them in middle circumstances, like the better class of husbandmen. They are less esteemed than either of the other two classes as Brāhmans, but are generally highly respected as well-born, well-to-do men. The Kshattriyas rank next to the Brāhmans. Strictly speaking, there is not a single Kshattriya of pure descent in Orissa, but, as explained in my general Work, the petty Rājās claim this pedigree; and in the case of the Mahārājā of Khurdhā, the claim is admitted by the Brāhman genealogists. The Rājās confer on their chief Kshattriya servants honorific titles, such as Bāhanpati, Patjosi, etc. The Kshattriyas are divided into three great classes, with seven subdivisions. The first class is the so-called Kshattriya proper, and includes the three following families,—Deva, Lāl, and Rāya. They are Rājās, landed proprietors, or holders of dependent tenures, and some of them lend money and paddy on interest. They are few in number, generally rich, and much esteemed. The second class is the Khan-
INTERMEDIATE CLASSES.

The Kšatrīyās are divided into two subdivisions, the Bhanja and Harichandan. They hold dependent tenures or occupy lands, and claim for themselves the rank of Kšatrīya, but are generally regarded as Sudras, and, indeed, rank below the Karans in popular estimation. They are few in number, some of them rich, but many poor. The Bhanja family of the Khandaits are great huntsmen, but also cultivate lands, and some of them make high pretensions to pure Kšatrīya descent, pretensions which are not admitted by the Brāhman genealogists. The Khandaits in Puri City, including Kšatrīyas of every sort, amounted in 1869 to only 403, among a population of 19,825. The third of the Kšatrīya classes is the Rājput, subdivided into Sinha and Chanda. These are generally employed as Jamādārs, doorkeepers, and messengers, or are petty landholders. They are not a numerous class, and are held in fair estimation.

The intermediate classes between the Kšatrīyas and the Sudras have been so fully described in my general Work that a bare statement of their local classification will suffice. It is admitted that no Vaisyas exist; but four classes of Sudras, the Karan, Dās, Sāhu, and Prushti, claim to represent the ancient Vaisyas. Of these the only one deserving of notice is the Karans, the highest of the Sudra castes. They are divided into three classes, the Patnāik, Dās, and Māhānti. Many of them are landholders, or lend money and rice on interest; but a large proportion are clerks, accountants, and petty officials. They are numerous, generally in good circumstances, and some of them highly esteemed as rich men. The other intermediate classes, the Dās, Sāhu, and Prushti, occupy lands or follow trades. They are few in number, in middle circumstances, and less esteemed.

The Sudras nominally embrace the whole remaining population. In common use the name is generally applied to the husbandmen who cultivate holdings, as opposed to the shopkeepers and the landless low castes who go out as day-labourers. The following table shows the principal fifty-seven Sudra castes in Puri District, arranged, as far as possible, in their order of respectability. It is difficult to give each its proper place, but the classification is substantially correct in this respect. I give the spelling of the castes according to the local orthography, and the subdivisions of castes according to the local classifications. No two pandits have ever given me the same classification even of so well studied a caste as the Brāhmans; and when we come to classifications of the lower orders, the differences are endless. In each case I have adopted the one which, after careful inquiry, seemed best.
### Classification of Sudras in Puri District

<table>
<thead>
<tr>
<th>Castes</th>
<th>Occupations</th>
<th>Numbers</th>
<th>Whether rich or poor</th>
<th>Whether esteemed or despised</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panikendu</td>
<td>Village accountants, called Bhu.</td>
<td>Few</td>
<td>Generally poor</td>
<td>Little esteemed</td>
</tr>
<tr>
<td>Sundara</td>
<td>Pilgrim hunters.</td>
<td>do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daita</td>
<td>do</td>
<td>do</td>
<td>Middle circumstances</td>
<td>do</td>
</tr>
<tr>
<td>Phik</td>
<td>Till lands, and serve as peons.</td>
<td>Numerous</td>
<td>Generally poor</td>
<td>do</td>
</tr>
<tr>
<td>Patra</td>
<td>Cloth dealers.</td>
<td>do</td>
<td>Some rich and some poor</td>
<td>do</td>
</tr>
<tr>
<td>Guriá</td>
<td>Makers and sellers of sweetmeats.</td>
<td>Few</td>
<td></td>
<td>do</td>
</tr>
<tr>
<td>Putilibaniá</td>
<td>Petty spice sellers.</td>
<td>do</td>
<td>Poor</td>
<td>Despised</td>
</tr>
<tr>
<td>Orh Khan-dáits</td>
<td>Till lands, and serve as peons.</td>
<td>Numerous</td>
<td>Generally poor</td>
<td>do</td>
</tr>
<tr>
<td>Chásá</td>
<td>Till lands.</td>
<td>do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mudulí</td>
<td>Pilgrim hunters.</td>
<td>Few</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaur</td>
<td>Milkmen, herdsmen, and palankeen-bearers.</td>
<td>Numerous</td>
<td>Generally poor</td>
<td>do</td>
</tr>
<tr>
<td>Barháí</td>
<td>Carpenters.</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Kamár</td>
<td>Blacksmiths.</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Támíru</td>
<td>Betel shopkeepers.</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Bhandári</td>
<td>Barbers and domestic servants.</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Chitrakar</td>
<td>Painters.</td>
<td>Few</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Dásiputra</td>
<td>Domestic servants, peons, etc.</td>
<td>Few</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Málí</td>
<td>Gardeners.</td>
<td>Numerous</td>
<td>Poor</td>
<td>do</td>
</tr>
<tr>
<td>Pathuria</td>
<td>Stone masons.</td>
<td>Few</td>
<td>Generally poor</td>
<td>do</td>
</tr>
<tr>
<td>Kharrá</td>
<td>Workers in brass.</td>
<td>Numerous</td>
<td>Some rich and some poor</td>
<td>do</td>
</tr>
<tr>
<td>Thatári</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Kansári</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Sankhári</td>
<td>Makers of ornaments from shells.</td>
<td>Few</td>
<td>Poor</td>
<td>do</td>
</tr>
<tr>
<td>Rasrá</td>
<td>Lead and tin workers.</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Sunari Bania</td>
<td>Goldsmiths.</td>
<td>Numerous</td>
<td>Rich</td>
<td>do</td>
</tr>
<tr>
<td>Rangani</td>
<td>Weavers.</td>
<td>do</td>
<td>Generally poor</td>
<td>do</td>
</tr>
<tr>
<td>Tanti</td>
<td>do</td>
<td>do</td>
<td>Poor</td>
<td>do</td>
</tr>
<tr>
<td>Jyautáshik</td>
<td>Astrologers.</td>
<td>Few</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Khittvánasí</td>
<td>Village-school teachers.</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Chunará</td>
<td>Lime dealers.</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Káchará</td>
<td>Makers of glass ornaments.</td>
<td>do</td>
<td>do</td>
<td>do</td>
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<tr>
<td>Jogí</td>
<td>Beggars.</td>
<td>do</td>
<td>Very poor</td>
<td>do</td>
</tr>
<tr>
<td>Bhát</td>
<td>do</td>
<td>Few</td>
<td>do</td>
<td>do</td>
</tr>
<tr>
<td>Tulábhíniá</td>
<td>Cotton cleaners.</td>
<td>Numerous</td>
<td>Poor</td>
<td>do</td>
</tr>
<tr>
<td>Thuriá</td>
<td>Petty traders.</td>
<td>do</td>
<td>Generally poor</td>
<td>do</td>
</tr>
<tr>
<td>Golá</td>
<td>do</td>
<td>do</td>
<td>Some rich and some poor</td>
<td>do</td>
</tr>
<tr>
<td>Kumbhár</td>
<td>Potters.</td>
<td>Few</td>
<td>Generally poor</td>
<td>do</td>
</tr>
<tr>
<td>Teli</td>
<td>Oil pressers.</td>
<td>Numerous</td>
<td>Some rich and some poor</td>
<td>do</td>
</tr>
<tr>
<td>Kapúsía</td>
<td>Tobacco-leaf sellers.</td>
<td>Few</td>
<td>Poor</td>
<td>do</td>
</tr>
<tr>
<td>Keut</td>
<td>Fishermen.</td>
<td>Numerous</td>
<td>Generally poor</td>
<td>do</td>
</tr>
</tbody>
</table>
### Religious Division of the People

**The Hindus** form more than ninety-nine per cent. of the entire population. Their religion has been very fully discussed in chapters iii., iv., and v. of the general volume. Besides a sprinkling of Musalmáns scattered over the District, there is a flourishing colony of native Christians at Pippli, under the care of the Baptist Mission. A Bráhma-Samáj was established by a Bengali Bráhman, who held the post of lower subordinate Civil Judge. The new sect made but little progress in this focus of Hindu orthodoxy, and ceased to exist on the death of its local founder three years ago.

**Distribution of the People into Town and Country.**—Puri is the only town in the District. It lies on the coast, in lat. 19° 48' 17" N., long. 85° 51' 39" E., and is separated from the sea by sandy ridges. It covered 1871 acres in 1869, including the whole Kshetra, or sacred precincts of the town. In 1825, according to Stirling, it contained 5741 houses. In 1841 the houses numbered 6620, containing 23,766 souls. In 1868 the number was returned at 6363. In 1869 a very careful enumeration showed that the number had fallen to 5789, with a population of 19,875. The decrease is due to the famine of 1866-67, which did not immediately make its effects visible on the total number of houses. It should be noted, however, that the census of 1869 was confined to the strictly urban population. All the evi-

<table>
<thead>
<tr>
<th>Castes</th>
<th>Occupations</th>
<th>Numbers</th>
<th>Whether Rich or Poor</th>
<th>Whether Esteemed or Despised</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sundi (Suri)</td>
<td>Wine sellers.</td>
<td>do.</td>
<td>In middle circumstances.</td>
<td>do.</td>
</tr>
<tr>
<td>Dhobá.</td>
<td>Washermen.</td>
<td>do.</td>
<td>Poor.</td>
<td>do.</td>
</tr>
<tr>
<td>Chamár.</td>
<td>Sellers of palm leaves</td>
<td>Few.</td>
<td></td>
<td>do.</td>
</tr>
<tr>
<td>Gokhlá.</td>
<td>Fishermen.</td>
<td>do.</td>
<td></td>
<td>do.</td>
</tr>
<tr>
<td>Dom.</td>
<td>Makers of bamboo mats.</td>
<td>do.</td>
<td></td>
<td>do.</td>
</tr>
<tr>
<td>Mochi.</td>
<td>Shoemakers.</td>
<td>do.</td>
<td></td>
<td>do.</td>
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<tr>
<td>Hári.</td>
<td>Sweepers.</td>
<td>do.</td>
<td></td>
<td>do.</td>
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<tr>
<td>Kelá.</td>
<td>Beggars.</td>
<td>do.</td>
<td></td>
<td>do.</td>
</tr>
<tr>
<td>Sabákhá.</td>
<td>Beggars.</td>
<td>do.</td>
<td></td>
<td>do.</td>
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</tbody>
</table>
dence that I have collected, and it embraces the results of seven separate attempts at enumeration, tends to show that the average resident population of Puri and its suburbs during the half-century preceding 1866, has been from 23,000 to 25,000 souls, and I have adopted the latter number in the general Account of Orissa. The Collector estimates the depopulation owing to the famine at thirty-four per cent., and there seems every reason to believe that that calamity reduced the number of inhabited houses by seventeen per cent. During the great festivals of Jagannáth, this number is swollen sometimes by as many as 100,000 pilgrims. It is a city of lodging-houses, and is destitute alike of manufacture or commerce on any considerable scale. The streets are mean and narrow, with the exception of the principal avenue, which leads from the temple to the country-house of Jagannáth. The houses consist of wattle covered with clay, raised on platforms of hard mud, about four feet high, and many of them gaily painted with the Hindu gods, or with scenes from the Indian epics. The intervening sand-hills between the town and the beach intercept the drainage, and aggravate the diseases to which the over-crowding of the pilgrims gives rise. For remarks on its sanitary state, see chapter IV. of my Orissa. The Government offices lie upon the beach, with the sandy ridge between them and the town. The site is salubrious, but the dwellings of the English residents barely number six thatched cottages, much out of repair. The monsoon blows so fresh and cool from the sea, that in former days the officials from Cuttack used regularly to come to Puri for the hot weather. During the rains, it is less healthy. For an account of its festivals and religious places, see chapters III. and IV. of the work above referred to.

The Port of Puri is nothing but an undefended roadstead. It is open for import and export trade from the middle of September to the middle of March. During the other six months of the year the surf does not allow of ships being laden or unladen. The vessels that frequent it consist chiefly of country brigs, and occasionally a barque with an English master. They lie about half-a-mile from the shore in good weather. The trade consists almost entirely of shipments of rice to the Madras coast, and occasionally to the Mauritius. The statistics which I have obtained from the Harbour Office are so obviously imperfect as to render it useless to give them at length. In 1864-65 I find that twenty-nine ships entered the harbour, with a total tonnage of 3865 tons, the largest ship being given at 1028 tons. The value of the commodities exported in that year was £10,788; of the imports £1824. In 1866-67, the famine year, the total tonnage was 12,719 tons, the largest ship 1140 tons, the value of the rice imported being £114,811,
and the exports nil. In 1868-69 the total tonnage was 4140 tons, the number of ships that unloaded ten, the value of exports £8352, and imports £3937. During the first nine months of 1869-70 the total tonnage was 4946 tons, the number of ships that entered the harbour fifteen, the value of exports £6695, and imports £1375.

Horsburgh's Sailing Directions give the following instructions for making Puri Roadstead:—‘The Jagannath pagodas are three large circular buildings surrounded by several smaller ones. They are of conical form. The westernmost pagoda is the largest, and the easternmost the smallest of the three. They are nearly all in one bearing, W. by N. When brought to bear N.W., they begin to appear separated. When N.N.W. they are perceived to be distinct buildings. Lat. 19° 48' 21" N., long. 85° 54' E.’ Mr. Raper gives lat. 19° 50' N., long. 85° 56' E. The latitude and longitude as corrected by the Surveyor-General of India are, lat. 19° 48' 17" N., long. 85° 51' 39" E.

The only other port in Puri District is Máchhgaon, near the mouth of the Devi River, on the borders of Cattack. A considerable export rice trade is done here, but the silting up of the channel renders the approach perilous to sea-going ships, and involves heavy expenses for lading and unlading by means of cargo-boats. The mouth of the Chilka Lake was once an excellent harbour, and would still be so but for this constant silting up. It is at present wholly impracticable. Besides Puri, the only other towns in the District requiring mention are Pippli on the Cattack road, twenty-five miles from Puri; and Bhuvaneshwar. The latter is a place of pilgrimage, and is sufficiently described in chapter v. of my general Account. Both are seats of a considerable trade in rice and cloth. Pippli has a flourishing society of native Christians.

Rural Population.—With the above exceptions the whole population is rural; Puri being a purely agricultural District without a single municipality. The people are poor, and appear even poorer than they are. They wear inferior clothes to men of the same class in other Districts. The well-to-do settlers from the south are distinguished by their earrings and necklaces of gold. A respectable shopkeeper's house is built of wattle or mud. The front verandah is of brick, and the roof of thatch, firmly fixed on a good bamboo or wooden frame. The dwelling of a prosperous merchant or landholder, worth about £100 a year, generally consists of a series of houses built round two courts, which lead one into the other, with the street in front of the outer court, and a garden behind the inner one. The outer court is lined with the chambers of the male members of the family, and the inner court with the women's apartments, the family storehouses, and the cook-room. The furniture of such a house would consist of a few low bedsteads, a press or two,
some wooden stools, a few broken chairs, and perhaps a single striped cotton carpet for the reception-room. The dwellings of the common people consist of sheds or thatched huts built round a single court. The outer apartments are used by the males and for the cattle. The inner are devoted to the females, to the cook-room, and the storehouse. The food of a well-to-do shopkeeper comprises the following articles,—Rice, split-peas, vegetables; fish, milk, or clarified butter, curds, and occasionally goat's flesh. A husbandman in good circumstances, and able to spend sixteen shillings a month on a family of six persons, would consume the following food per diem,—Ten pounds of rice, fourpence; vegetables or split-peas and fish, three-farthings; and oil and spice, three-farthings.

There are very few rich families in the District. In 1870 the income tax returns estimated the total incomes of the District, above £50 per annum, at £106,500 sterling. The income of the richest landholder was estimated at £8000 a year, and the fourteen largest incomes amounted to £37,154, or an average of £2654 each.

AGRICULTURAL.—No well tested statistics have been obtained, but the following remarks are taken from a number of returns which have from time to time been officially submitted to, and accepted by, Government. Purí is strictly a rice-growing district. Of rice crops, the following are the most important,—(1.) The Bíaśi, which is sown on high but moist land, in June or July, and reaped in October or November. Its principal varieties are the Sáthiká, the Kuliá, and the Asvíná. (2.) The Sárad, which is sown on middling high land in July, and is reaped in December. A hundred varieties are included under the generic name of Sárad. Of these, the ten following are the most important,—Kháirá, Kalásur, Bándkoí, Mátárá, Rángiásína, Nripáthbhog, Gopáilbhog, Básúbati, Bandírí, and Nársínhbhog. (3.) The Dálua rice, sown on low wet lands in November or December, and reaped in April. Its most important varieties are the Píá and Kasúndá.

The Sárad, or winter rice crop, is generally transplanted by the more diligent husbandmen; and by this process a much larger return is obtained. If not transplanted, the following are the operations required for the winter crop:—(1) Ploughing, March or April; (2) sowing, May or June; (3) weeding, after first rain-fall; (4) harrowing and ploughing, July or August; (5) second weeding, August; (6) laying (arranging the crop for convenience of cutting), December; (7) reaping, December or January; (8) threshing, January or February; (9) scalding (a little water is poured upon the paddy, which is then placed over a fire until the water is evaporated, for the purpose of loosening the husks); (10) cleaning (husking). Unhusked rice is

The price of rice varies greatly. An ordinary rate for unhusked rice is a rupee for two hundred and ten pounds, or nine pounds for a penny. On the fields it is sold at cheaper rates to the grain merchants. Of the coarsest sort of husked rice, eighty-four pounds may be had for a rupee, or at the rate of a fraction over a farthing a pound. In February 1870, the best cleaned rice sold in Purl market at sixty-six pounds for the rupee; the coarsest at eighty-three. No improvements are known to have taken place in rice cultivation in the memory of man; nor have any new varieties, adapted either for the deeper marshes or the drier upland, been introduced.

Of the pulses, the most important are the following:—*Mug* (*Phaseolus Mungo*), including three varieties, *Kalá*, *Sáuli*, and *Dhálí*, sown in January or February, on Sárad rice lands, and gathered in March or April. *Birhi*, including the varieties called *Ná* and *Cháitá*. *Harar*, sown in July, and reaped in December or January. *Chaná* (*Cicer arietinum*), sown in December or January, and reaped in February or March. *Kolath* (*Dolichus biflorus*), sown in October or November, and reaped in February or March. *Barguri*, sown in December, and reaped in January or February.

Of fibres, the most important are jute, hemp, and flax. The two first are sown in July or August, and cut in September or October. Flax is sown and reaped in the same months, but rather later. Fibre crops are always put down on high land; that used for jute is a poor soil of little value; hemp is generally sown on dry fields close around the homestead.

Of oil seeds, the most important are castor-oil (*gáb*), sown on low wet lands or river banks; *rási* (*Sesamum orientale*), sown on high lands; mustard (*sorish*), and linseed (*tisi*, called-in Uriyá *pesu*).

Among miscellaneous crops are tobacco, on low moist lands; cotton, sown early in the cold weather, and reaped in May or June on Sárad rice land; sugar-cane on fine high land, with abundant moisture, or with capabilities of irrigation; turmeric (*hálí*); *bágün* (*Solanum melongena*), on homestead land; potatoes, red pepper, and *pán*.

The standard land measure of the District is the *mán*, as nearly as possible equal to an English acre, being twenty rods square, each rod measuring ten feet five inches, and a fraction called a *jab*. A *jab*
is either a barleycorn, or the mark inside the last joint of the thumb. There are various smaller local *máns* in different parts of the district.

Rents vary greatly throughout Puri. The highest rates for rice land scarcely anywhere exceed nine shillings and sixpence an acre. The average of twenty-three Fiscal Divisions shows that the good qualities of winter rice land yield a fraction less than six shillings per acre. The ordinary calculation is, that rice land should pay two shillings per *bharan*. Four *bharans* is a good yield from an acre of first-class land. Two *bharans* an acre is considered poor. The *bharan* consists of eighty baskets (*gaonis*) of grain; but, unfortunately, the baskets vary in size. Those used for weighing unhusked paddy contain five Cattack seers, or between 13 and 14 lbs. avoirdupois. A *bharan* for paddy, therefore, contains ten Cattack maunds, or about 9 cwt. The smaller basket contains only 3½ Cattack seers, and is used for weighing husked rice. The yield per acre in Puri District is therefore from about 16 to 36 cwts. per acre of unhusked paddy, and from 8 to 16 cwts. of husked rice. The average from fair land may be put down at 10 cwt.

The following six descriptions of land will illustrate rents in Puri District:—(1.) Homestead land pays a peculiar rent for frontage (*chanda*); in some villages as high as a shilling for nine feet of frontage, but, with a few exceptions, seldom exceeding nine shillings an acre, and averaging about five. (2.) Rich land, yearly covered with river deposit, from six to ten shillings an acre. (3.) Two-crop land (one of the crops being winter *Sárad* rice), from six to eight shillings. (4.) Common one-crop winter rice land, from three to five shillings. (5.) Autumn rice land (*Bídhi*), from six to eight shillings. (6.) Spring rice land (*Dálua*), from three to five shillings per acre. The following are the rates of rent, in each of the Fiscal Divisions of Puri, for the best qualities of two-crop, and of winter rice land. The rate for two-crop land stands first in each case. In Áthás, the rate is six shillings and threepence for two-crop (*dofasali*) land, and six shillings for winter rice land (*Sárad*). In Astarang, 7s. 6d. and 7s. 3d. respectively; in Anthrodi, 6s. and 5s. 7½d.; in Banchás, 9s. and 2s. 9d.; in Chau-biskud, 3s. and 3s. 1¼d.; in Dómárkhand, 6s. 3d. and 9s. 4½d.; in Kalijori, 4s. 11¼d. and 3s. 3¼d.; in Kanman, 5s. and 6s. 3d.; in Kuruló, 7s. and 6s. 10½d.; in Kotdes, 8s. 2d. and 7s. 3½d.; in Kot Ráháng, 6s. and 5s. 6d.; in Kodhári, 7s. 6d. and 7s. 6d.; Khurhdhá, 2s. 4d., 3s. 4d., and 2s.; Lembái, 1s. 3d. and 1s. 3d.; Mátkapatná, 6s. and 7s.; in Mahál-masrud, 5s. 6d. and 4s. 6d.; in Oldhár, 5s. 4½d. and 6s. 3d.; in Paschimdmui, 8s. 3d. and 6s. 3d.; Púrbduáil, 6s. 6d. and 6s.; Ráháng, 7s. and 6s. 3d.; Sayyidábd, 5s. 4½d. and 3s. 1¼d.; Sirái, 3s. 1¼d. and 2s.; Sultán nagar, 6s. 3d. and 3s. 9d.
PEASANT RIGHTS.

Land is not yet so scarce in Purl as to cause an excessive subdivision of holdings. A husbandman who holds less than five acres is held to be ill off. Ten acres make him a prosperous peasant. Thirty acres are a large holding, and eighty acres an unusually large one. A husbandman with ten acres is supposed to be as well off as a small retail shopkeeper, or a servant earning about sixteen shillings a month. The husbandman dresses worse, but he has more to eat. The cultivators, as a class, are deep in debt to the landholders, who make advances of money and rice to them. A large proportion of them hold at fixed rates, and represent the 'tham rayats' of the settlement papers. Such husbandmen hold their land under leases, 'kalipattás,' granted by the Settlement Officers in 1836-37, and remaining in force until the next settlement in 1897. The number returned as holding at fixed rates is 119,168. This is probably an exaggeration, as it would represent about 100,000 houses, and the whole number of dwellings in Purl District is returned at 108,199. But it may, without error, be taken as evidence to show that the larger proportion of husbandmen in the District hold at fixed rates. All other husbandmen are tenants at will, except in rare instances where leases have been given. Act x. of 1859, therefore, scarcely applies to Purl District. Rent suits of any sort are rare, and the twelve years' occupancy right is unknown. In 1861-62 there were 464 original suits under Act x. and laws based upon it; in 1862-63, 487; in 1866-67, 545; in 1868-69, 977. In 1866-67 there were also 356 miscellaneous applications; and in 1868-69, 630. It is simply a Rent Law in Purl.

The Domestic Animals of the District are,—cows, oxen, and buffaloes, kept by Gaurs and cultivators; sheep and goats, kept by castes below the Gaurs; pigs, kept by the low-caste Ghusuriás; pigeons, kept, but not eaten, by the respectable classes; fowls and ducks, kept, but never used for ploughing or draught. The following prices may be received as an approximation to the current rates:—A cow giving four pounds of milk daily fetches about £1, 5s., but in some parts may be got as low as 16s.; a pair of good plough bullocks, £3 sterling; a good cow buffalo, giving nine pounds of milk, £2; a pair of draught buffaloes, £4; a score of sheep, £2; goats about the same price; a score of full-grown pigs, £10. Ten acres are called a plough of land, but practically, six or seven acres are as much as a good pair of bullocks can manage. The implements required for ten acres are the following:—One plough, value 2s.; two mattocks (koris), 5s.; one spade (kâñk), 2s.; one axe (kurdi), 1s. 6d.; three choppers for cutting wood (kâturi and dî), 1s. 3d.; a clod
breaker (mai), rs.; a harrow (bidō), 6d.; total, 13s. 3d., which, with £3 for the oxen, make £3, 13s. 3d. The husbandman would also have to borrow an occasional pair of oxen for a holding of this size. Few hired labourers are employed, but the Bāuris; Savars, and Kandhs are practically labouring classes. The Kandhs cultivate lands in the hills, but only appear in the plains as hired labourers. Agricultural wages are generally paid in unhusked rice, at the rate of twelve pounds a day for a man, and six for a woman. Children tend cattle at a fraction over a farthing a day. The regular day-labourers of a prosperous husbandman are also allowed a couple of acres on which to grow vegetables or rice during their leisure hours. Money wages are officially returned at the following rate:—Unskilled labourers in Puri Town, fourpence a day; in the rural parts, twopence half-penny; their wages twelve years ago were about twopence half-penny in the town, and three half-pence in the country. Smiths and carpenters used to get threepence three-farthings in the town, and twopence in the country twelve years ago; they now get sixpence a day in the town, and threepence three-farthings in the country. Bricklayers who used to get fourpence half-penny in the town twelve years ago, now get sevenpence half-penny. A description of the tenures and of the landholding classes will be found in the general Account of Orissa.

Manure consisting chiefly of cow-dung, eked out by the black mud from the bottom of tanks, and river deposits, is used to a large extent. It is called khat, from the Sanskrit khät, past participle of khan, to dig, meaning either pit refuse or what is dug in. It is measured by bullock-cart loads. Three loads are a fair allowance for an acre, and are valued from sixpence to a shilling per load. For very high cultivation, a husbandman calculates nine shillings for rent, and about two shillings for manure. The refuse of oil seeds and sugar-cane is also used.

Irrigation is less sparingly employed. Wells, tanks, rivers, and shallow pools supply the water. The fluid is raised by means of a mat scoop, swung by two men, or by the tendā apparatus of unglazed earthen pots fixed to weighted bamboo levers, or by the jantā apparatus of a hollowed cocoa-nut trunk, with the large end moved up and down the small arc of a circle by means of a heavily-weighted bamboo lever. Irrigation is seldom used except for the spring rice (Dhāna) and the February pulse crops. If the water can be raised to the field by means of one throw-up of the mat scoop, irrigation costs about ninepence an acre for rice, and for sugar-cane a little more. Common wells are made by digging a wide deep hole till the water comes, and then piling short, broad earthenware pipes on the top of each other in the centre, and filling in the earth around. A double
BLIGHTS AND DROUGHTS.

A tiled well of this sort, thirty feet deep, costs about forty shillings. In the towns and homesteads, the earthenware pipes are sunk from the top, the centre being hollowed out, and the excavators working downwards as the cylinders sink. Sometimes the interior of the wells are built round with solid brick. A double masonry well of this sort, forty-five feet deep, costs about £40.

**Rotation of Crops.**—Land is nowhere left fallow except for sugar-cane. The following rotation of crops is known, but not very generally practised,—First year, sugar-cane; second year, a coarse grain, mandua (*Eleusine coracana*); third year, brown peas (*Dolichos biflorus*); fourth year, cotton; fifth year, sugar-cane; and so de novo. In rice cultivation the same sort of crop is taken year after year off the same land.

**Natural Calamities.**—Locusts seldom do much damage. Only one flight is recorded within the past ten years, namely, in 1862, when one of the peasants asserted in court that he lost seven-eighths of his crop. The general loss to the District was in a much less degree. Black insects (*Kalimakhsh*), breed on the wet ground after floods, and occasionally devour the young crops. Other minute insects (*Jhintikás*) attack the young crops when in the milk. Every year square miles of standing crops perish by floods. But drought is the great enemy of the District, and the failure of the rivers is even more dreaded than their overflow. This subject has been very fully discussed in my *Orissa.* As the District is almost entirely on one level, there is no compensating influence. If the rains hold off till the middle of July, a panic occurs, and rice rises to thirty pounds of the coarsest, and twenty-five of the finer sort for a rupee. The great famine of 1866 has elsewhere been described. Its effect on prices is still keenly felt in the District, but last year, 1869-70, fortunately proved a bumper season.

**Administrative History.**—The District of Purí was annexed, with the rest of Orissa, in 1803. An account of the occupation will be found in my general Account of the Province. On the fall of Cattach Fort, Mr. J. Hunter was deputed to Purí to collect the revenue of that division of the province, and to superintend the temple. From 1818 to 1828 Purí and Khurdhá were under the charge of the Joint Magistrate and Deputy-Collector of Khurdhá, who, after a time, obtained the rank of Collector. In 1828, Orissa was divided into the Northern, Central, and Southern Divisions, the last of which is identical with the present District of Purí. About the same year, the headquarters were removed from Khurdhá to Purí Town. In 1829, the total income of the District was £89,776, and the total civil expenditure £12,357, or one-eighth of the revenue. In 1860-61, the total revenue, deducting transfer accounts, was £126,157, and the expenditure £16,722. In
1870–71, the budget estimate for the revenue is £124,666, and the expenditure £22,843. During the last forty years, therefore, the revenue has increased by one-third, and the cost of Government has nearly doubled. During the past ten years under the Crown the revenue has remained stationary, while the expenditure has increased from £126,722 to £22,843, or 36.06 per cent.

The land tax amounted to £44,701 in 1829–30; to £45,973 in 1850–51; and to £45,438 in 1870–71. The subdivision of properties has rapidly gone on under our rule. In 1828, there were only 194 separate estates, with 670 proprietors. In 1850, the number had risen to 272 estates, with 910 proprietors or coparceners. In 1870, the separate estates amounted to 425, with 1,150 registered proprietors. The effects of this subdivision are visible in the average payments of each proprietor or coparcener. In 1828, the average of the large class of small proprietors who pay below £10 a year of Government rental, was £3, 9s. 6d.; in 1850, it had fallen to £2, 12s. 6d.; and in 1870 it was £1, 10s. 6d. In the next class of proprietors, who pay a yearly rental of between £10 and £100, the average payment of each proprietor in 1828 was £14, 4s.; in 1870 it was £10, 8s. In the large estates paying over £100 a year of Government rental, the average payment of each proprietor was £465 in 1828, and £369 in 1870. Taking the landholding body as a whole, each estate paid on an average £230 of Government rental in 1828, and £106 in 1870. Each proprietor or registered coparcener paid on an average £67 in 1828, and only £39 in 1870. The average size of estates has, therefore, diminished by one-half during the last forty years of British rule in Puri.

The amount of protection given to property and person has greatly increased. In 1828–29 there were only three courts, revenue and judicial, in the District; in 1850 there were seven; in 1862, nine; and in 1869–70, twelve. In 1828–29, there was only one covenanted officer in the District. There are now generally three, namely, (i) a Magistrate and Collector at Puri; (2) a Joint or Assistant-Magistrate and Deputy-Collector at Puri; (3) an Assistant-Magistrate and Deputy-Collector in charge of the subdivision of Khurda. In 1868, the regular police stood thus,—Three European officers, on an average salary of £375 a year; 83 native officers, on an average salary of £21, 15s.; and 447 foot police, on an average of £7, 4s. a year; total strength of police, 533. The estimated strength of the regular police to the area of the District, is one man to every 3.09 square miles, or one man to every 997 of the population. The cost of protection is £4, 3s. a square mile, or 3d. per head of the population. In this calculation the police
THE CRIMINAL CLASSES.

department estimates the area of the District at 2083 square miles, and the population at 528,712. After recent transfers, the Surveyor-General gives me the present area at 2504 square miles. During the year 1868, the police made 1032 arrests, conducted 794 cases cognizable by the police, and in 539 cases obtained convictions. The total cost of the regular police is £8710, 10s. a year. The 530 native officers and men consist of 438 Uriyās, 64 Bengalis, 18 Telingās, and 10 Marhattās. Besides the regular district police, there is a town police, costing £540 a year, and numbering 83 men of all ranks. There is also a village watch, consisting of 2778 watchmen, who receive an estimated pay in money or lands of £2583 a year, or under £1 per man. This represents a cost of £1, 5s. a square mile of the district, or about 1d. per head of the population. Their average strength is one man to every 0'74 square miles, or to every 190 of the population. Each village watchman has on an average thirty houses under his charge. Including, therefore, the regular force, the town police and rural watch, there are 3393 police of all ranks in Puri District, maintained at a total cost of £11,833 a year. For police purposes, the District is divided into seven stations, with forty-five outposts, including salt outposts.

THE CRIMINAL CLASSES.—There is little crime in the District. The average number in jail, both in Puri and Khurda, in 1865, was 95, of whom only six were females, or about one criminal always in jail to every 6000 of the population, and one female to every 100,000. The entire number admitted in 1868 was 755 males and 54 females, or a total of 809. The constant rate of sickness was 3 per cent. of the number in jail, and the death rate was 2'10 per cent. During the ten years, from 1859 to 1868 inclusive, the total number of Musalmān prisoners was only 185; the Brāhmans numbered 802; the writer caste 533; the Chāsā, or common agricultural classes, 3206; the low castes of all sorts, such as Pāns and Bāurus, 1722. During the same period, only two Christians found their way into Puri jail. As regards their actual occupations, there were 849 priests, 656 shopkeepers, 52 weavers, 2606 husbandmen, 1133 labourers, besides a few persons of miscellaneous trades, including 3 pilgrim-hunters and 15 beggars. Strictly speaking, there are no criminal classes in Puri District, that is to say, no classes who live by preying on society. Petty thefts, the result of extreme poverty, often, indeed, of the pangs of hunger, are the most common offence. Murders occur very seldom, and are nearly always traced to some complication about women or land. The Brāhmans supply a large proportion of the criminals. But here, as elsewhere, it is the miserably poor and hungry landless castes who fill the jails.
With regard to the administration of civil justice, Purī forms part of Cattack District. The Civil and Sessions Judge proceeds on circuit from Cattack, and holds his Court at Purī at stated periods of the year.

**Fiscal Divisions.**—The number of villages or rural communes in Purī District in 1870, is returned at 2962, containing on an average two hundred inhabitants each. The number of Fiscal Divisions (par-gands) has varied at different times. I have two statements of them, which present considerable discrepancies. The first is furnished by the Collector; the second by the Surveyor-General, and may be taken as the more correct. The first shows the number of estates in each Fiscal Division, the amount of Government land-rent, the area in acres, and the estimated population. The second exhibits each Fiscal Division divided into its cultivated and non-cultivated area. I subjoin both lists, partly for the value of the different subjects they deal with, and partly to illustrate the discrepancies which such lists show in almost every District. Such discrepancies arise from the circumstance, that not only does the total area of a District vary, owing to transfers to other Districts, but the boundaries of the Fiscal Divisions themselves are often badly defined. Sometimes, indeed, a Fiscal Division is so shattered and interspersed with fragments of others, that the surveyors have had to lump them together, while the Collectorate returns continue as before. Such mistakes creep into the different departments of Government, and are aggravated as time goes on. Thus, I have received five different returns of the area of Purī District, varying from 2080 to 2698 square miles. The present area is, as already stated, 2504 square miles.

The following is the Statement of Fiscal Divisions as made up in the Collectorate:

1. Andhári, containing 1 Estate.  
   Jagir.  
   Area, 7,959 Acres.  
   Pop. 1,500
2. Antroth, 5  
   Paying £82 Land Revenue.  
   1,873  
   19,991
3. Astaráng, 1  
   151  
   5,477  
   1,081
4. Athális  
   13  
   838  
   33,605  
   11,408
5. Bajrakot, 1  
   Jagir.  
   11,838  
   2,000
6. Bánchánas, 36  
   813  
   15,924  
   13,361
7. Chaubiskud, 14  
   4,428  
   54,458  
   5,003
8. Domárkhand, 16  
   615  
   15,869  
   7,680
9. Kálijorí, 4  
   27  
   434  
   4,457
10. Kañman, 2  
   185  
   4,699  
   1,189
11. Khurdhá, 1  
   15,308  
   595,526  
   163,390
12. Kodhár, 3  
   434  
   15,852  
   6,798
13. Kotdes, 30  
   8,618  
   129,998  
   90,016
14. Kotrákháng, 66  
   2,883  
   29,445  
   30,003
### Fiscal Divisions

15. Kurúlo, containing 8 Estates. £248 Land Revenue. 9,602 Acres. Pop. 8,755

16. Lembái, 7 3,449 58,854 30,035
17. Máulad, I 10,794 2,000
18. Mánikpatná, I 13,563 2,000
19. Miřchpuru, 1 33,983 8,000
20. Masrud, 2 1,739 840
21. Mátkadpatná, 4 6,367 1,548
22. Oldhár, 17 21,306 7,150
23. Pánchgarh, 1 22,135 19,856
24. Párkud Kila, I 44,764 5,166
25. Paschim-duáí, 94 12,378 15,466
26. Púrbdúáí, 43 14,340 12,201
27. Ráháng, 22 71,559 64,506
28. Sayyadábd, 18 12,248 2,782
29. Siráí, 9 43,634 4,741
30. Sultánnagar, 3 12,178 892
31. Chilká Lake, ... 220,000 ...

The Surveyor-General's Return is as follows:

<table>
<thead>
<tr>
<th>Total Area in square miles</th>
<th>Acres</th>
<th>Cultivated</th>
<th>Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Andhrí</td>
<td>12'43</td>
<td>7,959</td>
<td>5,149</td>
</tr>
<tr>
<td>2. Antothí</td>
<td>53'01</td>
<td>33,926</td>
<td>7,574</td>
</tr>
<tr>
<td>3. Astarang</td>
<td>8'74</td>
<td>5,594</td>
<td>2,866</td>
</tr>
<tr>
<td>4. Athásí</td>
<td>52'01</td>
<td>33,899</td>
<td>21,313</td>
</tr>
<tr>
<td>5. Bajraíot</td>
<td>18'50</td>
<td>11,838</td>
<td>8,318</td>
</tr>
<tr>
<td>6. Bánchás</td>
<td>30'20</td>
<td>19,329</td>
<td>5,034</td>
</tr>
<tr>
<td>7. Chaubískud</td>
<td>105'46</td>
<td>67,498</td>
<td>47,157</td>
</tr>
<tr>
<td>8. Domárkhánd</td>
<td>29'33</td>
<td>18,766</td>
<td>6,410</td>
</tr>
<tr>
<td>9. Kanman</td>
<td>6'58</td>
<td>4,208</td>
<td>2,183</td>
</tr>
<tr>
<td>10. Khurthák</td>
<td>929'92</td>
<td>595,150</td>
<td>457,565</td>
</tr>
<tr>
<td>11. Kothí</td>
<td>27'19</td>
<td>17,405</td>
<td>5,741</td>
</tr>
<tr>
<td>12. Kótes</td>
<td>181'55</td>
<td>116,194</td>
<td>30,174</td>
</tr>
<tr>
<td>13. Kotráháng</td>
<td>55'83</td>
<td>35,728</td>
<td>17,815</td>
</tr>
<tr>
<td>14. Kurúlo</td>
<td>20'01</td>
<td>12,805</td>
<td>5,771</td>
</tr>
<tr>
<td>15. Lembái</td>
<td>89'97</td>
<td>57,580</td>
<td>26,772</td>
</tr>
<tr>
<td>16. Máulad</td>
<td>16'86</td>
<td>10,794</td>
<td>7,914</td>
</tr>
<tr>
<td>17. Mánikpatná</td>
<td>21'19</td>
<td>13,563</td>
<td>10,549</td>
</tr>
<tr>
<td>18. Miřchpuru</td>
<td>53'10</td>
<td>33,983</td>
<td>26,943</td>
</tr>
<tr>
<td>19. Mátkadpatná</td>
<td>10'80</td>
<td>6,914</td>
<td>4,712</td>
</tr>
<tr>
<td>20. Oldhár</td>
<td>41'14</td>
<td>26,330</td>
<td>24,455</td>
</tr>
<tr>
<td>21. Pánchgarh</td>
<td>42'57</td>
<td>27,312</td>
<td>12,888</td>
</tr>
<tr>
<td>22. Párkud</td>
<td>69'94</td>
<td>44,764</td>
<td>26,204</td>
</tr>
<tr>
<td>23. Paschim-duáí</td>
<td>25'92</td>
<td>16,589</td>
<td>10,976</td>
</tr>
<tr>
<td>24. Púrbdúáí</td>
<td>32'50</td>
<td>20,802</td>
<td>16,518</td>
</tr>
<tr>
<td>25. Ráháng</td>
<td>149'49</td>
<td>95,678</td>
<td>28,198</td>
</tr>
<tr>
<td>26. Sátpárá</td>
<td>8'14</td>
<td>5,217</td>
<td>211</td>
</tr>
<tr>
<td>27. Siráí</td>
<td>67'67</td>
<td>43,307</td>
<td>19,952</td>
</tr>
<tr>
<td>28. Chilká Lake</td>
<td>344'43</td>
<td>220,436</td>
<td>...</td>
</tr>
</tbody>
</table>
For a detailed account of the Physical Geography and fluvial characteristics of the separate Fiscal Divisions, see Appendices A to G to Superintendent of Embankments' Report, dated 6th June 1858.

Of the present area of the District, after recent transfers, 964 square miles were under cultivation in 1840, 54 cultivable, but not cultivated, and 1,486 incapable of cultivation, total 2504 square miles. The cultivated area is now given at 741,197 acres, or 1158 square miles. This return, with the following classification of lands based upon it, is taken from an official report, but must be accepted rather as a piece of intelligent guess work, than as trustworthy statistics. Of the 741,197 acres under tillage,—243,230 are enjoyed by the landholders as Jâgîr, and pay no revenue to Government; 462,935 pay rent to Government as actually under crops; and 35,032 lie fallow. There are, therefore, according to this estimate, only 462,935 acres of cultivated land that actually pay rent to Government. As each acre would have to 'yield nearly a rupee of Government rent to make up the total actual land revenue of the District, I am inclined to think that the total return of tillage (741,197 acres) is below the mark, and that 800,000 acres would be nearer it. No trustworthy information exists as to the acreage under cotton and other crops, but it is believed, that of the 462,935 acres under cultivation, 446,014 are under rice; 5267 under cotton; 6029 under pulses; and 5625 under tobacco, sugar-cane, and miscellaneous crops. The total crop of rice is estimated at about five millions of hundredweights; the cotton at about 21,000 cwts.; and the pulse at about 25,000 cwts. It is estimated that about 60,000 cwts. of rice are annually exported; one-third by sea, and two-thirds by land and the Chilká. The above figures must be received with great caution, but they are the best I have to offer.

The Revenue Settlement, which practically still continues in force, is that of 1837. It was intended to hold good for thirty years only; and in 1866 an agitation took place with a view to extending the Permanent Settlement to Orissa. But the state of exhaustion in which the famine of that year left the province, precluded the possibility of doing so, and would have rendered the minute investigations necessary for a re-settlement, very distressing to the people. During the early part of 1867, much correspondence passed between the local authorities and the Governments of Bengal and of India on the subject. It was decided that the people should be spared all interference in their then reduced circumstances, and the ruling power made up its mind to renew the settlement at the low rates of 1837. The Government of India, in its letter, No. 2405, dated 22d January 1867, proposed to extend the previous settlement for twenty years. But afterwards it
was resolved to grant a thirty years' extension, without any enhance­
ment of the rents (Act x. of 1867). The settlement of 1837 expired in
September 1867, and the current one will, therefore, run to 1897. On
the most moderate computation, the existing land revenue might have
been raised by five per cent, or in round numbers, £2500 a year.
Irrespective of interest, therefore, the famine of 1866 has cost £75,000,
under the single item of non-enhancement of the rates, in Purí District
alone.

MEDICAL ASPECTS OF PURI.—Average rainfall, 66.25; average
temperature, 87.3. The prevailing diseases are Malarial fever, in all
its varieties; Elephantiasis, chiefly of the lower extremities and
scrotum; Dysentery and Cholera; Fevers, quotidian, tertian, and
quartan, are common throughout the whole District; nor, indeed, can
they be otherwise, when the mode of life among the people is con­
sidered. Many villages stand in the midst of marshes. Square miles
of land lie under water during the rains; and the floods sometimes
swamp the whole District. The drinking water, especially in the hot
season, is charged with organic impurities, and holds in suspension a
large quantity of insoluble sediment. The bathing water is generally a
fetid tank. The meagre diet of the people does not enable them to
resist the malaria which they breathe. Fatty food is wholly wanting;
oil is very sparingly used; and the Civil Surgeon reports that salt is not
consumed in sufficient quantities for the requirements of the human
frame. Enlargements of the spleen and malarial cachexia follow such
fevers, and the withered body, puffy face, and inability to support any
strain, physical or mental, bear witness to the generally feeble tone of
the inhabitants, and their powerlessness to throw off complaints. Ele­
phantiasis is the most conspicuous endemic. It afflicts men and women
alike, and does not spare even children. It is most prevalent in the
town of Purí and its environs. In many cases it is associated with a
continued fever of three days' duration, attended with inflammation of
the lymphatics, and the lymphatic glands of the affected extremity.
So far as the Civil Surgeon has observed, there is no relation be­
tween the fever associated with Elephantiasis and ordinary intermittent fever.
The local affection often precedes the constitutional disturbance, and
the recurrence of the fever is irregular, sometimes once, and sometimes
twice a month. After each attack, the extremity enlarges by gradual
increments. Dysentery chiefly occurs at the beginning and at the end
of the rains. It arises from exposure, from insufficient clothing, from
bad food, from impure water, and from similar causes, operating on
subjects predisposed by malarial dyscrasia. Cholera may be added
to the list of endemics, as there is scarcely a month 'in which it is
wholly wanting. Puri City is a hot-bed of the disease. It only requires the annually recurring conditions of over-crowding, of filth, of great heat, of dampness, and sudden atmospheric changes, to turn the pilgrim city into a pest-house. But cholera is best considered as an epidemic occurring in February or March, and again in June or July, at the Dol-Jatra and the Car Festival. Sometimes it attacks all classes; but the destitute, ill-fed, ill-housed pilgrims generally supply the great proportion of the victims. The richer inhabitants suffer little. Its chief force is concentrated on the town, from whence, however, it often spreads into the District, especially in the villages along the pilgrim high road. It attains its maximum intensity at the Car Festival rather than at the Dol-Jatra. Last season the mortality from cholera was ascertained to be 1089, from January to July. The reported cases, however, probably represent but a small proportion of the actual deaths. The only other epidemic of importance is the small-pox, which generally makes its appearance in January, February, or March. It has, however, committed any serious ravages since the famine year, 1866-67. The natives persist in resorting to inoculation, and the epidemic has several times been traced to the practice. They look on vaccination with suspicion, and sparingly adopt it. Until compulsory vaccination is introduced, or at any rate, until inoculation is rendered a punishable offence, there is no hope of small-pox being stamped out in the District. Measles and a modified form of small-pox prevailed in Puri City in November and December 1868, but occasioned very little mortality. Epidemic fevers are unknown in the District. Epizootics, in two forms, occurred in 1867-68. Guti, or cattle small-pox, appears in its most formidable shape. Phatuá, or hoof disease, is equally infectious, but less fatal. The first kills in a few days, and from 50 to 80 per cent. of the cattle attacked die. The rate of mortality sometimes rises to 90 per cent. Phatuá is simply a chronic foot-rot, and wears out the animal by pain and exhaustion. It is often communicated to the mouth by licking, rendering mastication impossible. For further particulars, vide Stat. Account of Balasor.

Fairs and Religious Gatherings are the great predisposing causes of epidemics. This subject has been fully treated of in my general Account of Orissa. The Car Festival annually slays its thousands. It occurs at the most unfavourable and inclement season of the year. Before its close the rains are pretty well advanced, the roads are cut up, the rivers are full, the roadside lodging-houses are close and steamy, and often the sole shelter for the travellers is under trees dripping with rain, and charged with malarial influences. The
Dol-Játrá in the spring time does less damage. The Panchak Festival in October or November often ends in a sharp epidemic of cholera. The whole religious character of the District centres in Purí City, and the local rural gatherings are unimportant. So far as I can learn, epidemics have never been traced to them.

**INDIGENOUS MEDICINES.**—The following are the principal vegetable drugs in the district:—Pitá-kro, the bark of Wrightia Antidsen-terica; Indrajab, seed of ditto; Bel, fruit of Ógle Marmelos; Sunt, the root of the Zingiberis officinalis; Pánmauri, Aniseed; Sof, Anethum; Muthá, the tuber of the Cyperus pertenuis; Benácher, the root of the Andropagan Muriaticum; Dhaniá, Coriandrum Sativum; Methi, Fenugreek; Amlá, Emblica officinalis; Bans-lochan, Tabasheer; Khayer, Catechu; Dhuná, resin; Kuchlá, Nux Vomica; Chindi-nái, in Bengali Ananta-múl, Hemidesmus; Dálim, pomegranate. Mineral drugs are not so frequently used as vegetables. Rasakarpur, the mixed oxide, and Shingraf, the red oxide of Mercury, are given in pills, and occasionally smoked in a tobacco-pipe. Litharge is made up into an ointment. Gold is a great favourite in the pharmacopoeia of the Uriyá practitioners as a stimulant, mixed with musk. The native system of treatment consists chiefly in administering specifics against bile, heat, and excessive humours.

**SUBDIVISION OF KHURDHA.**—For administrative purposes the north-west part of Purí is placed under a separate officer, subject to the Collector of the District. The subdivision is bounded on the south-east by the Chilká Lake; on the east by the Dayá River, which, roughly speaking, separates it from Purí District; on the north-east and north by the Cattack District; on the north-west, west, and southwest by the Tributary States of Bánki, Khandpárá, Ranpur, South Ghumnsar, Athgarh, and Ganjám District. Khurdá was the hereditary seat of the last of the Orissa dynasties, and the royal house retained much of its independence until its rebellion against the British Government in 1817. In 1818 Khurdá became the headquarters of the English District, and continued so till about 1828. It is now (1870) under an Assistant-Magistrate. In 1836 it is described by Mr. Wilkinson as extending from within six miles of Cattack to the pass of Chhatra-garth, seventy-six miles in length, by from five to twenty in breadth. The Police return the total number of houses at 45,827; which, allowing an average of five persons to each, would give a population of 229,135.

Along the Dayá River the country is flat and alluvial. But with this exception Khurdá is covered with long ranges rising to over 1000 feet high. They run an irregular course from north-east to south-west,
breaking up the country into small valleys intersected by petty streams, and well cultivated. The villages are situated on the higher lands, and belted round by picturesque groves of trees. The hills have mostly been stripped of their wood, and bear nothing but a mean scrub. But towards the south, where the ranges run down to the Chilká, they are covered with bamboo and dense jungle. The scenery in some parts where the hills rise, range after range, towards Central India is very beautiful.

The most conspicuous mountains in Khurdhá are the Solári, in Bánpur; the Bhelári, on the south-west boundary; Baithá and Barufi, one mile to the south-west of Khurdhá Town. None of them exceed 1800 feet. They are inaccessible to wheeled conveyances, and can with difficulty be ascended by cattle. Solári is a group of peaks rising one above another from the flat land near the Chilká. The other three are saddle-backed mountains rising into bare, and often inaccessible, precipices. The natural caves in the Barufi and Solári Hills have been hermitages and places of pilgrimages from time immemorial. That on the Barufi has a few inscriptions. A splendid tank, the work of prehistoric builders, stands on the Solári Hill. Khurdhá has no navigable rivers, and all are fordable except on occasions of flood. Fifty-five cases of drowning were brought to the notice of the police in 1869.

There are no towns in Khurdhá exclusively occupied by fishermen, though all round the shores of the Chilká fishing forms the principal occupation, and it is estimated that on the west side of the lake some 5000 or 6000 persons live by it. A natural watershed crosses Khurdhá, and separates the Chilká from the Mahánadí Valley. In the western part of the subdivision the waters run into the Mahánadí, by means of its tributary, the Kusumá. The north of the subdivision is drained by the Rann and other small streams. In the east and south the waters find their way into the Chilká Lake.

Good building materials abound. A very cellular laterite is easy to quarry, and hardens by exposure. A coarse kind of freestone, veined with spar, is also common; and in many places lime underlies the laterite. At Garh Atir there is a hot-spring, the waters of which are impregnated with sulphur, in the middle of a highly cultivated valley, where a large fair is held in January, lasting for eight or ten days, and attended by merchants from all parts of the country. There is a small picturesque pass at Sinheswar, on the Ganjám road, and another at Kurárhmaí, about five miles south of the subdivisional town; but the destruction of the bamboos and large trees has greatly spoilt their beauty. The jungle still covers a large part of Khurdhá. Here and there small patches are brought under cultivation, and are
FISCAL DIVISIONS AND TOWNS IN KHURDHA.

assessed at from 7d. to 9d. an acre. With this exception, no revenue is derived from the forests. The timber and bamboos are wastefully destroyed. Trees, such as Sál, Písrád, and Sisu, would grow to a large size, and prove of great value, were they not ignorantly cut down.

The wild animals and game found in the subdivision are the same as those in Purí District. The deaths from snake bites reported during the year 1869-70 amounted to thirty-three; from wild beasts, seven. Quantities of wild beast skins are collected from the Khurdhá hunters by traders belonging to other districts. There is a large flesh-eating population, which mainly depends upon its guns for food.

For administrative purposes Khurdhá is divided into three police stations, namely,—(1) Khurdhá, comprising the station itself and eight outposts. It contains 641 villages and 33,374 houses. (2) Tángi, comprising the station and two outposts. It contains 5511 houses. (3) Bánpur, comprising the station and five outposts. It contains 6942 houses.

Fiscally, the subdivision consists of two great Government estates (Khás Mahálí), namely, Khurdhá and Pánchgarh. The former, Khurdhá, comprises the following Fiscal Divisions, called Kílas, or forts:—(1) Khurdhá; (2) Dândimád; (3) Tapang; (4) Kus-pálá; (5) Kuhuri; (6) Hálidi; (7) Balabhadrapur; (8) Mánikgorá; (9) Bánpur; and (10) Mughabhandi. The first or Das-Sálá settlement for this estate was made in 1819 for £5240. The present assessment is for £17,760, and is current till 1880. The revenue of the Pánchgarh estate was settled at £1546 in 1837, and this assessment is still current. In both these estates the settlement is made direct with the cultivators. The following towns in the subdivisions are estimated to contain over 2000 inhabitants,—Bánpur, estimated at about 5000; Darutheng, about 3600; Bolgarh, about 2500; and Mánikgorá, about 2000.

The number of rent suits under Act x. of 1859 was 236 in 1866-67, and 389 in 1868-69. The number of miscellaneous applications in the same years were 257 and 431 respectively.
APPENDIX II.

STATISTICAL ACCOUNT OF THE
DISTRICT OF BALASOR.

BALASOR, a corrupted form of Baleswara, the Young Lord (Krishna), is bounded on the north by the District of Midnapur; on the south by the Baitaran River; on the west by the Tributary States of Keunjhar, Nlgliri, and Morbhanj; and on the east by the Bay of Bengal, which here curves up from the mouth of the Brâhmanâ River, to the Subanrekhâ. It lies in the 20th and 21st degrees of north latitude, and in the 86th and 87th degrees of east longitude. Its area, after recent transfers, is 2041 square miles, and its population 485,113 souls.

The jurisdiction of Balasor has undergone many changes. Captain Morgan, the first British officer of the District in 1804, exercised authority between the sea and the hill states, as at present; but all the Fiscal Divisions beyond Nángaleswar and Sátmalang, to the north, were under Midnapur. To the south his limits were ill-defined, and it is uncertain whether Bhadrakh was within his jurisdiction. At that time the country was so unsettled, that large discretion had to be allowed to the officers. For example, the Kaniká Râjá frequently gave trouble, and was sometimes coerced from the Cattack District, and sometimes from Balasor, as was found most convenient. Mr. R. Ker was appointed, with the title of Collector, in 1804, and exercised jurisdiction as far south as the Brâhmanâ River. From the 18th July 1805 to the 3d August 1821, Balasor was managed from Cattack, and had no separate revenue officer. From 1821 to 1827 a joint magistrate administered the district as the Deputy of the Collector of Cattack. In 1827, Balasor was erected into an independent collectorate under Mr. H. Ricketts; and in 1828, Jáipur and Bhadrakh were attached to it. Jáipur was subsequently transferred to Cattack. On the north, a perplexing series of transfers and re-transfers of fiscal divisions has gone on between Balasor and Midnapur, particularly in 1837, 1858, 1865,
and 1868. Some have been transferred backwards and forwards as many as three times; and the Collector reports that 'constant shifting of jurisdiction has made these fiscal divisions very lawless and difficult to manage.'

**General Description of District.**—Balasor District is simply a strip of alluvial land between the hills and the sea, varying from about nine to thirty-four miles in breadth. Generally speaking, the hill country rises from the western boundary line. The district naturally divides itself into three well-defined tracts: (1) the Salt Tract along the coast; (2) the Arable Tract, or rice country; and (3) the Submontane Tract, or jungle lands. The Salt Tract runs the whole way down the coast, and forms a desolate strip a few miles broad. Towards the beach it rises into sandy ridges, from fifty to eighty feet high, sloping inland, and covered with a vegetation of low scrub jungle, seldom or never rising above the height of a man. Sluggish brackish streams creep along between banks of fetid black mud. The sandhills on the verge of the ocean are carpeted with the fleshy leaves of creepers and the wild convolvulus which the antelope loves. Inland it spreads out into prairies of coarse long grass and scrub jungle, which harbour wild animals in great plenty; but throughout this vast region there is scarcely a hamlet, and only a patch of rice cultivation at long intervals. From any part of the Salt Tract one may see the boundary of the inner arable part of the district, fringed with long lines of trees, from which every morning the villagers drive their herds of cattle out into the saliferous plains to graze. The Salt Tract is purely alluvial, and appears to be of recent date. Towards the coast the soil has a distinctly saline taste. Solar salt-making has been minutely described in my chapter on the Chikâ Lake. In Balasor artificial evaporation is preferred, and the process is as follows: At the beginning of December, the contractor selects his locality, about a quarter to half a mile from the sea, and engages a class of men called *chuliya*, or heads of salt gangs. These men receive one shilling a hundredweight for whatever amount of salt they turn out. They, in their turn, engage working parties of *malangis*, who are paid at the rate of 3d. to 5d. a day. The ground is first marked out by a shallow trench, and the grasses and bushes are carefully dug up and removed. A deep ditch is next dug from the sea, by means of which, twice a month, the spring tides overflow the salt field, and fill a number of reservoirs, four feet in diameter, and two or three feet deep. A mound of earth is then piled up to the height of two feet, and from three to four in diameter. It is next hollowed out into the shape of a bowl, plastered inside with clay, and furnished with a hole at the bottom, covered with a layer of grass six inches thick. The salt-
THE ARABLE AND SUBMONTANE TRACTS.

makers fill this bowl with saline earth, scraped off the adjacent land, and pour the sea-water on it from the top. By the end of six hours the water has drained through into a pit at the bottom, and runs down a thatched trench towards a reservoir, whence it is transferred to the evaporators. The latter consist of a hundred and sixty to two hundred little unglazed earthenware pots, fastened together by stiff tenacious mud, and holding two quarts each. The neighbouring plains supply grasses for the fuel. Six hours' boiling completes the process. The brine, which consisted, in the first place, of sea-water charged to its maximum power of solution by percolating through the bowls of salt earth, subsides into dirty crystals at the bottom of the pots. It is then ladled out in spoons made of half cocoa nuts. The whole process is as rude and careless as can well be imagined. The total cost of manufacture is estimated at 2s. 1d. a hundredweight, which, with the Government duty of 8s. 8d., makes a total cost of 10s. 9d. From chapter ii. of my Orissa it will be found that the cost of salt-making by solar evaporation in Purī District, amounts to only 8d. a hundredweight.

THE ARABLE TRACT lies beyond the salt lands, and embraces the chief part of the district. It is a long dead level of rice fields, with a soil lighter in colour than that of Bengal or Behar; much more friable, and apt to split up into small cubes with a rectangular cleavage. Where water has lain long on fallow lands, the surface throws up curious little mounds, which are speedily covered with grass, and look like a number of men's heads protruding from the earth. Another feature of the Arable Tract is the Pātt, literally the Cups, or depressed lands near the river banks. They were probably marshes that have partially silted up by the yearly overflow of the streams. These Cup-lands bear the finest crops. As a whole, the Arable Tract is a treeless region, except around the villages, which are encircled by fine mango, pipal, banyan, and tamarind trees, and intersected with green shady lanes of bamboo. A few palmyras, date palms, and screw pines (a sort of aloe whose leaves are armed with formidable triple rows of hook-shaped thorns) dot the expanse, or run in straight lines between the fields.

THE SUBMONTANE TRACT is an undulating country with a red soil, much broken up into ravines along the foot of the hills. Masses of laterite, buried in hard ferruginous clay, crop up as rocks or slabs. At Kopātī, in Kila Ambohata, about two square miles are almost paved with such slabs, dark red in colour, perfectly flat, and polished like plates of iron. A thousand mountain torrents have scooped out for themselves picturesque ravines clothed with an ever fresh verdure of prickly thorns, stunted gnarled shrubs, and here and there a noble...
forest tree. Large tracts are covered with Sal jungle, which nowhere, however, attains to any great height.

WATER SUPPLY.—Balasor District is watered by six distinct river systems. (1.) The Subanrehá, properly written Suvarna-rekha, the Streak of Gold, enters the district in the Fiscal Division of Fathabád, and forms the boundary between Balasor and Midnapur, flowing in a tortuous southern course, with gigantic bends from east to west, till it reaches the sea in lat. 21° 35' north, and long. 87° 23' east. It is navigable by country craft as high as Kálikápur, about sixteen miles from the mouth, to which point the tide also runs. Rice boats of two tons burden can make their way up to the end of the Balasor District, and during the rains, far into Morbhanj. The river banks are, as in most delta rivers, high and steep on the outer curve of the bends, against which the water cuts, and flat and sandy on the inner. The stream nowhere expands into lakes. It has no tributaries within the district, and although studded by islands, as old as our oldest maps, has long ceased any operations of diluvion or alluvion on a large scale. The country around the banks is cultivated within a few miles of the sea, where it becomes jungly. The Subanrehá is nowhere fordable within Balasor District during the rainy months. (2.) The intermediate country, on the south of the Subanrehá and the north of the Burábalang, forms a great line of drainage down from Morbhanj. It is watered by a number of small streams, of which the principal are the Jamira, Bán, and Bhairingf. They unite, bifurcate, and re-unite in the wildest confusion, and at length enter the sea, as the Pánchpárá, in lat. 21° 31' north, and long. 87° 10' east. The tide runs up only ten miles, and although their interlacings constantly spread out into shallow swamps, yet one of them, the Bán, is deep enough at certain parts of its course for boats of four tons burden all the year round. (3.) South of this network of rivers is the Burábalang, literally the Old Twister. It rises among the Morbhanj Hills in lat. 21° 24', and long. 86° 36', and after receiving two small tributaries, the Gangáhar and Suná, wriggles into the sea in lat. 21° 28', and long. 87° 5'. The tide runs up twenty-three miles. In the upper parts of its course the banks are sandy, steep, and cultivated; in the lower part they are of firm mud, covered to high-water mark with black slime, and surrounded by jungle or open grassy plains. Brigs, sloops, and sea-going steamers can navigate as far as the town of Balasor, about sixteen miles up its twisting course, but the sand-bar across the mouth of the river renders the entrance difficult. (4.) On the south of the Burábalang, a network of rivers known as the Jámká, find their way down the line of drainage from the Nílgiri Hills, and enter the sea by many channels along the
coast of Dasmalang Fiscal Division. There is little or no navigation,
as their mouths are very difficult to enter, nor are there any towns
with a maritime traffic on their banks. (5.) The Kánsbáns, originally
Kainsbáns, so called from the jungle of kains-grass and bamboos amid
which it rises in Kila Ambohatá. It runs in a south-easterly direction,
at first almost parallel with the Nílgiri Hills, and receives from them a
number of nameless drainage streams on its northern bank. At Bír-
párá it bifurcates, the northern branch retaining its original name, and
entering the sea in lat. 21° 12' 25'', long. 86° 52' 10''. The southern
branch receives the name of Gammai, and falls into the sea six miles
south of the Kánsbáns. This river is navigable only a few miles up,
but it is celebrated for its sudden floods and the vast extent of country
which it submerges in the rainy season. (6.) The Baitarani, identified
by the Bráhmans as the Styx of Hindu mythology, but possibly a cor-
ruption of Avitaraní, meaning difficult to cross, enters the district at the
village Balipur, and flows for about forty-five miles in a south-westerly
direction till it joins the Dhamra, five miles from its mouth. The
united stream enters the sea, under the name of the Dhamra, in lat.
20° 47', long. 87°. The Dhamra is a fine navigable stream, but, like
all the Orissa rivers, it is rendered perilous by a bar across its mouth.
The Baitaraní forms the boundary between Balasor and Cattack. It is
nowhere fordable during the rains, but everywhere fordable in the dry
weather above Olokh, about fifteen miles from its mouth. At Olokh it
cesses to be navigable, and the tide does not run above this place. It
receives two fine tributaries on its Balasor side, the Sálándi and the
Matal. The former, properly called Sánlándí, takes its name from the
Sál forests which it traverses. It rises on the southern slope of the
Meghásaní mountain, literally the Seat of Clouds, in Morbhánj, and
throughout its upper course is a black-water river with high banks and
a bottom of muddy sand. In January it scarcely anywhere exceeds
three feet deep. Luxuriant vegetation clothes its banks, which at times
rise almost to the dignity of cliffs, and for miles the river runs through
one continuous grove of mangoes, palms, and bamboos. It forms no
islands or lakes, and has no tide, but it is navigable for country boats
as high as six miles from its junction with the Baitaraní. Its lower
course bifurcates into a network of streams which are interlaced with
those of the Matal. The Matal brings down the drainage of the
country between the Kánsbáns and the Sálándí, and after a tortuous
course over a muddy bed, and between densely wooded banks, enters
the Dhamra River near its mouth. A canal, the only old one in Balasor
District, unites the Matal with the Gammai; but an embankment has
been built right across its mouth, and it has ceased to be used for
traffic. The average loss of life by drowning, reported by the police during the last five years, amounts to seventy per annum, which is, however, much below the real figure.

USES TO WHICH THE WATER IS PUT.—Notwithstanding the abundant water supply, there is no great river traffic in Balasor. What little sea-going trade exists is carried on by natives of the Madras coast, and Musalmáns from Calcutta and Eastern Bengal. Non-navigable rivers are nowhere used as a motive power, nor are they anywhere applied to irrigation, except on a very small scale along the Sálandí for patches of tobacco, and vegetable gardens near villages. Nor are there any fishing towns or villages properly so called. The Kaibartta and Gokhá castes fish in rivers, tanks, or ditches all over the district. No statistics exist on this head; but a well-informed native official estimates the value of the fish at £1500 a year. This is probably below the mark; but only the lowest classes engage in the pursuit. The bed of the Sálandí is utilized to a small extent for reed plantations; and the long-stemmed rice, called ráband, is successfully grown in seven or eight feet of water in the hollow cup-lands (páts).

EMBANKMENTS cover the district in every direction. The largest series of them extends for about fifteen miles through the Fiscal Division of Ankura, with a view to keeping out the sea. It was built right across the canal formerly mentioned, to prevent the tides from forcing their way into that channel, as they did great damage to the crops on either side. Although valuable as a defence against the ocean, this embankment intercepts the natural drainage from the land; and when the Gámma and the Kánsbás come down in flood, it has to be pierced in order to let the water through. In general, the embankments are intended to protect the country from the rivers during the rains. With what success will be found in my chapter on the calamities of Orissa, and in a subsequent part of this Statistical Account.

NATURAL PRODUCTS.—Laterite is used for building, and the honey-combed variety was largely employed in former times for temples. All ancient statues and idols are carved in chlorite, obtained from the hills on the western boundary of the district. There are no forests nor jungle products in Balasor, nor any wide pasture lands.

WILD ANIMALS.—The wild elephant, very rare; tiger, rare; wild buffalo, common; black bear, chiefly in north of the district; leopard, hyena, elk, blue cow (nú-gáí), spotted-deer, antelope, hog-deer, mouse-deer, wild dog, wild cat, civet cat, and hare. Among birds, the peacock, jungle-fowl, black partridge, red partridge, quails of two sorts, snipe, golden plover, wild ducks, and wild geese. Among fresh-water fish, the following twenty-three varieties are worthy of notice: Mauráll,
IMMIGRANT RACES—CASTES.

37

karandí, gorí, chenga, saul, mágora, singí, bálíá, chingrí, khasmerá, rohi, bhakurá, phelí, merkállí, kantýá, kau, mirgá, bámTORí, bárTorí, kharáTorí, khayará, kálbánsí, and pahará. Sea-water fish swarm up the rivers, and form an important article of food. The following nineteen varieties of salt-water fish are caught in the estuaries of Balasor District: Ilsa (hilsa), rupápatía, páparí, sílá, masálá, aliáí, koáí, gojí-karma, tááí, bhekí, tayáí, phirkí, bahdí, gochírá, sásútangkákí, láhámá, makundí, gangotará, and rándolá.

POPULATION.—A rough census was taken in 1840 for the Survey Officers. It gave a population of 651,003. In 1865 it was returned at 732,279. After the famine of 1866, the surviving population was estimated at 485,113, assuming at the rate of 5.06 persons per house. No subsequent effort has been made at a general census. The town population will be given in a later page.

IMMIGRANT RACES.—The population practically consists of the same races as in Purú District, except that the Bengali element is stronger, the Musalmán more respectable, and the Telingá much less numerous. There are only two Telingá landholders in the district,—petty proprietors, whose aggregate Government rental does not exceed £80 a year, but who are rich in merchandise. On the other hand, by far the larger proprietors are wealthy Bengali gentlemen, whose families have for some time been settled in Orissa, but who live in or frequently visit Calcutta. The Musalmáns hold ninety-three small estates, and pay a total land revenue of £1584 a year. In short, Balasor District approaches near to Bengal, both in its geographical position and its population. The descendants of the Marhattás are few in number, and scarcely distinguishable from the native population, except by their race name of Bargís.

EMIGRATION.—In 1865, 325 labourers were registered as emigrants from Balasor to Assam. In 1869 there were only 62. Great numbers of the Gaur caste, corresponding to the Hindi gwálá or cow-herd, go to Calcutta as palankee-n-bearers, punkah-pullers, and domestic servants. But they never take their families with them, and always return to spend their savings at home.

CASTES.—The Bráhmans hold an unusually important position in Balasor. Their first-settlement is conjectured with some reason to have been about 500 A.D., when, according to the legend, a pious monarch of Orissa imported 10,000 Bráhmans from Kanouj. It is the old story which is everywhere current throughout Lower Bengal. The ancient Orissa Bráhmans are said to have lost their caste, and the new colony from the north settled in Jáipur, literally the City of Sacrifice, then the capital of the province, and still an important town, recently transferred
They are subdivided into two great branches (srenis) — the Puri, or southern branch, and the Jajpur, or northern branch. The origin of the southern branch, as stated in the Statistical Account of Puri District, is ascribed to the 450 Brāhman colonies which Rājā Anang Bhīm Deo founded in Puri between 1175 and 1202 A.D. From about that date the existence of the two distinct classes is an historical fact, but they are separated by no hard and fast geographical line, and are now found side by side all over Orissa. They both claim descent from the pure Vaidik Brāhmans, and are classified according to the particular Veda which they profess to study. Each class is divided into Septs (gotras); for a full list of which in ancient times, forty-nine in number, see Max Müller’s History of Sanskrit Literature, pp. 380–385, ed. 1859. Each sept is subdivided into families distinguished by surnames (upādhīs). The southern, or Puri branch, is divided into three classes, the Rig-veda, the Yajur-veda, and the Sāma-veda. Of the Rig-veda class, the most important sept is the Basishtha, which is subdivided into two families, the Sharangī and the Mahāpātra. The Yajur-veda is divided into the Bharadwāj Sept, including the Sharangī, Misra, and Nanda families; the Atreya Sept with the great Rath family; the Haritasa Sept with the Mahāpātra and Dās families; the Kauchhasa and Ghritakaisik Septs with the Dās family; the Mudgala-Sext with the Satpathī family; the Bātasa Sept with the Satpathī, Dās, and Achārīya families; Kātyāyan Sept with the Misra and Sharangī families; and the Kapinjala Sept with the Dās family. The Sāma-veda class is divided into the Kāsyapa Sept, including the Nanda family; the Dharagautama Sept with the Tripāthī family; the Gautama Sept with the Udgātā or Uṭa family; the Parāsar Sept with the Dībedī or Dubāf family; and the Kaundinya Sept with the Tripāthī or Tihārī family. The northern, or Jajpur branch of Brāhmans, is also divided into three classes,—the Rig-veda, Yajur-veda, and Atharva-veda. The Jajpur Rig-veda Brāhmans do not subdivide into well-marked septs. The Yajur-veda class is divided into the Kātyāyana Sept, including the Pandā family; the Sāndilya and Krishnātreya Septs with the Pandā and Dās families; the Bhārdwāj Sept with the Pandā family; the Barshagana and Kaphal Septs with the Misra family; and the Gautama Sept with the Kar family. Of the Atharva-veda class the only sept is the Angrāra, including the Upādhyāya and Pandā families. The southern branch is the more esteemed, probably from its close connection with Jagannāth, although teaching is considered a more honourable vocation for a Brāhman than service in the temple. They all profess to spend their lives in performing their strict caste duties, and do not engage in business, except as men of letters, as Government officials, and in the higher branches of land
THE KARANS.

Many of them, especially the heads of Sásans, or Bráhman villages, assume the title of Pánigráhil (handholder). Besides the Vaidik, or high Bráhmans, there is also a large class of Laukik, or worldly Bráhmans, who engage in business, and are less esteemed. They bear the sept names of Balrám-gotrá, Mastánt, and Paniyárl, and are as numerous as the sacerdotal class. They are simply peasants, and cultivate nearly the whole of the Múlgáon Fiscal Division, with a large part of many others. I spell the names according to the local orthography, and the subdivisions of the Bráhmans well illustrate my remarks on the Classifications of Castes in the Statistical Account of Purl.

The so-called Kshattriyas of Orissa have already been discussed in that Account. Practically, the Karans rank next to the Bráhmans. They correspond to the position of the Vaisya in the ancient system of castes, but as regards their occupation and habits they are simply the Orissa counterpart of the Káyasths, or writer caste, in Bengal. They do not, however, intermarry with the latter, nor eat with them, but they have, as a rule, no objection to drinking water offered by a Káyasth to them. Mr. Beames, the Collector of Balasor, has noticed a similar peculiarity in certain of the castes of Behar. The Bhuinhardt may eat with a Rájput only such food as is usually consumed on a journey or in a hurry. For example, parched rice or peas. Such customs seem to indicate that though the classes in question may not eat together when at leisure to attend to the rules of caste, yet, that owing to their close relationship, these rules may be relaxed on an emergency, as on a journey, or in war. Even the parched grain, however, should not be placed in a brass vessel, or in any of the dishes of regular life, but must be eaten out of the hand or on a leaf. The principal divisions of the Orissa Karans are the Krishnatreyas, the Sankhyáyanas, the Bharadwájs, and the Nágas. These families all bear the surnames of Dás or Mábánti; but those whose ancestors were the principal officers of the native Rájás, enjoy the title of Patnáik, or Chief Reader. The Rájá of the Tributary State of Athgarh is said to be the head of the Karans in Orissa.

The next caste in rank and importance is the Khandáit, properly spelt Khandáyat, literally the Swordsman, from the Uriya, Khandá—a sword. Although a numerous and well-defined body, the Khandáits do not appear to be really a distinct caste. The ancient Rájás of Orissa kept up large armies, and partitioned the lands on strictly military tenures. These armies consisted of various castes and races, the upper ranks being officered by men of good Aryan descent, while the lower ones were recruited from the low castes alike of the hills and the
plains. On the establishment of a well-defined caste system, such troops took their caste from their occupation, and correspond to the military class in the fourfold division in Northern India. But with this difference, that in Northern India the military class consists of an ethnical entity, whereas in Orissa the Khandáits exhibit every variety of type, from the high Aryan of good social position to the semi-aboriginal mongrel taken from the dregs of the people. They have their septs (gotras) like the other castes, named after the ancient Rishis of Northern India, but these distinctions are modern, and they are really divided into Uriyās and Chásás. The former is the title of those who live in, or came from, districts where the population is not exclusively Uriyá, such as the hill country or the adjoining district of Midnapur. Chásá is the ordinary designation of the native Khandáits in Orissa, where it would be no distinction to call a man an Uriyá.

The lower classes may be arranged in thirty-nine divisions. Among them the following seventeen are accounted respectable and well-to-do in Balasor:—(1) Bhát, bards and genealogists; (2) Tántl, weavers; (3) Támbool, betel-nut sellers; (4) Guriyá, sugar sellers; (5) Chásá, peasants who also call themselves Khandáits; (6) Kamár, blacksmiths; (7) Baniyá, merchants; (8) Máli, gardeners; (9) Dágrá, runners; (10) Gwálá, or Gaur, originally cow-herds, now divided into two classes, the Chálisghariá, who do not carry pálkis, and rank slightly above other gwálás, and the Kándhiá, who are pálki-bearers; (11) Barjá, pán growers; (12) Bhandári, barbers; (13) Thatári, braziers; (14) Golá, peasants; (15) Ráju, peasants; (16) Darzí, tailors; and (17) Kápariyá, cloth sellers.

The following twelve rank much lower, but are not wholly beyond the pale of respectability:—(1) Rárhí, purchasers of grain; (2) Tellí, oil sellers; (3) Kánchrá, bell-metal workers; (4) Súri, spirit distillers and shopkeepers; (5) Keut, fishermen; (6) Dhobí, washermen and wood-cutters; (7) Barhái, carpenters; (8) Sankhári, makers of shell bracelets; (9) Nahari, makers of lac bracelets; (10) Kumbhár, potters; (11) Gokhá, fishermen; and (12) Khaddál, greengrocers.

The following ten are considered utterly impure:—(1) Kándrá, employed in menial avocations; (2) Pán, ditto; (3) Bhuí, palankeen-bearers, coolies, etc.; (4) Dom, matmakers, thieves, etc.; (5) Ghusariyá, swine-herds; (6) Kelá, bird-catchers, beggars, thieves, etc.; (7) Chamár. This caste is divided into two classes, the Siyál or Sial, who make fans from the leaves of the palmyra tree, and sell the fermented date-juice, and the Mochí, who work in feather, and are of a lower grade in the caste than the Sial. (8) Tulábhiná, cotton carders; (9) Chhukár, the men being panders, and the women prostitutes; and (10) Mihtar, sweepers.
REMEMBER SECTS.

It is curious to note that the astrologers (Náyaks), although they wear the Bráhmanical thread, are held in great contempt, and reckoned so impure, that when they enter a house, the mats are taken up before they may sit down.

Religious Division of the People.—About eighty-five per cent. of the population are Hindus. There are no Jains or Buddhists. As already stated, the Musalmáns are a more important body in Balasor than in the southern districts of Orissa; but the Collector reports Islám to be on the decline. The Pániyábhandhá, one of the Hindu low castes, have been converted to Muhammadanism; but the creed now makes no converts, and has hard work to hold its own, nor is it actively fanatical as in Eastern Bengal. There are no Wáhábí or Fárázs. The original Musalmán invaders have left few traces, and the Orissa Muhammadan has little in his personal appearance to distinguish him from the Hindu, except his beard. The Bráhma Sámaj established a congregation in Balasor Town on the 9th October 1869. They are very zealous; and although consisting at first of only four members, had increased to nineteen in six months. Only seven, however, are natives of the province. The rest are Bengalis in Government service; and the strong attachment of the Hindus to their ancient rites, here as elsewhere throughout Orissa, affords small prospect of conversions on a large scale. There are two settlements of Christian missionaries belonging to the Free Will Baptists from Dover, New Hampshire, U.S. The principal one is at Balasor, and counts 154 native converts, whose social status seems to be better than that of native Christians in other districts. Two or three hold respectable positions in the Government service, and the main body of them are industrious mechanics or peasants. They have an important out-station at Sántipur, near Jaleswar, with eighty-five native Christians engaged in agriculture; and an interesting Christian village at Mitrapur, in the Nilgiri Tributary State, consisting of thirty-one persons. They are all small husbandmen, but well-to-do. There are also two promising schools of orphan children, rescued from the famine of 1866, and containing 112 Christian children. The Rev. Father Sapart presides over the Roman Catholic mission in Balasor, of which a brief account will be found in my general Account of the Province. A small house of nuns devotedly aids him in his good work.

Distribution of the People into Town and Country.—For the history of the town of Balasor see my chapter on Orissa under English Rule. It has declined since the Government abandoned the monopoly of the salt trade; and rows of dismal black salt-sloops lie rotting in little channels leading out of the river, which
were once docks. There are probably about 200 of these melancholy memorials of departed prosperity. The town is situated in lat. 21° 28' 45" N., and long. 86° 59' 33" E., on the Burabalong, about eight miles from the coast, as the crow flies, and sixteen by the river. On the bar at the mouth there are twelve to fifteen feet of water at spring-tides, but not more than two or three feet at low-water in the dry season. Large ships have to anchor outside in the open roadstead. The Burabalong River has been described in the section of this Statistical Account which deals with the Water Supply of the District. Horsburgh gives the following directions for making the anchorage:— *Balasor River.*—The entrance is in lat. 21° 28' N., and a little to the eastward of the meridian of Point Palmyras. From the Point, all the low coast is planted with trees, until within two or three miles of the entrance of the river, which on both sides is destitute of them, having a sandy barren aspect; by this it may be known, particularly by the small sand-hills on the N.E. side. When the Nilgiri Hills, situated inland to the westward, are seen, they answer as a good mark for a ship having occasion to proceed to the anchorage. With the extremity of the southernmost, or Long Hill, W. ½ S., the peak of the middle one appearing highest and separated from the others W.N.W., or W. by N. ¾ N.—the smallest to the N.E. bearing N.W. by N.—a ship will have a good berth in five fathoms mud, with the entrance of the river about N. by W., off shore five or six miles. The banks here are very flat, the depths being two and a half and three fathoms about four miles from the land. From the anchorage in five fathoms the peak of the Nilgiri Hills bears W.N.W., distant nineteen miles; and from Balramgari, at the river's entrance, it bears W. ½ N., distant fourteen miles. A boat proceeding for Balasor River should carry a compass, and in crossing the bar, ought to bring the flagstaff at Balramgari, or the Bankshall House, N.N.W.; keeping it on this bearing will lead her to the outer beacons, which are poles placed on each side the entrance of the bar. From hence the channel lies directly towards the S.W. point of the opening of the river, where the passage is marked out by beacons or poles on each side, placed at convenient distances on the extremities of the shoals. At full and change of moon it is high-water about ten o'clock, and the tide rises from twelve to fifteen feet in common springs, but there is not more than two or three feet on the bar at low-water in the dry season; it is, therefore, proper not to attempt to pass over until the last quarter flood, for the sea breaks high upon it during the first quarter flood, particularly during the S.W. monsoon. The rules and limits of Balasor Port will be found in Government Notification, No. 621, dated 30th March 1858, by
which it was declared subject to Act xxii. of 1855. For the trade statistics of the Ports of Balasor District, see the concluding page of this Account.

The Towns in Balasor District are mere collections of hamlets, sometimes clustering into crowded streets and bazaars, but in many places separated by clumps of trees and rice fields. Village life goes on in the heart of Balasor city, just as it does in the remotest homestead. The cows are driven forth in the morning, and come back at night. In harvest time the bullocks tread out the corn, and eager families busy themselves in piling up rice-stacks within sight of the market-place. Nearly every shopkeeper has his little patch of land, to which he clings with all the fondness of a Hindu peasant. The people exhibit no tendency to collect into cities. On the contrary, the towns of Balasor and Soro have certainly declined; and several other towns, such as Bhadrakh and Jaleswar, seem to have been larger in former times than they are now. Only four deserve separate mention, namely—(1) Balasor, properly spelt Baleswara, with a population of 6883 males and 7104 females, total 13,987; (2) Bhadrakh, 3455 males, 4346 females, total 7801, with four persons to each house; (3) Jaleswar, 1712 males, 1745 females, total 3457; and (4) Soro, 1363 males, 1308 females, total 2671.

Material Condition of the People.—Almost the whole population lives by agriculture. A well-to-do husbandman has one or two pairs of bullocks and four or five milch cows. His entire holding is generally under rice, with the exception of a small patch around his house, in which he raises a small crop of cucumbers, gourds, and plantains. The peasantry still bear the marks of the famine of 1866, but the country is fast recovering itself, and the rich harvest of 1869-70 has done much to restore the district to its former state. The houses of the cultivators consist of four mud walls enclosing a court, and used as the gables of little rooms which line the court inside. A Balasor husbandman has usually at least five of these little apartments, one for his cows, another for his cook-shed, a third for storing his paddy, and two rooms for sleeping and general use. There is generally a verandah outside the wall on both sides of the principal door, for receiving strangers, and as places where the men of the family talk and lounge. Sometimes, but rarely, the cow-shed is built outside the walls. The mud enclosure stands in the middle of a bright green patch of vegetables, and the whole is shut in with a good fence of prickly shrubs. The summer dress of a Balasor peasant is a cotton girdle (dhoti) falling over the thighs, and tucked up when at work, with a scarf (gamuch) thrown over his shoulder. Occasionally a turban envelopes his head.
A well-to-do shopkeeper has an ample cotton shawl (chāddar) instead of the scarf, and sometimes wears it twisted round his head and ears. He has also a pair of coarse shoes with long turned-up toes, no heels, and elaborately, though roughly, embroidered with coloured thread. The Uriyā shoe is quite unlike anything in Bengal or Behar. In winter the peasant wraps his head and the upper part of his body in a thick double sheet (dohārd), while the shopkeeper indulges in a broad cloth scarf (luri) and a cotton shirt. A peasant's furniture consists of a few brass potts, platters, and cups, one or two very rude bedsteads, a few mats, and often some instruments of defence, such as a bow and arrows, a sword, or a spear. The better class have generally one or two palm-leaf books on Hindu Mythology in their houses, or a legend out of the Mahābhārata or Rāmāyana. Rice and milk form the peasant's food. Even dried fish is a luxury. The year's supply of it is stored up in reed baskets, and sparingly doled out. Vegetables are also luxuries not always within reach. The peasants set aside their boiled rice till it turns slightly sour, and esteem this unpalatable mess a favourite article of diet. Speaking generally, the shopkeepers are rather better off than husbandmen who hold the same position in the social scale.

Crops.—Rice is the staple crop of Balasor, as of all other districts in Orissa. It is divided into five great genera, and forty-nine principal varieties. (1) The Dālua rice, sown on low lands in December or January, and reaped in March or April; grown chiefly in the Fiscal Divisions of Bayāṅg and Kāyāmā. It is a coarse, red, unwholesome grain. Its principal varieties are the Dālua, Lakshmanrāyānprīyā, Bhāmanbāha, Antarakhā, and Sarishphul. (2) Sāthlyā rice, sown on high lands in Mayor June, and reaped in July or August; common throughout the district. Its principal varieties are, Dudhsara, a fine white, and Kalāsari, a coarse red grain. (3) Niyāli rice, sown on high lands in May or June, and reaped in August or September; common throughout the district. It is a coarse but wholesome grain. Its principal varieties are Nārādā, Kakhārūyā, Champā, Parbatīyā, Gobrā, and Pāndabnāli. (4) Kandhā rice, sown on middling lands, throughout the whole district, in Mayor June, and reaped in September or October. A white, wholesome grain. Principal varieties, Māru, Patmahādei, Geti, Motrā, Chotrā, Kārtiknakhā, Asvinī, Padāgaruyā, and Syāmāli. (5) Guru rice, sown on low lands throughout the whole district, in May or June, and reaped in December or January. Principal varieties, Bāsudebhghog, Charhānakhā, Lakshmiśajjal, Gangābdī, Gangājāl, Tulsikēri (fine), Dudhsarā, Sarsinhā, Pasākāti, Nimāī (white sweet-smelling), Palāsgundī, Kentākarpur, Kanakchor, Hundā, Methibās, Pipirībās (fine.
RICE VARIETIES.

sweet-smelling), Dhusará, Kayá, Kukum, Rangi, Kanásáru, Sankarsáli, Champásáli, Kalámantá, Básgájá, Rábaná (a long-stemmed variety, growing in eight feet of water, with a coarse grain), and Dembur-pakhíyá (a very coarse grain). Among other crops, (1), wheat, with its varieties Dadhiyá Goham and ordinary Goham, is sown on high land in September or October, and reaped in March. (2) Mug (Phaseolus Mungo), with its two varieties, Kalá Mug and Jhái Mug, sown on high and middling high land in August or September, and reaped in December. (3) Harár, red and black, sown in June, and reaped in December. (4) Barguri, sown in August or September, and reaped in December. (5) Birhí, with its two varieties, Noyá and Dáuliyá, sown in June, and reaped in December. (6) Sarishá mustard (oil-seed), with its two varieties, Rái and common Sarishá, sown in October, and reaped in December. (7) Hemp, sown in May or June, and reaped in August or September. (8) Tobacco, sown in October, and cut in March. (9) Cotton, with its two varieties, Mari Kápás and Haldi Kápás, sown in June, and gathered in April; and (10) Sugar-cane, with its three varieties, Kantári, Kadilgorá, and Básisivá, sown in May, and cut for conversion into molasses in December. The cultivation of these crops is sparingly carried on throughout the district. Betel-leaf is grown in the Fiscal Divisions of Senáot, Páchmalang, Soso, Sáratá, and Bhográi.

Of late years there seems to have been an improvement in rice cultivation, the finer varieties being more extensively grown than formerly. Every peasant now likes to have at least one field of the finer sort, although the main part of his holding is devoted to the more easily cultivated coarser varieties. No superior cereals have been introduced, however, nor has any marked extension taken place in the quantity of land devoted to rice. It is the one great crop of the district, and the Orissa husbandman has twenty-six distinct names for it in its different stages. As seed, it is bihán; when the seed has sprouted, it is gajá; the first young shoots are talá; the green plant, budlí; the mature plant, páchládhán; in sheaves, dhánpurá; unhusked rice, dhán; husked rice, chául; rice parched with the husk on, khái; rice husks, tus; fragments of husks and outer shell of rice given to cattle, kundá; rice steeped with the husk on, then slightly boiled, husked, and parched with salt, muri; rice boiled in the husk, and husked when warm, churrá; a preparation similar to muri, hurumo; another kind of the same, mangrájí; a cake made from rice flour, pithá; plain boiled rice, bhát; rice boiled with split-peas and spices, khen-churr; rice cooked with meat (piláu), pitan; khái sweetened with sugar, ukhurú; parched rice when ground, chhátu; rice boiled with milk and sugar, kshírf; thin rice gruel, jíjú; rice cooked and set aside till it
becomes sour, pakhāl; the water of the above without the rice, toráni; rice spirits, poshti.

Out-turn of Crops.—Good land at six shillings an acre yields from twelve to fifteen hundredweight of coarse paddy, and from eleven to thirteen and a half of fine. Land paying three shillings an acre yields from six and a half to nine hundredweight. The price of the crop depends on many local circumstances; but a fair average value would be twelve shillings for the crop of an acre of land paying three shillings an acre, and a pound for the crop of an acre paying six shillings. Lands lying along the banks of rivers yield a second crop of pulses or oil-seeds, such as Birhi, Mug, Jara, and Sarisha, at about three hundredweight per acre, worth from twelve to sixteen shillings.

Condition of the Peasantry.—Balasor is a district of small estates, and the proverbial harshness of petty landlords is intensified by the perplexing way in which their lands are split up. An estate generally consists of a village in one Fiscal Division, perhaps two in another, and four or five in as many more, all distant from each other. But worse than these ordinary estates are the ‘separate collection lands’ (tahsil aldikāda). Such an estate, although forming a fiscal entity, and bearing but one number in the district rent-roll, often consists of sixty or seventy small parcels of land, scattered over the whole district, with two or three acres in one village, and one or two acres in another thirty miles off. The confusion is increased by the frequency of a tenure known as Wages, or Pension-land (mūājih), in which the granter bestows a definite portion of land in every village of the estate. Thus, if he wishes to bestow one-sixteenth of his property, instead of giving land to that amount in one place, he makes over one-sixteenth of the land of every one of his villages, so that, as in the case of the Fiscal Division of Saso, almost every hamlet has one proprietor who possesses it as a whole, and another who possesses part of it as Pension-land. In addition to these elements of confusion, there are more than 33,000 rent-free estates, which average less than four acres apiece. Such grants, even although they may not exceed ten acres in extent, will often be in ten different plots in as many different villages. The proprietors have also a passion for having their land parcellcd out by the process of law known as batwārā. In one case, under Regulation xiv. of 1819, actually pending while I write these lines, an estate of 8958 acres, scattered through forty-eight villages, has nine registered proprietors, each of whom demands the most minute subdivision of the land. It is impossible to put their claims into any English nomenclature, but the following represents three of them as they are filed in the Court:—The claim of number
one is two ánás, ten gandás, three kauris, fifteen biswás, two gandás, one kauri; that of number five is one áná, two gandás, three kauris, one kránti, nine biswás, fifteen gandás; and that of number seven, one áná, fifteen gandás, two kauris, one kránti, fourteen biswás, six gandás. This is merely a fair average case. Such a state of things gives rise to endless boundary disputes. The landholder is necessarily at a distance from the greater part of his scattered land, and takes but little interest in the husbandmen. Instead of having a compact tenantry living together, who could be dealt with in a corporate spirit, he has two or three tenants scattered over forty or fifty distant villages, with whom his only connection is the periodical demand for rent. Each proprietor is eager to get every scrap of his land under tillage; nor can he afford, like the territorial magnates of Bengal, to leave large tracts for pasturage,—a parsimony that makes itself visible in the miserable condition of the cattle. His poverty further compels him to rack-rent all tenants not protected by a right of occupancy. A hungry landlord cannot afford to be generous. The husbandmen on their side have to be content with small holdings. In order to get a good-sized farm, they would have to hold under two or three proprietors, and would thus be exposed to the accumulated tyranny of many masters. If they determined to obtain a good-sized holding under one landlord, they would have to take fields in widely distant villages, and would thus lose time in going to and fro. Large farms are, therefore, unknown. The Collector reports that there are not more than one hundred holdings of from twenty to a hundred acres in the District of Balasor, with its 656,000 acres of cultivable land. Even the few farms that exist of these dimensions are generally held by families of brothers, who cultivate the land in common. From ten to twenty acres is a good-sized holding; and twenty-five per cent. of the farms in the District are of this size. About sixty per cent. are below ten acres. The Collector estimates the average size of a holding at eight acres. The cattle are so poor that one pair of oxen cannot possibly work more than six acres. Fifteen acres make a peasant substantially as well off as a respectable shopkeeper. His dress would be coarser, but he would eat more. As regards actual comforts, he would be much better off than a well-to-do man on a salary of sixteen shillings a month. But, unfortunately, the husbandman is almost always in debt. The landlord, or the village usurer, swoops down on him at harvest time; and so much of his rice goes in satisfying their claims, providing clothes for his family, contributing to the priests, and giving a feast to his friends, that he can seldom keep enough of his crop to live on to the next harvest. About the month of June he begins to borrow again,
and the amount accumulates with compound interest till the December harvest. The landholders are the chief rice lenders. They are not so oppressive as the village usurers of Bengal. Money loans are rare; and the long-standing hereditary accounts, which are the curse of the peasantry in other parts of India, are the exception in Balasor. The village usurer is almost unknown in Orissa.

**Tenant Rights.**—The Balasor husbandmen are divided into two classes, as in the other districts of Orissa,—the Thānī and the Pāhl. The Thānī cultivators have a right of occupancy. The Collector estimates their number at 30,000; of whom one-half hold at rents not liable to enhancement at all, and the remainder at rents which can only be enhanced by a decree of the Court. He reckons the Pāhl cultivators or tenants at 50,000, or five-eighths of the entire peasantry. The numerous holders of rent-free patches cultivate with their hands; but generally speaking, few proprietors of revenue paying estates do so. The distinction between landlord and tenant is well marked in Balasor. As the Thānī husbandmen hold under the Government Settlement Papers, Act x. of 1859 has but little operation in Balasor; only ninety cultivators having established rights of occupancy under that law. These cases have generally occurred from the landowner taking advantage of the cultivator's eagerness to extend his holding, and getting him to give up his old lease for a new one, conveying a larger quantity of land. The proprietor then sues for an enhancement of the entire rent, on the ground that the holding commences from the date of the new document. But the Courts, in such cases, have confirmed the husbandman in his right of occupancy with regard to his original holding, and allowed the enhancement only in the recent addition to it.

Eighteen shillings a month is a comfortable income for a peasant family of five persons, allowing 2s. for clothing; 14s. for food, which would provide two and three-quarter hundredweights of rice, with a small quantity of oil, fish, and vegetables; 1s. for the family barber, blacksmith, washerman, and priest, who are paid in kind at harvest.

**Prices and Wages (1870).**—Both buffaloes and oxen are used in agriculture. Sheep and goats are so few in number that the Collector believes them not to be indigenous, and thinks they have grown smaller since they were introduced. An average cow costs 24s.; a pair of oxen, from 50s. to 70s.; a pair of buffaloes, £3; a score of sheep, when procurable, £4; a score of kids, six months old, 30s.; a score of full-grown pigs, £5. The price of the latter animal, however, greatly varies. The wages of day-labourers are now from 2½d. to 3d. a day; in 1850 they were 1½d. Carpenters used then to earn 3d. a day;
they now get 5½d. Smiths and bricklayers were satisfied with from 3¾d. to 4½d. a day in 1850; they now earn 6d. The cost of the necessaries of life has increased in the same ratio. The price of the best unhusked rice, such as the upper classes use, was one hundredweight and three-quarters for 2s. in 1850, one and a half hundredweight in 1860, and three-quarters of a hundredweight in 1870. The finest cleaned rice was one hundred pounds for 2s. in 1850, eighty pounds in 1860, and forty pounds in 1870. But the great increase of price shown in the higher qualities is hardly a test of the general cost of living. Common rice, such as day-labourers use, is reported at one hundred and twenty pounds for 2s. in 1850, one hundred pounds in 1860, and seventy pounds in 1870. Wheat is reported at thirty-three pounds for 2s. in 1850, twenty-nine in 1860, and eighteen in 1870. Sugar-cane sold at 256 pieces for 2s. in 1850, 192 in 1860, and 128 in 1870. Common distilled liquor sold at 8d. the imperial quart in 1850 and 1860; it now sells at 1s. 4d. The local divisions of time are sixty bilftá or half-seconds = one lftá, or half a minute; sixty lftá = one danda or half an hour; two danda = one gharif; three gharif = one pahar or watch of three hours; eight pahar, or sixty-four danda = one ahorátra, or from sunrise of one day to sunrise of the next. Seven din (days) = one saptáha (week); two saptáha, or fifteen days = one paksha; two paksha = one más (month of thirty days); twelve más = one batsar (year); twelve batsar = one yug. Unhusked paddy is measured by the gaun (bushel), which is said to contain twenty pounds, but seldom contains more than fourteen. It is in fact a most variable measure, changing in almost every Fiscal Division, and sometimes in different villages of the same division. The gaun consists of twenty pautis. The outlying parts of the District have local measures of their own, unknown in the town of Balasor. Distance is measured as follows,—Twenty gandas = one chhaták; four chhaták = one pão; four pão = one kos of 12,000 feet, or about two and a quarter miles; four kos = one yojan, or nine miles.

A small husbandman with five acres has a plough, mattock, sickle, harrow, pickaxe, rake, rope, stake, pack-saddle, rope-net, and a pounder for husking rice. The total cost of these implements, together with a pair of bullocks, amounts to about £4.

Day-Labourers were formerly a numerous class in Balasor, but they suffered severely in the famine of 1866, and are now few in number. They are called Múliyás, and find employment in tilling the land of the larger proprietors, on wages of nine pounds of rice per diem. They do not supply the seed or implements, but only their manual labour.

Waste Land.—Before the famine of 1866 there was scarcely an
acre of spare land in the district. Since then many fields have fallen out of tillage for want of cultivators. The Salt Tract and the hilly ravines always remain waste; but in the normal condition of the district, very little land that could be tilled at a profit is left unoccupied. The herds of small hungry landholders cannot afford to leave even a field in pasture for the cattle. There are, therefore, no jungle-reclaiming leases, nor other tenures favourable to the peasant. When Government gave up the manufacture of salt, and the salt lands returned to the proprietors, some of them tried to induce husbandmen to settle on them at easy rates. But this plan did not produce any important results; and when the famine came it was relinquished. Intermediate holders between the proprietor and the cultivator, such as patnidārs or thékādars, are almost unknown. The landholder settles his estate directly with the resident (thānī) and migratory (pāhl) cultivators. Most of the former had their rents fixed by the settlement officers, and the proprietor has no power to raise them. But a body of new resident tenants has sprung up, consisting of husbandmen who have come in since the settlement, and hold under engagements with the landholder on such terms as they can obtain. The pāhl, or so-called migratory husbandmen, cultivate from year to year, and get land at the best rates they can.

Rents vary according to the liability of the land to devastating floods. I append the rates for the best sorts of two-crop land, and of winter rice land in each of the Fiscal Divisions. But the following general description will be found perhaps more useful, as giving a practical view of the whole subject. The lowest sort of soil is called jal, or water land. It pays from 9d. to 4s. an acre, and in very rare cases as high as 6s., but averages about 3s. It produces inferior kinds of rice. The kālī, or black soil, ranks next. It pays from 2s. to 3s. an acre, and averages 4s. It grows all sorts of pulses, mustard, hemp, etc. The next quality is the pdl, which produces the finer kind of rice, and all the other crops grown on kālī. It pays from 4s. to 10s. an acre, and averages 6s. The highest class of land is the olam, or the fields lying around the homesteads. They are devoted to vegetables, and other expensive crops, such as tobacco or sugar-cane, and pay as high as 25s. an acre, but may be estimated to average 15s.

The following are the rates of rent in the Fiscal Divisions of Balasor for the best qualities of two-crop and winter rice land. In Ará-rupauyā, for winter rice land 4s. an acre. In Armalta, 3s. 1½d. per acre for winter rice land. In Arso, 6s. 3d. an acre for winter rice land. In Ahiyās, 8s. for two-crop, and 3s. 1½d. for winter rice land. In Ankurā, 9s. 4½d. for two-crop, and the same for winter rice land. In
RATES OF RENTS.

Bālkhand, 6s. 3d. for two-crop, and the same for winter rice land. In Bāndhās, 8s. and 7s. 2d. respectively. In Bāstā, 12s. 6d. and 5s. in Bhogrā, 12s. 6d. for winter rice land. In Chhānuyā, 5s. and 2s. 6d. In Dhāmnagar, 8s. 2d. and 9s. 6d. In Dasmalang, 3s. 9d. and 2s. 6d. In Dolgrān, 6s. 3d. and 6s. 3d. In Darāchāur, 3s. 7d. and 1s. 6d. In Garhpādā, 1s. 6d. and 1s. 7d. In Jalāmg, 3s. 3d. for winter rice land. In Kātiyā, 6s. 3d. and 6s. 3d. In Kātsāhi, 12s. 10d. and 1s. 6d. In Kismatkatsā, 10s. 9d. for both descriptions of land. In Kamardāchar, 9s. 4d. for winter rice land. In Kunardāchāur, 2s. 6d. and 1s. 7d. respectively. In Kundi, 3s. 4d. and 2s. 9d. In Khejurī, 2s. and 3s. 9d. In Mulgāon, 4s. 3d. and 3s. 6d. In Muldāchor, 1s. 10d. In Mukhrā, 3s. 9d. In Nāpo, 5s. for winter crop land. In Nāngaleswar, 2s. 6d. and 1s. 8d. respectively. In Nunkhand, 4s. 2d. and 2s. 4d. In Phulwar, 1s. 10d. and 2s. 6d. In Rāutārā, 6s. 3d. and 5s. In Remunā, 4s. and 5s. 6d. In Rādiyāorganā, 6s. 3d. for both descriptions of land. In Senāt, 12s. 6d. and 18s. 9d. respectively. In Sunhat, 4s. 7d. for winter crop land. In Soso, 12s. 6d. and 18s. 9d. In Shālibandar, 11s. and 10s. 3d. In Sātmalang, 6s. 3d., and in Sārathāchāur, 7s. 7d. for winter rice land. In Siādīhi, 2s. 3d. and 2s. 7d., and Talsabang, 3s. 2d. and 4s. 3d. respectively. In the above list, I have given the Fiscal Divisions as stated by the Inundations Committee of 1866. The Surveyor-General's list will subsequently exhibit a more minute classification of them.

MANURES consist of cow and buffalo dung, ashes, rotten straw, and black earth from the bottom of tanks. Land is thoroughly manured at least once in five years; about ten hundredweight being allowed for rice, and a ton for sugar-cane. The cost when the materials have to be bought is about ten pence an acre. Land is seldom left fallow, and, indeed, to have fallow land is looked upon as a calamity. The cultivators are acquainted with a rotation of crops consisting of rice and cotton, but they practise it only in the Fiscal Division of Senāt, and on a few patches of land along the banks of the Subanrekhā.

BLIGHTS are not common, but a small insect called punhārā, the same as the genrī of Hindustān, occasionally does some mischief. It cuts through the ear of the rice while still green. For a description, see Sir Henry Elliot's Glossary, Mr. Beames' edition, vol. ii. 327.

FLOODS AND DROUGHTS are the scourges of the District. The former result from the sudden rising of the rivers in the hill country and Tributary States. The Burābalang and Sālandī do comparatively little harm, but the Subanrekhā and Baitaranf devastate the country.
almost every year. From 1832 to 1867, £62,584 of Government revenue have been remitted in consequence of floods, and £61,866 in consequence of drought, making a total of £124,450 during the thirty-five years, or £3555 per annum. This subject has been fully treated in my Orissa. The protective works against floods consist of embankments, the maintenance of which has, including establishment, amounted to £9182 during the twenty-four years of which records are found, preceding 1866. This would represent the interest on £183,640 at five per cent. During the seven years from 1860-61 to 1866-67, the total outlay by Government for protective works and remissions of revenue averaged £4026, or a charge of ten per cent. on the whole land revenue of the District.

Even this vast outlay wholly fails to control the water supply of the District. The two principal embankments are the Bhográi and Salsá Pát, on the lower reaches of the Subanrekáhá. The great Nuna, or salt embankment, has already been alluded to. It runs for many miles along the sea-face of the Fiscal Division of Ankurá, and is intended to keep out the sea. Sometimes, however, this embankment produces the very evil it was constructed to prevent; as in 1867, when it prevented the waters of the Gammal from escaping. The embankment fortunately gave way before the pressure of the river, and the waters rushed through the breach. The Bhográi embankment is a new work only just completed (1870). At the mouth of the Subanrekáhá was an old embankment constructed by the Marhattás, and afterwards replaced by another built by the British Government. Both of these embankments were constructed too close to the river to allow the water to escape freely in time of floods. These have both been destroyed, and the present Bhográi embankment runs further back so as to give plenty of waterway for the floods, and thus prevent the overflowing in the higher parts of the rivers which formerly resulted from the narrowness of their outlets. The Bhográi embankment, by allowing a good passage for the escape of water during flood, will render the Fiscal Divisions of Bhográi, Kamardá, Nápo, and Jaleswar less liable to inundation than in time past. The other large embankment, the Salsá Pát, on the opposite side of the river, protects the southern Fiscal Divisions of the District. The embankments on the other rivers are numerous, but small, and made without reference to any general system of protection from floods. If they do good to the village in which they are situated, they often do harm to villages on the opposite bank, by throwing the set of the current on to the other side. The Collector states that a general scheme of embankments having reference to the protection of the whole District, instead of, as at present, for the benefit
EMBANKMENT SCHEME REQUIRED. 53

of particular villages or landholders, is urgently needed. The floods are of short duration, but quite unmanageable while they last. The rivers rise to a great height in a few hours, and rush with extreme violence. The obvious plan would be to secure as straight a course as possible for the water from the hills to the sea, so that it may run off quickly and not be driven from bank to bank, and impeded at every turn. This, however, would necessitate the sacrifice of villages occupying projecting tongues of land on the banks. But if the estates in the District were large, the landholders would probably not object to give up one or two villages to save the rest. In the Fiscal Division of Bhograi this was done, the proprietor having readily accepted six shillings an acre for 1000 acres so sacrificed. In other parts of the District estates are so small that the village to be given up would often form the sole property of some half-dozen petty landlords, who could not afford to part with it without heavy compensation, as, in addition to the loss of their rents, it would also deprive them of their status as landholders. The Collector reports that the objection which has been raised to the straightening of rivers in some parts of Bengal, namely, that the water would run away too quickly, does not apply to Balasor, where the rivers are not used for irrigation purposes in their lower reaches, or for navigation in their higher. There is no navigation to speak of beyond tidal limits, and even that almost entirely ceases before the flood season. Sufficient water for shipping is supplied by the tide, and irrigation in the higher courses can be provided for by anicuts and canals. The Collector is of opinion that the works already sanctioned, if supplemented by a well-devised general embankment scheme, would render the district secure against damage by flood.

DROUGHTS arise in Balasor from the absence of local rainfall. The failure of the rivers seldom produces drought, as the people do not use their waters, except to a very limited extent, for irrigation. Four great droughts have occurred in the District within the recollection of the present generation, viz. in 1836, 1839, 1840, and 1865. No provision exists against damage caused by want of rain. The tanks and other receptacles of local drainage are not available for irrigation, and the rivers are allowed to carry away their water unused to the sea. The Collector mentions as an instance of the reluctance of the people to utilize the rivers, the case of the Fiscal Division of Radiyā-orgarā, which suffered severely from want of rain in 1869. The River Sālandi runs through the centre of this Fiscal Division, and when the drought made itself felt, and the people were praying for help, the Collector asked them why they did not use the river-water as a means of irrigation. They only replied that it was not the custom; that the proprietors of
land on the rivers' banks would object to channels being cut through their lands for the purpose of carrying water to fields further inland; that it would be very hard work; that it would not pay, and that river-water was not so fertilizing as that which came 'from heaven.' At all events the river-water was not used, and the crops perished in consequence. The Collector reports that the projected Cattack and Midnapur Canal would be of the greatest value for purposes of irrigation. At the same time, he anticipated that the people would be very unwilling to use the water, especially if a high rate be charged. Without going into this difficult question, it will suffice to state that the Collector strongly recommends a general irrigation rate upon all fields within reach of the canal-water. He thinks that under such circumstances the villagers would very soon avail themselves of it, especially if the rate did not exceed two shillings an acre.

There is, however, to a certain extent, a compensating influence in droughts and floods. One part of Balasor, namely the triangular tract between the Saldandi river, the Cattack high road, and the district boundary, lies high. The country on the north of this triangle is rather lower, as also are the Fiscal Divisions on the west and northwest of Balasor Town. While heavy floods drown the lowlands, the higher levels escape, but the fertility of the uplands is not increased in anything like a proportionate degree, as the very fact of their being higher, causes the river-water to flow off the more suddenly. If the floods are caused by an excessive local rainfall, which occasionally happens, the dry uplands profit in a more commensurate ratio. But the Balasor District does not present such extremes of dryness or moisture that any considerable area ordinarily lies fallow in the uplands for want of rain, or upon the lower levels, on account of the marshy character of the land. In years when there is a scanty rainfall, however, the low-lying tracts make up in an important degree by their freedom from flood, for the loss of crops in the arid higher levels. The pats, or cup-lands, produce magnificent harvests in dry seasons, while the higher tracts suffer severely. Thus, in 1869-70, the high triangular tract, mentioned above, yielded only half a crop; but the cup-lands so liberally compensated for their sterility, that the Collector refused to apply to Government for relief measures, and the result amply justified his decision.

It may be accepted as a rule in Balasor, therefore, that in years of drought, the sterility of the higher levels may often be compensated by the increased fertility of the lower ones. But in years of excessive floods, the small amount of upland country cannot produce a commensurate increase to the loss of crops in the low-lying tracts. Gene-
rally speaking, therefore, a year of floods does more harm than a year of tolerable drought, as the seven following instances prove. In 1823, unhusked rice rose to 3s. 3d. per hundredweight in consequence of floods. In 1831 and 1832 it rose to 3s. 4d. per hundredweight for the same reason. On the other hand, the years 1836, 1839, and 1840 were seasons of drought. In the first of them, unhusked rice rose only to two shillings per hundredweight; in the second, to three shillings; and in the third, to two shillings and eightpence. In 1848 floods again raised the price of unhusked rice to three shillings and fourpence a hundredweight. But while the general effect of floods is to raise prices higher than droughts, a total abstinence of rain produces the climax of misery. Thus, in the great famine year, 1865-66, unhusked rice rose to thirteen shillings and fourpence, and husked rice to the starvation rate of £1, 14s. 8d. a hundredweight.

**Famine Warnings.**—Local prices have returned to very nearly the same level as before the famine of 1866. The Collector believes that they will never quite do so, as the price of everything has risen, or, in other words, the purchasing power of money has decreased in Balasore. He considers that the famine of 1866 has ceased to exercise any influence upon the price of food in his District. Sixty-six pounds of common husked rice for two shillings may be taken as the average retail price in the month of January. If the price should rise to only thirty-three pounds for two shillings in that month, preparations should at once be made for a famine. Thirty-three pounds for two shillings in January would, according to the average rise in prices as the year advances, decrease to twenty-five in March, sixteen in May, and probably before the end of July no rice would be left in the district. By that time it would be impossible to import anything by sea till the end of the monsoon. Mr. Collector Beames, who has studied the subject very carefully, reports to me that in the event of rice ever rising in January to the rate of thirty-three pounds for the rupee, the higher authorities should be warned of the approach of famine. He believes the whole moral of the terrible calamity of 1866 is, to 'get rice into Orissa before the end of March if there is any serious tightness in January.' Among the non-agricultural classes, a hired labourer, with his wife and two children, cannot earn more than twelve shillings a month. Of this they have to spend, as nearly as possible, six shillings for rice when it is at sixty-six pounds for the rupee. The smallest amount that would sustain the working powers of such a family, is one hundred and twenty-three pounds of rice a month; and if it rose to the rate of thirty-three pounds for two shillings, two-thirds of their income would go for the single item of rice alone, calculating
that they only ate enough to keep them alive. When rice rises to twenty-five pounds for the rupee, the non-cultivating classes have to begin to do without it. They would naturally betake themselves to split-peas and other pulses. But, unfortunately, in Balasor District, these crops are scarcely grown. The whole land is under rice, and if rice fails, everything fails.

The agricultural classes would be a little better off, as they would start with a store of grain, and be able to prolong the struggle by the sale of their cattle. They would not begin to die till the rains set in. The District depends almost entirely upon its winter rice crop (Sárad). The autumn crop is insignificant where it is grown at all, and in some Fiscal Divisions it is unknown. It could nowhere make up for the loss of the winter harvest. The means of importation at the disposal of the district consist of the Orissa trunk road and the seaports. The former is metalled and bridged, except at the larger rivers, which are supplied with good ferry-boats. But the cost of the long land transit is very great. The river ports are five in number, namely, Balasor, Churáman, Chhánuyá, Sáratá, Laichanpur, and Subáreká, for which see Notification of the Government of Bengal, No. 621, dated 30th March 1858. I append a Comparative Statement of their trade to this Account. But none of them are accessible during the southern monsoon, the very season in which a famine would reach its maximum intensity. Hence the imperative duty of the officer in charge of the district, to keep his eye upon the harvests and the state of the markets, and to give timely notice to the higher authorities before the ports are closed in March. It is vain to expect any relief from inland by means of the rivers. They issue from countries which, in times of scarcity, are even worse off than Balasor.

ADMINISTRATIVE HISTORY.—The District of Balasor was acquired, with the rest of Orissa, in 1803. The early details of its jurisdiction and administrative changes are given at the beginning of this Statistical Account. At first it formed a mere subdivision of Cattáck, and very little was spent upon it. The early records have been destroyed, but, so far as I can learn, the separate expenditure on the Civil Administration of Balasor in 1864, was £77, 18s. In 1860-61, the revenue amounted to £58,465, and the expenditure to £44,071. The Budget for 1870-71 estimates the total revenue at £59,126, and the charges for Civil Administration, at £48,061. These figures represent the income and expenditure after the elimination of transfer accounts. The increase in the cost of Administration is due partly to Public Works, and partly to the re-organization of the police in 1861.
THE LAND TAX; POLICE; VILLAGE WATCH.

The Land Tax amounted in 1830 to £29,321; in 1850 to £40,480; in 1870-71 to £41,911. The subdivision of property has gone on rapidly under British rule. In 1826 the District was divided into 677 separate estates; in 1870-71 they had more than doubled, the number being 1486. Not only have estates become smaller, but the number of registered proprietors or coparceners on each estate has greatly increased. Thus, in 1828, the number of registered proprietors was 863; in 1870-71 their number was 4570. In 1828 the average revenue paid by each separate estate was £46; in 1870-71 it is £28. Again, in 1828 each registered proprietor was a man of importance, and paid £36 of Government rental. But the subdivision of estates has now reached such a point, that in spite of several vast estates in the hands of Bengalis, the average Government rental paid by each proprietor is only £9 per annum, and among the mass of native Uriya landholders it is much less.

The amount of protection to person and property has steadily increased. In 1804 there was but one permanent officer, and there were only three courts of any sort for the whole District. In 1850 there were eight courts, and one covenanted officer; in 1862, nine courts; and in 1869-70, thirteen, with three covenanted officers. The latter generally consist of (1) a Magistrate and Collector at Balasor; (2) a Joint or Assistant-Magistrate and Deputy-Collector at Balasor; and (3) an Assistant-Magistrate and Deputy-Collector in charge of the subdivision of Bhadrak. In 1824, the total cost of the district police, officers and men, amounted to £444; in 1840 to £1584; in 1860 to £1442. They now consist of three bodies—the regular force, the municipal police, and the village watch. In 1868 the regular force numbered three European officers, 133 native officers, and 672 footmen. The average pay of the English officers is £400 per annum; of the native officers, £25, 16s. 6d.; and of the footmen, £7, 12s. 6d. The aggregate strength of all ranks was 808, and its total cost £10,252. The police department estimates the area of the District at 3065 square miles, and the population at 485,113, allowing one policeman to 3°8 square miles, or to every 607 inhabitants. The cost of protection amounts to £3, 6s. 6d. per square mile, and fivepence per head of the population. During 1868 the police made 872 arrests, investigated 596 cognizable cases, and obtained 495 convictions. Among the 805 native officers and men were 122 Hindustáns, 2 Panjáibs, and 5 Telingás. The rest are ranked as Bengalis in the police returns. The municipal police consists of 4 native officers, with an average pay of £12 per annum, and 30 footmen on £7, 4s. a year. The village watch numbered in 1840, 1914; in 1860, 2745; in 1868, 2219. Their esti-
mated pay in money and lands in 1868 was £2734. This is equal to a charge of seventeen shillings and tenpence per square mile, or about five farthings per head of the population. Each rural watchman has on an average four villages under his charge, containing a total of thirty-six houses, with 218 inhabitants. These calculations are based upon the police estimates of the area at 3065 square miles, and the population at 485,113. The fiscal area, after recent transfers, is 2041 square miles. Including, therefore, the regular force, the municipal police, and the village watch, the police of all ranks amount to 3058, maintained at a cost of £13,250 a year. For police purposes, the district is divided into nine stations, with sixty-two outposts. The cost of protecting person and property, therefore, in Balasor, is £4, 6s. 5d. per square mile of the police area, and a trifle under sevenpence per head of the population.

Criminal Classes.—Crime is more frequent in Balasor than in Purī District. The average number in jail, for both Balasor and Bhadrakh, in 1868, was 144; of whom, however, only four were females; or about one person always in jail to every 3375, or one female to every 121,278 of the population. The entire number admitted in 1868, amounted to 549 males and 36 females, making a total of 585. The constant rate of sickness was 2.77 per cent. of the jail population, and the deaths 2.77 per cent. The great majority of the prisoners belong to the labouring and lowest agricultural classes, with a proportion, however, of the writer caste, and a much larger number of Muhammadans than is found in Purī or Cattack. At the same time, crime is much less frequent than in the more civilised parts of Bengal; nor is there any class of crime characteristic of the district. Drugging, with intent to rob, is sometimes practised on the great highway to Jagannath, and Brāhmans have peculiar facilities as cooks for committing this offence. But it is a crime of the trunk road rather than of the district. The cost of rations was £3, 2s. 6d. per head in 1867, and £2, 2s. 7d. in 1868. The total cost of jail establishment was £95 3d., and the gross cost of maintenance, including hospital charges, clothing, jail establishment, and repairs, was £5 a head in 1867, and £4, 10s. in 1868.

Fiscal Divisions.—The District of Balasor is divided into seventy Fiscal Divisions, which, as a rule, are much smaller than those of Purī or Cattack. Many of them barely exceed five square miles; several of them are a little over three, and one of them is only 1.04 square miles. It must, therefore, be understood that the term fiscal division (pargana) has a much more limited meaning in Balasor than in other districts. The number of villages was returned at 3668 in
1842, and 9627 in 1870,—an indication of the tendency of proprietors who have subdivided their estates, to make as much as possible of their respective parts by setting up new villages or collections of homesteads on each separate fragment. It also explains the increase in the population which took place up to the famine year, amounting to nearly 12 per cent. of the total inhabitants in 1840. Assuming the population in 1865, the year before the famine, to be the normal condition of things, each of the 9627 villages would contain 76'5 persons; but estimating the population at what it was after the famine, each village would only average 50, or one-fourth of the average number in each village of Puri District. It is impossible too frequently to repeat the caution, that such terms as fiscal division and village represent a very different number of inhabitants in different districts, even of the same province. The minute subdivision of properties in Balasor has produced a corresponding splitting up of villages with a very small population in each. The following is a list of the fiscal divisions of Balasor, showing their total area, with the proportion of land under cultivation, capable of cultivation, and uncultivable; the names of the two chief towns or villages; the land revenue, and the population. They have been very carefully compiled, but must be received as approximations to the truth, rather than as absolutely trustworthy statistics. There is also a slight element of error in each, as I do not give fractions of acres:—

1. Ankura—area, 133'85 square miles, or 85,670 acres; 33,871 acres cultivated; 5,684 cultivable; 46,112 uncultivable; land revenue, £2616; population, 22,051; chief villages, Basdebpur and Karanjáriyá.
2. Ararupauya—area, 18'03 square miles, or 11,539 acres; 6,014 acres cultivated; 1190 cultivable; 4334 uncultivable; land revenue, £273; chief villages, Madhusúdanpur and Náráyanpur.
3. Armala—area, 10'54 square miles, or 6743 acres; 4429 cultivated; 178 cultivable; 2136 uncultivable; land revenue, £206; population, 5424; chief villages, Armalá and Somnáthpur.
4. Arso—area, 25'17 square miles, or 16,108 acres; 9412 acres cultivated; 374 cultivable; 6321 uncultivable; land revenue, £47; chief villages, Jaldá and Sárgán.
5. Balkhand—area, 65'34 square miles, or 41,820 acres; 19,462 acres cultivated; 2990 cultivable; 19,367 uncultivable; land revenue, £1189; population, 20,617; chief villages, Purúshattamapup and Bari.
6. Banahar—area, 11'49 square miles, or 7353 acres; 4775 cultivated; 107 cultivable; 2470 uncultivable; land revenue and population not given; chief villages, Depur and Rangapati.
7. **Banchas**—area, 30'54 square miles, or 19,543 acres; 12,473 acres cultivated; 466 cultivable; 6603 uncultivable; land revenue, L4574; population, 79,459; chief villages, Báragán and Jaganáthpur.

8. **Basta**—area, 13'29 square miles, or 8503 acres; 4864 acres cultivated; 327 cultivable; 3412 uncultivable; land revenue, L320; population, 2715; chief villages, Bastá and Báhárdá.

9. **Bautra**—recently transferred from Cattach; details not given.

10. **Bhelorachor**—area, 40'00 square miles, or 25,584 acres; chief villages, Kholrá and Jhár Pipal.

11. **Bhera**—area, 53'59 square miles, or 34,301 acres; 22,170 cultivated; 2364 cultivable; 9767 uncultivable; land revenue, L1674; population, 11,130; chief villages, Bindhá and Pánpur.

12. **Bhograi**—area, 48'73 square miles, or 31,189 acres; 8525 acres cultivated; 2230 cultivable; 20,433 uncultivable; land revenue, L1253; population, 13,467; chief villages, Deulá and Bártańá.

13. **Bisalkhand**—area, 42'68 square miles, or 27,318 acres; 16,845 acres cultivated; 958 cultivable; 9515 uncultivable; land revenue, L2; chief villages, Koráí and Asmád.

14. **Bayang**—area, 88'05 square miles, or 56,352 acres; land revenue, L2297; population, 24,764; chief villages, Kothár and Súrjyapúr.

15. **Chhanuya**—area, 10'24 square miles, or 6554 acres; 488 acres cultivated; 3451 cultivable; 2614 uncultivable; land revenue, L78; population, 592; chief villages, Núdá and Chhená.

16. **Dakrachaur**—area, 21'77 square miles, or 13,934 acres; 9531 acres cultivated; 369 cultivable; 4033 uncultivable; land revenue, L374; population, 3486.

17. **Dasmalang**—area, 53'54, or 34,268 acres; 6474 cultivated; 803 cultivable; 26,992 uncultivable; land revenue, L313; population, 24,368; chief villages, Ransáhi and Hirágán.

18. **Dhamnagar**—area, 58'84 square miles, or 37,660 acres; 21,983 acres cultivated; 2615 cultivable; 13,061 uncultivable; land revenue, L1650; population not given; chief villages, Churákutí and Syámpúr.

19. **Fathabad**—area, 61'89, or 39,611 acres; land revenue, L178; other details not on record.

20. **Ganeswar**—area, 12'80 square miles, or 8191 acres; 3910 acres cultivated; 359 cultivable; 3921 uncultivable; chief villages, Chádunigán and Pákraná.

21. **Garhpada**—area, 16'89 square miles, or 10,815 acres; 5658
acres cultivated; 844 cultivable; 4313 uncultivable; land revenue, £149; population, 3163; chief villages, Uriyásásan and Bhat-khandi.

22. JАJPUR—recently transferred to Cattack; details not given.

23. JALESWAR—area, 36'34 square miles, or 23,256 acres; land revenue, £1014; population, 3457; chief villages, Aruyá and Santiyá.

24. ŽAYAPUR—area, 21'6 square miles, or 13,481 acres; 8924 acres cultivated; 150 cultivable; 4406 uncultivable; chief villages, Panpaná and Soti.

25. KAEDA—area, 12'11 square miles, or 7754 acres; 4277 acres cultivated; 215 cultivable; 3261 uncultivable; chief villages, Anantapur and Káedá.

26. KAMARDACHAUR—area, 44'58 square miles, or 28,536 acres; 19,039 acres cultivated; 1054 cultivable; 8442 uncultivable; land revenue, £1603; population, 10,904; chief villages, Kasbá-Kamardá and Patiná.

27. KÁТSAHI—area, 13'81 square miles, or 8'841 acres; 4447 acres cultivated; 333 cultivable; 4060 uncultivable; land revenue, £317; population, 2277; chief villages, Tapandíha and Churmárd.

28. KAYAMA—recently transferred from Cattack; details not given.

29. KHEJURI—area, 18'90 square miles, or 12,097 acres; 7555 acres cultivated; 480 cultivable; 4061 uncultivable; land revenue, £497; population, 5015; chief villages, Barunsính and Khantá-párá.

30. KILA-AMBO—area, 5'67 square miles, or 3630 acres; 1641 acres cultivated; 187 cultivable; 1801 uncultivable; chief villages, Ambo and Tarbhá.

31. KILA AMBOHATA—area, 36'21 square miles, or 23,175 acres; 8924 acres cultivated; 506 cultivable; 13,744 uncultivable; chief villages, Kopárí and Haripur.

32. KILA MANGALPUR—area, 10'59 square miles, or 6779 acres; 3309 acres cultivated; 120 cultivable; 3349 uncultivable; land revenue, £103; population not given; chief villages, Gopínáthpur and Mangalpur.

33. KILA PATNA—area, 7'98 square miles, or 5107 acres; 2321 acres cultivated; 134 cultivable; 2651 uncultivable; land revenue, £48; population not given; chief villages, Balanga and Chhatrá.

34. KILA TALMUNDA—area, 19'70 square miles, or 12,610 acres; 7356 acres cultivated; 214 acres cultivable; 5040 uncultivable; chief villages, Mahamuhán and Korái.
35. **Kismat Ankura**—area, 2'34 square miles, or 1495 acres; 904 acres cultivated; 16 cultivable; 575 uncultivable; details about land revenue and population not given; chief villages, Gur and Suyán.

36. **Kismat Katsai**—area, 5'51 square miles, or 3530 acres; 1814 acres cultivated; 142 cultivable; 1572 uncultivable; land revenue, £248; population not given; chief villages, Kasbá Kumári and Bálíyápád.

37. **Kismat Napó**—area, 1'04 square miles; land revenue, £68; population and name of chief villages not given.

38. **Kodinda**—recently transferred from Cattack; details wanting.

39. **Kunardachaur**—area, 22'89 square miles, or 14,653 acres; 8358 acres cultivated; 450 cultivable; 5817 uncultivable; land revenue, £325; population, 6065; chief villages, Madhupur and Jágái.

40. **Kundi**—area, 12'51 square miles, or 8009 acres; land revenue, £81; population, 1204; chief villages, Kundi and Gandárádá.

41. **Kurai**—area, 9'13 square miles, or 5841 acres; 3607 acres cultivated; 85 cultivable; 2149 uncultivable; land revenue, £385; chief villages, Kurái and Bángariyá.

42. **Lakrajit**—area, 8'35 square miles, or 5347 acres; 3085 acres cultivated; 138 cultivable; 2123 uncultivable; chief villages, Golangá and Gobindapur.

43. **Manjuri**—area 11'33 square miles, or 7249 acres; other details wanting.

44. **Matkadnagar**—recently transferred from Cattack; details wanting.

45. **Matkabad**—recently transferred from Cattack; details wanting.

46. **Mukhra**—area, 13'20 square miles, or 8445 acres; 4309 acres cultivated; 533 cultivable; 3603 uncultivable; land revenue, £287; population, 2451; chief villages, Gobindapur and Nuyá-pári.

47. **Mulgaon**—area, 12'50 square miles, or 7998 acres; 4764 acres cultivated; 531 cultivable; 2703 uncultivated; land revenue, £280; population, 2102; chief villages, Dhárd and Gurdá.

48. **Muldachor**—area, 6'42 square miles, or 4112 acres; 2810 acres cultivated; 87 cultivable; 1214 uncultivable; land revenue, £101; population, 430; chief villages, Jámálpur and Kundíha.

49. **Nangaleswar**—area, 11'72 square miles, or 9425 acres; 7321 acres cultivated; 162 cultivable; 1942 uncultivable; land revenue, £316; population, 2507; chief villages, Nángaleswar and Putrá.
STATISTICS OF FISCAL DIVISIONS.

50. NAPOCBOR—area, 35'31 square miles, or 22,599 acres; land revenue, £1102.

51. NUNKHAND—area, 30'66 square miles, or 19,628 acres; 11,062 acres cultivated; 403 cultivable; 8163 uncultivable; land revenue, £508; population, 5071; chief villages, Nuyápur and Sásan.

52. PANCHMALANG—area, 8'62 square miles, or 5520 acres; 933 acres cultivated; 67 cultivable; 4519 uncultivable; chief villages, Sáhapur and Khárá.

53. PHULWAR—area, 3'83 square miles, or 2452 acres; land revenue, £112; population, 872; chief villages, Chásákhand and Kálípur.

54. RADIYA-ORGARA—area, 91'08 square miles, or 58,292 acres; 30,598 acres cultivated; 4185 cultivable; 23,509 uncultivable; land revenue, £1654; population, 32,669; chief villages, Bhadrak and Bálo.

55. RAUTARA—area, 13'21 square miles, or 8455 acres; 1706 acres cultivated; 2740 cultivable; 4009 uncultivable; land revenue, £165; population, 1439; chief villages, Sárgán and Síntiá.

56. REMUNA—area, 20'12 square miles, or 12,882 acres; 6629 acres cultivated; 534 cultivable; 518 uncultivable; land revenue, £1654; population, 41,454; chief villages, Annabirati and Bishanpur.

57. SHAHBANDAR—area, 10'97 square miles, or 7024 acres; 6281 acres cultivated; 628 cultivable; 3814 uncultivable; population, 41,454; chief villages, Annabirati and Bishanpur.

58. SHAHJAHANABAD—area, 5'13 square miles, or 3289 acres; 2079 acres cultivated; 94 cultivable; 1115 uncultivable; chief villages, Sháhjánábnáb and Sálanpur.

59. SAHIBNAGAR—recently transferred from Cattack; details wanting.

60. SARATHACHAUR—area, 4'08 square miles, or 2612 acres; 1665 acres cultivated; 87 cultivable; 860 uncultivable; land revenue, £61; population, 4775; chief villages, Gotigári and Chhátár.

61. SARHAR—area, 27'72 square miles, or 17,742 acres; 9632 acres cultivated; 394 cultivable; 7716 uncultivable; chief villages, Machhadá and Sáoriyá.

62. SATMALANG—area 78'73 square miles, or 50,389 acres; 7493 cultivated; 3958 cultivable; 38,938 uncultivable; chief villages, Jámkundá and Ratáí.

63. SEHARI—area, 3'15 square miles, or 2018 acres; land revenue, £87; population, 1115; chief villages, Bishnupur and Sehári.

64. SEJAOET—area, 108'39 square miles, or 69,368 acres; land revenue, £449; population, 1181; chief villages, Dolsí and Ordá.

65: SINGARA—recently transferred from Cattack; details wanting.
66. Soso-area, 66.87 square miles, or 42,803 acres; 25,009 acres cultivated; 1723 cultivable; 16,070 uncultivable; land revenue, £877; population, 15,857; chief villages, Námi and Báhát.

67. Sunhat-area, 30.60 square miles, or 19,587 acres; 8836 acres cultivated; 1315 cultivable; 9446 uncultivable; land revenue, £425; chief towns, Balasar and Dámodarpur.

68. Talsabanga-area, 24.28 square miles, or 15,538 acres; details of land cultivated, etc., not received; land revenue, £4617; population, 38,802; chief villages, Urangi and Padábagán.

69. Tappa-Malincha-area, 13.86 square miles, or 8873 acres; 5388 acres cultivated; 160 cultivable; 3324 uncultivable; chief villages, Málíncha and Goliyá.

70. Tappa-Pursanda-area, 55.77 square miles, or 35,312 acres; 20,395 acres cultivated; 1213 cultivable; 13,703 uncultivable; land revenue, £600; population, 5871; chief villages, Pursanda and Bántá.

**Cultivated Area.**—The foregoing list of Fiscal Divisions must be received with caution. They refer to about a quarter of a century ago, and since then there is reason to believe that cultivation has greatly increased. The Collector estimates the total area in round numbers at 1,200,000 acres. Of this, 566,000 are under cultivation, and 544,000 are uncultivable. There remain, therefore, only 90,000 acres capable of cultivation not under tillage, or 7.5 per cent. of the whole. Roughly speaking, one-half of the district is under tillage, and one-half is incapable of tillage. No statistics exist as to the comparative area under different crops. The truth is, that the whole cultivated part of the district is one sheet of rice. The Collector believes that the proportion of other crops to this staple does not exceed one acre in 1000. It will be observed that in estimating the district to be 1,200,000 acres, the Collector assumes its area to be 1875 square miles, or 170 miles less than its actual size after the recent transfers.

**Medical Aspects.**—Rainfall in 1869, 49.77 inches, as returned by the Meteorological Reporter to Government; average rainfall during ten years, 68.45 inches. Average temperature for the five years ending 1866, as reported by the Medical Officer—January, 85°; February, 89°; March, 93°; April, 96°; May, 98°; June, 92°; July, 88°; August, 88°; September, 73°; October, 74°; November, 73°; December, 78°. The hot season lasts from March to the middle of June, but is tempered by a cool sea-breeze from the south-west. From middle of June to end of September the weather is close and muggy; from October to February is the cold season, with a north-easterly wind, and cool mornings and evenings.
ENDEMICS.

ENDEMICS.—Elephantiasis Arabum attacks about twenty-five per cent. of the population, and is always present in from fifteen to twenty per cent. of it. Specifically it is the Bucnemia tropica, a local hypertrophy of the cellular structure, attacking the whole body, but more particularly the depending parts and lower extremities. The Civil Surgeon reports that the disease is neither hereditary nor contagious, but when once fairly established, generally lasts through life. No statistics exist to show in what proportion it attacks the two sexes, or different ages. But the Civil Surgeon believes that Dr. Fox's general statistics hold good in Balasor, namely, seventy-five per cent. males, twenty-five per cent. females, and is most frequent between the ages of twenty-five and fifty. The fundamental cause of the disease appears to be the unstimulating character of the national diet. It chiefly attacks the poor, who live all their lives on a daily mess of rice, which, after boiling, is allowed to stand for twenty-four hours in water, until fermentation has slightly set in. To this sour mass a little salt is added, and the Civil Surgeon pronounces it to be unwholesome as an article of human food. Yet this is the invariable diet of the Uriyā peasant. Europeans are seldom affected. Another cause appears to be the deleterious water; but the theory of its injurious qualities arising from its being impregnated with salt is not, so far as I can learn, well founded. On the contrary, the Balasor peasant is particularly sensitive with regard to any saline ingredients in his drinking-water. The labourers who go out to work on the road between the town and the coast, insist on a water-carrier being allowed to each little gang, so that they may be supplied with the pure fluid from beyond the influence of the sea. It is an unquestionable fact, however, that the Balasor peasant drinks all his life from wells and tanks charged with organic impurities. The Civil Surgeon reports that twenty per cent. of the people labour under hydrocele. Goitre is met with but rarely. Fever of a low malarious type is everywhere prevalent, and especially so in the south-east corner of the District, at the mouth of the Dhámrā, which is about as unhealthy a locality as can be found in Bengal. From August to October a low remittent form of fever prevails. Ague and rheumatic affections, colds and sore throats, with the loss of voice, follow from November to February, during the continuance of the north-east monsoon. Syphilis is rife in all its worst forms, and the Civil Surgeon reports that as many as forty per cent. of the population are victims to it. Cutaneous diseases abound in Balasor, as they do among all rice-eating peoples. Till lately no attempt has been made at sanitation. Balasor City contains no fewer than 11,000 tanks, not one of which can be said to be in a wholesome state. Their banks are the
receptacle of every sort of filth, fluid and solid. The one object of the Uriya's life is ceremonial purity, and he reconciles this in a surprising degree with foul drinking-water, and putrid dirt heaps at his door. The Civil Surgeon reports that the first organized efforts at sanitation have been made under the present magistrate, Mr. Beames. Tanks have been cleared out, drains opened, and conservancy rules rigidly enforced. In spite of the above-mentioned endemics, the rural population is not on the whole unhealthy. They carry about their swollen legs with apparent ease, and as regards bodily vigour, contrast favourably with the peasantry of the wet districts in Lower Bengal. The truth is, that throughout all deltas the standard of health is very low.

Epidemics.—Among these scourges, cholera stands first. In 1853, it prevailed during the whole of April or May, working its way steadily from village to village, till there was not a hamlet which escaped it, and very few in which the mortality fell short of ten to twelve per cent. The whole District was panic-stricken. The villagers fled from their homes, leaving behind the dying and the dead. Another terrible visitation occurred in 1866—the famine year. It was worst in the months of March, April, June, and September. Of the little jail community, averaging 100 persons, 88 were attacked, and 35 died. Cholera annually makes its appearance along the trunk road, along with the great stream of pilgrims. This subject, however, has already been treated of in the Statistical Account of Puri. The Balasor people believe that cholera is directly communicable; and the Civil Surgeon gives the following authenticated instance:—A tradesman left his village to do some business in the adjacent country. At the time of his departure, there was neither cholera nor any unusual sickness in his own village, but the place to which he went was being ravaged by the disease. On his way back he suffered a little from diarrhoea. Within six hours after he returned, he was attacked with cholera, and died. The same day the disease made its appearance among his neighbours, and numbers of the villagers, especially those who lived close to him, perished.

Cattle Diseases are excessively prevalent, and are of three kinds. (1.) Basanta, called small-pox by the Civil Surgeon; Guti by the natives, to distinguish it from human small-pox. It is identified by the Cattle Plague Commissioners now on circuit (1870) as a true form of rinderpest. It appears in its severest form in winter, and lasts for about two months, in November and December, occasionally, however, continuing till May. It begins with a high fever for two days, followed by a characteristic eruption all over the body. The animal lies
CATTLE DISEASES.

still, droops its ears, and occasionally flaps them, refuses food, salivates freely, and coughs. During the febrile stage thirst is very urgent, but it afterwards abates. This state of things goes on for four or five days in the severer cases, when a sharp diarrhoea sets in, of a putrid odour, and death releases the sufferer. If the animal survives the sixth day, however, it generally recovers. Of the animals attacked, thirty-five per cent. die in average seasons, but the mortality often rises to eighty or eighty-five per cent. The disease is highly communicable, and is said to attack but once in a lifetime. (2.) Paschima, a severer and more rapidly fatal form of basanta, in which there is a determination internally, and not to the skin. The death-rate in both these diseases is very much higher among buffaloes than among cows. (3.) Khura or Phatud, like the two foregoing, is endemic and contagious. It occurs, however, only in winter and the early part of the rains, i.e., during the months of December and January, and in June. It attacks the frog of the hoof, sometimes one, sometimes two, occasionally the whole four. The principal symptoms are as follows:—The animal first has a sore mouth, and refuses food for two days. After two days the mouth gets better, and the animal eats a little. Lameness now sets in, and the owner's attention is thus drawn to the complaint. A disease process goes on in the hoof, which soon becomes maggoty, and sometimes drops off. In the severer cases the lips and tongue become swollen, and the latter looks raw and sore. Saliva dribbles in great quantities from the mouth, the animal wastes to a skeleton, and apparently dies of exhaustion. Death generally occurs within fifteen or twenty days from the first symptoms, the rate of mortality being, in ordinary seasons, from ten to fifteen per cent. of the animals attacked. It is said to rise sometimes to sixty. If the animal survives this period, and is well cared for, a gradual recovery takes place.

FAIRS AND RELIGIOUS GATHERINGS.—Balasor being the district of Orissa most distant from Jagannath, the pilgrim stream does not appear to be such an active cause of disease. But the Civil Surgeon reports that all the evidence before him points to the conclusion that the pilgrims do import cholera. Balasor, however, has several important shrines of its own. The first of these, Jajpur, recently transferred from Cattack, is visited by the Jagannath pilgrims, both in coming and going. One visit is imperative, in order to perform the funeral rites of their ancestors in the City of Sacrifice. Jajpur is also the scene of an annual local fair, in March, held in honour of the Sacred River. The fair lasts three days, and is attended by 10,000 or 12,000 persons. From £500 to £600 worth of goods are sold, among which the black stoneware called mungi deserves
special notice. It consists of platters and bowls cut out of a jet-black stone highly polished like marble. An inferior class of black stoneware is excavated from the rocks of the neighbouring Nilgiri hills, and sold in great quantities at the Jajpur fair. Another of these religious gatherings is held at Remuna, about five miles west of the town of Balasor. A fair in honour of Kshírchord Gopnáth, a form of Krishná, is held here in February; it lasts thirteen days, and is attended by about 10,000 to 12,000 persons. About £600 worth of goods are sold, consisting chiefly of toys, sweetmeats, fruits, vegetables, country cloth, etc. The temple of the god is an unsightly stone edifice, and is made more so by prurient sculptures. It is a favourite resort of the masses during the months of February, April, and November. A third fair is held at Khirang, a place about ten miles south-east of Balasor, and near the sea-coast, in honour of Mahádeva, the All-Destroyer. It lasts for three days, and is attended by about 8000 persons, who buy and sell wares to the extent of about £400. There are four other small gatherings held during the year in honour of Siva. They are of little importance, and last only a single night.

The indigenous drugs found in the District, and forming the greater part of the pharmacopoeia of the native practitioner or kabiráj, are as follows:—Gulancha, a febrifuge; Nágeswar, an antispasmodic; Muthá, an antispasmodic and febrifuge; Sunti (dry ginger), an antispasmodic; Harirá, a febrifuge; Bálárá, a febrifuge; Bháliyá, a remedy for leprosy; Jyalá, a febrifuge; Dhuturá (stramonium); Kaniká (croton seed); Bhárgavi, a febrifuge; Bansalochan, a tonic; Gandhabene, an astringent; Chákundá, a seed, a detergent, much used in ringworms; Methí, a tonic; Pán Mahuri (aniseed); Hálim, an anodyne; Deb-dúrü, a febrifuge; Dhaniyá (coriander); Gánjá (Indian hemp); Satábari, a tonic; Ankránti, a febrifuge; Sálpani, a febrifuge; Kushtapani, a febrifuge; Nabákuri, a febrifuge; Bel (Ogle Marmelos); Gambhári, a febrifuge; Hánripurá, a febrifuge; Sál Chiretá root, a vesicant and counter-irritant; Pátuli, a febrifuge; Agiyábáth, a febrifuge; Gokhorá, a febrifuge and expectorant; Tibiri, a purgative; Tálmuli, a tonic; Sunáriyá bark, a purgative; Dulubhá, a febrifuge; Sulpá, a febrifuge; Gandhasuntí, an antispasmodic; Ghorábach, an astringent; Gandáli, an anodyne and an astringent; Nárábáblí, an astringent and emulcent; Dengábhéji, a febrifuge and an expectorant; Atusi and Káládáná, a safe and excellent purgative. The only mineral found in the district, and used medicinally by the native practitioner, is iron. It first undergoes several pharmaceutical processes. The native practitioner is essentially an herbalist, and most of his potions are administered in the form of infusion or decoction. He seldom prescribes powders or pills. Surgery
and chemistry are not known to or practised by him. The study of anatomy is equally unknown, and obstetric medicine is a speciality restricted to uneducated midwives. According to the Civil Surgeon, the native practitioner knows only a rude and barbarous eclecticism. He learns little from experience, investigation, or practical research. All is one unvarying sameness. Every ailment has its formal specific, from which there is no deviation in orthodox practice, save the option between two or more of the recipes given in his text-book for the same description of symptoms. It must be observed, however, that these strictures have special reference to the degenerate and uneducated native practitioners of Balasor.

SUDIVISIONAL ADMINISTRATION.—Balasor has but one subdivision, Bhadrakh, whose headquarters are pleasantly situated on the Catthack high road. Bhadrakh is generally managed by a single assistant magistrate, and, unlike Khurdhá in Puri, forms an integral part of the District, which it resembles in soil, natural features, and every other particular. It has therefore received no separate treatment in this Statistical Account.

TRADE STATISTICS.—The following is a statement of the internal and external trade of the Port of Balasor for the ten years 1869-70. For several of the years the return is defective, and information cannot be supplied, as no record exists in the Customs office. In 1860-61, imports (no records), exports £4567; in 1861-62, imports £5824, exports £9931; 1862-63, imports (no record), exports £17,433; 1863-64, imports (no record), exports £40,098, tonnage 3754 tons; 1864-65, imports (no record), exports £72,525; 1865-66, imports £6858, tonnage 6757 tons, exports £27,010, tonnage 9266 tons; 1866-67, imports £15,362, tonnage 2144 tons, exports £8067, tonnage 3339 tons; 1867-68, imports £14,532, tonnage 1257 tons, exports £6122; 1868-69, imports £19,371, tonnage 2378 tons, exports £12,118; 1869-70, imports £28,357, tonnage 9072 tons, exports £27,923, tonnage 9064 tons. The trade of the minor ports of Balasor is as follows—the figures representing the average of the three years previous to 1870:—Dhamra—imports £8963, exports £1754; Chhánuyá—imports £1, 4s., exports £1161; Sárathá—imports nil, exports £84; Churáman—imports £388, exports £167; Laichanpur—imports £1266, exports £934; Subanrekhá—imports £52, exports £7405.
APPENDIX III.

STATISTICAL ACCOUNT OF THE TRIBUTARY STATES.

THE Tributary States form the mountainous background of Orissa. They lie between the Mahanadi delta and the interior tableland known as the Central Provinces, or from N. Lat. 19° 52' 0" to 22° 34' 0", and from E. Long. 83° 36' 40" to 87° 13' 20". Population, 961,355; area, 16,184 square miles. They were formerly eighteen in number, but are now reckoned as nineteen, namely—(1) Angul, (2) Athgarh, (3) Athmallik, (4) Banti, (5) Baramba, (6) Bod, (7) Das pallá, (8) Dhenkánal, (9) Hindol, (10) Keunjhar, (11) Khandpára, (12) Morbhánj, (13) Narsínpur, (14) Níglí, (15) Nayágarh, (16) Pál Lahárá, (17) Ranpur, (18) Tálcher, and (19) Tigáriá. They are bounded on the north by the districts of Midnapur, Puruliá, and Sinhbbhúm; on the west, by the States of Bonái, Bamrá, Rádhákol, Sonpur, and Patna; on the south, by Kaláhándi and Gdumsar; and on the east, by the districts of Purí, Cattack, and Balasor.

The chiefs administer civil and criminal justice under the control of the Superintendent of the Tributary States at Cattack. Heinous offences which require more than two years' imprisonment, and all capital cases, are sent to this officer, who also decides political causes and disputed successions. An appeal from his decision lies to the Government of Bengal. The Magistrates of Purí, Cattack, and Balasor are ex officio assistants to the Superintendent; but, with the exception of the Magistrate of Balasor, they do not ordinarily exercise criminal jurisdiction. The Superintendent has also a native assistant, who exercises the full powers of a magistrate, and who tries such cases as the Superintendent makes over to him. The States, during the minority of the Rájás or chiefs, or when for political reasons they are placed under attachment, are managed by the Superintendent through
a Government receiver (Tahsildár). The jurisdiction of the Commissi-
oner is defined by Regulation xi. of 1816, and Act xxii. of 1850.

MOUNTAINS.—The Tributary States are a succession of ranges rolling backwards towards Central India. They form, however, three water-sheds from south to north, with fine valleys between, down which pour the three great rivers of the interior table-land. The southernmost is the valley of the Mahánadí, at some places closely hemmed in by peaks on either side, and forming picturesque passes; at others spreading out into fertile plains, laden with rice, and watered by a thousand mountain streams. At the Barmúl Pass, the river winds round magnificently wooded hills, of from 1500 to 2500 feet high. Crags and peaks of a solitary wild beauty overhang its channel, which at one part is so narrow, that it rises seventy feet in time of flood. From the north bank of the Mahánadí the ranges tower into a fine water-shed, from 2000 to 2500 feet high, running north-west and south-east, and forming the boundary of the States of Narsinhpur and Barambá. On the other side they slope down upon the States of Hindol and Dhenkanál, supplying countless little feeders to the Bráhmaní, which occupies the second of the three valleys. From the north bank of this river the hills again roll back into magnificent ranges, running in the same general direction as before, but more confused and wilder, till they rise into the Keunjhar water-shed, with peaks from 2500 to 3500 feet high, culminating in Malayagiri, 3895 feet high, in the State of Pál Lahará. This water-shed, in turn, slopes down into the third valley,—that of the Baitaraní, from whose northern bank rise the almost unexplored mountains of Morbhanj, heaped upon each other in noble masses of rock, from 3000 to nearly 4000 feet high, sending countless tributaries to the Baitaraní on the south, and pouring down the Burabalang, with the feeders of the Sabanrekha, on the north. The peaks are densely wooded to the summit, and, except at the regular passes, are inaccessible to beasts of burden. The intermediate valleys yield rich crops in return for negligent cultivation; and a vast quantity of land might be reclaimed on their outskirts and lower slopes. The principal peaks are fifteen in number, as follows:—(1.) Malayagiri, in the State of Pál Lahará, in Lat. 21° 22' 20"; Long. 85° 18' 41"; height, 3895 feet. (2.) Meghásaní, literally the Seat of Clouds, in Morbhanj, in Lat. 21° 37' 58"; Long. 86° 23' 30"; height, 3824 feet. (3.) Gandha Madan, in Keunjhar, in Lat. 21° 38' 12"; Long. 85° 32' 56"; height, 3479 feet. (4.) Thákuraní, in Keunjhar, in Lat. 22° 6' 5"; Long. 85° 28' 30"; height, 3003 feet. (5.) Pánch Dhar, at Athmalik, in Lat. 20° 41' 28"; Long. 84° 43' 36"; height, 2948 feet. (6.) Tomák, on the boundary of Keunjhar and Sukinda, in Lat. 21° 5' 35"; Long. 85° 57' 38"; height, 2577 feet. (7.) Goáldeow,
in Daspallá, in Lat. 20° 31' 5"; Long. 84° 52' 43"; height, 2546 feet.
(8.) Suliyá, in Nayagarh, in Lat. 20° 6' 23"; Long. 85° 4' 0"; height, 2239 feet. (9.) Kopilá, on the boundary of Athgarh and Dhenkánal, in Lat. 20° 40' 46"; Long. 85° 48' 53"; height, 2098 feet. This hill takes its name from that of a temple which is situated near its top, and which in February is visited by about 10,000 pilgrims, when a large fair is held, and trade to a considerable extent is carried on. At the top of the hill there is table-land, which might be made a very pleasant place of residence during the hot months. (10.) Bankomundi, in Bod, in Lat. 20° 42' 24"; Long. 84° 20' 18"; height, 2080 feet. (11.) The Kanaká range, on the boundary of Narsinhpur and Hindol. The highest peak is in the latter State, in Lat. 20° 36' 45"; Long. 85° 11' 7"; height, 2038 feet. (12.) Bághmári, on the boundary of Morbhánj, and Sínhbb hám, in Lat. 22° 29' 3"; Long. 26° 9' 27"; height, 1997 feet. (13.) Tangári, in Angul, in Lat. 20° 52' 48"; Long. 84° 52' 50"; height, 1952 feet. (14.) Siánangá, in Bod, in Lat. 20° 56' 16"; Long. 83° 51' 28"; height, 1917 feet. (15.) Sápuamundí, in Khandpárá, in Lat. 20° 19' 28"; Long. 85° 5° 21"; height, 1769 feet.

Rivers.—The principal rivers are the Mahánádi, the Bráhmání, the Baitaraná, and the Burábaláng. The first enters the Tributary States of Orissa in Bod, forming the boundary between that State on the south, and Athmallik and Angul on the north, for forty-nine miles. It then divides Khandpárá and Bánki on the south, from Narsinhpur, Barambá, and Athgarh on the north. In the last State, it debouches through a narrow gorge upon the Cattack delta. It is everywhere navigable throughout the Tributary States, and up to Sambalpur, by flat-bottomed boats of about twenty-five tons burden, and a considerable trade is carried on. Precious stones of different kinds are found in its bed. The river affords valuable facilities for navigation, but for the numerous sandbanks in its channel. The boatmen carry rakes and hoes, with which they clear a narrow passage just sufficient to let their craft pass. Where rocks impede the navigation, there is plenty of depth on either side; and a little blasting would enlarge the water-way, and thus lessen the force of the rapids. When full, it is a magnificent river, varying from one to two miles in breadth, and of great depth. It is liable to heavy floods, which have been fully described in my work on Orissa, where a comprehensive account of the Mahánádi will also be found. Its chief tributaries in the Tributary States, are, on its north bank, the Sápuá in Athgarh, and the Dandátapá and Máno in Athmallik; on its south bank, the Kusumí and Kamál in Khandpárá, with the Jorámu, Hinámandá, Gándúní, Bolát, Sálí, Bágí, Marlí, and Tel. This last stream divides the Orişsa Tributary States from
those in the Central Provinces, and forms the boundary between the States of Bod and Sonpur.

The Brahman enters the Tributary State of Talcher, and passes through it and Dhenkanal into the Cattach District. It is navigable for a few months of the year to four miles below Talcher, where there are some dangerous rocks, which might, however, be easily blasted. Common jasper abounds, along with other precious stones, in the bed of the river.

The Baitaran River rises in the State of Keunjhar, and forms the boundary between that State and Morbhanj for forty miles. In the dry season it is navigable by small boats; but with difficulty as far as Anandapur, a large village on its south bank, in Lat. 21° 13' 0", and Long. 86° 11' 0". A considerable trade is carried on at this place; the rural and forest produce brought by land from the south-west being bartered for salt, carried by boats from the coast.

The Burabalang rises in the State of Morbhanj, and has been fully described in the Statistical Account of Balasor; which also see for an account of the Salandí and Subanreká.

No important instances of alluvion or diluvion are known, nor of any changes in the courses of the above rivers. The banks are generally abrupt, occasionally rising into fine heights, and the beds sandy, with the exception of that of the Baitaraní, which is rocky. Nor have any important islands been formed by the rivers within the Tributary States, but rocks and wooded cliffs have here and there been thrown up from the middle of the Baitaraní and the Mahanadi. The banks are generally buried in jungle, but in many places they might be turned into fertile fields. The Baitaraní is popularly rumoured to have a subterraneous passage, but in reality merely flows through two rocky clefts, called the Cow's Nostrils. The rivers form no lakes, and are far beyond tidal range. None of them are fordable during the rainy season, but in the dry season they are all so at certain parts of their course.

Uses to which the water is put.—Three towns on the Mahanadi subsist by river traffic, namely, Baideswar in Banki, and Padmábatí and Kantilo in Khandpára. These communities carry salt, spices, cocoa-nuts, and brass utensils up to Sambalpur, in the Central Provinces, bringing thence, in exchange, cotton, wheat, oil-seeds, clarified butter, oil, molasses, iron, turmeric, tasar cloth, rice, etc. There are also several smaller towns on both sides of the Mahanadi, which carry on an extensive trade in timber, bamboos, oil-seeds, and other local produce. On the Bráhmáni, the only large villages are Baulpur and Bhuvan, in the State of Dhenkanal, with a thriving river traffic in resin, lac, oil-seeds, etc. There is but a single large village within the Tribu-
tary States on the Baitaranî, viz. Anandpur in Keunjhar, the trade of which is the same as that of the villages on the Brâhmanî.

IRRIGATION.—None of the non-navigable rivers or streams are applied as a motive power for turning mills, etc.; nor is the water of the larger rivers utilized for the purposes of irrigation, although the smaller streams are often dammed and embanked for the purpose. There is no regular system of storing water at an elevation from which it can be conducted to a distance; but it is often laded on the fields by the ordinary native methods described in the Statistical Account of Purl District.

FISHERIES.—All the villages on the rivers are partly inhabited by fishermen, who form about five per cent. of the entire population along the banks, and one per cent. in the interior. The fisheries are of no great value. In Bândi, the rent realized from this source in 1869 was £38; in Athgarh, £17; in Nayágarh, £13, 10s.; in Khandpârâ, £11, 14s.; and in Angul, only £3.

EMBANKMENTS.—With the exception of Bândi, which is directly under Government management, embankments on an extended scale are unknown within the Tributary States; nor do the Râjâs possess sufficient capital for their construction.

MINERALS.—A coal-field exists in Tálcher. In 1841 an exploring party found coal in several places, extending over a tract of upwards of thirty miles. Further investigations were also made in 1855, and the results published in the Memoirs of the Geological Survey of India, vol. i. part i. It is also believed to exist in Angul, and along the banks of the Mahánând. Limestone and building stone are procurable in almost all the States. Iron is found in Morbhanj, Keunjhar, Dhenkânal, Angul, Athmallik, Tálcher, and Pál Laharâ, and a considerable trade in the metal is carried on. Gold dust is found, but to a very small extent, in the sands of a few streams in Keunjhar, Dhenkânal, and Pál Laharâ. A black stone called Mungi is extensively quarried in Nilgiri, and manufactured into native plates and cups. Dhenkânal produces talc, and hot springs are found in Athmallik.

JUNGLE PRODUCTS.—The chief marketable timber of the Tributary States is Sál, the forest revenue of the single State of Angul being £35. The jungle yields an annual supply of resin, lac, tasar, bees-wax, dyes, fibres, such as siári, the fibre of a gigantic vine used for cordage; and Murgâ (Saserviera Zeyonica). The following classes subsist by collecting and trading in jungle products:—(1.) The Khâyâras, who collect and deal in catechu, and belong to the States of Dhenkânal, Keunjhar, Angul, Tálcher, and Athmallik. (2.) Loháras, iron-smelters, living in Dhenkânal, Keunjhar, Tálcher, and Athmallik. (3.) Kandhs.
(4.) The Gands, residing in Keunjhar, Morbhanj, and Dhenkanal.
(5.) Kols, who sell resin, lac, wax, etc., and live in Morbhanj, Keunjhar, and Pál Laharā. (6 and 7.) Juáns and Malhars, who deal in honey and other jungle produce, and live chiefly on roots and leaves. They come from the States of Keunjhar and Dhenkanal. (8.) Bhúmijas, labourers from Keunjhar, Morbhanj, etc. And (9.) Kostías, dealers in tasar.

Wild Beasts.—Among the larger sort of wild animals are the elephant, tiger, panther, hyena, bear, deer of several sorts, antelope, hog, bison, etc. Wild elephants infest the jungles of Morbhanj and Keunjhar, and in lesser numbers in Athmallik, Angul, and Dhenkanal. They do great damage to the crops, and occasionally trample down a barn, but very seldom destroy human life. Tigers exist everywhere, and annually carry away numbers of men and cattle. At the Mangoṛghat Pass, they killed upwards of 300 persons in three years. In the State of Bod eighty-six persons were devoured in 1869, and the Rájá was obliged to engage a huntsman from Sambalpur. In some States the tigers watch the villages, and seize any one who strays beyond their limits; but the Rájás seldom give rewards for their destruction. Some tribes, particularly the Kandhs, regard them with superstitious reverence, and will not kill them. Hundreds of people die every year from snake bites, but payments for serpent killing are unknown. Among the smaller sorts of game are hares, various sorts of wild fowl, wild geese, peacocks, partridges. Wild beast skins form an important article of traffic.

Population.—No regular census has ever been taken of the Tributary States. An estimate prepared by the Topographical Survey in 1860–62 gives the number of towns and villages at 6965, with a population, calculated at the rate of five and a half inhabitants to each house, of 961,355. A detailed statement of the estimated population of the different States will be given subsequently.

The principal races inhabiting the Tributary States are—(1.) the Uriyáś, who form the most important and largest section of the population, and inhabit the valleys. The hill tribes consist of—(2.) the Kandhs, residing chiefly in the States of Bod, Kandhmáls, Daspallá, and Nayágarh. They are a simple race, fond of the chase, and capital hunters; easily managed by those who are accustomed to them, but very jealous of any interference with their rights in the soil of their native hills. (3.) Kols, in Morbhanj, Keunjhar, and Pál Laharā, a more turbulent people, sometimes very difficult to control, addicted to daring predatory enterprises, and much dreaded by the neighbouring peasants. (4.) Bhunás, otherwise spelt Bhuyáś, who reside in Keunjhar and Morbhanj.
ABORIGINAL RACES—RELIGION.

tribe forms the most important portion of the inhabitants of Keunjhar, and are about ten thousand in number. They are a slightly built race of men, with an average height of only 5 feet 3 inches, and a very dark skin. They have lost their original language, and now speak Uriya. As a rule, they are honest and truthful, but very tenacious of their land rights, although timid by nature, and easily oppressed individually. (5.) Juáns, residing in Keunjhar and Dhenkánal. (6.) Gands, living in Keunjhar, Morbhanj, and the Central Provinces, have also lost their own language. They are much fairer in the Tributary States than their tribesmen in the Central Provinces, and seem to have a strong mixture of Aryan blood. (7.) Malhárs living in Dhenkánal have no fixed abode, but lead a wandering life in the forest, lodging under trees, and subsisting by the sale of honey, wax, lac, resin, and other jungle products. (8.) Bhúmíjas, living in Keunjhar, Morbhanj, and Dhenkánal. (9.) Sántáls, living in Keunjhar and Morbhanj. (10.) Savars. (11.) Donnás, living in the Kandh country. These last people act as priests to the Kandhs. When a Kandh is wounded or killed by a tiger, his whole family becomes outcaste. The Donná priest can, however, restore the family to its former social position, by taking away all the property in the house of the unfortunate man who had incurred the displeasure of the Kandh deities. The hill tribes have already been treated of in the main body of this volume. Each of them has a distinctive oath. A Kandh swears by touching muhwá fruit, or earth; a Kol, by touching cooked rice; a Juán, or Bhuná or Bhuyá, by touching a tiger skin, a white-ant hill, or a bamboo leaf; and a Donná, by touching cow dung. For minor tribes, see list of castes.

No immigration nor emigration to any extent goes on in the Tributary States.

RELIGION.—As in other parts of Orissa, the great mass of the inhabitants of the Tributary States are Hindus, with the aboriginal fetish element more or less distinctly preserved. The number of Musalmáns is very small, and consists of the descendants of those who took service as soldiers under the Rájás in the time of the Marhattás, when there was constant fighting between the various rival States. The Muhammadan religion does not make any progress among the people. In Athgarh there is a village called Chhágán Góbrá, and in Nílgiri one called Mitrapur, entirely inhabited by agricultural communities of native Christians. The principal places of pilgrimage in the Tributary States are Kopilás in Dhenkánal, Kusaleswar and Jotipur in Keunjhar, Mánír in Morbhanj, and Samakul in Nayágárh, all of which attract annual crowds of devotees. Some aboriginal tribes preserve their ancient rites intact.
CASTES.—The list of castes numbers sixty-four. The most esteemed are—(1.) the Bráhmans, who follow the same occupations as the Bráhmans in other parts of Orissa. (2.) The so-called 'Kshattriyas, who are connections of the chiefs, and are supported by them. They are few in number, and generally rich. (3.) Karans, corresponding to the Káyasth caste of Bengal, chiefly employed as writers and clerks, few in number, and generally well off. Next to the Karans come the so-called Sudras, among whom the ten following are deemed respectable:—(1.) Khandáit, agriculturists, few, and tolerably rich. (2.) Chásé, agriculturists, numerous, poor. (3.) Bárhá, carpenters, few in number, poor. (4.) Kamár, blacksmiths, few, poor. (5.) Guriá, confectioners, few, poor. (6.) Bhandári, barbers, few, poor. (7.) Banía, betel-nut sellers and goldsmiths, few, but sometimes rich. (8.) Gaur, herdsmen, few, poor. (9.) Tambúl, betel-nut sellers, few, poor. (10.) Máli, gardeners, worshippers of Mahádeva, few, poor. The following nine castes are held in much lower esteem than the foregoing, but are within the pale of respectability:—(1.) Patrá, weavers and traders, few, rich. (2.) Pathuriá, stonemasons, few, poor. (3.) Thatári, braziers, numerous, poor. (4.) Chitrakar, painters, few, poor. (5.) Kánsá, workers in brass, few, rich. (6.) Réj, merchants, few, rich. (8.) Náyak, astrologers, few, rich. (9.) Barsud, agriculturists, numerous, poor. The following forty-one castes are utterly despised:—(1.) Tanti, weavers, few, poor. (2.) Kumbhár, makers of earthen pots, few, poor. (3.) Tell, oilmen, few, poor. (4.) Jogí, beggars, few, some poor, but many, as religious mendicants, are rich. (5.) Mátiá, labourers, few, poor. (6.) Keut, fishermen, few, poor. (7.) Thoriá, drivers of pack bullocks, few, rich. (8.) Parirá, horse-keepers, few, poor. (9.) Bhuná or Bhuyá, cultivators who live partly on jungle products, numerous, poor. (10.) Girgiriá, fishermen, few, poor. (11.) Douá, weavers, few, poor. (12.) Bhúmíja, labourers, few, poor. (13.) Magadhá, herdsmen, few, poor. (14.) Batakásud, cultivators, numerous, poor. (15.) Korá, cultivators, numerous, poor. (16.) Lohár, iron-smelters, numerous, poor. (17.) Duńdál, cultivators, numerous, poor. (18.) Tiar, fishermen, few, poor. (19.) Khayará, dealers in catechu, few, poor. (20.) Jhárá, gold-washers, few, poor. (21.) Dhibá, washermen. (22.) Sinkhálu, labourers, numerous, poor. (23.) Kurmi, labourers, numerous, poor. (24.) Bhuliá, weavers, numerous, rich. (25.) Sundi (Suri), spirit vendors, few, rich. (26.) Chamár, basketmakers, few, poor. (27.) Godrá, basketmakers, few, poor. (28.) Mochi, shoemakers, few, poor. (29.) Malhár, (30.) Kol, and (31.) Juán, aboriginal tribes who sell resin, lac, wax, honey, and other jungle products, and live partly by tillage, chiefly on roots. (32.) Kandh, hired labourers and poor cultivators. (33.) Hári, sweepers,
numerous, poor. (34.) Dom, sweepers, numerous, poor. (35.) Pán, labourers, numerous, poor. (36.) Kandrá, labourers, few, poor. (37.) Sántál, cultivators who partly live on jungle products, few, poor. (38.) Saura (Savar), labourers, numerous, poor. (39.) Tanádl, labourers, few, poor. (40.) Gand, a tribe of aborigines. (41.) Kelá, a wandering aboriginal gipsy-like tribe, few, poor.

Condition of the People.—The peasant's food consists of boiled rice, pulse, vegetables, fish, and occasionally flesh. A prosperous cultivator lives on about fourteen shillings a month. His household expenses are eight shillings for rice, two for vegetables, one for salt, and three for firewood, oil, spices, and occasionally a little fish.

The dress of a well-to-do shopkeeper consists of a white cloth round the loins hanging down to the ankle (dhǒṭ), and a white sheet or cloth thrown over the shoulders (chddar), worth altogether about four shillings. That of a peasant is a simple waistcloth, worth eighteen pence. A shopkeeper's furniture consists of a few blankets, carpets, mattresses, mats, and pillows, a wooden seat or two, and an instrument for husking rice (dhunkti).

There are only six villages in the Tributary States containing more than 500 houses, namely—(1.) Kantilo, and (2.) Nijgarh in Khandpárá; the first containing 1113 houses with an estimated population of 6121, and the second 1121 houses with an estimated population of 6165. (3.) Nayápatná in Tigariá, with 512 houses and a population of 2816. (4.) Bághsámalgarh, and (5.) Chhelia in Morhbanj; the former with 500 houses and an estimated population of 2750, and the latter with 757 houses and a population of 4163. (6.) Garh in Dhenkánał, with 753 houses and a population of 4141.

Administration.—In 1805 the revenue paid to the British Government by the Tributary States amounted to £4555; in 1820 the same; in 1860-61 it had increased to £8286; and the Budget estimate for 1870-71 is £8388. The Rájás rule their territory pretty much according to their own idea of what is right; and even in the two States directly under our management, Bánki and Angul, land litigation is little known. In Bánki the number of rent-suits instituted under Act 10 of 1859 was 14 in 1861-62, 33 in 1862-63, 54 in 1866-67, and 28 in 1868-69. In Angul, during the same years, the number of cases were 29, 57, 37, and 28 respectively.

Police.—The Rájás do not maintain regular police stations, the duties being performed by the páiks, or cultivators holding on a tenure of military service. A regular force has been organized in the two States under Government management. Angul has one head-station at Purnágarh, and four outposts at Tikarpárá, Maidharpur,
Balramprasad, and Chhindipada. In Bánki there is a head station at Chárchiká, with three outposts at Bairideswar, Kalápathar, and Subarnapur. A police force is also maintained in the Kandhmáls, consisting of one head station at Bisipará, and four out-stations at Khejuripará, Kalábég, Nayápárá, and Argirkíá, to preserve order in that wild region.

The following is a detailed account of the different States, their area, revenue, crops, fairs, estimated population, etc. Each has its own Rájá, or chief, except the two under direct Government control.

Ángul, bounded on the south by the river Mahánadí and the State of Narsinhpur; on the north by Tálcher and the State of Bamrá in the Central Provinces; on the east by Hindol; and on the west by Athmallik and Rádhákol. Area, 881 square miles. Estimated population, 39,488. Revenue, according to the Budget estimate for 1870-71, £3067. The State was confiscated in 1847, owing to the Rájá’s continued disobedience of the orders of Government, and his attempt to wage war against the English. The revenues are collected, and the State generally managed, by a receiver (Tahsíldáí). The members of the ex-Rájá’s family enjoy pensions from Government. The State was originally in the possession of a Kandh named Ano, but the ancestors of the ex-Rájá having gained a footing in the country as traders, plotted against the Kandh prince, and seized his territory. It is for the most part jungle. Rice, sugar-cane, oil-seeds, cotton, and coarse cereals form the staple crops of the small cultivated portion. Droughts frequently destroy the crops, but there is scarcely any part of the State in danger of flood.

Tillage is conducted in two ways; and as these methods are common to the whole Tributary States, they may be described here once and for all. (1.) Rice cultivation in hollows and on low lands with a command of moisture. In the valleys, where the mountain rivulets can be utilized, the peasants throw a dam across the streams and store up the water. The lower levels thus secure a supply of moisture the whole year round, and the Wet Rice cultivation goes on throughout the twelve months. (2.) Upland or Tailá cultivation, upon newly cleared patches of land, and depending entirely on the local rainfall. The forest is cut down and burnt upon the spot, and the soil thus enriched with salts, yields abundant crops of early rice, oil-seeds, and cotton. At the end of four or five years such clearings are abandoned for new ones, and the land relapses into jungle. After years of rest, when a fresh growth of forest has sprung up, the trees and shrubs are again cut down and burnt on the spot; the whole process of clearing and cultivating for another period of five years being repeated de novo.
Prior to its confiscation there was no trade in Angul, and its Tribute amounted to only £165; but since then fairs have been established at seven places, attended by traders from Cattach and the neighbouring districts. The population is sparse, and lives almost entirely by agriculture. With the exception of the hilly southern part, the country is level, and only needs inhabitants to increase its value. The Bráhman runs within a mile of its north-eastern boundary, and might form a trade-route for the products of the State. Coal and iron are found. The largest village in Angul is Chhindipádá, in Lat. 21° 5' 0", Long. 84° 55' 0", containing 149 houses at the time of the Topographical Survey in 1860-62. There are also nine other villages, containing upwards of 100 houses each. The total number of villages is 345.

ATHGARH is bounded on the south by the Mahánádi; on the north by Dhenkánál; on the east by Tígáriá; and on the west by Cattach District. Area, 168 square miles, containing 184 villages, with 3302 houses and an estimated population of 18,326 souls. It yields its Rája an income of about £1494 a year, and pays £282 as tribute to Government. In ancient times it belonged to the kings of Orissa, one of whom married the sister of his prime minister, and presented the State of Athgarh to his brother-in-law, with the title of Rája. The present ruler is the tenth in descent, and belongs to the writer caste (Káyasth). Athgarh is a low level country, and very subject to inundations. The only village containing upwards of 100 houses is Gobrá, in Lat. 20° 35' 2", Long. 85° 52' 28", with 159 houses. At the village of Chhágan, Lat. 20° 34' 14", Long. 85° 52' 30", there is a peasant colony of native Christians under the care of the Baptist Mission at Cattach. The village has a small chapel, and is prettily situated on a slight eminence, surrounded by well-cultivated rice fields. It has a population of 263, exclusively Christians, who are employed as agriculturists. Two other Christian hamlets adjoin it. The cultivation consists of rice, with an occasional crop of sugar-cane. The Rája's residence is buried in bamboo thickets, planted as a defence against the Marhatta horse.

The high road from Cattach to Sambalpur passes through the State.

ATHMALLIK is bounded on the south and west by the Mahánádi; on the east by Angul; and on the north by the State of Rádhákol, in the Central Provinces. Area, 730 square miles. Estimated population, 16,250. Yields a revenue of £800 a year to its chief, and pays a tribute to Government of £48. Has but one village containing more than 100 houses, viz. Kainta, with 127. The State is a dense jungle, with little cultivation, and no trade. A long range of hills covered with wood runs along its southern side, parallel with the Mahánádi. The crops consist of coarse rice and other inferior grains, with a few
oils-seeds. The chiefs of Athmalilik have no legal claim to the title of Rájá. Their emblem of signature is a Kadamba flower.

Banki, bounded on the north by the States of Athgarh, Tigaría, and Barambá; on the south and east by Purí District; and on the west by Khandpárá. Area, 150 square miles. Estimated population, 48,813. Paid an annual tribute of £443 to Government from 1805 till 1840, when it was confiscated, the Rájá having been convicted of murder, and imprisoned for life. Since that time the estate has been under direct Government management. In 1860-61 it yielded a revenue of £1333, which has now increased to £1996 (1870-71).

Baramba, bounded on the north by the Mahánadí; on the south by Nayágarh; on the east by Nayágarh and Daspalía; and on the west by Purí District. Area, 134 square miles, with 137 villages and 3958 houses. The population is variously estimated, at from 21,967 by the Topographical Survey in 1860-62, to 27,458 by a recent official return. The Rájá, in 1870, calculated the number of villages at 133, with 3748 houses and 20,604 inhabitants; but this is probably below the truth. The Mahánadí, on its southern boundary, affords water-carriage for the products of the State. Bi-weekly fairs are held at Mainábád, a small village of 48 houses, in Lat. 20° 26' 30", Long. 85° 20' 28"; and at Banálipur, a village with 74 houses, in Lat. 20° 24' 9", Long. 85° 20' 28", where the usual common description of country products are brought for sale. Timber and bamboos are floated down the Mahánadí to Cattack and Purí. The largest villages are Gobiratpur, 276 houses, on the bank of the Mahánadí, in Lat. 20° 22' 59", Long. 85° 24' 31"; and Barambá, 232 houses, in Lat. 20° 15' 17", Long. 85° 22' 45". The history of the State commences with a legend of a celebrated wrestler, to whom the Orissa monarch presented two villages. The hamlets were owned and inhabited by Kandhs, but the wrestler speedily drove out the aboriginal race; and gradually extending his territory at their expense, founded the State of Barambá. The present Rájá is the nineteenth in descent from the original chief. His emblem of signature is a dog metamorphosed into a lion—a heraldic monster that took his origin in a story belonging to the time of the first founder, when a dog assaulted a tiger. Tribute, £140; Rájá's income, £1200.

Bod, bounded for sixty-five miles on the north by the Mahánadí; on the east by the State of Daspallá; on the west by the Tel River; and on the south by the Kandh Hills. The latter are under British management, although once nominally feudatory to Bod. Area, including the Kandhmáls, 2064 square miles. Excluding this latter portion, respecting which no reliable statistics have yet been obtained, Bod contains 542 villages and 3349 houses, with an estimated population of
18,687. Many of the villages are deserted. The Rájá pays an annual tribute of £80 to Government, and enjoys an income of about £1000 a year. The Mahándí and Tel offer facilities for water-carriage; but, with the exception of a small trade in Sáλ timber, none of the produce of the country is exported. Weekly markets are held at eight villages, for traffic in the usual simple commodities, such as coarse rice, oil-seeds, and jungle products. The only two towns in the State containing upwards of 100 houses, are Bod, with 300 houses, Lat. 20° 50' 30'', Long. 84° 22' 6''; and Jagatigárh, with 120 houses. Bod Proper is one of the most neglected of the Tributary States. The reigning family claims an uninterrupted descent of seventy generations from a Bráhman, who founded the petty principality about a thousand years ago. It was once much larger than at present; but powerful neighbours have from time to time wrested parts of it away.

As indicated above, the State is now divided into two parts—Bod Proper, and the Kandhmáls. The latter consist of a broken plateau intersected by ridges of low hills, the last refuge of the Kandh race. The villages are few in number, and divided from each other by rugged peaks and dense forests; but a regular system of government on the aboriginal plan is maintained, the hamlets being distributed into mutas, and each muta being under the supervision of a clan-chief. Throughout this wild tract, the Kandhs claim an indefeasible right in the soil. They assert that the whole of Bod, and all the neighbouring country, was once theirs, and that they have been gradually pushed back into the recesses of the hills by unscrupulous invaders. They deny that they ever acknowledged the rule of their oppressors, and consider themselves as wrongfully ousted, so that no length of time can bar their inalienable right to the soil. Mr. Ravenshaw, the Commissioner of Orissa (1871), whose minute acquaintance with the people makes him the highest living authority, writes to me that these Kandh legends of having been driven out from more fertile territories are probably true. The Kandhs say that they were pushed eastwards from Sableia, in Sambalpur, the ancient home of their race. The Kandhmáls, at any rate, were never more than nominally subject to the Bod Rájá, who was totally unable to control or coerce them. After the British Government discovered the frequency of human sacrifice among them (1836), it established an Agency to put a stop to the practice (Act xx, of 1845), and the Bod Rájá gladly ceded the Kandhmáls to us for the better suppression of these inhuman rites. The people are a wild, impulsive race, but the Commissioner of Orissa reports that for years they have lived peaceably under our rule. They pay no rent, and we take no revenue whatever from them, but merely keep order and prevent
oppression by means of a Tahsfildár, supported by a strong force of police. This officer's principal duties are to prevent or to put a stop to blood-feuds, to adjust dangerous disputes, and to take cognizance of any serious crime. The Bod Rájá exercises no authority whatever in the Kandhmáls. Their chief product is turmeric, which is grown in large quantities. It is of an unusually fine quality, and is eagerly bought up by traders from the open country, who penetrate with their pack bullocks into the innermost recesses of the hills. For further particulars regarding the Kandhs, see my work on Orissa, and the Central Provinces Gazetteer (where they are spelt Khonds), pp. 25, 124, 196, 239, 251, 286, 393. Ed. 1870. Also Manual of Vizagapatam District, pp. 323-349.

Daspalla is bounded for twenty-four miles on the north-east by the Mahánadí; on the east by Khandpára; on the west by the Kandh Hills of Bod; and on the south by the State of Gumsar, in the Madras Presidency. It contains an area of 568 square miles, yields an annual income of about £2000 to its Rájá, and a tribute of £66 a year to Government. The Topographical Survey in 1860-62 estimated the number of villages at 365, with 6331 houses and 35,136 inhabitants. A Return officially prepared for me in 1870, gives the population at 43,920. In the same year the Rájá reported the villages at 376, with 6607 houses and 36,338 inhabitants. The Mahánadí here flows through the magnificent Barmul Gorge in a channel of great depth, with special facilities for water-carriage. A large tract of Daspalla is inhabited by Kandhs, only nominally subject to the Rájá. Throughout the whole State, six villages contain over 100 houses: — (1.) Kunjabana, the Rájá's place of residence, 220 houses; Lat. 20° 20' 45"; Long. 84° 53' 27". (2.) Modíá Kandpatná, 278 houses; Lat. 20° 20' 25"; Long. 84° 58' 24". (3.) Judum, 161 houses; Lat. 20° 31' 28"; Long. 85° 0' 14". (4.) Belpadá, 148 houses; Lat. 20° 24' 59"; Long. 85° 6' 3". (5.) Julindá, 137 houses; Lat. 20° 31' 28"; Long. 84° 59' 23". (6.) Kamaládhár, 121 houses; Lat. 20° 30' 32"; Long. 84° 56' 30".

Daspalla was founded about 500 years ago by a son of the Rájá of Bod. Since then, fourteen chiefs have reigned. The State is divided into two parts,—Daspalla proper, which composed the original principality; and Judum, formerly a part of Angul, but annexed to Daspalla by conquest. The family name of the chiefs is Bhanj, literally broken (also forest); and their emblem of signature a peacock, from a legend that the founder of the family sprang from a peafowl's egg.

Dhenkanal, bounded on the north by Keunjhar; on the south by Athgarh, Tigará, and Hindol; on the east by Cattach District; and on the west by the Bráhmaní River, Tálcher, and Pál Lahará. Area,
Dhenkanal—Hindol. 85

1463 square miles. According to the Topographical Survey 1860-62, it contains 859 villages, with 127,411 inhabitants. The Maharájá, in 1870, returned the villages at 961, with 26,226 houses and 144,255 inhabitants. The State yields an income of about £6000 a year to its chief, and an annual tribute of £509 to Government. It is a very valuable property, and excellently managed under the personal supervision of its ruler, on whom the British Government conferred the title of Maharájá in 1869, as a reward for his moderation and justice towards his people, and his liberality in the famine of 1866. The Bráhman runs through the State, and forms a richly cultivated valley. There is, however, a great deal of waste land which might be brought under tillage. Iron abounds, but is worked on a very small scale. A petty trade in cochineal is also carried on. The four following towns consist of more than 200 houses:—(1.) Dhenkánál, 650 houses; Lat. 20° 39' 45"; Long. 85° 38' 20". (2.) Kontheo, 273 houses; Lat. 20° 46' 24"; Long. 85° 32' 30". (3.) Sanda, 346 houses; Lat. 20° 50' 6"; Long. 85° 27' 0". (4.) Komar, 423 houses; Lat. 20° 50' 0"; Long. 85° 21' 48". Weekly markets are held at two villages on the banks of the Bráhman: Hodipur, and Sadáipur, at which the usual country produce is sold. The name Dhenkánál is said to owe its origin to the fact of the founder of the family having killed the original owner, named Dhenka, in a stream (ndla), about 500 years ago, since which time about twenty-three chiefs have ruled, and constantly enlarged their territory by annexations from the neighbouring States. For further particulars see my work on Orissa.

Hindol, bounded on the north and east by Dhenkanal; on the south by Narsinhpur and Barambá; and on the west by Angul. Area, 312 square miles, with 134 villages, 3735 houses, and 20,729 inhabitants, according to the Topographical Survey of 1860-62; and 123 villages, 3703 houses, and 20,366 inhabitants, according to a Return submitted by the Rája in 1870. It pays a yearly tribute of £55 to Government, and yields an income of about £1000 a year to its chief. The southern half of the State consists of a wild and jungly range of hills called Kanaká, rising to over 2000 feet high. The Cattack and Sambalpur high road runs through the district, and small quantities of country produce find their way by it to the Mahánadí, and are there sold to travelling merchants. No fairs or markets are held, and only five villages contain over 100 houses:—(1.) Hindol, 297 houses; Lat. 20° 35' 50"; Long. 85° 14' 23". (2.) Karínda, 197 houses; Lat. 20° 42' 32"; Long. 85° 22' 50". (3.) Didárkot, 107 houses; Lat. 20° 41' 26"; Long. 85° 18' 36". (4.) Kanjágold, 105 houses; Lat. 20° 42' 12"; Long. 85° 20' 12". (5.) Navapatná, 100 houses; Lat. 20° 38' 5"; Long. 85° 20' 35". Hindol consisted originally of three or four very petty
States completely buried in jungle, and ruled by separate chiefs, till two Marhattá brothers belonging to the family of the Kimidi Rájá drove them out, and formed their territories into one principality. The present chief is the twenty-fifth in descent from the founders. His emblem of signature is a sword (Katár).

KEUNJHAR is bounded on the east by the State of Morbhanj and the District of Balasor; on the south by Morbhanj; on the north by Pál Lahárā; and on the west by Bonái, a Tributary State in the Chhotá Nagpur Division. It has an area of 3096 square miles, and an estimated population of 170,000. It yields to its Rájá an income of about £5000 a year, and a tribute of £197 to Government. The Baitaran River rises among the ranges of its south-west division. Keunjhar originally formed part of Morbhanj. But, about two hundred years ago, the tribes of this part finding it a great hardship to have to travel through perilous forests to Morbhanj, to obtain justice from their prince, separated themselves, and set up the brother of the Morbhanj Rájá as their independent chief. Since then, twenty-seven Rájás have reigned. The last prince rendered good service during the Kol rebellion in 1857, and was rewarded by Government with the title of Mahárájá. He died without legitimate issue; and a dispute arose about the succession, which was ultimately decided in favour of his natural son. The emblem of signature is a pea-fowl. A fuller account of this State will be found in my Account of Orissa. Keunjhar = Kendu-Jhár, the Kendu tree.

KHANDPARA, bounded on the north by the Mahánadí; on the south by the District of Purl and the State of Nayágárh; on the west by Daspálá; and on the east by Purl District. Area, 244 square miles. The Topographical Survey 1860–62 estimated the number of villages at 281, with 8245 houses and a population of 45,760. A Return prepared for me in 1870, gives the population at 57,180, and with this the Rájá’s calculation substantially agrees. The latter estimates the villages at 250, with 10,685 houses and 58,768 inhabitants. Khandpará is a very valuable territory, and one of the most highly cultivated of the Tributary States. The only two seats of trade in it are Kantilo, with 850 houses in 1862, and 1113 in 1870, Lat. 20° 14' 20'"; Long. 85° 14' 20'"; and Padmábati, 282 houses, Lat. 20° 20' 27', Long. 85° 21' 46". Both are situated on the banks of the Mahánadí. No regular fairs are held, but merchants from Cattack bring salt, spices, etc., to exchange for cotton, wheat, clarified butter, and oil-seeds from Sambalpur. Tribute, £421; chief’s income, £2445. Fine Sál timber abounds in the hilly parts of the State, and magnificent mango and banyan trees stud the plains. Besides the two seats of trade mentioned above, five other villages contain over 100 houses, viz.—
MORBHANJ—NARSINHPUR.

(1.) Khandpárá, the residence of the Rájá, 680 houses; Lat. 20° 15' 55"; Long. 85° 12' 43". (2.) Biengoniá, 211 houses; Lat. 20° 15' 8"; Long. 85° 16' 0". (3.) Fatiágad, 158 houses; Lat. 20° 17' 37"; Long. 85° 22' 33". (4.) Banmálípur, 130 houses; Lat. 20° 16' 14"; Long. 85° 15' 12". (5.) Nemapol, 109 houses; Lat. 20° 16' 10"; Long. 85° 16' 14". This State originally formed a part of Nayágárh, and was separated, about 200 years ago, by a brother of the Nayágárh chief, who set up for himself. Since then, seven Rájás have ruled. The family emblem of signature is a tiger's head.

Morbhanj is the largest of the Orissa Tributary States, and one of the most valuable. It is bounded on the south and east by the State of Nílgiri, and by the Balasor and Midnapur Districts; on the west and north by the State of Keunjhar. It extends over 4243 square miles, and presents every variety of soil and scenery. The Rájá, in 1870, returns the villages at 2319, with 24,224 houses and 132,232 inhabitants. The Superintendent of the Tributary States, in the same year, estimated the population at 191,200. Morbhanj yields an annual income of £10,000 to its Rájá, and £106 as tribute to Government. It abounds in rich valleys, but a vast extent remains under the primeval jungle. Of this latter, a considerable proportion might be brought under tillage. The Meghásaní hill rises to the height of 3824 feet in the southern part of the State, and well merits its name, literally the Seat of Clouds. Morbhanj is divided into three parts—Morbhanj Proper, Upen-bágh, and Bámanghát. The last is under British management, necessitated by a peasant rebellion brought on by the oppression of the aboriginal population, Kols and Bhúiyás, by the land-stewards and petty officials of the Rájá. Upen-bágh is also under English surveillance, a body of our police being quartered there at the Rájá's expense. Large herds of elephants roam through the forests and mountains of Morbhanj, and very successful Khedda operations have been carried on for the last two years—upwards of 100 fine elephants having been caught. The chronicles relate that the principality was founded more than two thousand years ago by a relative of the Rájá of Jaipur, in Rájputáná. The emblem of signature is a pea-fowl, and the killing of this heraldic bird is strictly prohibited throughout the State. Further details regarding Morbhanj will be found in the main part of this volume.

NARSINHPUR, bounded on the south and south-west by the Mahánádi; on the north by a range of jungly mountains; and on the east by the State of Baramá. Area, 119 square miles. The Topographical Survey in 1860-62 reported the villages at 191, with 4893 houses and an estimated population of 27,156. The Rájá, in
1870, returns the villages at 173, with 5279 houses and 39,037 inhabitants. The State yields an income of about £1200 a year to its chief, and pays an annual tribute of £145 to Government. Bi-weekly markets are held in a clump of mango trees at Kanpur, a town of 331 houses, in Lat. 20° 24' 4", Long. 85° 3' 21", where grain, cotton, sugar-cane, and oil-seeds are bartered for salt and cloths from Cattack. Five other towns contain over 100 houses, viz.—(1.) Narsinhpur, 313 houses; Lat. 20° 27' 59"; Long. 85° 7' 3". (2.) Adaigundi, 151 houses; Lat. 20° 27' 59"; Long. 85° 11' 53". (3.) Ekdál, 126 houses; Lat. 20° 23' 52"; Long. 85° 10' 37"; (4.) Bukda, 122 houses; Lat. 20° 27' 35"; Long. 85° 12' 57". (5.) Ságar, 101 houses; Lat. 20° 27' 49"; Long. 85° 11' 6". Narsinhpur was founded three hundred years ago by a Rajput who slew its former chiefs, two Kandhs, by name Narsinha and Poro. Since then, twenty-two chiefs have reigned. The emblem of signature is a scorpion.

Nilgiri, bounded on the east and south by the District of Balasor, and on the north and west by Morbhanj, has an area of 278 square miles, and a population, as estimated by the Superintendent in 1870, of 21,000. The Rájá, in the same year, returns the villages at 241, with 5030 houses and 27,665 inhabitants. The State pays an annual tribute of £390, and yields an income of about £1945 to its chief. One-third of it consists of mountains, one-third of waste jungle land, and one-third is under cultivation. Nilgiri was founded by a kinsman of the family of the Rájá of Chhota Nágpur, who married a daughter of the king of Orissa, Pratáb Rudra Deo. The present chief claims to be the twenty-fourth in the line of descent. His emblem of signature is a Karolá flower. The State contains valuable quarries of black stone, from which cups, bowls, platters, etc. are made.

Nayágár, bounded on the east by Ranpur; on the north by Khandpárá; on the west and south by Daspallá and Gumsar. Area, 558 square miles, containing 690 villages, many of which, however, are deserted; 13,883 houses, and a population estimated at 77,051. Nayágár is a large and valuable State, with great tracts of highly cultivated land, yielding an annual income of £5000 to its chief, and a tribute of £552 to Government. Towards the south and south-east, however, the country is exceedingly wild, and incapable of tillage; but the soil of the jungles on the west might be profitably brought under cultivation. The State abounds in noble scenery; and a splendid range of hills, varying from two to three thousand feet in height, runs through its centre. It sends rice, coarse grains, cotton, sugar-cane, and several kinds of oil-seeds to the neighbouring Districts of Cattack and Ganjárm. Nine villages contain upwards of 100 houses, viz.—(1.) Nayágár,
PAL LAHARA—RANPUR.

495 houses; Lat. 26° 7' 45"; Long. 85° 8' 10". (2.) Itámáti, where bi-weekly markets are held, 360 houses; Lat. 20° 8' 12"; Long. 85° 11' 42". (3.) Nandigoro, 200 houses; Lat. 20° 0' 51"; Long. 85° 0' 9". (4.) Kural, 217 houses; Lat. 20° 0' 52"; Long. 84° 57' 40". (5.) Godiápara, 168 houses; Lat. 20° 22' 22"; Long. 85° 12' 29". (6.) Nátipada, 190 houses; Lat. 20° 26' 3"; Long. 85° 11' 50". (7.) Birudá, 135 houses; Lat. 20° 7' 57"; Long. 85° 13' 47". (8.) Bansípara, 199 houses; Lat. 20° 10' 0"; Long. 85° 13' 56". (9.) Shikárpur, 166 houses; Lat. 20° 15' 50"; Long. 85° 8' 40".

Nayágárh was founded about five hundred years ago by a Rájput belonging to the family of the Rájá of Rewah, twenty-one generations distant from the present chief. It originally comprised Khandpárá, but a brother of the then reigning chief separated this latter territory about two hundred years ago, and erected it into an independent State. The Rájá's emblem of signature is a tiger's head.

PAL LAHARA formerly belonged to Keunjhaz, but was partially separated in consequence of family quarrels. It is bounded on the east by Keunjhar; on the south by Dhenkána; on the west by Tálchá; and the north by Boná. Area, 452 square miles, containing 158 villages, 2170 houses, and an estimated population of 12,044. A magnificent mountain, Malayagiri, 3895 feet high, with building space and water on its summit, towers above the lesser ranges. The State produces the usual coarse grains and oil-seeds, but has nothing worthy of the name of trade. Lahará, the residence of the Rájá, is the only village of more than 100 houses. The story of the separation of Pál Lahará from Keunjhar is as follows: Once upon a time, the Keunjhar Rájá compelled his feudatory of Pál Lahará to dance before him in women's attire. From this affront a deadly quarrel resulted, and at the end, as the price of peace, the Pál Lahará chief was exempted from any longer paying his tribute through the Keunjhar Rájá, and now pays it to the British Government direct. The money, however, is still credited in our treasury accounts to the Keunjhar State, although for all practical purposes Pál Lahará is independent of the Keunjhar Rájá and utterly disowns his authority. Pál Lahará contains some of the finest Sál forests to be found in the world.

RANPUR, bounded on the north, south, and east by Purl District, and on the west by Nayágárh, has an area of 203 square miles, containing 173 villages, with 2603 houses and a population estimated at 14,447. The State yields an income of £1500 to its chief, and a tribute of £140 to Government. The only town is the Rájá's place of residence, which consists of one long and wide street, containing 600 houses. The country products are here bartered, in bi-weekly
markets, for iron, cotton, blankets, cloth, silk, wheat, and clarified butter, which are brought from Khandpára, and for fish from the Chilká Lake. The south-west part of Ranpur is a region of jungly hills, almost entirely waste and uninhabited, which wall in its whole western side, except at a single point where a pass leads into the adjoining State of Nayágarh. Tradition states that a hunter named Básura Básuk founded this State some 3600 years ago. It was originally of small extent, but 109 generations of chiefs had constantly annexed their neighbours' territories, until the accession of the British power put an end to such internecine struggles. It is said to take its name from a giant named Ranásur, who lived in it. The emblem of the chief's signature is a sword.

Tálcher, bounded on the north by Pál Lahará, on the south and west by Angul, and on the east by Dhenkánal, comprises an area of 399 square miles, with an estimated population of 30,100. It yields an annual income of £1200 to its chief, and £103 to Government. Iron, lime, and coal are found near the banks of the Bráhmaní. Gold is also obtained by washing the sand of the river, but the process is very primitive, and yields but little profit to the workers. The only town of any size in the State is that of Tálcher, the residence of the Rája, situated on the right bank of the Bráhmaní, in Lat. 20° 57' 25", Long. 80° 16' 58", and containing 476 houses. There are a few other villages numbering 100 houses. The State was founded about five hundred years ago by a son of the then Rája of Oudh, who forcibly ejected the savage tribe which had previously inhabited it. It is stated that the founder had to uproot many palm trees in order to make room for his habitation, and that the name Tálcher was derived from this circumstance. Since then, seventeen chiefs have reigned. The title of Mahendra Bahádur was bestowed upon the Rája by the British Government, as a reward for services rendered during the Angul disturbances. The emblem of the chief's signature is a tiger's head.

Tiğará, bounded on the south by the Mahánadí; on the north by Dhenkánal; on the west by Barambá; on the east by Athgarh. Area, 46 square miles. The Topographical Survey 1860–62 reports the number of villages at 134, with 3735 houses and 20,729 inhabitants. The Rája, in 1870, returned the villages at 79, with a population of 15,482. The Superintendent, in the same year, estimated the inhabitants at 25,909. The State yields to its chief an income of about £800 per annum, and a tribute of £88 to Government. It is one of the smallest of the Tributary States, but populous and well cultivated, except among the hills and jungles at its northern end. It produces the usual coarse rice and grains, oil-seeds, sugar-cane, tobacco, cotton, etc., for the
transport of which the Mahanad affords ample facilities throughout its whole southern part. But only two villages boast of the bi-weekly fairs common in the Tributary States. Two towns contain over 100 houses,—Gopnathpur, with 490 houses, Lat. 20° 26' 46"; Long. 85° 30' 38"; and Panchgaon, with 132 houses, Lat. 20° 28' 1"; Long. 85° 34' 4". The little principality dates from about 400 years ago, when Sur Tung Sinh, a Puri pilgrim from Northern India, halted on his way back, drove out the aboriginals, seized the country, and founded the present family. Twenty-six chiefs have reigned since then. The State was originally much larger than at present, and is said to derive its name from the fact of its having consisted of three divisions, defended by forts (tri gārh, or, in Uriya, gara). Extensive domains have, however, been carved out of it by the neighbouring chiefs in the time of the Marhattā Government. The emblem of signature is the Five Weapons (Sastra pancha).

LEGISLATIVE HISTORY.—In the earlier part of this Account I have briefly sketched the Administrative and Revenue annals of the Tributary States. These States, however, have formed the subject of frequent legislation of a special character. We took them over from the Marhattās in 1805 with the rest of Orissa; but as they had always been tributary States rather than regular Districts of the Native Governments, we exempted them from the operation of our general Regulation system, by Sections 36, 13, and 11 of Regs. xii., xiii., and xiv. of 1805. This exemption was recognised on the ground of expediency only; and it was held that there was nothing in the nature of our connection with the proprietors that would preclude their being brought under the ordinary jurisdiction of the Courts, if it should ever be thought advisable.

The office of Superintendent was established in 1814, and he was directed to endeavour to establish such control over the conduct of the zamindārs as might prevent the commission of crimes and outrages.

Regulation xi. of 1816 appears to be the only law by which the Superintendent was invested with any judicial authority; and, by that law, claims to inheritance and succession among the Rājās are disposed of by him.

In 1821 the Government ruled that the interference of the Superintendent should be chiefly confined to matters of a political nature; to the suppression of feuds and animosities prevailing between the Rājās of adjoining Mahals, or between the members of their families, or between the Rājās and their subordinate feudatories; to the correction of systematic oppression and cruelty practised by any of the Rājās or by their officers towards the inhabitants; to the
cognizance of any apparent gross violation by them of their duties of allegiance and subordination; and generally, to important points, which, if not attended to, might lead to violent and general outrage and confusion, or to contempt of the paramount authority of the British Government.

In 1839 Mr. Ricketts proposed the introduction of a regular system of management, but the rules proposed by him and by his successor, Mr. Mills, were not approved. Instructions were, however, given to draw up some short, clear, and well defined regulations, making the Rajás responsible to the Superintendent in all cases of murder, homicide, and heinous offences, without, however, interfering so far as to make them amenable to the Civil Court of the Superintendent in cases between the Rajás and their creditors. In accordance with the above instructions, Mr. Mills prepared revised rules, and submitted them for approval. These revised rules proposed that the Rajás should be prohibited from exercising the powers of life and death; from subjecting any offender to torture, mutilation, or other punishment opposed to the principles of British rule; and from allowing the practice of widow-burning and human sacrifices within their territories;—that they should be made liable to punishment for murder or other heinous offences committed by them, and should be held responsible for the amount of property robbed from travellers, if the commission of the crime and the non-recovery of the property were due to their imperfect police or want of care;—that the Superintendent's power of interference should be increased, so as to take cognizance of offences committed by foreigners in the Tributary States; to hold preliminary inquiries in heinous offences committed by the Rajás, and to sentence all offenders except the Rajás to imprisonment for a term not exceeding seven years;—that the punishment of the Rajás, and all punishments exceeding seven years, should be awarded by the Government of Bengal. The Bengal Government, however, thought it better not to pass any permanent or defined rules upon the subject, but directed that the spirit of the proposed rules should be acted up to in all future cases, with certain limitations, and that the Rajás should be informed that they are ordinarily amenable to the Superintendent's Court, subject to such instructions as may from time to time be furnished by the Government. These orders are now in force; and all sentences of more than seven years' imprisonment, although passed by the Superintendent, have to be reported to Government for confirmation.

Under Government order No. 3364, of September 1858, the system of trying petty criminal cases *viva voce* was extended to the Tributary States.
LEGISLATIVE HISTORY.

Act xx. of 1850 was enacted for settling the boundaries of the Tributary States, and is still in force.

Acts viii. and xiv. of 1859 were extended to the Tributary States of Bândi and Angul, from the 1st January 1862. As regards the States under the Rajás, the proviso contained in Section xi Regulation xiv. of 1805 is still in force.

The Penal Code was declared applicable to the Tributary States by an order of the Government of India, No. 2425, dated the 18th December 1860.

Under orders of Government of Bengal, No. 1875, dated the 11th March 1863, the criminal authorities were directed to be guided in their proceedings as closely as possible by the spirit of the Criminal Procedure Code. Section 13 of Regulation xiii: of 1805 is still in force.

In the estates under the direct management of Government, viz. Bândi and Angul, the Civil and Criminal Procedure Codes, as well as Act v. of 1861, are in force. They are in fact virtually treated as Regulation Districts. This is the case also in the Kandh-mâls.
APPENDIX IV.

STATISTICAL ACCOUNT OF THE DISTRICT OF CATTACK.

CATTACK DISTRICT, the Central Division of Orissa, lies within the twentieth degree of north latitude, and the eighty-fifth and eighty-seventh degrees of east longitude. It is bounded on the north by the Baitaraní and Dhámrá Rivers; on the east by the Bay of Bengal; on the south by the District of Purí; and on the west by the Tributary States. Area, after recent transfers, 3178 square miles. Population, 1,293,084 souls.

The Jurisdiction of Cattack District has been frequently changed, and it was not until the 26th November 1868 that a Government notification assimilated the revenue and magisterial boundaries, by making the Baitaraní and Dhámrá Rivers the northern limit in both departments. Previously, the Baitaraní had only formed the magisterial boundary, while several Fiscal Divisions on the north of it belonged to the Cattack Collectorate, and several on the south of it to the revenue jurisdiction of Balasor. The new arrangement took effect, as regards the transfer of estates from the rent-roll of one District to the other, from the 1st April 1870. The civil jurisdiction of the Judge of Cattack extends over all the Districts of Orissa, except the Tributary States; and in his criminal functions he proceeds on circuit to Purí and Balasor, to hold sessions at certain periods of the year. The jurisdictions of the local subordinate judges (Munsifs) do not at all coincide with those of the subdivisional officers in the revenue and magisterial departments, but a scheme for assimilating them is now under consideration.

Natural Divisions.—The District of Cattack, like that of Balasor,
consists of three distinct tracts:—First, a marshy woodland strip along
the coast, from three to thirty miles in breadth; second, the inter-
mediate rice plains in the older part of the delta; third, the broken
hilly region which forms the western boundary of the District.

The Marshy Strip along the coast resembles the Bengal Sundar-
bans as regards its swamps, dense jungle, and noxious atmosphere; but
it entirely lacks their noble forest scenery. I have examined the flora
of both; and so far as my knowledge extends, it is substantially the
same, excepting that everything is on a smaller scale in the Orissa
Sundarbans. I give as a separate Appendix, a list of plants which I
collected on the islands around False Point, and in the jungles which
stretch inland from them, as it may possibly be of service to some one
who knows more about the subject than myself. The tract is inter-
sected by innumerable streams and creeks, whose sluggish waters de-
posit their silt, and form morasses and quicksands. Cultivation does
not begin till the limits of this dismal region are passed.

The Intermediate Plains stretch inland for about forty miles,
and occupy the country between the marshy sea-coast strip and the
hilly frontier. They are intersected by four large rivers, which emerge
from the western mountains, and throw out a network of branches in
every direction. These, after innumerable twists and interlacings,
frequently rejoin the parent stream as it approaches the ocean. It is a
region of rich rice fields, dotted with magnificent banyan trees, thickets
of bamboos, exquisite palm foliage, and fine mango groves. It forms
the only fertile and really paying part of the District.

The Hilly Frontier separates the settled part of Orissa from
the semi-independent Tributary States. It consists of a series of
ranges, from ten to fifteen miles in length, running nearly due east and
west, with thickly-wooded slopes and lovely valleys between. This
region annually sends down vast quantities of minor jungle products to
the plains, such as I have described in the Statistical Account of the
Tributary States; but unfortunately the timber is small, and of little
value except as fuel.

The Political Character of these three tracts is as distinct as
are their natural features. The first and third are still occupied by their
ancient feudal chiefs, and have never been subjected to a regular settle-
ment, either by the Musalmán or the British Government. They pay
a light tribute, now permanently fixed. The intermediate plains
known as the Mughulbandi, from their having been regularly settled
by the Muhammadans, have yielded to the successive dynasties of
Orissa the chief part of their revenue. At present they form an ordi-
nary British District in every respect, excepting that the arrangement
for the land revenue is made for a period of thirty years instead of in perpetuity.

Mountains can scarcely be said to exist within the District. The highest hills do not exceed 2500 feet; and these, with the exception of a few isolated peaks near the town of Cattack, all lie in the western or frontier region. They are steep, and covered with jungle, but can be ascended by men. Many of them are interesting as Shrine Hills, or for their ancient forts; and when writing my General Account of Orissa (p. 179), I promised to describe them in this Statistical Account. But much of the unpublished material which I then possessed has since been printed in the Journal of the Bengal Asiatic Society, vol. xxxix. p. 158, by the Hindu gentleman who had kindly lent me his documents. I therefore refrain from ground which has been so recently and so ably occupied, and refer antiquarian readers to Babu Chandrasekhara Bānajrī's essay. The most interesting hills are in the Asia Range, particularly Nāltigiri, with its Sandal Trees and Buddhist remains; Udayagiri (Sunrise-hill), with its colossal image of Buddha, sacred reservoir, and ruins; Asiagiri, with its mosque of 1719 A.D., 2500 feet above the sea. The Mahāvīnyaka peak, visible from Cattack, has been consecrated for ages to Siva-worship by ascetics and pilgrims, who have penetrated its jungles, fearless of the wild Savar Tribes.

River System.—The great feature of Cattack District is its rivers. These issue in three magnificent streams, by three gorges, through the hilly frontier. On the south, the Mahānādi, literally the Great River, pours down upon the delta from a narrow gully at Narāj, about seven miles west of the town of Cattack. On the extreme north of the District, the sacred Baitaranī, the Styx of the Hindus, emerges from a more open country, and forms the boundary line between Cattack and Balasor. The Brāhmanī enters the District about half-way between the two; and Cattack is thus divided into two great valleys, one of them lying between the Baitaranī and the Brāhmanī, and the other between the Brāhmanī and the Mahānādi, and both, therefore, bounded by a river on either side. I say valleys, because the Cattack rivers, according to the law of delta streams explained in my Account of Orissa, run along the high levels, with low lines of drainage between them. They are, in fact, natural canals; and during floods their waters pour over their banks into the surrounding valleys, forming a thousand channels and distributaries, which interlace with each other, and establish direct communication between the parent streams. The following scheme illustrates the main points in the river system of the District, but the minor interlacings are innumerable:
**THE RIVER SYSTEM OF CATTACK DISTRICT.**

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Koyakhu supplies Purh District, and after many bifurcations finds its way, by the Chilká Lake, into the Bay of Bengal.—*Vide* Statistical Account of Purh District.

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### Brahmami

- Kharsua
- Patiyá

### Mahanadi

- Chitartalá
- Nun

### Katjuri

- Large Deví
- Little Deví

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**Bay of Bengal**

- Dhámra

---

**Statistics of Cattack District**

- Baitaraní
- Brahmami
- Mahanadi
- Katjuri

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**Footnote**

Vide Statistical Account of Purh District.
DISTRIBUTION OF WATER SUPPLY.—Owing to another peculiarity of delta rivers, the water which is thus poured down upon the plains at the three gorges, greatly exceeds the volume which the lower channels are able to carry off. The rivers issue from the hills heavily laden with silt, which they deposit when their velocity is checked by the dead level of the delta. Their beds thus gradually shallow, and prove more and more unable to carry off the floods to the sea, so that every year a large quantity of surplus water pours over the banks. In 1858, Captain Harris, after a series of most careful investigations, arrived at the following conclusions with regard to the Mahánadi. During high floods, 1,800,000 cubic feet of water pour every second through the Naráj gorge seven miles above Cattack City, while the total distributaries and channels, half-way between that point and the Bay of Bengal, only afford accommodation for 897,449 cubic feet, or less than one half. The remaining half would infallibly devastate the surrounding country were it not for the embankments; but even with embankments, a very large proportion of it every year pours down on the rice fields. During time of flood, about 250,000 cubic feet per second, or from one-seventh to one-eighth of the total, strikes into Puri District by means of the Koyakña. The remaining six-sevenths, or, in round numbers, a million and a half of cubic feet, pour every second through the Katjurá, Birúpá, and Mahánadi proper, into the Cattack District. To get rid of this vast volume of water, the Puri rivers have only the means of carrying off 34,306 cubic feet per second, while all the distributaries in Cattack District can only dispose of 78,694 cubic feet. For the portion which passes into Puri via the Koyákñá, see Statistical Account of Puri District.

CAPACITY OF CATTACK RIVERS AT A SECTION HALF-WAY BETWEEN CATTACK CITY AND THE SEA.

<table>
<thead>
<tr>
<th>Names of Rivers</th>
<th>Fall per Mile at Point of Section</th>
<th>Mean Depth of Section in Feet</th>
<th>Calculated Velocity by Etelwyn's Formula, in Feet per Second</th>
<th>Calculated Discharge per Second, in Cubic Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little Deví</td>
<td>1'20 feet</td>
<td>18'87</td>
<td>6'06</td>
<td>34,306</td>
</tr>
<tr>
<td>Large Deví</td>
<td>1'20 &quot;</td>
<td>29'55</td>
<td>7'58</td>
<td>148,434</td>
</tr>
<tr>
<td>Alánká</td>
<td>1'00 &quot;</td>
<td>16'60</td>
<td>5'18</td>
<td>23,041</td>
</tr>
<tr>
<td>Mahánadi</td>
<td>1'20 &quot;</td>
<td>15'14</td>
<td>5'40</td>
<td>243,589</td>
</tr>
<tr>
<td>Patálí</td>
<td>1'25 &quot;</td>
<td>17'52</td>
<td>5'96</td>
<td>113,836</td>
</tr>
<tr>
<td>Chitarñá</td>
<td>1'30 &quot;</td>
<td>14'23</td>
<td>5'47</td>
<td>83,653</td>
</tr>
<tr>
<td>Nun</td>
<td>1'60 &quot;</td>
<td>20'71</td>
<td>7'33</td>
<td>107,047</td>
</tr>
<tr>
<td>Do., Watercourse adjoining</td>
<td></td>
<td></td>
<td>4'75</td>
<td>10,293</td>
</tr>
<tr>
<td>Birúpá</td>
<td>6'5 &quot;</td>
<td>10'19</td>
<td>3'28</td>
<td>23,695</td>
</tr>
<tr>
<td>Average, 1'17</td>
<td></td>
<td>Average, 17'85</td>
<td>Average, 5'66</td>
<td>78,694</td>
</tr>
</tbody>
</table>

Average, 1'17 Average, 17'85 Average, 5'66 78,694
ESTUARIES AND HARBOURS.—As the Cattack Rivers enter the District by three great gorges in the hills, so, after innumerable bifurcations, they find their way into the ocean by three principal mouths. On the north, the Baitaranj and Brâhmanj debouch into the Bay of Bengal, under the name of the Dhamra, at Point Palmyras; while the Mahánadî, or rather that portion of it which remains in Cattack District, after a variety of interlacings, forms two great estuaries,—one bearing the name of the Mahánadî at False Point; the other, generally known as the Devî, with its connected channel the Jotdâr, in the southeastern corner of the District. I propose to briefly examine these points of exit, explaining their capabilities as harbours, and the perils incident to their approach. By keeping the first of the two preceding Tables before him, the reader will find his part of the task greatly simplified.

The Devî, literally The Goddess (a title specially applied to the wife of the All-Destroyer), with its channel the Jotdâr, forms the last part of the great network of rivers into which the Katjuri branch of the Mahánadî bifurcates. According to a characteristic of the Cattack streams, most of the members of the network re-unite as they approach the ocean, and the result is a broad and noble estuary, which, under the name of the Devî, enters the sea in north latitude 19° 58', and east longitude 86° 25'. A permanent beacon has recently been erected at the mouth, in latitude 19° 58'; and a chart of the channel was in 1869 completed in three sheets. For seven miles inland from the mouth an excellent channel of sixteen to twenty-four feet is obtained. Above this distance the river shallows rapidly, and is only navigable by country boats. Unfortunately, however, this admirable harbour is rendered almost useless by bars of sand across its mouth. During the cold season, or from November to March, vessels drawing ten feet of water can safely enter it by watching the tide. But once the south-west monsoon has set in, the surf rages outside in a way that renders the approach of vessels perilous in the extreme. During this season, navigators, if they dare to approach at all, must go by the depth shown in the new charts of the Indian Marine Department, dated 1869. Outside the bar the water shoals rapidly from 44 to 6 feet. The bar itself is two hundred yards broad, with four feet of water at lowest tide. Once past this, the channel again deepens through six and seven feet to twelve feet; and higher up, as already stated, from sixteen to twenty-four feet. The ordinary rise of the tide is from four to six feet. It runs for twenty-eight miles up the river, and this is the limit of navigation even for country boats, if laden, in the dry season. After the rains, and at the beginning of the cold weather, a much greater depth of water is obtained; and an extensive rice trade has developed at Máchhhâgon, about nine miles from its
HARBOURS OF ORISSA—FALSE POINT.

101

mouth. Sea-going brigs cannot get up to the mart, but they float in with the tide as far as they can, and are laden from country cargo-boats. The mouth is surrounded by dense jungle, destitute of inhabitants or of tillage; and a line of surf, on both sides of the channel, forms a continuous landmark for vessels running in and out. I have never heard of an English ship venturing into the estuary, nor is the harbour mentioned in Horsburgh's Sailing Directions; but the Madras traders with native masters and crews willingly take the risk in their lighter craft, and get lucrative freights, owing to the local cheapness of rice. The shoals and bars vary in depth from year to year.

The Mahanadi Estuaries; False Point.—The northern branches of the Mahanadi, after endless bifurcations, also re-unite towards the sea, and eventually enter the Bay of Bengal under the name of the parent stream. The estuary has several mouths, but the principal one is that which debouches through the shoals to the south of False Point Lighthouse. For many miles up the river there is abundance of depth for ships of 300 or 400 tons burden; but unfortunately, as in the case of the Devi, and indeed of all other Orissa harbours, a bar stretches across the mouth, which, in addition to the perils of shoal water, adds to the dangers which are incident to constant changes in the channels and the sandbanks. For example, charts still in use show the Patkund channel (which branches off from the Mahanadi about fifteen miles higher up) as debouching through a fair entrance of its own into the sea. But this entrance is reported by the local authorities as now closed by a high ridge of sand; and the river thus shut out from the ocean, runs parallel to the coast in a north-easterly direction, till it re-enters the Mahanadi near its mouth.

False Point, on the north of the Mahanadi estuary, consists of an anchorage land-locked by islands and sandbanks, and with two channels navigable to the inland. It derives its name from the circumstance that ships proceeding northward frequently mistook it for Point Palmyras, a degree farther north. It lies in north latitude 20° 20', and east longitude 86° 47', and was reported by the Famine Commissioners in 1867 to be the best harbour on the coast of India from the Hugly to Bombay. A lighthouse is situated on the point which screens it from the southern monsoon, in latitude 20° 19' 52" N., longitude 86° 46' 57" E.; and the harbour is protected by two sandy reefs, Long Island and Dowdeswell Island, the latter being a long narrow spit of sand, which completely land-locks the anchorage. Point Reddie, at the extremity of this latter island, protects the entrance. The harbour is safe and roomy, and the channel properly buoyed. I have very carefully examined the harbour on two occasions, both from the sea and from the inland; and so far as
I could learn, the channels have of late deepened rather than shallowed. In February 1870, I lay far enough in to be perfectly well protected, in a steamer drawing twenty-one feet. At the last survey in October 1868, twenty-five feet of water were given as the reduced minimum depth at A buoy, the channel gradually shallowing to a depth of twenty feet, about five hundred yards north-west of B buoy. At a reduced minimum depth of twenty feet, good protection can be obtained from the south-west monsoon; but by proceeding inwards to B or C buoys, with a reduced minimum depth of fourteen and sixteen feet respectively, the protection is as much as need be desired. The channel then gradually shallows through fifteen to thirteen feet at lowest tide, which is reached two hundred and fifty yards north-west of D buoy, and here the protection is absolute. Navigators ought to procure the recent survey by Mr. Harris of the Marine Department; on which, however, Colonel Rundall's Note may also be consulted by persons wishing to make themselves perfectly acquainted with the capabilities of the Mahándí estuary and channels. A soft mud bottom averts the dangers incident to vessels taking the ground. The latest Survey Report (dated 10th May 1870) recommends that a vessel making the port should give Point Reddie a berth of half a mile, steering up midway between the buoys. Should the buoys be gone, she should keep False Point Lighthouse midway between the two small beacons on Plowden's Island. Vessels drawing 18 to 20 feet should anchor near B and C buoys, unless they wish to discharge cargo, when they may with perfect safety run in till they ground on the soft olive-coloured mud. Inside of Dowdeswell Island lies Plowden Island, for the most part a low jungly swamp, but with a limited extent of high ground on its eastern face, suitable for building purposes. The island is also provided with wells, from which good drinking water may be obtained.

**INLAND CHANNELS FROM FALSE POINT.**—Two separate channels lead inland from the anchorage,—the Jambu River on the north, and on the south the Bakud Creek, a short deep branch of the Mahándí. Unfortunately for inland navigation by ships, bars of sand intervene between the anchorage and these channels, and, except at high water, block the entrance to both. At full tide, cargo-boats and steamers enter with ease.

The Jambu bar stretches for about three-quarters of a mile, and has one foot of water at lowest tide; after passing which, a channel of two feet, gradually deepening to ten, is obtained in the lowest tide. Higher up, the depth increases to eighteen, and in some places to twenty-eight feet, and a channel of not less than ten may be relied on as high up as Deulpára. The navigation is rendered difficult by the winding of the stream, especially during the freshes, when a very strong current comes
down. Nor is the channel so wide as the second route presently to be described; and towards Deulpárá it shoals and narrows to an extent that marks this point as the safe limit of navigation for heavily laden country boats. A creek here unites it with the Nun River, near the entrance of the Kendrápárá Canal at Márságháí. This entire route passes through a waste and often desolated country. During floods, the whole tract to the east or coast side is one large sea or jungle-covered swamp. It belonged to the Kujang Rájá, an ancient family crushed by debt, and unable to do anything towards the protection of his territory from the rivers. It has recently been purchased by the Maharájá of Bardwán, and it is hoped that the wealth and public spirit of this nobleman will inaugurate a new era in those parts.

The Bakuš, or Southern Channel, is the most direct for navigation inland. A bar of about a thousand yards in length lies across its mouth, and is dry during the last quarter of the ebb. After passing it, a channel of two feet is obtained, gradually deepening to eight, then shoaling again to two, and eventually deepening into an excellent channel of from fourteen to twenty feet, up to its junction with the Mahánádí, a distance of about sixteen miles. It was in this creek that Government established its rice depot for throwing supplies into the Province during the famine of 1866. Eight miles above its bifurcation from the Mahánádí is the junction of the latter river with the Nun. Here a choice of two routes will soon be offered; one lying up the Nun to Márságháí, the entrance to the Kendrápárá Canal, while the other will proceed by the Mahánádí to the Tálándá Canal, at present under construction. The only route yet available, however, is the former one, via the Nun, which has an excellent channel of twelve feet as far as Baulpárá, where it takes a turn, forming a shoal of about a thousand yards, with a narrow channel with eleven to fifteen feet of water. This depth can be relied upon until within two miles of Márságháí, the entrance to the canal, where the river wheels sharply round to the north and shallows fast. This is the safe limit of navigation for river steamers and cargo-boats, but the latter can proceed higher up by catching the flood tide.

Besides the two inland routes above mentioned, several tidal creeks run along the coast, and connect False Point anchorage with the Dhámrá and Bráhmánrivers on the north, and with the Deví on the south. Such channels are generally very winding and narrow. They are available, however, for country boats all the year round.

History of False Point Harbour.—Till within the last eight years, False Point anchorage was little known, and almost unused. Although but two days by steamboat from Calcutta, no regular com-
communication existed; no important trade was carried on; and the exports, consisting chiefly of rice, were entirely in the hands of a few native shipmasters from the Madras coast. Horsburgh, in his Sailing Directions, dismisses it with a brief, and so far as regards the depth of water, an inaccurate notice. In fact, he treats of it as a beacon rather than as a harbour. About 1862, the newly started East India Irrigation Company perceived its capabilities for the importation of stores, and an enterprising French firm in Calcutta shortly afterwards established an agency for the export of rice. The arguments against False Point seemed, however, at that time to be conclusive. It was represented to be a fever-stricken spot, with no villages or local population, and with no practicable channels inland. But Colonel Rundall, with Mr. Faulkener, carefully investigated its capabilities, and strongly insisted upon the adoption of it as a harbour. Two thousand tons of material for the canals were landed direct from England from a ship of about 1200, and a barque of about 800 tons burden; the vessels being safely lodged within the anchorage, and discharging without loss of any sort. But it was during the famine year (1866), when Government was anxiously exploring every means of throwing supplies into the Province, that the capabilities of False Point were first publicly appreciated. The formation of the new canals has been the making of the port. Formerly, a traveller landing at the harbour found himself as far from Cattack as if he had never started from Calcutta. Its isolated and jungly situation, and the long, tedious boat route inland, through dense forests and across malarious swamps, rendered it impracticable for goods or passenger traffic. But now that the difficult upper half of the journey can be conveniently and rapidly done by a canal, and that the lower half is accurately surveyed, False Point has grown into the entrepot for the import and export trade of Orissa. A small steamer, maintained by Government, plies between the harbour and the entrance to the canal at Marságháï, from which point the passage is comfortable and rapid, compared with the old uncertain route round by the rivers. I was informed by the people on the spot that the malarial character of False Point has to a large extent disappeared; and the harbour-master, who as lighthouse-keeper has had many years' experience of the locality, assured me that both he and his subordinates had found False Point a healthy station. To the north of the entrance to the Jambu River is a large tract of high sandy land, suitable for building purposes; and during the hot months, when the breeze is off the sea, this site might be made a salubrious residence. It is easily accessible from the anchorage. At the end of the rains, newcomers would have to make up their minds to acclimatization, by
the usual malarial fever common to the whole coast of Bengal and British Barmah.

**IMPORTS AND EXPORTS.**—The following is a statement of the import and export trade of the port of False Point, so far as the registers enable me to give it, for the nine years ending 1868–69:—In 1860–61, four vessels arrived and left; total tonnage, 2830 tons,—the largest ship being 402 tons; value of imports not given; value of exports, £6759. In 1861–62, ten vessels arrived, and eight left; total tonnage, 7756 tons; tonnage of largest vessel, 1026; value of imports not given; value of exports, £24,657. In 1862–63, fourteen vessels, six inwards and eight outwards; total tonnage, 4016 tons; tonnage of largest vessel, 517; value of imports not given; value of exports, £17,802. In 1863–64, sixteen vessels; total tonnage, 8681 tons; tonnage of largest vessel, 788; value of imports, £33,093; value of exports, £18,828. In 1864–65, sixteen vessels; total tonnage, 12,834 tons; largest vessel, 812 tons; value of imports, £4446; ditto of exports, £25,634. In 1865–66, total burden, 8055 tons, the largest ship being 1154 tons; value of imports, £1550; ditto of exports, £8225. In 1866–67, the year of the great famine, the value of the imports amounted to £184,859, the exports being nil. The imports, consisting almost entirely of grain for the relief of the starving population, were conveyed in fifty-one vessels of a total burden of 33,862 tons, the largest vessel being 1207 tons. In 1867–68, twenty-nine vessels, aggregating 33,023 tons—largest vessel, 1207 tons—brought imports to the value of £157,044, the value of the exports only amounting to £54. In 1868–69 fifteen vessels arrived, of a total burden of 13,574 tons; largest vessel, 1341 tons; value of imports, £1710; ditto of exports, £1920. The bond false trade of False Point is chiefly with other Indian harbours, although, as already stated, the port is used as the landing-place for stores and material from England for the irrigation works, and these are sometimes re-shipped from Calcutta. During the six years for which I have classified returns of the imports, the value of goods brought from the United Kingdom aggregated £32,825; while those from Indian ports amounted to £348,216; besides £1742 worth of goods from foreign ports. With regard to the exports, I have classified returns for eight years, during which nothing was shipped to the United Kingdom, while the value of exports to Indian and foreign ports amounted to £103,883. The port is open throughout the year, but is visited by native vessels only during the cold season, although steamers now run between it and Calcutta in the height of the monsoon.

**FUTURE CAPABILITIES AND IMPROVEMENTS.**—False Point, therefore, forms a harbour well marked by a lighthouse; provided with
drinking water and building ground; possessing direct routes inland to Cattack, the capital of the province; and furnishing absolute protection against the south-west monsoon. The existence of the bars across the mouths of the inland routes matters little, as by waiting for the tide plenty of water is always obtained for the class of cargo-boats or steamers that ply on Indian rivers. There can be no doubt that the Commissioners of 1867 were right in reporting False Point to be the best harbour on the whole Indian Peninsula between the Hugly and Bombay; and with the system of famine warnings detailed in the Statistical Account of Balasor, and in my general work on Orissa, I believe that it will afford an absolute guarantee against wholesale starvation by famine. If the crops fail, thousands of people will die in spite of any supplies that Government may throw into Orissa. But, worked in combination with the famine warnings, False Point affords a guarantee against that absolute absence of food throughout Orissa which followed the failure of the crops in 1866, and the mitigation of such a calamity becomes simply a question of expense and of machinery for internal distribution. Government is keenly alive to the necessity of keeping the port open, and checking any tendency which it may evince to deterioration. On two occasions, when visiting the harbour, the expediency of a dredging machine and of assisting the channels to scour by means of spurs, was pressed upon me by separate and competent persons. This and similar questions, however, may safely be left to the scientific surveyors. Government perfectly appreciates the importance of creating a really trustworthy port for Orissa; and the Marine Department has, during the past few years, devoted such close attention to False Point harbour, and is at present so anxiously interested in its welfare, that navigators may rest assured that whatever is necessary will be done.

**Estuaries of the Brahmani.**—The river system of Cattack District on the north of the Mahánadi consists of the network of channels formed by the Bráhmani and Baitaraní, which, after infinite winding and interlacing, eventually re-unite, and find their way into the sea by two great outlets at Point Palmyras. The southern of these is the Maipárá River, with its tidal creek the Bansgarh which runs southward almost parallel to the coast till it joins the sea about six miles north of False Point harbour. The mouth of the Maipárá presents the usual obstacles of bars and high surf; and from its position on the south of Palmyras promontory it is inadequately protected from the monsoon. Between the months of November and March this last objection does not apply, and native craft from the Madras coast frequent it during the cold weather for the purchase of rice.
The Dhamra, or northern exit of the united Brâhmanî, Kharsua, and Baitaranî, forms the boundary line between the Districts of Cattack and Balasor, but is within the jurisdiction of the latter. The latest Survey Report (dated 10th May 1870) places the Dhâmra first among the navigable rivers of Orissa. Its entrance is marked by the Kanikâ buoy in twenty-one feet reduced, and by Shortt’s Tripod beacon on the extreme north-east dry portion of Point Palmyras Reef. The entrance has greatly improved since 1866. The old outer bar with but nine feet of water remains, but a second outer channel with ten feet at lowest tide has opened about a mile to the south. From this to the inner bar no material change in the depth has taken place; but the inner bar, although improved of late, is constantly liable to alterations. In 1859 twelve feet were to be found on this bar; in 1866 only three; and this year (1870) there are eight. The water rapidly shoals from a minimum depth of twenty-one feet at the Kanikâ buoy to six feet on the Central Sand. On the north of this, however, the new charts show a channel with a minimum of nine feet, and on the south there is another passage with water nowhere less than ten feet in depth, and in most places from thirteen to sixteen feet. Once through these passages the channels re-unite, and proceed inland with water from twelve to twenty feet, to the Kanikâ iron beacon, where twenty-nine feet may be obtained. Proceeding nearly due west, the water again shoals from twenty to eight feet, and again gradually deepens till a depth of thirty feet is reached in the channel to the north of the eastern extremity of Kâlsbhanj Island. After this, the difficulties incident to vessels going up are simply those of river navigation. Ships which can get within the southern outer channel, with its minimum depth of ten feet at low tide, find absolute protection from the monsoon. Notwithstanding its excellence as a harbour, the Dhâmra, owing to its distance from Cattack or any large centre of industry or population, has not been so much frequented by European craft as False Point; but larger numbers of native vessels resort to it for the Madras rice trade. At one time, indeed, it was contemplated to select the Dhâmra as the channel by which the whole canal system of Orissa should debouch upon the sea. This was before the formation of the East India Irrigation Company, which, after a most careful inquiry, wisely decided upon False Point as their basis of operations on the seaboard. Horsburgh treats Point Palmyras, at the mouth of the Dhâmra, only as a beacon for making the Hugly, and cautions vessels with regard to the necessity of hauling out into twelve or fourteen fathoms if they sight the eastern limit of the bank. He gives the rise of tide as from ten to twelve feet in the springs, and from seven to eight feet in the neaps. The latest Survey
Report, dated 13th May 1870, returns the tidal range at ten feet, with variations from a minimum of 6 feet 10 inches to a maximum of 10 feet 6 inches. It must be remembered that the depths in the channels given above are the reduced minimum at the lowest possible tide, so that the harbour, like all others along the Orissa coast, is practically available during flood tide to native craft, drawing considerably more water than that which I have mentioned. Brigs and Madras traders, drawing from ten to even eighteen feet, frequent the harbour with perfect safety.

The Dhámrá harbour, which was declared a port by Government Notification, No. 877, of the 18th May 1858, although forming an estuary of the river system of Cattack District, belongs, as already stated, to the jurisdiction of Balasor. As a port for native shippers, it ranks next to that of Balasor among the Orissa harbours. The following return of exports from 1860–61 to 1869–70 is incomplete, no account of the tonnage having been kept prior to 1868–69. The value of the exports was as follows:—In 1860–61, £2,132; 1861–62, £5,641; 1862–63, £2,393; 1863–64, £1,315; 1864–65, £1,61; 1865–66, £3,35; 1866–67, the year of the great famine, nil; 1867–68, £1,14; 1868–69, £5,552, tonnage 398 tons; 1869–70, £4,586, tonnage 2,960 tons. No separate accounts of the imports of Dhámrá harbour seem to have been kept prior to 1867–68. During that and the two subsequent years, however, the value of the imports was as follows:—In 1867–68, £10,745, tonnage 1,283 tons; in 1868–69, £10,713, tonnage 1,407; and in 1869–70, £5,433, tonnage 2,573 tons. The Collector of Balasor estimates that during the famine of 1866–67, out of a total of 3,505 tons of rice imported into that District for the relief operations, probably four-fifths were landed by means of the Dhámrá.

Control of the Water Supply.—The great problem in Orissa is, how to prevent the rivers from destroying the crops during the rains, and how to husband them for agriculture and for commerce during the dry season. Five great rivers collect the drainage of 63,000 square miles of the hill country towards Central India, and dash down their concentrated floods upon the 5,000 square miles of the Cattack and Balasor Delta. Besides its own rainfall of 63 inches a year, the level strip between the mountains and the sea has to find an exit for the drainage of a territory more than twelve times its own area. In the rainy season the rivers devastate the delta, while, like other Indian streams, they fail to yield a trustworthy supply in summer. An enormous mass of water, aggregating 2,760,000 cubic feet per second, is thrown down in time of flood; while in the hot weather the total supply dwindles to 1690 cubic feet per second, as the following table proves:—
CONTROL OF CATTACK WATER SUPPLY.

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<th></th>
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<tr>
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<td>45,000</td>
<td>1,800,000</td>
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<td>9,000</td>
<td>400,000</td>
<td>1,000</td>
<td>380</td>
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<tr>
<td>Baitarani</td>
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<tr>
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<td>300,000</td>
<td>600</td>
<td>380</td>
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<tr>
<td>Total</td>
<td>63,350</td>
<td>2,760,000</td>
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First Efforts.—In spite of this enormous Water Supply during the rainy season, Orissa has from time immemorial been visited by terrible famines from drought. But within the last twenty years there has been a growing conviction that it is the duty of Government to take measures against the recurrence of these calamities. Nature showers down plenty of water; it is for man to husband and to control the supply. The first work in this direction was at Naraj, about seven miles from Cattack City, where the Mahánadí debouches upon the delta and forms its first bifurcation. The work consisted of a spur sent out from the southern bank, with a view to diverting a portion of the excess flood which poured down the Koyákháí into Purl District. It dates from the year 1858; and the Irrigation Company, when it started four years later, recognised the necessity of commencing the regulation of the river at this point. Instead of a spur for the local purpose of checking the Purl Water Supply, the Company constructed a masonry weir, three-quarters of a mile broad, across the river-bed. It is to be connected eventually with a line of Embankments, which runs down the delta head, in order to prevent the waters of the northern branch of the Mahánadí from forcing their way across the level sands into its southern branch—the Koyákháí. The effect of these works, therefore, will be to regulate the southern branch of the Mahánadí at its point of bifurcation. The weir is furnished with sluice-gates, and to a certain extent it has already diverted the floods which used to pour southward into Purl District; while at the same time it secures a due supply for the northern branches of the Mahánadí, and for the canals that proceed northward and eastward from them.

Canals.—The Orissa canals are intended both to regulate the Water Supply for irrigation, and to utilize it for navigation and commerce. From the point at which the Mahánadí pours through the
Naraj gorge upon the plains, the fall averages 1 ¼ foot per mile across the delta to the sea. In the Godavari District, I am informed by the engineers that the slope is only about one foot per mile, but the excess fall in Orissa is, as in the Godavari, easily overcome by locks. The first thing to be effected was to secure a uniform and a trustworthy supply at the head of the delta. To this end, in addition to the weir at Naraj across the southern channel at the first bifurcation, a massive weir 1 ½ mile broad has been thrown across the Mahanadi proper at Jobra, just below Cattack, and another, three-eighths of a mile broad, across the Birupa at Chaudwar. Each of the three branches into which the parent stream splits at the delta head is therefore regulated by a weir. These works are pierced with two sets of scouring sluices, one of which is on an improved self-raising principle. Their objects being to prevent the accumulation of sand in the river-bed, and to secure a supply of water for the canals, they are left open during the flood season, and closed as the river subsides. The Government bought the whole canal works from the Irrigation Company, on the 31st December 1869, for £941,368, and the capital Account up to 31st March 1871 amounts to £1,274,822, including the original price paid in 1869.

These canals are four in number; viz. (1) the High Level Canal, (2) the Kendrapara Canal, (3) the Talbanda Canal, and (4) the Machhogon Canal, with their respective distributaries.

The High Level Canal is designed to provide a great trade route between Cattack and Calcutta, and to irrigate the country through which it passes. Until its completion, it would be premature to pronounce on the commercial aspects of the undertaking; and the following remarks apply only to the sections of it which lie within Orissa. By the time that I come to write the Statistical Account of Midnapur, in which District its last section debouches upon the Hugly River, it will probably have reached a stage when I can safely treat of it as a whole. According to the present estimates, the High Level Canal will irrigate over half a million of acres between Cattack City and Balasor alone. Of these, 89,000 are situated along its first Section, i.e. between its starting-point at Cattack and the Brahman River; a tract which lies high, and is subject to constant scarcity from drought. The second Section will irrigate a total area of 230,000 acres between the Brahman and the Baitaran Rivers, crossing the Kharsua on its route. The third Section will irrigate the land between the Baitaran and the Sandal, about 100,000 acres; and the fourth Section between that river and Balasor, 153,000 acres more. Total, 572,000 acres.

Its Route.—The High Level Canal starts from above the weir
across the Birúpá, one mile below its outfall, the Mahánadí, and will eventually proceed through Cattack, Balasor, and Midnapur Districts, till it debouches upon the Hugly, at Ulubáriá, 15\frac{2}{3} miles below Calcutta. Its total length will be about 230 miles, but only the first and last sections have been completed. Of the fifty-two miles from Midnapur to Ulubáriá, twenty-five are now opened, and the remainder will be ready both for traffic and irrigation in about eighteen months. At the Cattack end the first twenty-five miles were opened in 1869, and other eleven are just finished (1871). These thirty-six miles span the country between the canal head, near Cattack, and the Bráhmaní River.

The weir across the Birúpá, from which the canal starts, is 1980 feet from abutment to abutment. The crest of its breast-wall is 63.5 feet above mean sea-level, or eight feet above the bed of the Birúpá. It has scouring sluices at each end, either set being capable of discharging, during six months of the year, the whole flow of the Birúpá. While the High Level Canal starts from the left flank of this work, the Kendrápá Canal starts from its right; and the current produced by the scouring sluices at each of its extremities keeps the mouths of both the canals free from silt. The High Level Canal skirts the high grounds to the west of the Calcutta road for twenty-three miles, in which are four and a half miles of rock cutting, as far as the village of Neulpur. Here it leaves the road, and comes upon the Bráhmaní, in its twenty-seventh mile, whence it keeps along the south bank of the river as far as the village of Jahánpur, where it will cross the Bráhmaní by means of an anicut. The dimensions of the canal in this section will ultimately be as follow:—120 feet wide at water-line, with a maximum depth of eight feet; side-slopes two to one, and a fall of one inch per mile, conveying 675 cubic feet per second. The head sluices at the Birúpá anicut are capable of supplying 675 cubic feet of water per second, when there is a depth upon the sill of eight feet. The bed of the Bráhmaní is eight feet below that of the Mahánadí at the respective weirs, and this difference is overcome by a lift-lock in the 27th mile; while flood-gates are provided at the 36th, to prevent the freshes of the Bráhmaní during time of flood from backing up into the lower reaches of the canal. The first section of the canal was opened in May 1869, for a distance of 25 miles; Neulpur, a village on the Trunk Road, 23 miles from Cattack, being selected as the temporary terminus. In autumn 1871, the opened part was extended to the Bráhmaní, and the two next sections as far as Bhadrakh were begun.

Irrigation Capabilities.—This first Section, between the Birúpá and the Bráhmaní, will irrigate its 89,000 acres by means of seventeen
distributary channels, differing in capacity, but aggregating a length of 113 miles. The width of the water surface in these distributaries varies from ten to twenty-six feet, the depth from two to four feet, and the fall from six to eighteen inches per mile. The land lying between the Birúpá and Genguti Rivers will be irrigated by means of a syphon, carried under the bed of the latter stream.

Cost up to 1st January 1869.—The High Level is intended as a first-class canal, both for irrigation and navigation. The total expenditure on it up to the 31st December 1868, when it was taken over from the East India Irrigation Company by Government, was £45,878; outlay between 1st January 1869 and 31st March 1871, £58,606; total, £104,484. Land irrigated in 1870-71, 22,035 acres, at 2s. per acre.

The Kendrapara Canal starts from the right flank of the Birúpá anicut, and proceeds along the northern bank of the Mahánádi and its distributaries the Chitartala and the Nun, nearly due east to Márságháí, twenty-three miles from False Point. Its route lies along the high ground on the north bank of the Mahánádi till about the eighth mile, at which point the Chitartala branch diverges to the northward from the great river. The canal therefore keeps along the north bank of the Chitartala till near the eighteenth milestone. At this point the Nun diverges to the north from the Chitartala, and the canal proceeds along the north bank of the Nun till it drops into tidal waters at Márságháí, after a total length of 42½ miles. The canal was opened from end to end on the 29th May 1869.

Head Works and Capacity.—The head lock at the Birúpá weir is 100 feet from cill to cill, and 17 feet wide. The cills are 59½ feet above sea-level, and the gates 18½ feet in height. The canal is divided into seven reaches, with a width at water-line varying from 75 to 160 feet, a uniform depth of seven feet, a fall ranging from 0 to six inches per mile, and a minimum capacity of discharge varying in the different reaches from 340 to 740 cubic feet per second. This is the discharge available for the cold weather crops, when the water above the anicut is maintained at only 64½ feet above mean sea-level, giving but five feet of water in the canal. During the rains the canal’s capacity of discharge varies in its different reaches from 340 to 2000 cubic feet per second. The total fall of the canal from Jobrá to Márságháí is sixty-four feet, the levels being adjusted by means of eight locks, the last of which is a tidal lock at Márságháí, with a fall of ten feet, the upper cill being six feet above mean sea-level, and the lower cill four feet below. At low water, spring tides, there will always be three and a half feet of water on the lower cill. At Mutri, in the thirty-seventh mile, there is an escape
KENDRAPARA CANAL.

or waste weir capable of discharging 360 cubic feet per second. Six syphon culverts have been led underneath the canal; and four traffic bridges, in addition to the lock bridges, have been constructed across it.

IRRIGATION CAPABILITIES.—The Kendrapára Canal is designed to irrigate 385 square miles of country. Of this large tract less than two-thirds of the area will require simultaneous irrigation, and the canal will therefore convey water for only 234 square miles, or 150,000 acres. A branch canal is projected to Patamundí, which will start from the Kendrapára one at Sáthátíyá in the fourth mile, but it has not yet been commenced. The Patamundí branch will be available both for navigation and irrigation; its estimated irrigable area being 295 square miles. Meanwhile, from the Kendrapára Canal, fifteen distributary channels, of which thirteen have been completed, will irrigate two-thirds of the total area commanded by it. These fifteen distributaries aggregate a total length of 180 miles of main and branch channels.

COST UP TO 1ST JANUARY 1869.—The Kendrapára Canal is used both for navigation and irrigation; and its total cost, inclusive of distribution works, to the 31st December 1868, when it was taken over by Government from the East India Irrigation Company, was £61,328; outlay between 1st January 1869 and 31st March 1871, £40,495; total, £101,823. Land irrigated in 1870-71, 69,670 acres, at 2s. an acre.

THE TALDANDA CANAL will connect the city of Cattack with the main branch of the Mahánadí within tidal range. It is intended both for navigation and irrigation; total length, fifty-two miles. Of these, the first seven, or from Cattack to Bírbáti, were filled with water on the 2d February 1870; and the next or Jayapur section was completed in the first half of 1871 as far as Sonpur. Beyond Jayapur operations have not yet been commenced (January 1871); but the canal, when completed, will end at Sámágol on the Mahánadí, about eight miles as the crow flies from the sea, but considerably longer by the river route. The canal starts from the right flank of the Mahánadí weir at Jobrá, skirts the east side of the town of Cattack for a mile and a half, then turns eastward and runs midway between the Kátjurí and the Mahánadí for four miles; thence to Bírbáti it keeps nearly parallel with the Mahánadí at a distance of from half a mile to a mile. Bírbáti is reached in the seventh mile; and here, as I shall afterwards explain, it will throw out a branch canal to Máchhgháón at the mouth of the Devf River. Meanwhile the parent canal keeps along the high ground on the southern bank of the Mahánadí, until it reaches its destination at Sámágol within tidal range.

DIMENSIONS AND IRRIGATION CAPABILITIES.—The Taldandá Canal in its first reach to Bírbáti, which was completed in 1870, has a
bottom width of 64 feet, with slopes of \( z \) to 1; and a fall of six inches to the mile. With a maximum depth of eight feet of water, the discharge is calculated at 1460 cubic feet per second, half of which will be carried off by the projected Máchhágón Canal, leaving 720 feet per second to the lower reaches of the parent channel. None of the distributary channels have been completed (January 1871), but it is estimated that the first reach of seven miles to Bhrábáti will irrigate 30 square miles, or 18,000 acres. This reach was opened for traffic in 1870. In addition to the bridge at the head lock, three others will span the canal within the first few miles. Cost up to 31st December 1868, £17,713; ditto, 1st January 1869 to 31st March 1871, £13,832; total, £31,545.

The Máchhágón Canal will connect Cattack with the mouth of the Deví River. It starts from the Tálándá Canal at Bhrábáti, and will be supplied with half of the maximum discharge of the parent channel, or 720 cubic feet per second. It was opened in the first half of 1871 as far as Singápur, to which point its route lies along the high ground on the northern bank of the Kájturf. At Singápur it will be carried across the branch of the Kájturf which falls into the Mahánadí at Jayapur; and the canal will eventually end at Máchhágón on the Deví River within tidal limits, and eight miles as the crow flies from the sea. With regard to this estuary, see the foregoing description of the Deví in this Statistical Account. Cost up to 31st December 1868, £1030; ditto between 1st January 1869 and 31st March 1871, £9279; total, £10,309.

General View of the Orissa Canals.—While, therefore, the now completed portion of the High Level Canal starts northward from the Birúpá, and provides a navigable channel between that river and the Bráhmaní, with irrigation for the upland country along the foot of the hills; the Kendrápárá Canal proceeds due east along the high banks of the Chitartalá, etc., and supplies water to the lower levels of the delta. It irrigates the southern edge of the tract between the Mahánadí (with its subsequent distributaries, the Chitartalá and the Nun) and the Birúpá (with its continuation the Bráhmaní). The Tálándá and the Máchhágón Canals will deal with that part of the delta which lies between the Mahánadí and the Kájturf; the Tálándá Canal supplying irrigation for the northern edge of this intermediate tract, and the Máchhágón Canal providing it for the southern edge. All the canals keep on high levels. In the case of the Calcutta Canal, or, as it is pre-eminently termed, the High Level Canal, the channel runs along the uplands at the foot of the hills. In the case of the other three, which are strictly speaking delta canals, the requisite elevation is obtained by keeping their courses along the banks of the rivers, which, as already
IRRIGATION CAPABILITIES OF CANAL SYSTEM.

fully explained, are always higher than the intermediate deltaic tracts. Any particulars with regard to the commercial aspects of the undertaking would, as already stated, be premature in a Statistical Account which deals only with accomplished facts. I have therefore treated of this branch of the subject in my general account of Orissa. But the value of the canals for irrigation was last year (1870) publicly realized, and it may be well to state the initial results.

**IRRIGATION CAPABILITIES.**—The Orissa husbandman has been accustomed to use irrigation only for the more costly sort of crops, such as pān-leaf, sugar-cane, tobacco, and cotton. For such crops a field is generally selected which has the command of a natural watercourse; and the highest form of irrigation known in Orissa consists in throwing water, by means of hollow palm trees or basket scoops, from a tank or dammed-up stream, on to the fields. The East India Irrigation Company fixed the rates for supplying water at ten shillings an acre. The rate proved to be too high, and a graduated scale was afterwards introduced, by which leases for large areas were offered at reduced rates. Even this failed to induce the cultivators to buy the water; and a further concession was made, by which the separate husbandmen in a village might combine to take a general lease for their aggregate lands at the reduced rates. Much confusion and many abuses followed, and practically the Company's rates were reduced to a uniform charge of five shillings an acre. The first year in which the cultivators availed themselves of canal irrigation was 1866–67, when leases were executed for 667 acres at a total charge of £252. Of this, however, only £62 could be collected, and the rest had to be written off as a bad debt. Next year, 1867–68, leases were executed for 1842 acres, at an aggregate charge of £366; but only £175 could be collected, and the balance had again to be written off. The remissions of these two years were rendered necessary partly by the unfinished state of the works, which disabled the Company from performing its share of the contract, partly by the inexperience of the Government officers, and partly by disputes on the part of the cultivators touching the validity of the leases. A large area was irrigated by stealth, and the smallness of the returns was chiefly owing to the difficulties incident to introducing anything new in Orissa. These returns cannot, therefore, be taken as a test of the revenue capabilities of the canals. In 1868–69, a drought at the end of the rains awoke the fears of the husbandmen, and water was taken for 9378 acres, at an aggregate charge of £2288. The popular apprehensions culminated in a panic; and the demand for water became so urgent, that it was found impossible to comply with the usual forms, and irrigation was granted in many cases without leases. In
others the husbandmen appropriated wholesale on their own account. However, after some opposition, the land which had actually received water was measured, and the people have paid, on the whole, very fairly for what they took. This year (1870–71), a long-protracted drought thoroughly aroused the cultivators to the folly of neglecting irrigation. Until far on in October it seemed that another famine in Orissa was inevitable. Still the people thought five shillings an acre too high a rate; and it was not till the Commissioner, Mr Ravenshaw, by insisting upon the terrible risks that the Province ran, induced Government temporarily to bring down the rate to two shillings an acre, that water was taken on a great scale. Between 98,000 and 100,000 acres were immediately put under irrigation; and even this amount of land, although insignificant compared with the future capabilities of the canal, would have sufficed to take the extreme edge off a famine. It represents a total out-turn of about a million and a half hundredweight of paddy, or 750,000 hundredweight of rice. The political aspects of the subject are treated of in my general account of the Province. The Irrigation Company fixed its rates for Orissa from a consideration of those paid in Madras and the North-West Provinces; and it was forced to fix them at the maximum, as the Secretary of State had ordered that the rates, when once fixed, were never to be altered. The future of irrigation in Orissa seems to depend upon accustoming the people to use the canal water by means of low rates. When they have learned how to make the most of the water, they will be both able and willing to pay gradually enhanced rates.

**GENERAL STATISTICS.**—Although the foregoing pages treat only of the Canals within Orissa, the general Canal System includes two others; viz., the Midnapur and the Tidal Canal. Both of these lie within the Midnapur District; but as the cost of head-works and other general charges apply to the whole canal system, it is necessary to briefly refer to them here. The Midnapur Canal is intended to provide water communication between Midnapur and Ulabari; twenty-five miles of it have been already opened. The Tidal Canal runs from the Rūpta-rāyan river to Rasalpur, twenty-seven miles being now opened for traffic. The total expenditure upon the whole of the canals up to the 31st March 1871 is as follows:—Price paid on 31st December 1868, when all the canals were taken over from the East India Irrigation Company by Government, £941,368; outlay between January 1st, 1869, and March 1st, 1871, £333,454; total, £1,274,822.

With the works in their present unfinished state, it is needless to hazard any speculation as to the yield of the canals. No estimate whatever can be formed of the traffic until they are opened from end
GENERAL VIEW OF CANAL STATISTICS.

117
to end. Still more would any estimate as to their irrigation revenue
be out of place. The disjointed sections already opened yielded the
following sums in 1869-70 and 1870-71. In 1869-70, irrigation
revenue, £5796; traffic and tolls, £2134; miscellaneous receipts,
£1429; total, £9359. In 1870-71, the irrigation revenue amounted
to £17,400; traffic, £3883; miscellaneous, £1533; total, £22,816.
It must be noted, however, that owing to the sudden demand for water,
and the undeveloped state of the arrangements, a considerable balance
of the irrigation revenue remained uncollected at the end of each year.
The traffic returns for the whole of the canals in 1870-71 were as
follows:—Number of miles open, 124; number of boats which used
the canals, 24,271; tonnage of goods carried through them, 208,628
tons; approximate value of goods conveyed, £1,122,164. The only
canal in Orissa finished from end to end is the Kendrapáni Canal;
but until the general network with which it communicates is completed, its
returns are necessarily less than they will be. Moreover, of the 385
square miles, or 246,785 acres, which it will eventually be capable of
irrigating, only 95,000 acres are yet commanded by the existing distri­
butaries; and of these 95,000, only 69,670 are yet irrigated. Under
all these disadvantages, the canal in 1870 earned eight per cent. upon
the money actually expended on it. Thus: Total cost, £101,823.
Revenue: irrigation, 69,670 acres at 15s. an acre, £6967;
traffic, 3860
boats, yielding £1149; total revenue, £8106. This does not include
petty receipts under the head of Miscellaneous; but, on the other
hand, it does not show the working expenses, and it assumes that the
whole irrigation revenue is collected. Nor is the cost of head-works
taken into account, as that belongs to the general Canal System, and
cannot be included in the accounts of the only disjointed fragment yet
completed. Any estimate of the permanent interest which the canals
will yield can at present be only guess-work. The analogy of the ad­
joining delta to the south, the Godávarí, is however most encouraging.

EMBANKMENTS AND CONTROL OF FLOODS.—The five rivers, shown
in a previous table, whose total discharge dwindles to 1690 cubic feet
per second in the month of May, dash down 2,760,000 cubic feet of
water per second in their floods. This is considerably more than twice
the total discharge which the Ganges distributes all over Bengal, Behar,
and the North-West Provinces during its maximum floods. It is ob­
vious, therefore, that the immense volumes of water thus concentrated
upon the comparatively small Orissa delta must spread over the
country in a manner which has hitherto defied control. From time
immemorial, defensive works of the nature of embankments have
existed along the sides of the rivers. But such works have hitherto
failed to protect the low levels lying between the various deltaic channels. For particulars regarding Pur and Balasor, see my Statistical Accounts of those Districts, with my general volume on Orissa. In Cattack District, the Collector reports that there are 680 miles of Government and private embankments, which endeavour to regulate thirty-five rivers or distributaries. On the construction and repairs of embankments within Cattack Division, from the time we took over the Province in 1803 to 1831, and in Cattack District alone from 1831 to 1866–67, £157,676 have been spent. The inundation of 1866 broke through the Government embankments in 403 places, and at ten other parts that had been previously damaged, making a total of 413 breaches in one year and in the single District of Cattack. Of the thirty-five embanked rivers, not one escaped uninjured. Along a single one of them, the Chhota Brâhmanâl, the flood burst down upon the surrounding country in no fewer than 74 breaches. The distributaries which suffered next to it were the Chhota Chitartalâ, which suffered 37 breaches; the Burâ Alankâ, 31; the Kâêtjurf, 30; and the Mahânâdî, 22 breaches. Out of ninety Fiscal Divisions in the District, only six escaped uninjured from this flood. Six hundred and forty-two square miles, or 411,120 acres, were submerged during a period varying from three to sixty days, the depth of water being from three to fifteen feet. A vast population of 699,803 were suddenly thrust out of their homes, and the Deputy Collector estimated the loss of paddy alone at 366,152 tons, representing, at the prices of 1865, £917,413. The Inundation Committee calculated the actual value at one-fourth less. At the prices ruling during 1866, the Famine Year, when the inundation actually took place, its value amounted to £2,173,564. Nor does this calamity stand alone. In 1855 the floods were deeper, although from the shorter period of their continuance they did not do so much harm. Besides the terrible losses thus sustained from a single flood, 33,309 acres, or 52 square miles, are reported by the Inundation Committee as being permanently left waste for fear of flood. Colonel Rundall, the highest engineering authority with regard to Orissa, believes these figures to be merely a fraction of the land left untilled for this cause; and besides the revenue thus lost, no less than £80,881 of Land-tax have been remitted in consequence of floods during the thirty-six years ending 1866–67. This, too, in spite of the outlay on the embankments having constantly gone on increasing. During the first twenty-nine years of which we have record, the expenditure averaged £1218 per annum for Cattack District; while during the last twenty-eight, ending in 1866–67, it has amounted to £2440. Again, during the first half of these latter twenty-eight years, the average expenditure was £878 a year; during
USES TO WHICH WATER SUPPLY IS PUT.

the third quarter it rose to £3264; and during the last quarter it reached the enormous sum of £4739 per annum. This brings us up to 1866–67, the year of the terrible inundation above described. Besides the loss of the fifty-two square miles left permanently waste for fear of flood, and paying no revenue to Government whatever, the cost of maintaining the embankments, added to the remissions of Land-tax in consequence of inundation, make a total of £157,559 during the thirty-six years ending 1866–67, or an average of £4376 per annum. This amounts to an annual charge of over 5½ per cent. on the Land-tax of the District. But even this does not represent the total loss. For during the same period there have been remissions of revenue amounting to £142,500 in consequence of droughts. Adding this to the above-mentioned charges for floods and protective works, we find that the uncontrolled state of the Cattack rivers have cost during thirty-six years £300,059. This is altogether independent of the large sums spent in relief operations during time of famine. The two items for remissions of land revenue and cost of protective works alone amount to an annual charge of more than 10½ per cent. on the land revenue of the District.

The embankment system as at present maintained has failed, therefore, in spite of the vast sums spent upon it, to afford security to the District. It has failed, indeed, so egregiously, that some of the Orissa officers despair of any system of embankments being successful. Without entering into controversial matters, I shall merely say that I do not share this view. During eight years the subject has been carefully studied and anxiously deliberated upon by the brilliant school of engineers at work on the Cattack Canals; and a scheme is at this moment being matured, which, it is hoped, will definitively subject the Water Supply of Orissa to the control of engineering science.

USES TO WHICH THE WATER SUPPLY IS PUT.—Owing to the absence of harbours, no lucrative river traffic has hitherto developed in Cattack District. As in all deltas, the rivers are the high roads, but their use is for the most part confined to the internal distribution of commodities; the single article of commerce which they carry in quantity to the seaboard being rice. No effort has been made to use the water-supply as a motive power for mills. Since the Government abandoned salt-making, seaboard industries have practically ceased to exist, and the dearness of salt forbids the development of what would naturally be a great source of wealth to the Province, viz. its fisheries. The rivers and maritime creeks abound with the most excellent fish, yet the whole rent for fisheries paid to Government amounts to only £800. The Government rental, however, by no means represents the actual value
of the fisheries to the owners; but anything like an adequate development of this most important of the natural resources of Orissa is impossible while salt remains at its present rates. Were it not for the high salt-duty, all the lower reaches of the rivers would be seats of large fishcuring establishments. At present, large quantities of fish are sent up into the interior, but they generally reach the villages in a state of putrefaction. A little salting is attempted even at present; but the restrictions on the salt manufacture, the multiplicity of forms which have to be gone through even when a pass has been obtained, and the vexations attending the transit of salt, render it impossible for the illiterate fisherman to keep a stock of the article without subjecting himself to troublesome surveillance. The Collector reports that the number of people living exclusively by fishing or by navigation is very small; so small, that he refuses to hazard a conjecture as to their proportion to the total population. A detailed account of the river fisheries of Orissa may be found in Dr. Day's Report, published in the supplement to the Gazette of India, 29th May 1869. I refrain, therefore, from entering into further particulars, merely premising that Dr. Day seems to omit from his calculations the fisheries in the tributary estates on the coast, which are the most valuable of all.

LINES OF DRAINAGE.—In the west of the District, where the mountains slope down to the plains, the lines of drainage are sufficiently marked by the great rivers and their tributaries. In the delta proper the low levels lie, not along the river-courses, but in the valleys midway between the rivers. The most important line of these deltaic lines of drainage is that between the Mahanadi and the Brahmani. The surface-water here gathers into a series of marshes, with occasional lakes, and eventually finds its way to the sea-coast by the Gobri River, which runs near to Kendrapara, and by the Gandakiya. The shallower marshes are used for the boro dhan rice, of which there are ten principal varieties, viz.: dubi, ravané, harisankar, lanká, balunga-mardan, bairalpakhiyá, kálli, kantisyalí, khurá, and khejuriyá. About one-fifth of the whole District is cultivated by this marsh rice. It is a coarse, cheap, indigestible grain, used by the lower castes, or for home consumption by the small husbandmen. It grows in from three to six feet of water. No effort has been made to introduce the longer-stemmed varieties, which in Eastern Bengal yield a harvest in from twelve to eighteen feet of water, and any attempts to improve the cultivation are unknown.

NATURAL PRODUCTS.—Cattack District possesses no important revenue-yielding forests. Sal trees are found in Kila Sukinda, but they have not been brought in quantity into the market, or made to contribute
to the revenue. The eastern jungles along the coast support a good river trade in firewood, and posts for cottage-building. On the western side of the District, the mountainous jungles also supply fuel, which is floated down the Mahánadí. The largest of these hill estates, Darpan, yields a revenue of only £46 a year from this source. Resin, beeswax, and honey are also obtained, with the nux vomica tree (*kuchilī*), and a sweet-scented grass of marketable value (*bala*). The chief supply of the jungle products, especially tasar and lac, is derived from beyond the frontier of the District in the Tributary States.

**Pastures.**—The regularly assessed parts of the District (Mughulbandi) are now too closely cultivated to leave any large spaces for grazing. The lower reaches of the rivers, however, pass through prairies covered with coarse grass, which stretch from the line where cultivation ceases, to that at which the Sundarbans and marine jungles begin. This is especially the case towards False Point and Point Palmyras, and extensive breeding grounds form an important item in the rental of such estates. The Kaniká property yields a revenue of £84 a year under this head, and Kujang about the same. Large herds of buffaloes and horned cattle are reared, a proportion of which find their way by Ulubáráí across the Hugly to Bengal; but the persons employed on the grazing-grounds form no appreciable ratio to the total population.

**Wild Beasts.**—Tigers, bears, leopards, wild buffaloes, antelopes, spotted deer, hog deer, hyænas, jackals, foxes, and pigs, are found. Fish-eating and man-eating alligators abound in all the rivers or creeks, and grow to a very large size. Comparatively little loss of life is caused by tigers and leopards, as these animals are confined chiefly to the dense jungles on the coast, or in the hilly portion of the District, where the population is sparse, and where the deer and pigs supply them with sufficient food. The loss of cattle reported to the authorities from wild beasts is very trifling. In 1840, the rewards paid for the destruction of wild animals amounted to £9, 5s.; in 1860, to £6, 13s. 6d.; and in 1869, to £1 for wild animals and £3 for alligators. Previous to this latter year no rewards had ever been given for the destruction of alligators, nor have rewards ever been given for snake-killing. The reported loss of life from snake-bites, wild beasts, and alligators in Cattack District during the five years ending 1869 is as follows:—Snake-bites, 741; wild beasts, 470; alligators, 250; total, 1461; but the actual loss probably amounts to twice this number. The small game includes hare, pea-fowl, jungle-fowl, double-spurred fowl, black and grey partridges, snipe, many kinds of duck and teal, bar-necked geese, common green pigeon, and several kinds of doves. No trade
worth mentioning is carried on in wild beast skins; nor are the forest animals made to contribute towards the wealth of the District.

Population.—Several rough attempts have been made towards a Census of the District. Stirling in his Account, written about 1822, estimates the population of the Orissa Division (Cattack, Purī, and Balasor) at 1,296,365, of which Cattack District contained 440,784 souls. This Census was based upon an enumeration of the dwellings, allowing five persons to each house. The Revenue Survey of 1842 estimated the population of Cattack District at 553,073, and a subsequent attempt at a Census returned it at 800,000. In 1847 another estimate was made, showing a result of 1,018,979, or a population of 320 per square mile. Again, in 1855, another Census was attempted, which returned the population at 1,293,084. All these calculations, with the exception of the last, were made by simply counting the houses through the agency of the police, and assigning an average number of inhabitants to each dwelling. But in the last Census of 1855 special officers were appointed to test the results by counting the houses and their actual inhabitants in different parts of the District, and thus to ascertain the correct average for each dwelling. The result disclosed an average of slightly over five and a half inhabitants to each house, and gave a population, as above stated, of 1,293,084; the proportion of the sexes being 676,320 males, and 616,764 females, residing in 225,000 houses. No Census of the District by the simultaneous enumeration of the people has ever been taken. Mr. Ricketts, in his Report on the Districts of Midnapur and Cattack, published in 1858, considers the calculation of 1847 to be excessive, and the present Collector of Cattack (1870) does not think that absolute reliance can be placed in any of the foregoing estimates. He states that their accuracy would depend upon what the various police constables understood by the word house. He found, when taking an experimental Census of the chief Towns of the District in 1869, that great difficulty was experienced in making known the distinction between a house and an enclosure, even to a more highly educated class of enumerators; and any misunderstanding on this point, extending over the whole District, would materially affect the correctness of the returns. After the famine of 1865–66, returns of the surviving population were called for from the landholders, and the result showed a population of 1,972,463. The Collector thinks that this approximated to the truth, but the number has since increased. The population of the chief towns in the District, as shown in the Report on the Experimental Census in 1869, is as follows:—Cattack Town: males, 18,935; females, 18,345; total, 37,280; number of houses, 9018. Cattack Suburbs: males,
CENSUS—ETHNICAL DIVISION.


No records exist to show whether, in the numerous attempts at a Census, any distinction was made in the average number of inmates per house between the town and rural population, nor does the Collector think that any great difference exists. It is doubtful whether the average of inmates per house is greater in the towns than in the country, as town life has scarcely developed in Orissa, and anything like our crowded city existence is unknown. I have mentioned how prominently this strikes a stranger in the town of Balasor, where the streets and market-places are interspersed with rice fields and homesteads. In the two rural tracts of Cattack District where the Experimental Census of 1869 was taken—viz. Kaniká on the coast, and Chaushättipárá in the hilly northern frontier—the number of inmates to each house was greater than in the towns. In Kaniká the average was five, and in Chaushättipárá 5'1, while in the towns it varied from 4'5 to 4'1.

ETHNICAL DIVISION OF THE PEOPLE.—The inhabitants of Cattack consist of three races—Aboriginal, Indo-Aryan or Hindu, and Afghán or Musálmán. The aboriginal tribes here, as elsewhere, cling to their mountains and jungles. They chiefly consist of the Kandhs, Kols, and Savars (the latter being by far the most numerous), and are regarded by the orthodox Hindus as little better than the beasts of the wildernesses which they inhabit. Miserably poor, they subsist for the most part by selling firewood and the other products of their jungles; but a few of them have patches of cultivated land, and many earn wages as day-labourers to the Hindus. They form, in fact, an intermediate stage of destitution between the comparatively well-off tribes in the Tributary States (the stronghold and home of the race), and the Páns, Báuris, Kandrás, and other lowland castes, who now rank as the basest among the Hindu community, but who are supposed to be the remnants of the pre-Aryan people, from the similarity of their habits to those of the undoubted aborigines in the hill tracts. The great bulk of the Indo-Aryan or Hindu population consists of Uriyás, with a residue of immigrant Bengalis; Lálá Káyet from Behar and Northern India; Telingás from the Madras Coast; Marhattás from Central and Western India; Sikhs from the Panjáb; and Márwdris from Rájputná. These immigrant castes live chiefly in the town of Cattack, and are regarded as temporary residents, although
born in the Province. A large number of Bengalis and Lalá Káyets have been settled in different parts of the District for seven or eight generations,—a period sufficiently long to warrant their being classed with the Uriyá population, but for the caste system which has stood in the way of their fusion. Several Sikh families have also settled in the interior. The Afghán or Musalman population are the descendants of the northern soldiery who swooped down upon Orissa in 1558, and of subsequent Muhammadan invasions, along with the converts to Islam whom they made among the Uriyas.

No Immigration or Emigration, properly so called, takes place in the District. Large numbers of the Gaur and Chásá castes (herds-men and cultivators) go to Calcutta for employment as upper house servants, palankeen bearers, or workers on the roads; but they all periodically return to their homes after an absence of about three or four years. The Telis (or oil-pressers) supply porters and carriers to Calcutta, but they seldom fail to return to Orissa when they have made a little money. The licensed recruiters also collect small parties of low castes as labourers for the tea plantations of Eastern Bengal, but very few of these return to the District.

Castes.—The following list exhibits the principal castes in Cattack, with their hereditary occupations. It is arranged, as far as possible, in the order in which they rank in popular estimation. (1) Bráhman, priests, numerous, generally poor, but sometimes well endowed with temple lands; (2) Kshattriya, military service, few, poor; (3) Baidya, emigrants from Bengal, hereditary physicians, but some now employed as Government servants, few, well-to-do; (4) Sikh, military service, few, rather poor; (5) Rájput, military service, some cultivators and messengers, numerous, poor; (6) Káyasth, clerks, bookkeepers, and Government servants, numerous, well-to-do; (7) Karan, clerks and Government servants, but some are also cultivators, numerous, well-to-do; (8) Khandáit, the old rural militia, now mostly cultivators, numerous, well-to-do; (9) Vaishnab, religious mendicants, held in esteem by the followers of Chaitanya, few, poor; (10) Sanyási, religious mendicants, few, poor; (11) Patrá, cloth-sellers, pretty numerous, and in middling circumstances; (12) Guriá, sweetmeat-sellers, well-to-do; (13) Putuli-baniá, spice-sellers, few, well-to-do; (14) Chásá, cultivators, the most numerous caste in the District, as indeed throughout all Orissa, some settled on fair-sized holdings, but most of them poor; (15) Gaur, milkmen and palankeen bearers, numerous, poor; (16) Barháí, carpenters, few, tolerably well-to-do; (17) Kámár, blacksmiths, few, well-to-do; (18) Bhandári, barbers, few, well-to-do; (19) Máli, gardeners, few, poor; (20) Thatári, braziers, well-to-do; (21) Darzí, tailors, few, well-to-do;
CLASSIFICATION OF CASTES.

(22) Tánti, weavers, numerous, poor, considered stupid and pitied; (23) Kumbhárá, potters, few, poor; (24) Teli, oil-sellers and oil-pressers, rather numerous, well-to-do; (25) Jogí, religious beggars, few, poor; (26) Bhát, beggars, few, poor; (27) Náyak, astrologers, few, poor, and despised; (28) Soñá-báníá, goldsmiths, rather numerous, well-to-do; (29) Keut, fishermen, poor; (30) Gókhá, fishermen, few, poor; (31) Dhoábá, washermen, few, poor; (32) Suri (Sundi), spirit-sellers, few, well-to-do; (33) Chhukar, musicians, few, poor; (34) Chamár, makers of palm-leaf mats and toddy-sellers, few, poor; (35) Dom, basketmakers, few, poor; (36) Bauri, day-labourers, few, poor; (37) Mochí, shoemakers, few, poor; (38) Kándrá, day-labourers or village policemen, few, poor; (39) Pán, day-labourers, few, poor; (40) Hári, sweepers, few, poor; (41) Kándhs, (42) Kols, and (43) Savars, aboriginal tribes, a few of them cultivators, but for the most part living by the sale of firewood and other jungle products, or as day-labourers.

The above list shows the occupations which the castes ought to follow, according to their hereditary customs; but practically it is not now unfrequent for persons to forsake either wholly or partially their ancestral employment. The higher castes, as a matter of course, look upon these changes with disfavour, and decidedly prefer the old system, according to which every man was bound to follow his caste occupation, and which gave no opportunities to men of the lower classes to qualify themselves for positions reserved for their superiors. A general hankering after the occupations of the higher classes has arisen under our rule, not because such employments necessarily pay better, but on account of their having from time immemorial been associated with castes who rank well in public esteem. It is said to have resulted in a neglect of several trades and callings, very useful in themselves, but which, according to the custom of the country, are followed only by low castes.

The Chasás, or hereditary cultivators, are by far the most numerous caste; and, indeed, there is scarcely any other caste which, while following its own calling, has not adopted agriculture as an auxiliary means of livelihood. Not less than three-fourths of the whole population are engaged in husbandry. The people are, generally speaking, poor as compared with the population of Bengal; and the trading, or merchant, castes are better off than the cultivators.

The Bengalis, Lála Kayets, and Musalmans, monopolised the principal offices of State under the Muhammadan and Marhatta governments, and continued to do so after the province had passed under British rule, until the vernacular of the country was substituted for Persian as the language of public business and of the courts of law. This
change enabled the Uriyas to compete with the strangers for official employment, and almost simultaneously it was authoritatively laid down that, in selecting candidates for the Government service, preference should be given to natives of the province, if they possessed equal qualifications. The Uriyas thus obtained a fair chance, and the lower ministerial offices are principally in their hands. The higher executive posts, such as those of Deputy Magistrate and Collector, are still, however, monopolised by Bengalis and other immigrants. This is little satisfactory to the natives, but the latter generally admit that the Bengalis have had the start of them in education and enlightenment. In 1869 an attempt, fortunately unsuccessful, by some of the Bengali party to get their language practically substituted for Uriya in the schools gave rise to some bitterness. But, with this exception, a good feeling is maintained between the different races and castes in the District.

Religious Division of the People.—The population consists almost entirely of Hindus and Muhammadans. No statistics exist showing the proportion of each, but the Collector estimates the Musulmans at one-eighth and the Hindus at seven-eighths. My own inquiries lead me to believe that the Musulmans do not exceed one-fourteenth of the total population of the whole District, but they muster strong in Cattach City. The vast majority of the Hindus are Vishnu-worshippers, but almost all the Brâhmans are Sivaites. The worshippers of Kâl, one of the forms of the wife of the All-Destroyer, are few in number, and, speaking generally, are found only among the Bengali settlers. The Brâhma Samâj, or Theist Assembly, numbers about forty members in Cattach City, but has made no progress outside the town. The Samâj was established in 1856. Its first church soon scattered, but was re-established in 1858. In 1869 a second Samâj was founded, the principal doctrines being the same as those of the older sect, but more practically applied as rules of life. The older Samâj is composed almost entirely of Bengalis, and their religious services are conducted in that language. The new sect carries on its services in Uriya, and issues a monthly paper printed in that character. Both institutions were established by Bengali gentlemen, and the pastors make their living by some secular vocation, receiving no stipend for their ministrations. The reformed faith is not regarded in Cattach as a distinct religion from Hinduism, and its professors occupy the position belonging to their different castes, irrespective of their religious persuasion. The social status of a person still depends more upon the caste he belongs to than on his creed, or anything else. Education, wealth, and official position go far towards securing rank; but if not conjoined with good caste, the respect paid is
forced rather than voluntary. Singularity on points of religion does not affect a man's position in society, unless he becomes an apostate from the faith of his forefathers. The Jains, or modern Buddhists, have a little settlement of fourteen members in the town of Cattack. They are found exclusively among the Márwařs and other traders from Northern India, and seldom or never make an Uriya convert. In the rural parts they are unknown, and Hinduism reigns supreme.

The Native Christians (Baptists) number 1712 souls, including 658 children who were rescued from the famine of 1865–66. As a rule, they are despised by the Hindus and Musálmañs; but individuals among them extort respect by their high character, combined with wealth or official position. Two peasant settlements of Christians have been founded by the Cattack Mission, one at Chhagán, a village in the Tributary State of Athgarh, but within a short distance of Cattack, on the opposite side of the Mahánâdî; and the other at Khanditar, on the banks of the Kharsuá, about ten miles from Jáipur. These little colonies live entirely by agriculture, while the town Christians find employment as Government servants, or in connection with the Mission, or as menial servants or day-labourers. Generally speaking, the native Christians manage to earn just enough to secure a decent livelihood; although, on the one hand, there are some isolated cases of comparative affluence, and, on the other, some who have to be assisted out of the Mission funds. If the famine orphans are excepted, Christianity appears to have made but little progress in actually converting the people, but it has done much indirect good.

Muhammadanism makes no progress whatever, although the famine contributed to add to its ranks in the same way as it did to the native Christians, some charitable Musálmañs having given shelter to deserted children, and brought them up in their own faith.

Distribution of the People into Town and Country.—Cattack (Katak, one of the five Royal Strongholds of ancient Orissa) is the most important town in the District, and the capital of the Province. It is the centre of commerce, the seat of the principal Civil Court, and the headquarters of the Commissioner of Orissa. In 1825 it contained, according to Stirling, 6512 houses, and a population of about 40,000 souls. In 1869, according to the Experimental Census Report, the town and suburbs contain 11,314 houses, and a total population of 46,436, of which the details have been given on a previous page. For historical and social notices of the city, see my General Account of Orissa. Next in importance to Cattack is Jáipur, also described in that work, the headquarters of the Subdivision of the same name, and a noted place of pilgrimage. Under the Kesari dynasty, who succeeded
in 474 A.D., it formed for some time the capital of the Province, but before the eleventh century it had given place to Cattack. At present it contains 2169 houses, and a total population of 9180 souls. Kendrápárá stands third, and is likewise the headquarters of a Subdivision, and a place of pilgrimage, but of less importance than Jáipur. During the Marhattá rule, a magistrate (Fauzdár) was stationed here with a small force for the purpose of checking the depredations of the Rájá of Kujang, who for centuries preyed upon the surrounding country. It contains 2620 houses, and a total population of 11,821. Jagatsinhpur, at present the headquarters of the Subdivision of that name, was a place of considerable importance during the Marhattá occupation of the Province, but has now only 1770 houses, and a total population of 4732 souls. These are the only places in the District worthy of the name of towns, and indeed are the only ones containing a resident population of over two thousand souls.

The people of Cattack District, as indeed of all Orissa, evince no tendency towards town life. Nothing except necessity can induce them to quit their hereditary homesteads; and if so compelled, they prefer the humblest shed in the country to living in a city. They look down on the towns-people, and seldom intermarry with them, in part owing to a belief that the practices and habits of the city life are not so strictly in accordance with caste rules. The inhabitants of Jáipur and the surrounding country are supposed to be of a more litigious disposition than those in other parts; and the jungle communities along the eastern coast and in the hilly western frontier require a certain amount of tact to manage them. But, as a whole, the people are quiet and submissive; very ignorant of their rights or privileges; and passive under oppression, if clothed with the garb of authority.

Their Material Condition is gradually improving. Although it may be difficult to tell precisely when and how this improvement began, the evidences of it are numerous and unmistakeable. Good government and freedom from foreign invasion during the past half century gave them a start, and the prices of country produce have doubled during the past ten or twelve years. Nor is this rise the result of any falling off in the sources of supply, for the area of the land under tillage has increased during the same period. European piece goods, and other articles of comfort and luxury, have been imported into the District in much larger quantities than before. The vast sums expended in late years on the Irrigation and other large public works, have made money more plentiful, and the development of the export trade in grain and oilseeds has yearly contributed to the currency of the Province. This export trade, although of very ancient standing by the land route to Tamluk
and Ulubariá on the Hugli, received a fresh impetus from contact with English enterprise which in 1860 began to open out the seaboard. At first, export trade had to contend against serious difficulties arising from the want of roads to the coast, and from the aversion of the petty proprietors to innovation of any sort. But the grain-growers soon came to understand their interests too well to be influenced by the landlords, and the construction of the Táldandá and Máchhgodon roads created facilities for the transport of produce. Fresh capitalists entered the field. The exports grew larger year by year, and carried away from the District the surplus grain upon which the people might fall back in the event of a failure of the crop such as that of 1865. There can be little doubt that the previous heavy exportations intensified the sufferings of that and the following year. The present Collector, after mature experience, reports to me as follows: 'Until the exceptional causes which preclude the country from being dealt with in the same manner as other countries can be removed; or, in other words, until its desiderata in the shape of communications are fully supplied; it may not be an illiberal policy to put such a check upon the export trade as may prove a sufficient guarantee against the country being drained of its reserve store.' The famine, however, had one good effect. The exceptional position and wants of Orissa have been anxiously inquired into. Several important schemes tending towards the amelioration of the condition of the people have been accomplished, the most important being the opening of water communication between Cattack and False Point, by means of the Kendrápará Canal, described on a former page. Although these navigation and irrigation projects had been started before the famine, it is doubtful whether, had that calamity not intervened, the scheme would not have collapsed for want of funds. As it is, Government has now taken them over from the private company which commenced them, and their completion is only a matter of time.

The Dress of an ordinary well-to-do shopkeeper consists of a cotton waistband falling over the thighs (ahoti), a cotton shawl (chítár), and scarf (gāmchd), all together worth about 3s. 4d. In winter-time a thick coarse cotton shawl (gítáp) is worn. A Cattack peasant's dress consists of a waistband and cotton scarf of the value of about 2s. 3d., and for the winter a coarse mat wrapped round his body (henth). The clothing of a wealthy man differs from that of a poor one in quality, but not in quantity.

The Dwelling of an ordinary shopkeeper costs about £1, 11s. 6d. to build: thus, four wooden posts, 2s. 6d.; six wooden rafters, 1s. 6d.; 200 bamboos, 6s.; string, 1s. 6d.; straw, 1s. 6d.; a pair of doors, 5s. The furniture in such a house generally consists of a brass platter
(kansd), value 4s.; a brass jar (lotâ), 3s.; a brass cooking pot (pital), 2s.; a small brass plate (thâlî), 4s.; four brass cups (kaloù), 4s.; a stone mortar (sila), 9d.; a mill (jântâ), 1s. 6d.; a knife (panki), 3d.; and a coarse mat (hens), 6d.;—total value, £x. Some of the larger shopkeepers have much more substantial dwellings, and a few have even brick-built houses. The dwelling of an ordinary well-to-do husbandman costs about 19s. 6d., as follows: four wooden posts, 2s. 6d.; three wooden rafters, 9d.; 100 bamboos, 3s.; string, 9d.; straw, 7s. 6d.; a pair of doors, 5s. This is the kind of house the husbandmen generally live in; but those of the poor landless classes and day-labourers are much less costly—in fact, mere hovels. The furniture in the house of an average cultivator consists of a brass platter, a brass jar, a small brass plate, a knife, and a coarse mat, the whole worth about five shillings.

The food of a shopkeeper in ordinary circumstances, having a family of five persons, would cost about sixpence three farthings per diem, or 17s. a month, and would consist of the following articles:—Rice, 6½ lbs. per diem, 3d.; split peas and vegetables, 6½d.; salt and oil, 1½d.; fuel, 6½d.; turmeric, spices, betel-nut, and tobacco, 6½d.; total, 6½d. per diem. The living of an average cultivator, with a family of five persons, costs about 12s. 3d. per month, and comprises rice, salt, vegetables, oil, fuel, and a little tobacco.

Agricultural.—The staple crop of Cattack, in common with the other Districts of Orissa, is rice. The following is a list of the principal rice crops, with their varieties:—(1) Bâli, grown on high land, the banks of rivers, and on the outskirts of villages. It is sown broadcast in May and reaped in September, the soil in which it grows being called Dofasîl, or 'two-crop' land. There are two distinct species of Bâli rice, the Sâtôlyâ and the Bara, each subdivided into many varieties. The Sâtôlyâ derives its names from the time it takes to come to maturity, which is believed to be exactly sixty days. A tradition relates that the Bâli rice was not made by Brahmâ, the author of the Universe, but invented by the sage Viswâmîtra. It is accordingly considered less pure, and prohibited in religious ceremonies. The higher classes seldom use it, as it is a coarse grain, difficult to digest, and apt to bring on diarrhoea in stomachs unaccustomed to it. The chief subdivision of the Sâtôlyâ species is the Hârvasâtôlyâ; and the principal varieties of the Bara species are the Bakri, Inkri, Madiyâ, Châulî, and Jîraisâli. (2) Sârad rice is of a better quality, and includes two great species, the Laghu and Guru. The former is sown in May on comparatively high land, and is reaped in November. Its thirteen most important varieties are, the Chhota-champâ, Mottâ, Rangiaislâ, Niyâli, Háruâ, Lankâ,
FOOD--THE RICE CROPS OF CATTACK.

131

Bodla-champa, Sará, Nardá, Mánt, Bangri-panchi, Palásphul, and Bhutmundi. The Guru species of Sárad grows on low lands, being sown in May and reaped in November or December. Its twenty-one principal varieties are, the Kalájirá, Narsinhbhog, Surí, Dwánbhog, Durgabhog, Nripatibhog, Madhu-málati, Bángar-mádhabí, Machhkantá, Dhalákeri, Kalákeri, Muktákeri, Gopálbhog, Nájukbadan, Ratan-churi, Makarkámudi, Daynágundi, Tulíshul, Rangpakhíyá, Kalápakhiyá, and Champá. Some varieties are sown broadcast on low marshy ground; others are carefully reared in nursery fields, and transplanted stalk by stalk to higher and dryer soils. Ground covered with a foot of water gives a good crop; but the coarser sorts will grow in six feet, although all must be sown to begin with in solid land. For some, a soil having an admixture of sand (Dorsá), while for others a soil not sandy (Mdítí), is best adapted. Some require to be sown early in the season, and others late. Certain varieties will not grow unless the land is thoroughly weeded, while others flourish in spite of everything. In order to provide against the uncertainties of the season, the husbandmen sow both the species which require flooding or which will not suffer from it, and those that will flourish with but a moderate rainfall. In addition to the twenty-one varieties above mentioned, the following eleven descriptions of Guru Sárad are sown broadcast on marshy lands, dry in the sowing time and hot season, but covered with from three to seven feet of water in the rains: — Rávaná, Lanká, Balungá-márdán, Harisankar, Dubí, Baitálpakhíyá, Kailí, Kantisíyáli, Khurá, Khejuriya, and Rakta-chandán. (3) Dálúa rice, sown in February and reaped in May, a coarse, indigestible grain with short straw, grown principally along the sea-coast on marshy lands, and often requiring irrigation.

No improvement seems to have taken place with regard to the quality of the rice grown in the District, and the soil is thought to be unsuited for the growth of foreign varieties, although attempts have been made to introduce them. During the famine, Barmah seed was given to the husbandmen, but the experiment failed. Carolina paddy seed was also distributed among some of the landholders in 1868, with results far from encouraging. It is difficult to say whether this was, as supposed by the cultivators, owing to the unsuitability of the soil, or to want of knowledge on the part of those who used the seed.

The Extent of Land under Rice Cultivation has increased by nearly one-fourth during the last twenty years. A portion of this increase, however, is factitious, as large tracts of land were purposely allowed to remain uncultivated at the time of the Settlement in 1857, in order that they might be entered as waste by the Settlement Officer, and thus exempted from assessment, or assessed very lightly. As soon
as the Settlement was concluded, such lands were gradually put under cultivation.

**PRODUCTIVE POWERS OF THE LAND.**—An idea prevails among the people, that although the extent of land under cultivation has increased, yet that its productive powers have diminished; and the superstitious peasants attribute this to the anger of the gods at so much of the old pasture land for cows having been lately brought under the plough. The main cause is the constant working of the soil, which allows the land no rest. A field seldom lies fallow, and the rotation of crops, although not unknown in Cattack, is not systematically carried out. The great extent of pasture and of waste lands which has been brought under cultivation, may have tended to decrease the average yield from the soil; as such new lands are often of an inferior quality, and formerly were not deemed remunerative for tillage at all. Deficiency of labour is sometimes stated as another cause of the decreased average productiveness. While, on the one hand, the large and important Public Works now being carried on in Cattack have to a small extent withdrawn hired labour from agriculture, the increased amount of land under cultivation has, on the other hand, greatly increased the demand for it. In short, the land is just beginning to cease to be the only outlet for unskilled labour in Orissa. The land may suffer a little, but the labourers gain a great deal.

**THE DIFFERENT STAGES OF RICE CULTIVATION** are as follows—the names generally consisting of a noun and verb, or of a verb with the word *dhán*, rice, understood. When the seed vegetates, it is called *dhán gajá delá*; when the sprout divides into two leaves, *dui-patra*; when the paddy begins to germinate in the stem, *káni-thor*; when fully germinated, *thor-hebá*; when the ears emerge from the stem, *dhán-báháríbá*; when the rice flowers, *phul uráibá*, or *hát karibá*; at the end of the flowering, when a milky substance is generated in the stem, *áhár dhukíbá*; when the kernel is just formed, *kshfr chául*; when ripening, *páchibá*; when ready for cutting, *katá-jíbá*—literally, it will be cut; when the grain is spread on the ground, and trodden out from the stem by a team of bullocks, *benglá paribá*; when winnowing, *ura-jibá*; when husked without boiling, *aruyá chául*; when husked after the seed has been loosened by boiling, *usná-chául*. The solid preparations of rice are: boiled rice, *bhát*, which is never sold; rice cakes, *pitha*, a few sorts of which may be sold; paddy boiled, afterwards slightly fried in the husk and then husked, *churá*, sold at about thirty-five pounds for two shillings; fried rice, *hurum*, a little over a penny a pound. A preparation made of unhusked rice slightly crushed and fried, *khai*, is sold at the same price. The liquid preparations of rice are: *rice
boiled to the consistency of paste, jāu; rice boiled with milk and sugar, kshīr, or kshīrī; and mad, a distilled liquor made from rice, and sold at about a shilling a quart. The two first preparations are never sold.

The other cereal crops of the district are: (1) Mānduā, a grass-like plant producing a coarse seed resembling rice, sown simultaneously with Bīālī on the same description of land, and reaped in September. This grain is peculiar to Orissa, and not found in Bengal. It is used freely by the lower orders, who prefer it to rice as cheaper, and who even consider it more nourishing. The higher classes do not use it, and declare it difficult of digestion by unaccustomed stomachs. (2) Gaham (wheat) and (3) Jab (barley), sown towards the end of November, and reaped in February and March. These crops are grown on rather high land, and require a great deal of irrigation. (4) Chīnā, a rice-like cereal, rather rare, sown about the end of November, and reaped at the end of January. (5) Suān, a rice-like cereal, not cultivated, but grows spontaneously in the paddy fields. It is used only by the lower orders. Indian Corn (Būtā or Mākā) has been omitted from the list of cereals, because it is scarcely cultivated in Cattack District. It is only grown in small gardens, and is eaten as a luxury in the green-ear, roasted, and not as an ordinary article of food. The Madras soldiers and camp followers in Cattack City are fond of it, but it is generally considered unwholesome.

The pulses grown in the district are: (1) But (gram) and (2) Chanā (peas), sown about the end of November, and reaped in February. These crops are grown on high land, and require irrigation, but are not common throughout the district. (3) Mūg (Phaseolus Mungo), (4) Bīrī, and (5) Kōlath (Dolichus biflorus), sown in October, and cut in January or February. These are generally cultivated as second crops on Bīālī and Mānduā land, but sometimes as the sole crop of the inferior one crop (ēkfasī) pulse land. The heavy dews which fall during the cold season afford sufficient moisture, and rainy weather is injurious to such crops. (6) Harar of two kinds: (a) Chaitra Harar, called after the name of the Hindu month in which it is reaped. It is sown almost simultaneously with Mūg and Bīrī, and sometimes along with them in the same field; the Mūg or Bīrī being reaped first, and the Harar left standing till March or April, when it also is reaped. This description of Harar is extensively cultivated, and considered more wholesome than the other variety, namely (b) Nālī Harar, which is grown on high lands, mostly around the homesteads; sown in June or July, and reaped in December or January.

The fibres of Cattack District are: (1) Jute, sown in July, and
reaped in November, on moist lands along the banks of rivers; not a very common crop. (2) Hemp, sown in high lands in November, and cut in January and February. (3) Kápas (Uriyá, Kapá), Cotton, with its two varieties, Haldiyá and Achhuá. The first variety is grown mostly in the hilly parts of the District, being sown in June or July, and cut in October or November. The seeds obtained from this species produce in the plains the Achhuá variety, which is sown in December and reaped in July. For the Achhuá crop, Haldiyá seed from the hills is preferred. The pods of the Achhuá are larger than those of the Haldiyá of the plains, but those of the Haldiyá grown in the mountainous tracts are superior to either in the delta, the hill soil being much better adapted for the growth of cotton. Land newly reclaimed from jungle is the best for this crop. (4) Simul-tulá, a description of cotton growing on a large tree (Bombax heptaphylla). It is never cultivated, but grows spontaneously; and the cotton is largely used for stuffing pillows and mattresses.

Miscellaneous Crops.—(1) Sarishá (mustard), sown in October, and reaped in January or February; grows well where silt is deposited. (2) Gab (castor oil), sown at the same time, and on the same description of land as Sarishá. It is generally grown as a second crop, but occasionally as a single one on land along the banks of rivers. The oil sells at about 3d. per pound, and is used extensively for lighting. (3) Phesi (linseed), sown in November, and reaped in February or March, as a second crop on Bíaí and Laghu Sárad land. (4) Khasá (til seed, sesamum orientale) grows on high or dry land; sown in July, and reaped in January. It is extensively cultivated and largely exported, principally to the Madras Presidency. (5) Tamáku (tobacco) is sown in deposits of slimy mud in December, and cut in March or April; irrigation is required. It is largely cultivated, and consumed by the people in the shape of cheroots. (6) Akhu (sugar-cane) should be grown on high land secured from flood-water, which is injurious to the plant. Constant irrigation is required; and as the crop is a very exhausting one, it cannot be grown on the same land in successive years. It is sown in April or May, and cut in February or March. (7) Haldi (turmeric) grows on high land which has previously been left fallow for a year; sown in July, and cut in February or March. (8) Adá (ginger), grown on the same description of land, and sown and cut at the same time as turmeric. (9) Methí (trigonella fœnum), (10) Dhaniyá (coriander seed), and (11) Pánmahuri (himpinella anisum), are all sown in November, and reaped in January or February. (12) Piyáj (onion) and (13) Rasun (garlic) are sown in November, and reaped in January; require irrigation. (14) Pán (betel-leaf) is planted in July;
and after the plant reaches maturity, in twelve or fifteen months, the leaves are plucked twice a week. This valuable creeper, when once it has fairly taken root, yields leaves for fifty or sixty years. It requires more labour than any other crop, but is also more profitable. It must be constantly irrigated, and protected from the sun by a reed roofing; so that a pān garden is simply a vast low-built mat greenhouse, very steamy inside, but of a uniform temperature all the year round. An acre yields from £88 to £100, of which, however, from £50 to £75 represents the capital laid out by the cultivator, and the rent of the land. A fair profit to the husbandman is from £25 to £35 per acre.

**OUT-TURN OF CROPS—OFFICIAL RECORDS.**

Official Records which represent the Agricultural State of the District in 1842, return the proportion of cultivated, cultivable, and waste lands as follows:—Under cultivation, 857,482 acres; cultivable, 94,357 acres; jungle and uncultivable, 866,486 acres: total, 1,818,325 acres, excluding 407,086 acres of which no detailed measurement had been made. Since then, however, a much larger extent of land has been brought under tillage. According to the Settlement Papers of 1837, the total crop of the District for one year amounted to upwards of six and a half million hundredweights, grown on 670,209 acres. Of this area, 458,696 acres were under rice, the crop of which weighed over five million hundredweights. At present, an acre of ordinary two-crop (Dofasii) land paying a rental of 6s. 3d. per annum will yield one bharan of unhusked paddy, equal to about ten hundredweights, worth thirteen shillings; and also a second crop of Mug or Birhi, weighing about three and a half hundredweights, and worth twelve shillings: total value of crop, £1, 5s. an acre. An acre of Sārad, or single-crop land, paying the same rent, will grow nineteen and a half hundredweights of paddy, worth £1, 6s. Two-crop land paying half the above rent gives a crop of Biali and Mug valued at nine shillings. It will be seen from the above that one-fourth to one-third of the produce is paid as rent, the remaining three-quarters and the straw going to the cultivator for his capital and labour.

**RATES OF RENT.**

At the time of the Settlement in 1837, the rates obtained for the different descriptions of land on some of the most important estates in the District were as follows. The figures are gleaned from the tabular statements of the Settlement Papers:—In the Fiscal Division of Deogāon, tobacco land yielded a rental of from £1, 17s. 6d. an acre for first-class fields, to 6s. 3d. an acre for the eighth class. Two-crop land growing Biali rice and Birhi is divided into no less than twelve classes, the rents for which varied from 9s. 4½d. for first-class to rs. 6½d. for twelfth-class land per acre. Land growing Biali and mustard varied from 12s. 6d. for first-class to 3s. 1½d.
for fifth-class land; that growing Biali and tobacco, divided into four classes, from £1, 5s. to 9s. 4½d. per acre. Sárad land, ten classes, from 7s. 9½d. to 1s. 3½d.; wheat and castor oil land, 3s. 1½d.; coriander, two classes, 9s. 10½d. and 3s. 1½d. per acre. In the village of Tulang, in the Fiscal Division of Khandi, the rates per acre for the different classes of land growing the most important crops were as follows:—

Biali and Birhi land, eight classes, from 15s. 7½d. to 6s. 3d. per acre; Mánduá and Birhi, nine classes, 15s. 7½d. to 6s. 10½d.; Mánduá and cotton, two classes, 11s. 10½d. and 7s. 7½d.; Sárad (winter-rice land), twelve classes, from 15s. 7½d. to 6s. 3d.; Biali, twelve classes, from 9s. 4½d. to 1s. 10½d.; Mánduá, nine classes, from 3s. 10½d. to 9d. an acre. In the village of Tulang, in the Fiscal Division of Balubisi, rents for the more important qualities of land were as follows:—

Mánduá and Kolath, twelve classes, from 12s. 6d. to 1s. 6½d. per acre; Biali and Kolath, twelve classes, from 12s. 6d. to 1s. 3d.; Mánduá and cotton, five classes, from 9s. 4½d. to 3s. 1½d.; Mánduá and Birhi, twelve classes, from 12s. 6d. to 1s. 3d.; Sárad, twelve classes, from 12s. 6d. to 1s. 3d.; Mánduá, eight classes, from 6s. 3d. to 9½d.; sugar-cane, five classes, from 18s. 9d. to 6s. 3d.; tobacco, five classes, from 18s. 9d. to 9s. 4½d.; cotton, eight classes, from 6s. 3d. to 1s. 0½d.

In the single village of Krishnapur, in the Fiscal Division of Asureswar, the rates per acre were: for Biali and Birhi land, twelve classes, from 15s. 7½d. to 5s. 5½d.; Biali and wheat, twelve classes, from 15s. 7½d. to 6s. 3d.; Biali and mustard, six classes, 12s. 6d. to 6s. 3d.; Sárad, twelve classes, 12s. 6d. to 6s. 3d.; Biali, ten classes, 12s. 6d. to 3s. 1½d.; Dálua, 6s. 3d. to 3s. 1½d.; tobacco, six classes, 14s. 6d. to 5s.; sugar-cane, six classes, 10s. 6d. to 6s. 3d.; mustard, nine classes, 9s. 4½d. to 1s. 6½d.; turmeric, four classes, 12s. 6d. to 5s.; Bhirí, twelve classes, 10s. to 3s. 6d.; Mug, twelve classes, 12s. 6d. to 1s. 6½d. This was thirty-three years ago.

The rates of rent per acre at the present time for the very best qualities of Two-crop and December-rice land (Sárad), in each of the Fiscal Divisions of Cattack, are returned by the Inundation Committee as follows:—(1) Abartak, 15s. 7½d. for two-crop, and 12s. 6d. for winter-rice land; (2) Alti, 12s. 6d. for each description; (3) Anárbartak, 9s. 4½d. and 7s. 6½d. respectively; (4) Apilá, 9s. 4½d. and 9s. 4d.; (5) Asureswar, £1, 5s. and 18s. 9d.; (6) Atkhantá, 6s. 3d. for each description; (7) Bahrúpá, 4s. 8½d. for each; (8) Bákrábád, 6s. 3d. and 5s.; (9) Balubisi, 12s. 6d. for each; (10) Bárán, 4s. 8½d. and 3s. 10½d.; (11) Bárdiyálá, 7s. and 6s. 3d.; (12) Bárgáon, 9s. 4½d. for each; (13) Barpallá, 10s. 5d. and 9s. 4½d.; (14) Baruyá, 12s. 6d. for each; (15) Báutará, 9s. 4½d. for winter-rice land; (16) Benáhár, 12s. 6d. and
RATES OF RENT IN 1870.

9s. 43d.; (17) Cattack Hável, 7s. o3d. and 9s. 43d.; (18) Chaurdá Kolát, 9s. 103d. and 9s. 43d.; (19) Chhedrá, 5s. for winter-rice land; (20) Dáljorá, 12s. 6d. and 13s. 9d.; (21) Dámpur, 9s. 43d. for each; (22) Deogáon, 9s. 43d. for each; (23) Derábisí, 4s. 83d. for winter-rice land; (24) Díhi Árakpur, 13s. 4d. for each; (25) Gándilo, 9s. 43d. and 9s. 43d.; (26) Hariharpur, 12s. and 15s. 73d.; (27) Hátimudá, 12s. 6d. and 9s. 43d.; (28) Jápur, 12s. 6d. and 11s. 3d.; (29) Jayanábdá, 10s. 73d. and 12s. 6d.; (30) Jaypur, 15s. 73d. for each; (31) Jhankan, 18s. 9d. for each; (32) Jódh, 9s. 43d. and 7s. 63d.; (33) Kalamátiyá, 12s. 6d. and 8s. 13d.; (34) Kanchikhand, 15s. 73d. for each; (35) Karimúl, 15s. 73d. for each; (36) Káte, 10s. 5d. and 9s. 43d.; (37) Káyamá, 6s. 3d. for each; (38) Keruylkhand, 15s. 73d. for each; (39) Khándi, 15s. 73d. for each; (40) Kíla A, 4s. 83d. and 4s. 2d.; (41) Kodíná, 12s. 6d. and 14s. 03d.; (42) Kókuyákhand, 12s. 6d. for each; (43) Kuhundá, 10s. and 9s. 43d.; (44) Kurniýá, 12s. 6d. and 9s. 43d.; (45) Kusmandal, 12s. 6d. for each; (46) Kutabsháhi, 4s. 83d. and 4s. 2d.; (47) Manjuri, 9s. 43d. for each; (48) Mákadábád, 6s. 3d. and 9s. 43d.; (49) Mákadnagar, 15s. 73d. for each; (50) Mutri, 5s. for each; (51) Máhákhand, 15s. 73d. and 9s. 43d.; (52) Neulbísí, 6s. 3d. for each; (53) Olash, 15s. 73d. and 12s. 6d.; (54) Padampur, 9s. 43d. and 12s. 6d.; (55) Pád, 12s. 6d. and 10s. 5d.; (56) Pánd, 12s. 6d. for each; (57) Pánikhand, 9s. 43d. for each; (58) Patu Mahánád, not given; (59) Sáhibnagar, 4s. 83d. for each; (60) Sáibír, 12s. 6d. for each; (61) Sáilo, 12s. 6d. and 10s.; (62) Swaraswáti, 12s. 6d. and 15s. 73d.; (63) Sháhabád, 9s. 43d. and 15s. 73d.; (64) Shergará, 12s. 6d. for each; (65) Shujábád, 12s. 6d. and 9s. 43d.; (66) Shujánagar, 9s. 43d. for each; (67) Suháng, 12s. 6d. and 15s. 73d.; (68) Suknáí, 12s. 6d. and 15s. 73d.; (69) Sultánábád, 7s. 03d. and 4s. 83d.; (70) Sungrá, 15s. 73d. for each; (71) Tapankhand, 15s. 73d. and 12s. 6d.; (72) Tisáníyá, 9s. 43d. for each; (73) Tikán, 12s. 6d. and 9s. 43d.; (74) Tírán, 12s. 6d. for each; and (75) Utkan, 12s. 6d. and 9s. 43d. respectively.

CONDITION OF THE PEASANTRY.—The husbandmen of Cattack do not seem so badly off as those of Balasor District, although the holdings are generally very small. A farm of twenty-five acres or upwards is considered a very large holding; one of between ten and twenty-five acres a good-sized one; and anything much below ten acres a small one. Every respectable villager has a few acres, often not more than four or five, and the Collector estimates that small holdings of less than ten acres cover one-half of the total cultivated area of the District. Very few farms exceed twenty-five acres. Perhaps two such holdings may be found in a rural commune of four or five hundred families of
husbandmen. The standard by which a cultivator is judged does not consist so much in the extent of fields, as in the number of ploughs he can command. This, however, by no means represents correctly the worth of his farm, inasmuch as some kinds of crop, such as Biali rice and sugar-cane, require much more ploughing than others. The amount of ploughing required also varies according to the nature of the soil, the land in low-lying parts not needing so much or so deep ploughing as in the higher tracts. In the case of a holding consisting of two-crop and one-crop land in fair proportions, six acres is supposed to represent what is technically called a 'plough' of land, that is, the quantity which a husbandman with one plough and a single pair of bullocks can cultivate. In the case of a farm consisting only of Sarad or one-crop land, one pair of bullocks would be able to plough eight, or in a low-lying situation, ten or twelve acres. A holding of twelve acres enables a Cattack cultivator to live quite as well as a respectable shopkeeper, or as a person earning sixteen shillings a month. His family can afford to eat more food than either of these two classes. One-half of the peasantry may be set down as really well off. One-fourth are in debt to the village money-lender or the landlord. The remaining one-fourth, who have very small holdings of from one to four acres, and who eke out a livelihood by hiring themselves as day-labourers to richer husbandmen, are just able to live. Able-bodied pauperism is unknown, except among the religious mendicants.

Classification of Husbandmen.—The cultivators of the District are composed of two classes—the Resident (Thañi) and the Non-Resident or Migratory (Pâhî) husbandmen. At the time of the Settlement in 1837, the rights of the Resident Cultivators were formally recognised by Government, and secured to them by Palm-Leaf leases (tâl-pattâs). They hold their homestead lands rent free, and are not liable to be ousted so long as they continue to pay the rent assessed on their cultivable lands, nor are these latter rents liable to enhancement until the expiration of their leases, which run concurrently with the Settlement to 1897. At the time of the Settlement in 1837, 37,242 such leases, aggregating 163,721 acres of land, were granted. Since then, some of these Resident Cultivators' rights have become extinct, and a few others have been created by the landholders. The Non-Resident (Pâhî) husbandmen, previous to the passing of the Land Law (Act X. of 1859), were mere tenants at will, except when secured in their holdings by special leases granted by the landholders. Under Act X. a large proportion of this class have acquired Rights of Occupancy. There is another small class of husbandmen, called Home-
garden land. Some leases of this description were granted at the time of the Settlement, giving the holders equal rights with the Resident Cultivators, but the Chandni Cultivators generally hold land under the Non-Resident (Pâhl) tenure. It must be remembered that 'Resident' and 'Non-Resident' have now become technical terms, and do not necessarily imply residence or non-residence in the village. The Collector estimates that the number of the Resident and Homestead husbandmen, or those whose rents are not liable to enhancement, may be taken at three-eighths of the whole body of cultivators; and of the remainder, or Non-Resident (Pâhl) husbandmen, three-fourths may be supposed to have acquired Occupancy rights. The other tenures in the District are as follows: (1) Resumed Rent-free lands, or those which were held rent free before the Settlement, but which, owing to the invalidity of the deeds, or to the absence of any documents at all, were resumed by Government at the time of the Settlement, and assessed lightly. (2) Tankûya lands, or those for which nominal rents were paid before the Settlement, and which have since been held at quitrents. (3) Kharidâjamâ-bandî, or lands which were bought by the husbandmen from the landholders before the British took possession of the Province, and which, at the time of our Settlement, were found to have been held either rent free or at a merely nominal rental, and were accordingly assessed very lightly. The first and second of these three classes were treated as rayâli tenures, and the holders not only have a right to their lands without enhancement of rent, but can transfer them by sale or gift. Such tenure-holders are not generally actual cultivators, but either sublet their lands, or till them by means of hired labour. The tenure-holders would consider themselves degraded by following the plough.

The Land Law.—The Settlement Record has left but little room for disputes about enhancement of rent under Act X. of 1859. The only lands liable to enhancement are those belonging to the Non-Resident husbandmen, for which no leases were granted by the Settlement Officers, and such leases of the Resident Cultivators as have lapsed from the holders dying without heirs or from other causes. The peasantry do not avail themselves much of Act X. for establishing Occupancy Rights, either from inability to cope with the landholders, or from the conviction that they consult their own interests better by conciliating than by defying their landlords. Act X. is therefore almost inoperative as an enhancement law, and the Collector reports that the rates of rent are the same as if it had not been passed.

The Domestic Animals of the District consist of cows and buffaloes, kept for milk; and oxen for the plough, or as beasts of
burden. The same bullocks are often used for ploughing during the rains, and as carriers of produce during the hot weather, when they are not needed in the fields. Herds of goats and sheep are almost unknown, but a brisk export trade takes place in horned cattle from the breeding grounds on the coast, via Midnapur to Calcutta. The trade has been of late on the decline, owing to the decrease in the amount of land left for pasture, and to cattle diseases described in my Statistical Accounts of Balasor and Pur. An ordinary cow in Cattack fetches £1, 4s.; a pair of oxen, £3; a pair of buffaloes, £8; a score of sheep, £8; a score of kids six months old, £2; a score of full-grown pigs, £12.

Wages of agricultural day-labourers are generally paid in kind, and do not seem to have altered since 1850. Such wages were then about twelve to fifteen pounds of unhusked rice per diem, and the same rate continues at the present day, except when they are calculated according to the money value of the labourer's hire. All labour, however, paid by money wages has increased in price; and in the large towns, such as Cattack and Jajpur, field work is now frequently paid in this way. Agricultural labour is always paid at a lower rate than other unskilled work. Day-labourers, other than agricultural, now receive from 1d. to 2d. a day in the rural Districts, and 3d. in the towns; in 1850 their wages were slightly over a penny in the rural Districts, and 2½d. in the towns. Smiths and carpenters now get 3½d. a day in the country, and 6d. in the towns; in 1850 their wages were 2½d. and 4½d. respectively. Bricklayers, who are only employed in the towns, earned 2½d. a day in 1850, and now from 4d. to 6d. On the whole, it may be said that labour fetches double in the towns what it does in the country, and that, during the last twenty years, from 1850 to 1870, the rates of wages have risen from 35 to 40 per cent. The price of the best husked rice was 42 lbs. for 2s. in 1860, 39½ lbs. in 1868, and 34 lbs. in 1870. Best unhusked paddy sold at 90 lbs. for the rupee in 1860, 84 lbs. in 1868, and 80 lbs. in 1870. Coarse rice, such as that used by labourers, sold at 86½ lbs. for the rupee in 1860, 63 lbs. in 1868, and 64 lbs. in 1870. The same paddy, unhusked, sold at 174 lbs. for the rupee in 1860, 130 lbs. in 1868, and 156 lbs. in 1870. Wheat stood at 48½ lbs. for 2s. in 1860, 42 lbs. in 1868, and 18 lbs. in 1870. In 1869 the prices were higher than in 1868, owing to the partial destruction of the crops of that year (1868) by inundation. In the famine year the maximum prices reached were as follow:—Best cleaned rice, 7½ lbs. for 2s., unhusked 14 lbs.; coarse rice husked, 8 lbs., unhusked 18 lbs.; and wheat, 8 lbs.

The Agricultural Implements required by a small husbandman
WEIGHTS AND MEASURES.

with a holding of one ‘plough’ of land, or about six acres, are a pair of oxen, a plough (nángal), harrow (mai), weeder (bidá), two sorts of spades (kánk and kuri), a sickle (dá), a hatchet (katuri), and an iron instrument for digging holes (khanti). I give the Uriyá names; in Bengali, dá means a hatchet. The cost of the whole is about £4, including £3 as the cost of the oxen.

Weights and Measures.—Rice is sold in the country villages and on the fields to grain merchants, according to the following measure:—4 chhátak = 1 páo; 4 páo = 1 ser; 12 ser = 1 gauni; 8 gauni = 1 bharan. The gauni is simply a basket, which differs in size in different parts of the District. The measure used by shopkeepers in towns and merchants in selling rice is the following:—4 paysá = 1 chhátak; 4 chhátak = 1 páo; 4 páo = 1 ser; 5 ser = 1 pasuri; 8 pasuri = 1 maund. The Cattack ser weighs 105 rupees, or over two and a half pounds avoirdupois, and is used for all articles except grain on the field or in the country villages, and for salt, which is sold according to the Calcutta ser, equal to 80 rupees weight, or two pounds avoirdupois. Gold and precious stones are weighed according to the following standard:—4 dãn = 1 rati; 8 rati = 1 másá; 10 másá = 1 bhari or toldá, equal to 180 grains. Troy weight. Land measure is as follows:—4 kání = 1 biswá; 16 biswá = 1 gun; 25 gun = 1 mán, equal to an English acre; 20 mán = 1 bátí. Distance is measured as follows:—4 anguli = 1 mushti; 3 mushti = 1 chákhand (span); 2 chákhand = 1 hát (cubit); 4 hát = 1 dhanu; 2000 dhanu = 1 kos; 4 kos = 1 yojan, or nine miles. During the Musalman and Marhatta Rule, the current coin of the Province was the kauri (cowrie). Not only were private transactions carried on, but Government salaries were paid in this measure. It has now nearly disappeared from the towns and bázárs, but still continues current in the villages. The standard is as follows:—4 kranti = 1 kauri (cowrie); 4 kauri = 1 gandá; 20 gandá (80 cowries) = 1 pan; 16 pan (1280 cowries) = 1 káhan. The number of cowries to the rupee varies; the present rate is reported at 3584; in 1804 it was as high as 7680. It may be estimated, generally speaking, that 3 káhans or 3840 cowries = two shillings.

Landless Labouring Classes.—A distinct class of day-labourers, neither possessing nor renting any lands, has always existed in Cattack District. It is composed chiefly of Páns, Bauris, Kandrás, and other very low castes, with some families of Chásás. The number of these landless day-labourers is said to have diminished of late years, while the demand has increased in consequence of the large public works now in progress. In short, the enhanced prices of agricultural produce have given an impetus to tillage, and made it pay better to settle on inferior and formerly
uncultivated land than to go out for hire. The price of labour has risen accordingly, and the condition of the labouring class has so much improved as to attract the poorer sort of husbandmen to Cattack City when field work is suspended. Agricultural labourers are of two sorts—permanent and occasional. The former generally receive in advance a small amount of money, about ten or twelve shillings without interest, which they must make good before quitting the service. They are paid daily wages in paddy at a slightly lower rate than that which the occasional labourers receive, but they get a piece of cloth once a year from their employer, and half an acre of land, rent free, which they cultivate on their own account with their master's plough and bullocks. The occasional labourers are merely extra hands for weeding and reaping. When employed on the former, they receive at the rate of fifteen pounds of paddy (equal to six and a half pounds of husked rice) per diem. At harvest they are paid by bundles, at the rate of one for every twelve or fifteen bundles of the crop cut. Women and children are also largely employed at these seasons, but at lower rates.

Spare Cultivable Land can only be found in the low-lying ground along the sea-coast. A large number of cultivators perished in these tracts during the famine of 1866, and they have not yet been wholly replaced. Previous to the famine, the amount of such spare land was almost nil.

Manures are hardly used at all in the inundated parts of the delta, and in the other tracts for a few crops only. Rice-fields get but a thin top-dressing of cow-dung and decomposed rubbish; but for sugar-cane, one and a half hundredweight of oil-cake per acre, valued at five shillings, is considered indispensable.

Irrigation is conducted almost wholly by means of natural watercourses. Tank water is very seldom used, nor are wells sunk for this purpose. The people scarcely ever cultivate crops requiring irrigation, except in localities where natural facilities exist for it. Cotton, Dáluá rice, But, Pán, and Sugar-cane must have a sure supply of water, but a very little suffices for Tobacco, Wheat, or Barley. The Collector estimates the cost per acre of labour in irrigating the different varieties of crop as follows:—Sugar-cane, £3; Cotton, £1 4s.; Dáluá rice, 4s.; Pán, £1 10s.; Tobacco, 8s.; Barley, 6s.; But, 6s.; and Wheat, 6s.

Rotation of Crops.—Turmeric, Cotton, and Sugar-cane are not cultivated on the same land for successive years, Bíaíí rice being grown instead, every alternate year. Although the utility of allowing land to lie fallow is fully understood by the cultivators, the constant demand for land makes it very seldom practised.

Blight are rare occurrence; and hitherto, when they do make
FLOODS AND DROUGHTS.

their appearance, they have only affected particular localities. No case is recorded of a whole crop being destroyed by blight.

Floods and droughts are the real calamities of Cattack, as of all the other Districts of Orissa. The former arise from sudden freshets of the rivers before they enter the District, and not from excessive rainfall within it. Since 1830 the floods have been of so serious a character as to cause a general destruction of the crop, in 1831-32, 1834-35, 1848-49, 1851-52, 1856-57, 1857-58, 1862-63, and 1866-67, or eight years in forty. The Collector states that the existing embankments can protect the District from ordinary floods, but not when the rivers rise unusually high, or when the embankments are breached. He adds that further protection is much needed by means of new embankments, and the strengthening of the present ones, although this want has been partially met by the canal embankments following the routes of the rivers.

Droughts in Cattack are occasioned by the absence of local rainfall, and not from the failure of the rivers. On five different occasions within the last forty years, viz. in 1833-34, 1836-37, 1839-40, 1840-41, and 1865-66, drought has occurred on a sufficiently large scale to endanger the safety of the people. In seasons of drought the husbandmen dam up the rivers, and avail-themselves of the water thus secured, as well as of the water of tanks, marshes, etc., wherever these exist. In 1865-66, the country was drained in this manner to such an extent as to affect the supply of bathing and drinking water. A system of irrigation-canals, like that in course of construction, will go far to mitigate the effects of these calamities; and the usefulness of such works was put to a practical test in 1870. See a previous page of this Statistical Account.

It sometimes happens that the District is visited with the double calamity of flood and drought in the same year, the former occurring in the early part, and the latter towards the close of the season. Drought, however, is more ruinous than flood. Great distress is caused in years of inundation, but long protracted drought has always been followed by famine.

Compensating Influences.—As the District is throughout of a deltaic character, and of a very equable level, no compensating influence exists by which in years of flood, the crops of the higher lands might make up for the loss of those in the low-lying tracts. Nor, conversely, does the crop of the low lands in years of drought compensate for the loss of that in the higher levels. Both tracts suffer in either case, although in different degrees.

Famines.—The Collector considers that prices reach famine rates
when only twenty-one pounds of common husked rice can be got for a rupee, and that relief operations should then commence. In average seasons such rice, the universal food of the people, seldom rises above fifty-two pounds for the rupee. If the price of rice in January should reach forty pounds for the rupee, a very severe scarcity or actual famine is to be feared, as the ordinary rate at that time is seldom less than sixty-eight or sixty-six pounds for the rupee. He would accept such a rise of price as a distinct warning of famine, unless it were susceptible of explanation from local or temporary causes. The District depends almost entirely on the Sarad rice, the acreage under the Bāli rice being only one-fourth of that under Sarad. In the event, therefore, of a general failure of the December harvest, the following one in August and September will not make up for the deficiency. In 1866, the common rice rose to between seven and eight pounds for the rupee.

Preventive Works.—Since the famine of 1866, much has been done to prevent a recurrence of a similar calamity. Harbours, canals, and regular steam communication with Calcutta have broken in upon the isolation of Orissa. These and the irrigation works have been described in a foregoing page. The Collector reports, that even what has been already effected would avert the extremity of famine throughout most of the District, by importations via False Point and the Dhāmā River. He believes that, upon the completion of the measures now in progress, the recurrence of a famine such as that of 1866 will be impossible. The most inaccessible portion of the District at present is the Jājpur Subdivision, and it would be very difficult in the dry season to throw large supplies of grain into it from the sea-coast. In the absence of a canal, the Collector considers it most important that the northern part of this Subdivision should be connected with tidal waters by a road.

Administrative History.—An account of the occupation of Cattack will be found in my volume on Orissa. In 1829–30, the first year of which regular records survive, the total revenue of the District amounted to £139,642, and the expenditure on Civil Administration to £114,438. In 1860–61, the revenue, after deducting inefficient balances and transfer accounts, had increased to £202,867, and the disbursements to £193,882. In 1868–69, after the same deductions, the revenue amounted to £272,688, and the expenditure to £268,791. During the last forty years, therefore, the revenue of the District has almost doubled, and the civil expenditure has multiplied itself nearly two and a half times.

The Land Tax from all sources amounted to £34,937 in 1829–30,
to £78,893 in 1850–51, and to £80,937 in 1868–69. The District, however, included a larger area in 1829 than in the two last-mentioned years. As in every part of Orissa, the subdivision of estates has gone on rapidly under British rule, the number of estates having more than doubled within the last forty years, while the number of proprietors or coparceners has more than quadrupled. In 1829, Cattach District contained 1509 estates, paying net £81,896, held by 2118 registered proprietors or coparceners; the average land revenue paid annually by each estate amounting to £54, 5s. 6d., and by each separate proprietor to £38, 13s. In 1850 the number of estates had increased to 2351, paying net £78,893, with 5110 proprietors and coparceners, whilst the average annual revenue paid by each estate fell to £33, 11s., and by each proprietor or coparcener to £15, 8s. 9d. In 1869 there were 3223 estates, paying net £78,421, with 8511 proprietors; the average revenue paid by each estate being only £24, 6s. 8d., and by each proprietor or coparcener, £9, 4s. If we go into details, this result is exhibited in a still more striking manner. In 1829 the average payment of each separate proprietor of a small estate paying under £10 a year of Government revenue was £2, 5s. 9d.; in 1850 it had fallen to £1, 8s., and in 1869 to £1, 2s. In the second class of estates, paying between £10 and £100 a year of Government rental, each coparcener paid on an average £22, 9s. 6d. in 1829, £12, 11s. in 1850, and £9, 12s. in 1869. In the large estates, or those paying a land revenue of upwards of £100 a year, the average payment of each individual coparcener was £222, 14s. in 1829, £122, 1s. in 1850, and £60, 4s. in 1869. In 1805, when the Jurisdiction of Cattach included also the greater part of Balasor and Puri, the land revenue of the Province amounted to £121,904, or only one-third more than that of the single District of Cattach in 1869. This land revenue was paid by 2275 estates, held by 2517 proprietors or coparceners. At the present day, Cattach District alone contains nearly double this number of estates, and more than treble the number of proprietors.

Protection to Person and Property has increased in a still more rapid rate under British rule. In 1816 there were only four courts, revenue, and judicial, in the whole District. In 1850 the number had increased to eleven, in 1862 to sixteen, and in 1869 to twenty-one. These Courts are distributed over the District as follows: —Cattach Station, 12; Jajpur Subdivision, 3; Kendrapara Subdivision, 4; and Jagatsinhpur Subdivision, 2. The number of Covenanted Officers in the District amounted to three in 1816, five in 1850, four in 1862, and six in 1869.
Subdivisional System.—The three Subdivisions of Cattach, and the distribution of Courts among them, have been indicated in the last paragraph,—viz. Jáipur, Kendrāpárá, and Jagatsinhpur. They do not admit of separate treatment, as Cattach District forms a well-marked geographical entity, of which they are strictly integral parts. Several references to them will be found in previous parts of this Account, and in my general work on Orissa; but it would serve no purpose to describe them individually.

The Police.—The cost of officering the District Police from the rank of Head Constable (Jamádář) upwards, has increased from £540 in 1833, to £538 in 1840, and £1286 in 1860. At the end of the year 1868, the regular police force of the District stood thus:—5 European Officers, on an average salary of £456 a year; 24 Native Officers, on an average pay of £86, 8s.; and 756 foot constables, on an average pay of £8, 14s. a year,—total strength of force, of all ranks, 785, maintained at a total cost of £13,270. The Police Department estimates the area of the District at 3370 square miles, and the population at 1,072,463. According to these figures, the strength of the regular police, as compared with the area of the District, is one man to every 4'3 square miles, or one to every 1366 of the population,—maintained at a cost of £3, 18s. 9d. per square mile of area,* or a fraction less than threepence per head of the population, per annum. The Subordinate Officers and men consist of the following races:—590 Uriyás, 61 Hindustání, 40 Bengalis, 7 Panjáblís, 71 Telingás, 8 Támuls, and 2 Europeans (Sub-Inspectors). During the year 1868 they conducted 1694 cognisable cases, made 1952 arrests, and obtained 1194 convictions.

Village Watch.—Besides the regular District Police, there is a Village Watch and a Municipal Police. The former amounted in 1868 to 5363 men, receiving an estimated pay in money and lands of £10,252, equal, according to the police calculations of the area and population of the District, to a charge of £3, os. rod. per square mile of the area, or twopence farthing per head of the population. The proportion to the area is one man to every 0'63 square miles, or one man to every 199 of the population. Each rural watchman has, on the average, 38 houses under his charge. The Municipal Police is a small force maintained at an average cost of £480 a year, and consists of three native officers drawing an average pay of £12, and 68 footmen on an average pay of £6, 8s. 6d. Including the Regular Force, the Municipal Police, and the Village Watch, the police of all ranks amounts to 6219, maintained at a total cost of £24,003, being one man to every 172 of the population. The annual cost of protecting person and property, therefore, in Cattach District, is £77, 25. 5d. per
mile, or upwards of 5½d. per head of the population according to the police basis of calculation. For police purposes, the District is divided into nine Subdivisions (Thánás).

Crime is more prevalent in Cattack than in either Purès or Balasar. The average daily number in Jail in 1868 in Cattack District, including the Subdivisions of Jáipur, Kendrápárá, and Jagatsinhpur, was 415, of whom only 16 were women, or about one person always in Jail to every 3116 of the population aggregating 1,293,048 souls. The entire number admitted in 1868 amounted to 1469 males and 75 females. The cost of rations per prisoner amounted to £3, 14s. 9d. in 1867, and £2, 9s. 7d. in 1868. The great difference is owing to the famine of 1866, the effects of which in 1867 still made themselves severely felt on the price of food. The total cost of Jail Establishment in 1868 was 9s. 9d. per prisoner; and the gross cost of maintenance, including diet, clothing, hospital charges, and all other items, amounted to £4, 3s. 9d. per head.

FISCAL DIVISIONS.—Cattack District was divided into 86 Fiscal Divisions (Pargánás) in 1837, which, with three transferred from the District of Balasar in 1869, make a total of 89; including four Hereditary Forts (Kilas), regularly settled and surveyed; and 8 which have neither been measured nor settled. With the exception of Sukinda, however, an estimate of their area and proportion of cultivated to uncultivated lands is shown in the subjoined list. The Fiscal Divisions are, generally speaking, larger than those of Balasar District, but a few of them are even smaller; 4 being less than one square mile, 8 under three square miles, and 14 under five square miles in extent. The number of villages or rural communes was returned at 6731 in 1839, and 6941 in 1870, containing on an average 150 inhabitants each, taking the total population of the District to be 1,293,084, as estimated by the Surveyor-General. The following list exhibits the Fiscal Divisions of the District, as they were arranged for Settlement purposes in 1837, showing the total area, with the proportion of land under cultivation, capable of cultivation, and uncultivable; the land revenue paid; the estimated population, and the names of the chief villages in each. Fractions of acres are not given.

(1.) **Abartak**—Area, 8'46 square miles, or 5419 acres; 3196 acres cultivated; 69 cultivable; 2153 uncultivable; land revenue, £512; population, 3261; chief villages, Sáatrápur and Jayapur.

(2.) **Al Kila** (unmeasured and settled portion of)—Area, 13'10 square miles, or 84,129 acres; 54,000 acres cultivated; none cultivable; 30,129 uncultivable; land revenue, £2814; population, 52,594; chief villages, Garh Al and Derabisi.

(2½.) **Al Kila** (measured and settled portion of)—Area, 1'8
square miles, or 690 acres; 571 acres cultivated; 15 cultivated; 103 uncultivable; land revenue, £55; population and names of chief villages given above.

(3.) ALTI—Area, 76.97 square miles, or 49,298 acres; 24,163 acres cultivated; 2071 cultivable; 23,023 uncultivable; land revenue, £2674; population, 43,592; chief villages, Káyáná and Barambadá.

(4.) ANABARTAK—Area, 3.86 square miles, or 2471 acres; 1147 acres cultivated; 133 cultivable; 1190 uncultivable; land revenue, £87; population, 1260; chief village, Pathuriyá.

(5.) APILA—Area, 4.98 square miles, or 3188 acres; 2134 acres cultivated; 79 cultivable; 974 uncultivable; land revenue, £195; population, 1355; chief village, Singársáí.

(6.) ASURESWAR—Area, 65.17 square miles, or 41,712 acres; 30,806 cultivated; 1721 cultivable; 9185 uncultivable; land revenue, £3061; population, 44,183; chief villages, Malipur and Barkhir.

(7.) AKTHANTA—Area, 5.60 square miles, or 3589 acres; 2323 acres cultivated; 405 cultivable; 861 uncultivable; land revenue, £146; population, 1694; chief villages, Orto and Aetpur.

(8.) AHIYAS—Lately transferred from Balasor; details wanting.

(9.) BAHURUPA—Area, 17.0 square miles, or 1086 acres; 469 acres cultivated; 56 cultivable; 561 uncultivable; land revenue, £53; population, 609; chief villages, Bidharpur and Aitgarh.

(10.) BAKRABAD—Area, 52.86 square miles, or 33,830 acres; 13,223 acres cultivated; 1515 cultivable; 19,092 uncultivable; land revenue, £1609; population, 65,064; chief villages, Bishábar and Barhampur.

(11.) BALUBISI—Area, 58.30 square miles, or 37,371 acres; 22,113 acres cultivated; 1198 cultivable; 13,999 uncultivable; land revenue, £2926; population, 28,788; chief villages, Muhammadpur and Raghunáthpur.

(12.) BARAN—Area, 26.95 square miles, or 17,251 acres; 8223 acres cultivated; 1683 cultivable; 7344 uncultivable; land revenue, £485; population, 3289; chief villages, Hátsáhi and Deultára.

(13.) BARDIVALA—Area, 6.71 square miles, or 4297 acres; 1498 acres cultivated; 89 cultivable; 2709 uncultivable; land revenue, £128; population, 1714; chief villages, Sámsprásád and Tárdáhá.

(14.) BARGAON—Area, 15.97 square miles, or 10,219 acres; 4751 acres cultivated; 625 cultivable; 4842 uncultivable; land revenue, £517; population, 4136; chief village, Ratnagir.

(15.) BARPALLA—Area, 9.74 square miles, or 6231 acres; 4206 acres cultivated; 334 cultivable; 1691 uncultivable; land revenue, £393; population, 4754; chief villages, Pangpál and Jánpál.
LIST OF FISCAL DIVISIONS.

(16.) BARUYA—Area, 46'89 square miles, or 30,007 acres; 18,388 acres cultivated; 2892 cultivable; 8727 uncultivable; land revenue, £2235; population, 30,433; chief villages, Haripur and Bálíyápál.

(17.) BAUTARA—Area, 5'60 square miles, or 3586 acres; 2716 acres cultivated; 63 cultivable; 806 uncultivable; land revenue, £185; population, 1524; chief villages, Kasbá and Gobindpur.

(18.) BENÁHÁR—Area, 46'43 square miles, or 29,717 acres; 19,288 acres cultivated; 673 cultivable; 9756 uncultivable; land revenue, £1538; population, 16,663; chief villages, Bálikudá and Khámábákul.

(19.) BISHANPUR KILA—Area, 17'51 square miles, or 11,208 acres; 5000 acres cultivated; 6208 uncultivable; land revenue, £186; population, 2367; chief villages, Panchpallí and Gaursáhf.

(20.) CATTACK HAVILÍ—Area, 11'97 square miles, or 7666 acres; 1422 acres cultivated; 178 cultivable; 6066 uncultivable; land revenue, £170; population, 12,050, exclusive of 46,436 population of Cattack Town and Suburbs; chief town, Cattack.

(21.) CHAURDA KOLAT—Area, 12'98 square miles, or 8310 acres; 4977 acres cultivated; 749 cultivable; 2583 uncultivable; land revenue, £624; population, 7207; chief villages, Kespur and Gobindprasad.

(22.) CHHEDRA KILA—Total area, 8'37 square miles, or 5356 acres; 3300 acres cultivated; 2056 uncultivable; land revenue, £228; population, 1052; chief villages, Barang and Gunpur.

(23.) CHHEDRA KADALIBARI—Area, 4 square miles, or 25 acres; 7 acres cultivated; 17 cultivable; 1 uncultivable; land revenue, £3; population included with that of Chhedrá Kila.

(24.) DAIJORA—Area, 97'22 square miles, or 62,220 acres; 7863 acres cultivated; 648 cultivable; 53,709 uncultivable; land revenue, £887; population, 10,867; chief villages, Agráhát and Bhagatpur.

(25.) DAMARPUR—Area, 17'30 square miles, or 11,077 acres; 7078 acres cultivated; 114 cultivable; 3885 uncultivable; land revenue, £761; population, 9833; chief villages, Dámrápur and Dhumádt.

(26.) DARPAK KILA—Area, 97'27 square miles, or 62,257 acres; 25,983 acres cultivated; 1039 cultivable; 35,234 uncultivable; land revenue, £731; population, 22,013; chief villages, Dharmašálá and Chhatiyá.

(27.) DEOGAON—Area, 49'73 square miles, or 31,830 acres; 17,026 acres cultivated; 2107 cultivable; 12,697 uncultivable; land revenue, £1722; population, 17,359; chief villages, Neyáli and Kasárád.

(28.) DERABISI—Area, 0'7 square miles, or 46 acres; 37 acres
cultivated; 9 cultivable; none uncultivable; land revenue, £4; population included with that of No. 3 pargana Alti.

(29.) DīHI ARAKPUR—Area, 6'2 square miles, or 3852 acres; 2269 acres cultivated; 212 cultivable; 1371 uncultivable; land revenue, £362; population, 4702; chief villages, Arakpur and Padmalabhpur.

(30.) DOLGRAM—Recently transferred from Balasor District; details wanting.

(31.) DOMPARA KILA—Area, 88'37 square miles, or 56,557 acres; 6670 acres cultivated; 574 cultivable; 49,313 uncultivable; land revenue, £133; population, 8520; chief villages, Talbast and Patpur.

(32.) GANDITO—Area, 13'90 square miles, or 8892 acres; 6404 acres cultivated; 337 cultivable; 2150 uncultivable; land revenue, £556; population, 8978; chief villages, Kantáballabhpur and Pakanpur.

(33.) HARIHARPUR—Area, 61'59 square miles, or 39,418 acres; 28,104 acres cultivated; 893 cultivable; 10,421 uncultivable; land revenue, £2491; population, 39,370; chief villages, Jagatsinhpur and Nabapataná.

(34.) HARISHPUR KILA—Area, 99'65 square miles, or 38,376 acres; 6477 acres cultivated; 1995 cultivable; 29,904 uncultivable; land revenue, £364; population, 6437; chief villages, Gora and Borkiná.

(35.) HATIMUNDA—Area, 16'28 square miles, or 10,417 acres; 5693 acres cultivated; 769 cultivable; 3954 uncultivable; land revenue, £546; population, 5727; chief villages, Gobindpur and Dadhibámanpur.

(36.) JAJPUR—Area, 86'63 square miles, or 55,446 acres; 38,201 acres cultivated; 1376 cultivable; 15,868 uncultivable; land revenue, £3219; population, 61,993; chief villages, Jajpur and Siddheswar.

(37.) JAYANABAD—Area, 8'14 square miles, or 5208 acres; 4577 acres cultivated; 39 cultivable; 591 uncultivable; land revenue, £271; population included with that of Hariharpur.

(38.) JAYIPUR—Area, 20'11 square miles, or 12,870 acres; 8742 acres cultivated; 967 cultivable; 3161 uncultivable; land revenue, £965; population, 16,508; chief villages, Khandihat and Koliatá.

(39.) JHANKAR—Area, 54'83 square miles, or 35,092 acres; 21,483 acres cultivated; 751 cultivable; 12,858 uncultivable; land revenue, £757; population, 30,771; chief villages, Kanpur and Birtol.

(40.) JODH—Area, 15'55 square miles, or 9952 acres; 6148 acres cultivated; 931 cultivable; 2872 uncultivable; land revenue, £615; population, 6667; chief villages, Bánsáhi and Katrápur.
LIST OF FISCAL DIVISIONS.

(41.) KALAMATIA—Area, 43.80 square miles, or 28,029 acres; 15,572 acres cultivated; 151 cultivable; 12,305 uncultivable; land revenue, £1315; population, 17,745; chief villages, Bari and Náráyanpur.

(42.) KALKALA KILA—Area, 17.56 square miles, or 11,238 acres; 6000 acres cultivated; 5238 uncultivable; land revenue, £13; population, 1351; chief village, Kalkalá.

(43.) KANCHIKHAND—Area, 4.73 square miles, or 3026 acres; 1565 acres cultivated; 83 cultivable; 1377 uncultivable; land revenue, £166; population, 1055; chief villages, Rájkaná and Barcháncho.

(44.) KANIKÀ KILA—Area, 577.60 square miles, or 369,661 acres; 91,645 acres cultivated; 35,917 cultivable; 242,098 uncultivable; land revenue, £2041; population, 39,186; chief villages, Ganjá and Mato.

(45.) KARIMUL—Area, 28.9 square miles, or 17,979 acres; 7415 acres cultivated; 5238 uncultivable; land revenue, £850; population, 11,971; chief villages, Pükakkachh and Bhátárá.

(46.) KATE—Area, 66.88 square miles, or 42,803 acres; 22,394 acres cultivated; 1195 cultivable; 19,214 uncultivable; land revenue, £1741; population, 19,539; chief villages, Madhab and Gajrajpur.

(47.) KATVA—Lately transferred from Balasor; details wanting.

(48.) KAYAMA—Area, 54.38 square miles, or 34,799 acres; 22,789 acres cultivated; 952 cultivable; 1498 uncultivable; land revenue, £535; population, 7689; chief villages, Ustiya and Báligán-nágpur.

(49.) KHERUIKHAND—Area, 9.83 square miles, or 6289 acres; 3148 acres cultivated; 184 cultivable; 2957 uncultivable; land revenue, £535; population, 7689; chief villages, Kukúdán and Jasaípur.

(50.) KHANDI—Area, 29.55 square miles, or 18,909 acres; 14,432 acres cultivated; 75 cultivable; 4401 uncultivable; land revenue, £1710; population, 24,238; chief villages, Tulang and Denga.

(51.) KODINDA—Area, 36.84 square miles, or 23,580 acres; 13,272 acres cultivated; 674 cultivable; 9634 uncultivable; land revenue, £1367; population, 17,461; chief villages, Rájhapsa and Mahurá.

(52.) KOKUYAKHAND—Area, 29.28 square miles, or 18,739 acres; 12,195 acres cultivated; 526 cultivable; 6017 uncultivable; land revenue, £1273; population, 15,834; chief villages, Tángí and Hariántá.

(53.) KUHUNDA—Area, 11.18 square miles, or 754 acres; 524 acres cultivated; 67 cultivable; 162 uncultivable; land revenue, £49; population included in that of pargana Jaypur; chief villages, Kuhundágrám and Sípurá.

(54.) KUJANG KILA—Area, 35.74 square miles, or 229,366 acres; 100,000 acres cultivated; 129,366 uncultivated; land revenue, £1750; population, 18,059; chief villages, Tíkhirí and Párdiwíp.
152

STATISTICS OF CATTACK DISTRICT. [App. IV.

(55.) Kurniya—Area, 7'25 square miles, or 4642 acres; 3343 acres cultivated; 51 acres cultivable; 1247 uncultivable; land revenue, £267; population, 3598; chief villages, Chanyarpur and Ichhapur.

(56.) Kusmandal—Area, 8'11 square miles, or 5189 acres; 3548 acres cultivated; 252 cultivable; 1589 uncultivable; land revenue, £559; population, 4338; chief villages, Barhampur and Jhāreswar.

(57.) Kutarshahi—Area, 0'42 square miles, or 266 acres; 212 acres cultivated; 6 uncultivable; land revenue, £13; population, 110.

(58.) Madhupur Kila—Area, 60'58 square miles, or 38,773 acres; 15,000 acres cultivated; 23,773 uncultivable; land revenue, £617; population, 22,421; chief villages, Madhupur and Singāpur.

(59.) Manjuri—Area, 11'15 square miles, or 7140 acres; 4767 acres cultivated; 183 cultivable; 2189 uncultivable; land revenue, £338; population, 3188; chief village, Mahāmāniyā.

(60.) Matkadabad—Area, 16'42 square miles, or 10,494 acres; 6004 acres cultivated; 14 cultivable; 4476 uncultivable; land revenue, £442; population, 4106; chief villages, Masudpur and Mugdihi.

(61.) Matkادnagar—Area, 31'17 square miles, or 19,950 acres; 13,852 acres cultivated; 1038 cultivable; 5060 uncultivable; land revenue, £1602; population, 24,945; chief villages, Māhānāgā and Kāliantā.

(62.) Mutri—Area, 14'32 square miles, or 9165 acres; 836 acres cultivated; 65 cultivable; 8263 uncultivable; land revenue, £108; population included with that of Bakrābād; chief village, Narāj.

(63.) Neulbris—Area, 3'94 square miles, or 2510 acres; 1602 acres cultivated; 365 cultivable; 551 uncultivable; land revenue, £119; population, 1905; chief villages, Bodhāng and Nayapārā.

(64.) Nahakhand—Area, 16'49 square miles, or 10,555 acres; 7436 acres cultivated; 582 cultivable; 2536 uncultivable; land revenue, £871; population, 9611; chief villages, Bharatpur and Bāgurā.

(65.) Olash—Area, 39'8 square miles, or 25,011 acres; 14,815 acres cultivated; 1476 cultivable; 8720 uncultivable; land revenue, £1464; population, 27,686; chief villages, Rasulpore and Rājendrapur.

(66.) Padampur—Area, 25'94 square miles, or 16,600 acres; 9593 acres cultivated; 355 cultivable; 6652 uncultivable; land revenue, £1247; population, 18,954; chief villages, Pāgāhāt and Mahāsinhpur.

(67.) Paena—Area, 9'39 square miles, or 6009 acres; 3307 acres cultivated; 255 cultivable; 2447 uncultivable; land revenue, £420; population, 4553; chief villages, Pāilo and Rāgpur.

(68.) Paenda—Area, 40'72 square miles, or 26,062 acres; 13,368 acres cultivated; 1393 cultivable; 11,301 uncultivable; land revenue,
LIST OF FISCAL DIVISIONS.

£1313; population, 21,793; chief villages, Pahardjpur and Kishan-

(69.) PANIKHAND—Area, 1'82 square miles, or 1162 acres; 514
acres cultivated; 263 cultivable; 384 uncultivable; land revenue, £64;
population, 2407; chief village, Kakhar.

(70.) PATIYA KILA—Area, 42'21 square miles, or 27,013 acres;
10,000 acres cultivated; 17,013 uncultivable; land revenue, nil;
population, 8,794; chief villages, Raghunathpur and Garh Patiyá.

(71.) PATU MAHANADI—Area, 0'8 square mile, or 8 acres; all cul-
tivated; land revenue, 5s.; population included with that of Kila Dompárd.

(72.) SAHIBNAGAR—Area, 8'40 square miles, or 5372 acres; 4225
acres cultivated; 229 cultivable; 918 uncultivable; land revenue,
£338; population included with that of Jáipur; chief villages, Hargo-
bindpur and Champábandh.

(73.) SAIBIR—Area, 31'82 square miles, or 20,362 acres; 11,468
acres cultivated; 1864 cultivable; 7030 uncultivable; land revenue,
£1713; population, 13,107; chief villages, Puran and Madhusudanpur.

(74.) SAILO—Area, 39'16 square miles, or 25,064 acres; 13,771
acres cultivated; 686 cultivable; 10,605 uncultivable; land revenue,
£1233; population, 21,677; chief villages, Gobindpur and Kurang.

(75.) SWARASWATI—Area, 9'49 square miles, or 6070 acres; 3380
acres cultivated; 442 cultivable; 2247 uncultivable; land revenue,
£460; population, 5555; chief village, Purúshottampur.

(76.) SHARABAD—Area, 3'32 square miles, or 2124 acres; 1541
acres cultivated; 225 cultivable; 357 uncultivable; land revenue,
£108; population included with Hanharpur.

(77.) SHERGARHA—Area, 137'70 square miles, or 88,127 acres;
33,527 acres cultivated; 2256 cultivable; 52,344 uncultivable; land revenue,
£1918; population, 29,152; chief villages, Korái and Pánikauli.

(78.) SHUJABAD—Area, 4'6 square miles, or 2596 acres; 1714
acres cultivated; 176 cultivable; 706 uncultivable; land revenue,
£122; population included with that of Tiran; chief villages, Gul-
nagar and Sayyidpur.

(79.) SHUJANAGAR—Area, 17'30 square miles, or 11,069 acres;
5759 acres cultivated; 836 cultivable; 4473 uncultivable; land revenue,
£435; population included with that of Sáilo; chief villages, Chaupará
and Eranch.

(80.) SUHANG—Area, 17'66 square miles, or 11,304 acres; 6536
acres cultivated; 816 cultivable; 3951 uncultivable; land revenue,
£705; population, 8719; chief villages, Nembálo and Nágarpur.

(81.) SUKINDA—Not measured; land revenue, £136; population,
15,627; chief villages, Banjá and Sukindá.
(82.) SUKNAI—Area, 28'77 square miles, or 18,409 acres; 11,673 acres cultivated; 1023 cultivable; 5712 uncultivable; land revenue, £1502; population, 13,107; chief villages, Narendrapur and Bângâlpur.

(83.) SULTANABAD—Area, 5'25 square miles, or 3361 acres; 2151 acres cultivated; 404 cultivable; 805 uncultivable; land revenue, £125; population, etc., included in the statement of pargana Kâlamâtiya.

(84.) SUNGRA—Area, 41'87 square miles, or 26,799 acres; 19,164 acres cultivated; 1175 cultivable; 805 uncultivable; land revenue, £2413; population, 32,092; chief villages, Sâlepur and Lâchmâbar.

(85.) TAPANKHAND—Area, 14'64 square miles, or 9371 acres; 2074 acres cultivated; 1250 cultivable; 7046 uncultivable; land revenue, £277; population, 3366; chief villages, Bânipadâ and Guripatnâ.

(86.) TISANIVA—Area, 32'53 square miles, or 20,819 acres; 13,062 acres cultivated; 700 cultivable; 7056 uncultivable; land revenue, £1049; population, 20,982; chief villages, Binjhâpur and Mârkandpur.

(87.) TIKAN—Area, 52'72 square miles, or 33,744 acres; 19,523 acres cultivated; 3069 cultivable; 11,153 uncultivable; land revenue, £1436; population, 16,467; chief villages, Kendrâpârâ and Thâkurrâtâ.

(88.) TIRAN—Area, 42'8 square miles, or 26,932 acres; 17,296 acres cultivated; 781 cultivable; 8854 uncultivable; land revenue, £1887; population, 14,254; chief villages, Jagannâthpur and Pânduâ.

(89.) UTIKAN—Area, 63'29 square miles, or 40,506 acres; 26,511 acres cultivated; 5072 cultivable; 8923 uncultivable; land revenue, £2712; population, 19,771; chief villages, Patâmundî and Chandannagâr.

CULTIVABLE LAND.—The above statement, principally compiled from the Settlement papers of 1837, must be received with caution. The population is derived from a separate return after the famine of 1866. The Settlement Records show a total area, excluding the large tract of Sukinda, and the three Fiscal Divisions recently transferred from Bâlasor, of 3477 square miles, or 2,225,412 acres. According to the Settlement Record of 1837, the area then under cultivation was 1,045,227 acres; the area cultivable, but not under tillage, 94,357 acres; and uncultivable, 1,085,827 acres. Roughly speaking, therefore, one-half of the whole area was under cultivation or cultivable, the other half being uncultivable and waste. In 1837, the area capable of tillage, but lying untilled, was 9'02 per cent. of the land actually cultivated, or 4'23 per cent. of the whole District. In most of the Fiscal Divisions, however, the actual proportion of arable land was much greater than the uncultivable. The two large seaboard tracts of Kânikâ and Kujâng were, from the nature of the country, in a very
**STATISTICS OF CULTIVATION.**

backward state, and disturbed the general average. If they be omitted from the calculation, the result shows an area of 947,939 acres of cultivated or cultivable land, against 714,363 acres incapable of tillage. The Collector reports, that since the time to which the above figures refer, at least 7–8ths of the land set down as cultivable has been brought under the plough, and states that a large portion of that returned as uncultivable has also been reclaimed. The uncultivable land in the regularly settled part of the District was classified in 1837 as follows:—(1) Jungle lands, 131,852 acres; and (2) rivers, roads, waste lands, etc., 378,349 acres. A return drawn up in 1865 states that, of this area, 32,895 acres of jungle and 96,587 acres of waste land were then capable of being brought under cultivation. This has now to some extent been laid under crops, and the Collector estimates the total increase of rice cultivation at nearly one-fourth during the past twenty years.

**Survey Measurements.**—The foregoing estimates were made for Settlement purposes, and I have deemed it necessary to give them, as the Settlement of 1837 was continued unchanged in 1867 for other thirty years, and is therefore still current. The Survey Officers divided the District into eighty Fiscal Divisions instead of eighty-nine; and owing to changes in the boundaries of such Divisions (parganas), and to a more correct system of measurement, obtained very different results. These results are now embodied in the Surveyor-General’s Maps (scale, 1 mile to the inch), and represent the Fiscal Divisions and net total area of the District at the period of their last measurement. The differences are due, as already stated, not merely to a more accurate system of work, but to changes in the boundaries of the Fiscal Divisions, and of the District. The total area of the District is returned by the Surveyor-General at 3178.39 square miles, arranged in eighty Fiscal Divisions, as follow:—(1) Abartak, area 9.73 square miles, or 6225 acres. (2) Al Kila, 80.60 square miles, or 51,582 acres. (3) Alti, 79.19 square miles, or 50,682 acres. (4) Anábartak, 47.20 square miles, or 2686 acres. (5) Apilá, 5.24 square miles, or 3353 acres. (6) Asureswar, 68.89 square miles, or 44,091 acres. (7) Arakpur, 47.79 square miles, or 3064 acres. (8) Atkhanta, 6.03 square miles, or 3851 acres. (9) Ahiyás (portion of), 33.29 square miles, or 21,306 acres. (10) Bahurúpá, 1.66 square miles, or 1059 acres. (11) Bákrdábd, 60.93 square miles, or 38,993 acres. (12) Bálubisi, 59.77 square miles, or 38,252 acres. (13) Bárán, 26.72 square miles, or 17,103 acres. (14) Bárdiyalá, 6.81 square miles, or 4357 acres. (15) Bárgón, 16.10 square miles, or 10,303 acres. (16) Barpallá, 6.42 square miles, or 4109 acres. (17) Baruyá, 5.03 square miles, or 32,019 acres. (18) Báutará, 5.58 square
miles, or 3574 acres. (19) Benahár, 47'16 square miles, or 30,182 acres. (20) Bishanpur Kila, 17'51 square miles, or 11,208 acres. (21) Cattack Hāvilī, 14'84 square miles, or 9499 acres. (22) Chauda Kolát, 13'08 square miles, or 8374 acres. (23) Chhedrá Kila, 3'37 square miles, or 5356 acres. (24) Dālījord, 79'64 square miles, or 50,971 acres. (25) Dāmarpur, 17'09 square miles, or 10,935 acres. (26) Darpan Kila, 100'91 square miles, or 64,580 acres. (27) Deogāon, 50'93 square miles, or 32,595 acres. (28) Derābhīsī, 50'85 square miles, or 32,546 acres. (29) Dolgrám, transferred from Balasor District, 43'99 square miles, or 28,155 acres. (30) Dompārā Kila, transferred from the Tributary States, 84'83 square miles, or 54,293 acres. (31) Gandito, 14'91 square miles, or 9545 acres. (32) Hariharpur (Jagatsinhpur), 65'37 square miles, or 41,839 acres. (33) Harishpur Kila, 62'09 square miles, or 39,736 acres. (34) Hátrimundā, 16'07 square miles, or 10,286 acres. (35) Jājpúr, 70'20 square miles, or 44,924 acres. (36) Jhangar, 56'77 square miles, or 36,331 acres. (37) Jodh, 15'09 square miles, or 9659 acres. (38) Kalámátiyá, 44'10 square miles, or 28,221 acres. (39) Kalkalá Kila, 17'56 square miles, or 11,238 acres. (40) Kanchikkhand, 4'65 square miles, or 2973 acres. (41) Kaniká, 280'84 square miles, or 179,737 acres. (42) Kārimúl, 27'80 square miles, or 17,792 acres. (43) Káte, 68'35 square miles, or 43,745 acres. (44) Káyamá, 14'31 square miles, or 9157 acres. (45) Káyamá Kila, 6'47 square miles, or 4143 acres. (46) Keruyálkhand, 9'61 square miles, or 6150 acres. (47) Khandi, 30'29 square miles, or 19,385 acres. (48) Kodindá, 38'23 square miles, or 24,469 acres. (49) Kokuyálkhand, 29'27 square miles, or 18,736 acres. (50) Kothdes (one village of, transferred from Pur), 0'34 square mile, or 219 acres. (51) Kuhundá Jayapur, 21'48 square miles, or 13,749 acres. (52) Kátiyá, 26'77 square miles, or 17,132 acres. (53) Kujang Kila, 35'83 square miles, or 229,366 acres. (54) Kurniyá, 7'57 square miles, or 4846 acres. (55) Kusmandal, 8'36 square miles, or 5353 acres. (56) Kutubsháhl, 0'42 square mile, or 269 acres. (57) Madhupur Kila, 60'58 square miles, or 38,773 acres. (58) Mátkadábád, 15'23 square miles, or 9743 acres. (59) Mátkadnagar, 34'05 square miles, or 21,794 acres. (60) Neulbhísi, 4'12 square miles, or 2640 acres. (61) Náhákhand, 17'33 square miles, or 11,088 acres. (62) Olásh, 41'57 square miles, or 26,603 acres. (63) Padampur, 24'91 square miles, or 15,940 acres. (64) Páená, 10'42 square miles, or 6669 acres. (65) Páená, 38'87 square miles, or 24,877 acres. (66) Pánikhand, 3'62 square miles, or 2316 acres. (67) Patiyá Kila, 42'21 square miles, or 27,013 acres. (68) Sáhibnagar, 6'44 square miles, or 4122 acres. (69) Sábir, 33'56 square miles, or 21,477 acres. (70) Sáilo, 41'23 square miles, or
26,388 acres. (71) Swaraswat, 11.10 square miles, or 7104 acres. (72) Shergarh, 136.69 square miles, or 87,478 acres. (73) Suhang, 18.85 square miles, or 12,067 acres. (74) Suknai, 31.01 square miles, or 19,846 acres. (75) Sungra, 46.99 square miles, or 30,073 acres. (76) Tisaniya, 32.79 square miles, or 20,923 acres. (77) Tapankhand, 13.29 square miles, or 8505 acres. (78) Tikin, 56.36 square miles, or 36,068 acres. (79) Tiran, 43.82 square miles, or 28,048 acres. (80) Utikan, 68.08 square miles, or 43,573 acres. Total area, 3178.39 square miles, or 2,034,476 acres.

MEDICAL HISTORY.—Average rainfall for five years previous to 1870, 63.18 inches; average temperature for ditto, 84°. The hot season commences in March, and lasts till about the middle of June; the rains from the middle of June till the end of October, when the cold weather sets in.

ENDEMICS.—Intermittent fever is common throughout the year, but reaches its greatest height from the close of the rainy season in October to the end of December. The houses throughout the District are built of mud dug up from the vicinity of the dwellings. The consequence is, that in the neighbourhood of almost every hut or house there is a dirty pit filled to overflowing with water in the rainy season, and the receptacle of every description of filth. After the rains, when the water dries up, these holes throw off a malarial stench, charged with fever-poison. Fevers of a very severe type prevail in the Hill tracts from October to the end of December. Elephantiasis is also common. The Civil Surgeon, after five years' residence in the District, reports that he has not observed any improvement in the health of the inhabitants during this period.

EPIDEMICS.—Cholera always breaks out in the months of June, July, and August, being brought by the pilgrims bound to or from the great festival of Jagannath. Measles appear to be unusually prevalent in Cuttack City and District. Small-pox generally makes its appearance about the beginning of the year, and as a rule ends before the middle of April. The Civil Surgeon states that its regular appearance during these months is owing to the practice of inoculating with small-pox matter. The inoculators preserve the virus in cotton, and commence operations about the end of December or beginning of January. Small-pox thus spreads to the unprotected, and becomes general throughout the District. The Uriyás are perfectly regardless of contagion; and it is no uncommon sight to see people in the streets, or walking about the crowded market-places, covered with the disease. Ancient prejudice stands in the way of vaccination, and even the more enlightened natives of Orissa will seldom allow their children to be
touched with vaccine matter. The Civil Surgeon reports favourably of the precautions which have been adopted to keep the pilgrims (the main cause of cholera epidemics) out of the Town of Cattack. The most prevalent form of cattle disease is Guti, or cattle small-pox, of which a full description is given in my Statistical Account of Balasor.

Fair.—The only large fair, or religious gathering, is the Báruní, which takes place in all the larger towns in the months of May or June, the most important being held on the sands of the Baitaran at Jáipur, and continuing for two or three days. It is not attended by people from other Districts, but the peasants for miles around flock into the nearest town where it is held, sometimes to the number of 10,000 souls, laden with rural produce for barter or sale. The Civil Surgeon reports that no connection exists between these gatherings and the outbreak of epidemics. Cholera generally appears with the arrival of the Puri pilgrims, and does not cease till they have left the District.

The Indigenous Drugs are as follow:—Ambulá (spondias mangifera); a bark used in dysentery. Ankrányi (solanum jacquinii); an expectorant. Ansun (terminalia tomentosa); a stimulant. Arjun (terminalia arjuna); bark astringent and diuretic febrifuge. Arká (calotropis gigantea); a stimulant, the leaves used as an anodyne, and in elephantiasis, ringworm, lepra, and as a poultice in sprains and boils. Aguyábát (premna spinosa); a stimulant, febrifuge, and expectorant; also used in eruptive diseases, and in indigestion. Asúgandhá (physalis somnifera); the bark and root used as a tonic, anodyne, and diuretic; the leaves steeped in oil are used for boils and other inflammatory eruptions. Asok (Jonesia Asoka); bark used as an astringent in cases of internal hæmorrhoids, and also in menorrhagia. Amba (mangifera indica); a bark used as an astringent in diarrhoea. Bel (Ægle marmelos); a fruit used in dysentery and diarrhoea. Bhrin-garáj (verbesina scandens); used externally in headache and ophthalmia. Bámúnhatá (clerodendrum syphonanthus); used in asthma and fevers. Baúlo (minusops elengi); a bark used as an astringent in sore throat. Bajra Múlá (penicillaria spicata); root used in gonorrhoea. Bháliyá (semecarpus anacardium); a tonic and counter-irritant; also used in lepra and indolent sores. Beguniyá; an expectorant and stimulant. Bábhárá (terminalia belerica); an astringent used in diarrhoea and dysentery. Bágybóá, two kinds (jatropa curcas and glandulosa); an anodyne; the oil from the nut used in rheumatism, etc. Bená (andropogon muricatum); a diaphoretic and febrifuge. Básang (bergera kœnigii); an expectorant and antispasmodic. Bhutairi; tonic and febrifuge. Bar Koli (zizyphus jujuba); bark of the root used as
INDIGENOUS DRUGS.

an astringent in diarrhoea. Bābidanga (emblica ribes); a vermifuge. Barunā (crataeva Narvala); bark used as a tonic and febrifuge. Bhui Aolā (phyllanthus niruri); root used in jaundice, etc. Bákuchi (psoralia corylifolia); used in lepra and skin diseases. Chatauri (aspargus racemosus); tonic used in gonorrhoea and lepra. Chemudānīmūl (hemidesmus Indica); alterative used in syphilis. Chiretā (agathotes cheyrata); not an indigenous drug; used as a febrifuge and tonic. Chitāmūl-nil (plumbago Zeylanica); a vesicant. Chitāmūl-lal (plumbago rosea); used in spleen, and for procuring abortion. Chākundā (cassia tora); leaves used as a purgative. Champā (michelia chumpaca); bark a stimulant, expectorant, and astringent; seeds and fruit used for healing cracks in the feet; root a purgative. Dālimba (punica granatum); root and bark astringent. Dhumā, all kinds (Datura metel); narcotic, stimulant, antispasmodic, and anodyne, and smoked in asthma. Dāru Haldā; used in palpitation of the heart, and in ophthalmia and rheumatism. DONTI (croton polyandrum); root and seeds used as a purgative. Dudhi-lati (oxystelma esculentum); a decoction of the plant used in ulceration of the mouth; the fresh roots in jaundice. Ghi Kumāri (Agave cantula); used in vertigo and tic as a refrigerant. Gila (guilandina bouducella); seeds used as a tonic and febrifuge; root in rheumatism. Gajā pipul (scindapsus officinalis); a febrifuge, tonic, and stimulant. Golanča (cocculus cordifolius); tonic, febrifuge, and antibilious. Gab (ricinus communis); oil purgative; old oil used in rheumatism. Gakhurā (tribulus terrestris); tonic, anodyne, and febrifuge. Hast-karna (clerodendrum hastala); tonic, febrifuge, and purifier of the blood. Hārbhāngā (cissus quadrangularis); used for dislocations and in joining fractures. Hijli-bādām (anacardium occidentale); oil used in rheumatism, etc. Haridrā (terminalia chebula); tonic in fever. Indrajab (Wrightea antidysenterica); bark, root, and seeds used in dysentery, diarrhoea, and fever, and as a vermifuge. Indra-bārun; a purgative. Isabgul (plantago ispaghula); diuretic and demulcent, used in urinary diseases. Jām (eugenia jambolana); root and bark used as an astringent in diarrhoea. Jaitimūl (Eschynomene sesban); root an antispasmodic; leaves used as a poultice in orchitis. Jádumārī (cassia alata); leaves used in ringworm. Jayapāl (croton tiglium); seeds used as a purgative; root in snake-bite. Kaukuā (alpinia); bark an astringent; root a vermifuge. Krishna Pārni (Herpestis monnieria); febrifuge and antibilious. Kantākūsum (argemone Mexicana); the yellow milk used in itch and ringworm, as well as the oil of the seeds. Kuchlā (Strychnos nux vomica); poison, used as a febrifuge, antirheumatic, and in lepra; also as an antisyphilitic. Kālādānā (pharbitis nil); seeds and roots purgative. Kārmānā
(averrhoa carambola); seeds used as a vermifuge. Kásondi (cassia
sophóra); seeds used as a vermifuge, and in scabies. Khétápárá (olden-
landia bißòra); an excellent febrifuge, tonic, and stimulant. Lanká
siju (euphorbiaceæ); juice or milk used as a detergent healing, or in swell-
ings; the bark and seeds as purgatives. The milk of some species
used in cases of scabies, lepra, and ringworm. Ludhu (symlocos
racemosa); astringent and antibilious, used in ophthalmia. Muthá
(cyperus longus); febrifuge and tonic. Matmatá; tonic, febrifuge, and
vermifuge. Mán Sárú (arum Indicum); used in piles. Murgábi
(sanséviera Zeylanica); a febrifuge, also used in consumption. Ma-
hání (melia sempervires); astringent refrigerant, and used in lepra.
Manjishthá (rubia manjista); tonic, and used in hysteria. Nágeswar
(mesua ferrea); oil used in chronic rheumatism, the flowers as a refri-
gerant and tonic. Nim (melia azedarach); tonic and febrifuge;
leaves used as poultices in bad ulcers, lepra, and other skin diseases.
Ol (arum campanulatum); used in indigestion, colic, piles, and en-
largement of the spleen. Pán (piper betle); stimulant and expector-
ant. The root is used to prevent child-bearing. Phutphutiká, used
in scabies, and as a poultice in sprains. Pitá-nalitá (corchorus olitoris);
bitter tonic. Patál (tricosanthes dioica); cathartic. Palás (butea
frondosa); gum or resin astringent, the seeds used as a vermifuge.
Raktachandam (pterocarpus santalinus); astringent and febrifuge.
Suánoi; tonic, febrifuge, vermifuge, and purifier of the blood. Sunári
(cathartocarpus fistula); a purgative. Somráj (serratula anthelmintica);
vermifuge. Sajiñá (moringa pterygosperma); stimulant, diuretic,
used in colic. Sálpárni, febrifuge and tonic, allays thirst in fever. Sál
(shoreá robusta); seeds astringent; the young shoots are used in cases
of inflammation. Simul (Bombax heptaphyllum); seeds used to prevent
small-pox from spreading over the body. Sonámukhi (cassia obovata);
purgative. Tentuli (Tamarindus Indica); seeds astringent, used in diarrrhöe.
Tchorí (Ipomœa turpethum); purgative and cathartic.
Tálómú (curculigo orchíoides); tonic, and purifier of the blood. Tund-
porá; stimulant, expectorant, antisypilitic, and antiseptic.
APPENDIX V.

GEOLOGICAL ACCOUNT OF ORISSA.

The following account has been kindly drawn up for me by the Geological Survey of India; and I take this opportunity of acknowledging the generous assistance of Dr. Oldham, the head of the Survey, in many matters connected with the Gazetteer of Bengal.

The Province of Orissa consists, geologically as well as geographically, of two very distinct portions: the one, a belt of nearly flat country, from fifteen to fifty miles in breadth, extending along the coast; and the other, an undulating area, broken by ranges of hills, in the interior. The former is entirely composed of alluvial formations, the greater portion of its surface being probably composed of deposits from the great river Mahanadí, and the smaller streams, the Brahmani and Baitaraní. Near its western limit alone, a few hills of gneissose rock rise from the alluvial plain, especially between the Brahmani and Mahanadí. The inland hill-tract, on the other hand, is chiefly composed of rocks of very ancient date, so completely altered and crystallized by metamorphic action, that all traces of their original structure are lost, and any organic remains which they may originally have contained obliterated. The same rocks cover an enormous area in Eastern and Southern India, and are usually spoken of, in works on Indian geology, as the crystalline or metamorphic series.

Further exploration in the little known Tributary States will doubtless show the existence of beds belonging to other formations; but hitherto the only instance in which any considerable area is known to be occupied by rocks of later date than the metamorphics, is in the tract known as the Talcher coal-field, in the estates of Talcher, Angul, Bânki, Athmallik, and Dhenkánal; also in Rádhákol in the Central Provinces. High up the Brahmani a series of very slightly altered or unaltered rocks, comprising slates with jasper, quartzites, and schistose beds, are known to occur; but it has not been ascertained whether they
extend into the district administered from Cattack, though they are believed to occupy portions of Keunjhar and Bonáí; the latter in the Chotá Nagpur Division.

The greater portion of the Tributary States have never been explored geologically, and the information procurable as to their character is most imperfect. It is possible that other coal-fields may exist, though not probable. Even the Talcher coal-field has only received, for the most part, a very hurried examination. Excluding the formations of which no accurate information has been obtained, such as the slates, quartzites, and jasper, believed to be found in Keunjhar and Bonáí, the following is a list, in descending order, of the rock system's hitherto described as existing in Orissa:—

1. **Blown sands.**
2. **Alluvium.**
3. **River delta deposits.**
4. **Older alluvium of coast plain.**
5. **Cattack or Athgarh sandstone.**
6. **Mahádeva or Pánchét sandstone and grit.**
7. **Dámodar sandstone, shale, and coal.**
8. **Tálcher sandstone, shale, silt and boulder bed.**

The following is a brief description of the characters of each of these formations as found in Orissa:—

1. **Metamorphic or crystalline rocks.**—These consist of various forms of gneiss, mica-schist, hornblend-schist, quartzite, etc. Crystalline limestone, common in many parts of India, has not been hitherto observed in Orissa. True granite is found in the form of veins traversing the gneiss, and is of various forms, the most common being a highly crystalline variety, with but little mica, and passing into pegmatite, of the kind known as graphic granite, beautiful specimens of which have been found in parts of the Tributary States. This granite is apparently, for the most part at least, of cotemporaneous age with the metamorphism of the gneiss. But besides this, the gneiss itself frequently passes into a granitoid form, perfectly undistinguishable in blocks from granite, but which, when in place, is usually found to retain every here and there traces of its original lamination, and to pass by insensible degrees into a distinct laminated gneiss of the usual form.

Other prevalent forms are ordinary gneiss, composed of quartz, felspar, and mica; hornblendic gneiss, in which the mica is replaced by hornblend, the latter mineral sometimes forming a very large proportion of the rock; and quartzose gneiss, in which the felspar and mica, or hornblend, are in very small proportion, and the quartz predominates. This gradually passes into quartzite, in which felspar and mica are either wanting, or occur only in very small quantities.

The above may be considered the prevailing forms of the crystal-
line rocks; but there are others of less frequent occurrence. Amongst these are diorite, amphibolite, syenite, and a magnesian rock, a kind of potstone. These may all very possibly be of later date than the mass of the metamorphics, though the serpentine-like potstone appears to be fairly intercalated.

2. TALCHER GROUP.—The lowest beds associated with the coal-bearing strata are themselves destitute of useful fuel, and well distinguished mineralogically from the Dāmodar or coal-bearing rocks. They were first separated from the overlying beds in Orissa, and named after the estate in which they were found. They consist, in the case of the Tālcher coal-field, of blue nodular shale, fine buff or greenish sandstone, and of extremely fine silt beds, often interstratified with sandstone more or less coarse in texture, in thin alternating laminae. The sandstones frequently contain felspar grains, which are usually undecomposed. In the sandstone and fine silty shale, rounded pebbles and boulders of granite, gneiss, and other crystalline rocks abound, some of them as much as four or five feet in diameter. This remarkable formation is known as the boulder bed. It is peculiar to the Tālcher group, and has been found in India wherever that group has been examined; in the valleys of the Dāmodar, the Son, the Narbadā, and the Godāvarī, as well as in that of the Brāhmāṇī.

Of this singular association of large blocks of stone in a fine matrix but few other instances are known, the most remarkable one being that of the 'boulder clay' of Great Britain and other countries, which is now considered by most geologists to be of glacial origin. The boulder bed of the Tālcher group differs entirely from the 'boulder clay,' however. In the former the fine matrix is distinctly stratified, and the boulders are rounded, neither of which is the usual condition of the boulder clay. But the origin of such a rock is in both instances surrounded by the same difficulty, viz. that any current of water which could round and transport the boulders would sweep away, instead of depositing, the fine sand, clay, and silt in which they are embedded. Yet nothing is clearer than that the two were deposited together. Ice is rather a startling power to invoke in endeavouring to explain the phenomena of rocks found in a tropical climate; but without its agency it appears difficult, in the present state of geological knowledge, to account for the Tālcher boulder bed.

In 1855, Mr. Blanford suggested (Memoirs of Geological Survey of India, i. p. 49) that these beds might have been deposited in a high table-land, and that the association of the boulders was perhaps due to ground ice. The advance of cosmical theories since that time has rather tended to increase the possibility of periods of cold having
occurred in the course of the earth’s history, some of which may have been sufficiently severe to affect the tropics, or portions of them. Talchers have now been found over so extensive an area, that the probability of their having been deposited at any considerable elevation above the sea has greatly diminished, and some observers are inclined to consider them marine—a view which Mr. Blanford does not share. No other hypothesis, however, not involving ice-action has been offered which accounts satisfactorily for their peculiarities.

3. Damodar Group.—Above the Talcher, or occasionally resting upon the metamorphic rocks, without the intervention of any other sedimentary beds, is found a series of sandstone and shale, with beds of coal. The sandstone is mostly coarse grey and brown rocks passing into grits. They are usually more or less felspathic, the felspar being decomposed and converted into clay, and are often ferruginous. Blue and carbonaceous shale, often more or less micaceous, and ferruginous shaly sandstone, are characteristic of this group. Fossil plants, chiefly consisting of ferns, such as Glossopteris, Pecopteris, Trizygia, Equisetaceae, and Calamites, and above all, peculiar stems divided into segments (Vertebraria), believed to be roots of unknown affinities, are frequently found. Most of the fossil species found, perhaps all, are characteristic of the Damodar formation.

The peculiar interest attaching to this group of rocks is, however, derived from its being the only one in which workable coal has been found in the peninsula of India. All the coals of Ránganj and the other fields of the Damodar valley, as well as all those of the Narbadá valley, and of other parts of the Central Provinces, are in Damodar rocks. So far as they have hitherto been examined, the coals of Talcher appear to be of inferior quality to those of Ránganj, the Narbadá, and other localities; but the field in the Tributary States has by no means been thoroughly explored as yet.

4. Mahadeva Group.—Above the coal-bearing series in the eastern part of the Talcher coal-field, a considerable thickness of coarse sandstone, grits, and conglomerates is found, quite different in character from the beds of the Talcher and Damodar groups, and resting unconformably upon them. These rocks are usually coloured with various shades of brown, and are frequently very ferruginous. The separate beds composing them are massive, and not interrupted, as the Damodar sandstones frequently are, by partings of shale. They form hills of considerable size in the State of Radhákol, in the Central Provinces.

It is by no means clear that these beds are the representatives of the group in the Narbadá valley, to which the name Mahádeva...
was first applied; but there is a general subdivision of the rocks throughout the greater portion of the Indian coal-fields into three principal groups. To the higher of these the term Mahādeva has been given in the Narbadā valley and in Orissa, and Pānchēt in Bengal; and until a re-examination of the Orissa beds has enabled their relations to that of other coal-fields to be more accurately made out than was possible when they were first mapped, it appears best to retain the name first applied to them.

5. Cattack or Athgarh Group.—South-west of the town of Cattack is a considerable area, occupied by grit, sandstone, and conglomerate, with one or more beds of white or pinkish clay. The beds are very similar in general character to those last described; but there is no evidence of their connection, and it appears at least as probable that the Cattack rocks are of later date. No fossils have been found in these beds except some obscure impressions, apparently of vegetable origin, in the clays.

6. Laterite.—The laterite of Orissa is evidently of detrital origin, and consists essentially of small pisolithic nodules, chiefly composed of hydrated oxide of iron (brown haematite) and coarse quartz sand, cemented together more or less perfectly into either a firm, though somewhat vesicular, rock, or into a less coherent mass, or at times remaining in a loose gravelly condition, and thus passing by various gradations into a sandy clay, with a few pisolithic iron nodules. As a rule, the forms containing most iron are the most coherent, and vice versa. The more solid sorts are largely used as building stone, having the peculiar but important property of being softest when first cut, and of hardening greatly on exposure.

Beneath the detrital laterite, especially when a felspathic form of the metamorphic rocks occurs, the decomposed upper portion of the latter is frequently greatly impregnated with iron, and converted into a kind of lithomarge, which closely resembles the detrital laterite in appearance, and is employed for the same purposes. The massive form of laterite which caps many of the higher hills in Peninsular India, and which is more compact than the detrital laterite, is not known to occur in Orissa.

7. Alluvium.—(a) Older Alluvium of Coast Plain.—In the neighbourhood of the hills, and frequently for many miles from their base, the alluvium of the plains consists of clay and sand, usually more or less commingled, and in most places containing calcareous concretions (Kankar or Ghutin) and pisolithic ferruginous nodules. This deposit passes by insensible degrees into laterite on the one hand, and into the more recent delta alluvium on the other; but in its typical form it is
well distinguished from both, by being more sandy, and containing nodular carbonate of lime, or Kankar.

The age of this alluvial deposit is shown by its surface having been modified and rendered uneven by the action of rain and streams, so that the country composed of it is more or less undulating. Whether this formation, or any portion of it, is of marine origin, is a question hitherto undetermined. So far as it has been yet examined, it appears to be in Orissa unfossiliferous. The greater portion has doubtless been produced by deposits washed down by the great rivers from the higher country to the westward; and it appears likely that a portion of these have been deposited along the coast. But other deposits have been in all probability formed upon the original marine beds by the additional accumulations brought down by streams and washed by rain from the hills, so that it is questionable whether the lower marine beds which probably exist are anywhere exposed.

8. River Delta Deposits.—In the neighbourhood of the great rivers the soil is finer and the country level, the greater portion of it being yearly inundated by flood-waters, and receiving a fresh deposit from them, except in places where they are kept from overflow by artificial means. The alluvium thus formed is generally highly fertile, but the country is swampy, and often malarious. As above pointed out, the only character by which this modern alluvium can be distinguished is the flatness of its surface, showing that the area occupied by it is one of deposition, and not of denudation. Usually also it is less sandy than the older alluvium, and Kankar is not of frequent occurrence in it, though a thin layer of it often covers deposits of calcareous sand and clay, from which the later deposit can with difficulty be distinguished.

8. Blown Sand.—Along the coast, as at Purl, large tracts of ground are covered with sand blown inland from the beach. The nature and origin of the formation is obvious, being simply a deposit of sand carried onward from the margin of the sea by the monsoon, and sometimes rising into ridges and cliffs.

In proceeding to give a sketch of the geological character of the different Districts and States of which Orissa is composed, I shall first describe the Districts of Balasor, Cattack, and Purl, and subsequently those Tributary States with regard to which any definite information has been obtained.

Balasor.—Almost the whole District consists of alluvial deposits. Metamorphic rocks occur in the Naligiri hills, along the western boundary; but they scarcely enter the district anywhere, and in no case are found more than a mile or two within the boundary. Laterite, fre-
CATTACK—PURI.

quently massive, forms in some places a narrow fringe to the moun-
tains. A few sandhills skirt the shore in the north-eastern part of the
District, which to the east of the Subanrekhá extend from three to four
miles inland. The older alluvium occupies the greater portion of the
District, the flat river alluvium forming the southern part near the
Baitaraní, Kharsuá, and Bráhmaní Rivers, and a tract in the north-east
near the Subanrekhá. Around Balasor itself the soil is rather sandy, and
contains laterite gravel. Concretionary carbonate of lime (Kankar) is
widely distributed, especially in the western part of the district.

In Cattack, as in Balasor, the largest part of the district consists
of alluvium, the older form with an undulating surface, occupying,
however, a much smaller area proportionally, and being confined to
the north-western part of the District, nearly all of the remainder being
composed of the flat deltas of the Maháñadí and Bráhmaní. Along
the sea-coast blown sand is generally found, but it only forms a narrow
belt.

Between the Rivers Bráhmaní and Maháñadí, in the Kilas of
Balrampur, Madhupur, Darpan, Kalkalá, Dáljora, and scattered over
the country to the east in Pargana Alti, there are numerous hills, all
more or less isolated, and all composed of gneiss. Along the Bráhmaní,
near Balrampur, and for some miles to the south-east, the rock is com-
 pact and granitoid. Farther south it is less compact, and usually soft
from partial disintegration near the surface. It is marked with numerous
red blotches, the remains of decomposed garnets. This soft decom-
posing gneiss is sometimes quarried, and used for building. The hills
in this part of the country are not accurately represented on the
Revenue Survey maps; but those shown in the Topographical Survey
maps of the Tributary States are very correctly drawn.

No laterite occurs around the more eastern hills, but around those
in the neighbourhood of the road from Calcutta to Cattack there is
frequently a narrow fringe, often conglomeritic, as if it had been
originally a beach deposit; and to the west of the high road to
Cattack, the metamorphic hills are surrounded in general by broad
terrace-like flats, frequently stretching from hill to hill; and when they
do not do so, affording evidence that the laterite is continued beneath
the intervening alluvium. This laterite is frequently employed for
building purposes.

Puri, the southern District of Orissa, contains a much larger extent
of hard rocks than either Cattack or Balasor. All the country near the
coast, and a broad tract in the north-east of the district, are alluvial;
but the western part of the area is occupied by laterite, sandstone, and
metamorphic rocks. There is a very small extent of the older undulat-
ing alluvium. Almost all the eastern part of the District, and the country extending from the Mahánadí to the Chilká Lake, is perfectly flat, and consists of the newer or delta alluvium. Hence its liability to flooding from the Mahánadí. Hills of blown sand extend along the whole coast, and frequently are disposed in two or three principal ranges, the first close to the shore, the second from one to two miles inland; occasionally another range is still farther from the sea.

The greater portion of Dompárá and Dángimál, south-west of the town of Cattack, consists of the Athgarh sandstone. To the west these beds appear to rest on the metamorphic rocks, and they have a general dip to the east and south-east, at low angles not exceeding 5° or 6°. They are surrounded on all sides by laterite and alluvium. At their apparent base to the west is a coarse conglomerate, the pebbles chiefly of quartzite. These rocks contain one band at least of white clay, which is largely dug, and used for whitewashing houses, and for other purposes. South-west of the sandstone countries, and west of Khurdhá, there is a broad undulating plain, partly covered with laterite, through which the gneiss rises at intervals. In the extreme west of the District around Bolgarh and Goriáli, there are two very barren ranges of no great height, running east and west, and formed of compact, rather granitoid gneiss.

From this point, where the boundary of the District turns to the eastward, as far as the Chilká Lake, only detached hills occur, all of gneiss, with intervening plains of laterite and alluvium. The group of hills near Chatárma are of granitoid gneiss; most of the others are of garnetiferous gneiss, with quartzose bands. Such are Khurdhá Hill, with the smaller elevations in the neighbourhood, and also the hills east of the Cattack and Ganjídóm road between Rámeswar and Monglápuri.

A precisely similar country extends to the west of the Chilká Lake. The lake itself was formerly a part of the sea, first rendered shallow by deposits from the mouths of the Mahánadí. It is now entirely cut off from the sea by a spit of sand formed by the violent winds of the southern monsoon. Near the south-western extremity of this spit there is a considerable deposit of estuarine shells, at a height of twenty to thirty feet above the present flood-level of the Chilká. The shells found—Cytherea casta and Area granosa—have not been observed living in the Chilká, and both are estuarine species, not occurring in the sea itself; but the former is now abundant in the estuary connecting the lake with the sea. This deposit appears to afford evidence of a recent elevation of the land.

There can be but little doubt that the Chilká is gradually
diminishing in size and in depth; but as it receives no streams of importance, the quantity of water charged with sediment poured into it is small, and its rate of decrease is probably very slow. Its fauna is peculiar, and deserves more attention than it has hitherto received. Indeed, the whole estuarine fauna of the Indian backwaters and deltas has been but imperfectly worked out; and further information is extremely desirable, above all, regarding the mollusca, for the illustration of the fossils of the many deposits which have doubtless accumulated under very similar circumstances in past times.

Tributary States.—Of the geology of the States of Morbhanj, Pāl Laharā, Narinspur, Parambā, and Tigariā, lying north of the Mahānadi, and of all the States south of the Mahānādi River, except Bānki, viz. Bod, Daspallā, Khandpārā, Nayāgarh, and Rānpur, nothing definite is known. It is pretty certain that a large proportion of their area consists of metamorphic rocks, and it is possible that no others may be found.

Of Keunjhar and Nilgiri, only the edges bordering on the Balasor District have been examined. Hindol has been traversed; portions of Dhenkānāl and Athmallik have been examined; whilst in Angul, Tālcher, and the little estates of Athgarh and Bānki, a more general survey has been made, but still far from a complete or detailed one.

Nilgiri and Keunjhar.—The hills bordering on Balasor consist entirely of metamorphic rocks of various kinds. In the northern part of the range gneiss is found, so granitic that the direction of the foliation can scarcely be ascertained. It appears to be nearly parallel with the escarpment of the range. Granite veins are scarce; but greenstone dykes, or pseudo-dykes, many of them of great size, abound, and most of them, if not all, appear to run parallel with the gneissic foliation. These facts render it probable that the dykes in question are really beds so altered as to be perfectly crystalline. A kind of black magnesian rock, intermediate in composition between potstone and serpentine, approaching the former in appearance but less greasy in texture, is quarried to some extent, chiefly for the manufacture of stone dishes, plates, and bowls. The stones are roughly cut into shape in the quarry, and finished partly with tools, and partly on a lathe in the villages. The rock employed is found interfoliated with the gneiss in several places, and is quarried at the villages of Sāntrāgdā and Gujādī, a few miles south of Nilgiri, at a spot two or three miles from Jugjuri, and in scattered localities to the north-west.

A few miles west-south-west of Jugjuri, near Pārkpādá, the granitoid rocks are replaced by a tough, hard, indistinctly crystalline hornblendic rock, resembling diorite, but exhibiting more foliation than is
seen in the hills near Nilgiri. Still farther to the south-west quartz schist appears in a well-foliated form, occasionally containing talc. A detached hill near Bākipur consists of this rock, and so does the whole south-west portion of the range as far as Rogadi, except in the immediate neighbourhood of the Sālandī River, where it leaves the hill. Here syenite occurs, which forms a detached hill near Dārāpur. The southern portion of the range is free from the trap dykes which are so conspicuous to the north-east of Jugjuri. All the western portions of Keunjhār are unexplored.

Talcher, Angul, and Athmallik.—The Talcher Coal-field.—These States comprise by far the most interesting geological area in Orissa and its dependencies. The basin of sedimentary rocks known as the Tālcher coal-field is surrounded on all sides by metamorphics. This basin extends about seventy miles from west by north to east by south, with a general breadth of from fifteen to twenty miles, its eastern extremity at Karakprasād on the Brahmāṇī River being nearly fifty miles north-west of Cattack town. Its western limit is not far from Rāmpur, in the State of Rādhākol in the Central Provinces, and it comprises nearly the whole of Tālcher, and a considerable portion of Angul and Rādhākol, with smaller parts of Bānki, Athmallik, and Dhenkānal. The western half of this field is chiefly occupied by the rocks already described as belonging to the Mahādeva group, conglomerate and coarse sandstone, which form hills of considerable height in a very wild, jungly, and thinly inhabited country. At the period when the Tālcher coal-field was examined, nothing whatever was known of the classification of rocks which has since been made out by the Geological Survey in the various coal-fields of India. Indeed, one of the very first and most important distinctions, that of the Tālcher group, below the coal-bearing division, was made in this region, as already mentioned. The boundaries of the Mahādevas and Dāmodars on the map in the Memoirs Geol. Surv. of India is merely a rough approximation made from memory, and partly by guess, after quitting the field. The differences of the rocks had been noted in the field, but their area had not been mapped.

It is by no means improbable that the Dāmodar coal-bearing rocks will hereafter be found in portions of this area. Indeed, they have been observed at the village of Patrāpadā.

In the extreme west of the field Tālcher beds occur in the upper part of the valley of a stream tributary to the Tikariā, near Deīncha, and also near the village of Rāmpur, in Rādhākol. In both cases Mahādeva rocks appear to rest directly on them, without the intervention of any Dāmodars.
THE TALCHER COAL-FIELD.

Besides occupying the western part of the field, the Mahádevas are found in two places along the northern boundary, which is formed by a fault of considerable dimensions. One of these places is near the villages of Bodaharna and Dereng, where the upper beds occur as a narrow belt, five or six miles from east to west, their presence being marked by low hills of hard conglomerate. Farther to the west they recur in another isolated patch, forming the rise called Khandgiri Hill. This hill consists of sandstone, capped by conglomerate, the pebbles from which weather out and cover the sides of the hill, concealing the sandstone beneath.

The northern part of the field in which these outliers of the Mahádevas occur is much cut up by faults, or, to speak more correctly, by branches of one great fault. These faults are in some places marked by a quartzose breccia, containing fragments of sandstone and other rocks. The vein of breccia, varies in breadth. At the village of Karjang it is so largely developed that it forms a hill of considerable height. Between the branches of the fault Talcher beds and metamorphics occur; north of all the faults metamorphics only are found.

The eastern part of the field, from near Karjang on the Tikariá River, and Kánkurái on the Tengrá, to east of the Bráhmanl, is principally composed of Dámodar rock: These may usually be recognised by the occasional occurrence of blue and black shale, the latter carbonaceous, and sometimes containing coal. The general section of the beds, so far as could be made out in a difficult country, much obscured by surface clays and jungle, is as follows:—

1. Interstratifications of blue and black shale, often very micaceous, with ironstone and coarse felspathic sandstone. These are at least 1500 feet thick.

2. Carbonaceous shale and coal, about 150 feet.

3. Shale and coarse sandstone, the latter prevailing towards the base; thickness doubtful, but not less than 100 feet.

If this be correct, the coal only occurs upon one horizon. It is by no means impossible, however, that other beds may be found. Coal is known to be exposed in three places. The most westwardly of these is at Patrápáda, in Angul, a village on the Meduliá Jor, a tributary of the Aulf River. Here some six feet of carbonaceous shale and coal are seen in the bank of the stream, capped by clay, upon which rest the coarse grits of the Mahádeva group. The area occupied by the beds is small. The next place, which is far better known, is at Gopálprasad, in Tálcher, on the Tengrá River. The rocks at this spot are nearly horizontal for a long distance, and the coal-bed extends for some miles along the banks of the stream above the village. It also recurs lower
down the stream. The thickness of the bed is considerable, but its quality is inferior, the greater portion being excessively shaly and impure. Selected specimens contain upwards of thirty per cent. of ash, but it by no means follows that better coal may not be found; and even the inferior fuel would be useful for many purposes if any local demand existed; and from the horizontality of the beds, a large quantity might be procured with very little labour. The general dip in the neighbourhood is to the north; and any attempts at working the coal on a large scale, or further explorations by boring, should be made north of the Tengrá stream.

The third locality is in a small stream running into the Bráhmani from the west, just north of the town of Tálcher. Beds lower than the coal are seen on the bank of the Bráhmani, at the Rája’s residence. The carbonaceous shale with coal is exposed about 400 yards from the river, in the small watercourse. Only two or three feet are visible. The dip is north-west, and the coal is covered by micaceous, sandy, and shaly beds. A boring north-west of this spot would test the bed fairly.

There is another locality in which the section can be tested, at the village of Kánkarápál, in Angul, about ten miles north-west of Gopálprasád. It is by no means certain that the Gopálprasád shale is close to the surface here; but the spot is the summit of an anticlinal, and some black shale seen in the stream resembles the uppermost portion of the rocks of Gopálprasád. It is highly probable that closer search will show other places where coal is exposed at the surface. The south-eastern part of the field consists of Tálcher beds, in which boulders are only occasionally found towards the base. They are micaceous near the village of Porongo. Above the silt-bed containing the boulders, there is a fine sandstone frequently containing grains of undecomposed felspar. There is no chance of coal being found in this portion of the basin; that is, south of a line drawn from east by north to west by south running about two miles south of Tálcher.

In several places in the Tálcher field iron is worked. The ore varies. Sometimes the ironstones of the Dámodar beds are used, but more frequently surface concretions, the supply of which is necessarily limited. Sometimes the little pisolitic nodules of the laterite are found washed from their matrix, and deposited in sufficient quantities in alluvial formations to be worth collecting. In one instance, the ore was derived from the metamorphic rocks, and brought from a distant locality. It resembled the mixture of peroxide of iron and quartz found at the outcrop of metallic lodes, and known as ‘gossan’ in Cornwall. The method of smelting—*the iron in small furnaces is similar to that used in other parts of India*; but the bellows employed
ATHGARH-BANKI.

are worked with the foot,—a peculiarity only found in the south-western dependencies of Bengal and Orissa. An account of the process, with figures, by Mr. H. F. Blanford, will be found in Dr. Percy's Metallurgy of Iron and Steel, p. 261.

"The arenaceous ironstones of the Dāmodar group would doubtless yield a large supply of ore.

Dhenkanal and Hindol.—These regions require scarcely any notice. So far as is known, they consist of metamorphic rocks, except the western extremity of the first-named State, which comprises the eastern end of the Tālcher basin. The metamorphic rocks are of the usual descriptions.

Athgarh.—The northern and western parts of this State consist of metamorphic rocks. Along the Mahānādi, from near Cattack to the boundary of the State, within three or four miles of the village of Tigariá, there is a belt four or five miles broad, of the same 'Cattack' sandstones as are seen south of the Mahānādi, in the Purl district,—being, in fact, a portion of the same basin. The rocks are precisely similar—coarse sandstone and conglomerate, with one or more bands of white clay.

Banki.—West of the sandstone area in the Purl district, there is a broad expanse of alluvium running for a considerable distance to the southward from the Mahānādi. West of this, again, metamorphic rocks occur. There is a fine semicircle of detached hills running from Bānkigarh to the village of Baideswar. The hills are partly of garnetiferous gneiss, partly of compact hornblende gneiss—Banki Peak of very quartzose gneiss. The strike varies in a peculiar manner, being very irregular, but with a general tendency in all the hills to dip towards the centre of the semicircle. South of the hills is a large undulating plain, partly covered with laterite.—W. T. B.
APPENDIX VI.

SPECIMENS OF ORISSA FLORA.

N.B.—I had not the opportunity of making anything like a complete collection, but the following represent the general character of the Flora in the Orissa Sundarbans, and establish their similarity to the vegetable products of the Gangetic Sundarbans.—W. W. H.

(a) Specimens collected on Long Island, off False Point Lighthouse, at the mouth of the Mahánadi.

1. *Bani*: mangrove roots; bushes of 3 feet high as the first growth of new silt; and from 20 to 30 feet high on older formations. Avicennia officinalis, L. Sp. fl. 110; Schauer in De Candolle, Prodrom. xi. p. 700. (Av. tomentosa R. Br. in Wight Icon. t. 1481.)


3. *Rdi*: 15 to 18 feet high, broad and bushy; may be either Rhizophora mucronata. Lamk., or Rh. conjugata. L.

4. *Khirud* (or *Khirud*): 20 to 25 feet high. Sonneratia apetala; Ham. in De Candolle, Prodrom. iii. 231; Wight and Arnott, Prodrom. i. 327. Roxb. Fl. Ind. ii. 506.


7. *Baniá* (or *Baríd*): height 12 feet, bushy, fair sized, yellow flower.

8. Rasuniḍ (or Rasurix): height 8 to 12 feet, small white clustering flowers pendent. Kandelia Rheedii, W. A. Is the same as No. 7.


10. Agavathi (or Agavāth): height 9 feet.

11. Karansā: height 12 feet; twigs succulent; abundant and succulent foliage. Pongamia glabra, Vent. Malm. t. 28; De Candolle, Prodrom. ii. 416; W. A., Prod. i. 262; Wight Icon. t. 59.


15. Guriḍi: very tall thorn, about 30 feet high; small leaf, Dalbergia spinosa, Roxb. Fl. Ind. iii. 233; W. A., Prod. i. 266.


20. Māharād: a creeper growing on sand; like a convolvulus, with a delicate purple flower; eaten by men and deer.

21. Bajramārī: a creeper growing on sand. Sida cordifolia, L. De Candolle, Prod. i. 464; Roxb. Fl. Ind. iii. 177; W. A., Prod. i. 58.

22. Kansāri (or Kansāri-latā): convolvulus, growing on sand. Ipomoea pes-caprae, Swartz; Chois, in De Candolle, Prodrom. ix. 349.

23. Kentā: a long ground creeper with small white flower.

Candolle, Prodrom. xiii. part 2, 249; Miq. Fl. Ind. Bat. i. 1929; Wight Icon. t. 1770.


29. Ndád: a reed-like grass, grows in mud up to 5 feet high.

30. Arsá: broad flag, grows in mud, 3 feet high, white flower.


(b) Specimens collected on the Sundarbans of the Mainland.

1. Sundari: grows from 30 to 40 feet high. Appears to be Heritiera minor, Lamarck's Dictionary, iii. 299. De Candolle, Prodrom. i. 484.

2. Jamu: 30 feet high. Perhaps Eugenia fruticosa, Roxb. Fl. Ind. ii. 418; Wight, Ill. ii. p. 16 (Syzygium fruticosum, De Candolle, Prodrom. iii. 260).


5. Cháludhá (or Chálud): 5 or 6 feet high.


7. Rasunía: 9 feet high. Kandelia Rheedii, Wight and Arnott, Prodrom. i. 34; Arnott in Annals of Natural History, i. 365; Wight, Illustr. i. p. 809, t. 892; Miquel, in Flor. Ind. Batav. vol. i. part 2, p. 585.

9. **Ságara-bátuá**: from 4 to 5 feet high. Perhaps Eugenia fasciculata, Wall.


11. **Níte (or Nítí)**: a long thorny creeper, Mezoneuron cucullatum. Wight and Arnott, Prodrom. i. 283.

12. **Nálká (or Nárká, Náluká or Nárüká)**: from 15 to 18 feet high.

13. **Guóguá**: from 7 to 9 feet high.


15. **Singará**: from 15 to 18 feet high. Cynometra bijuga, Spanogh in Miquel Flor. Ind. Bat. i. part 1, p. 78. In Bengal, Singarā is applied very generally to *Trapa bispinosa*.


17. **Hartál (or Hartár)**: grows up to 10 or 12 feet high. Probably *Phoenix paludosa*, Roxb. Fl. Ind. iii. 789.

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**LIST OF THE PRINCIPAL VEGETABLE PRODUCTS OF THE PURI DISTRICT.**

**FLOWERING PLANTS.** — Rangbán (Indian shot); Canna Indica. Gangsúl (night flowering Jasmine); *Nyctanthes arbor tristis*. Mallík (Jasmine); *Jasminum sambac*. Mach-mach (Indian cork-tree); *Millingtonia hortensis*. Rangáni (scarlet ixora); *Ixora coccinea*. Hátsurá; *Heliotropium Indicum*. Lál-chítá; *Plumbago rosea*. Banbanká (Moon-flower); *Calonyction grandiflorum*. Kansárínátá (goat’s-foot creeper); *Ipomea pes-caprae*. Duddá-tárak (Elephant creeper); *Argyreva speciosa*. Haragaurá (Indian balsam); Impatiens balsamina. Ainskáti; *Vinca alba* and *rosea*. Kányári (Oleander); *Nerium odorum*. Málatíphul (a clove-scented creeper); *Echites caryophyllata*. Kál-chámá; *Plumieria acuminata*. Khabansjiú; *Cereus phyllanthus*. Sapt-phennyá (prickly pear bush); *Opuntia vulgaris*. Phurush; *Lagerstroemia Indica*. Goláb; *Rosa centifolia*. Asháruyá; *Capparis acuminata*. Barun; *Crataeva trifolia*. Rangkain (red water-lily); *Nymphaea rubra*. 
Dhabalá-kain (lotus); Nymphæa lotus. Subdikain (blue water-lily); Nymphæa cyanea. Padam (rose-coloured lotus); Nelumbium speciosum. Broad-leaved water-lily; Euryale ferox. Ponang (Alexandrian laurel); Calophyllum inophyllum. Chámpá; Michelia champaca. Pándhuyá; Erythrina Indica. Simli (red cotton-tree); Bombax Malabaricum. Aparájítá; Clitoria ternatea. Solo; Aschynomene aspera. Bakejanti; Sesbania Egyptiaca. Dayaná; Artemisia Indica. Gendu; Tagetes patula. - Kesardá; Eclipta prostrata. Surjyamukhi (Sunflower); Helianthus annuus. Mánikchanni (Indian camomile); Chrysanthemum Indicum. Ansarishá; Cleome pentaphylla. Keya (fragrant screw-pine); Pandanus odoratissimus. Káncan; Bauhinia acuminata. Chín-chámpá; Artabotrys odoratissimus. Krishna-churá; Poinciana pulcherrima. Mandár (Shoe-flower); Hibiscus rosa-sinensis. Muljuyáti (Henna); Lawsonia alba. Angutó; Clerodendrum phlomoides.

Dyes.—Surbuli (Indian Madder); Hedyotis umbellata. Achhu; Morinda tinctoria. Gulbás and Viláyati Haldi (Arnotto); Bixa orellana. Kámulgundi; Rottlera tinctoria. Manjistá; Rubia Mungista. Raktachandán (red sandal-wood); Pterocarpus santalinus.

Fibres.—Nálitá (jute); Corchorus olitorius. Chháni (Sun-hemp); Crotalaria juncea. Kánumiriá; Hibiscus cannabinus. Bárábarshi (American Aloe); Agave Americana. Kapá (Indian Cotton); Gossypium Indicum.


Fruits, Vegetables, etc.—Haldi (turmeric); Curcuma longa. Sáru; Colocasia antiquorum. Pání-sáru; Colocasia Indica. Adá (ginger); Zingiber officinalis. Pán (betel-leaf); Chavica betle. Bágun (brinjal); Solanum melongena. Lankámarich (chili); Capsicum annuum. Go lápjám (rose-apple); Eugenia aquae; Syzigium jambolanum. Bhunyár; Cordia myxa. Barkuli (jujube-tree); Ziziphus jujuba. Lánk-Am; Anacardium occidentale. Amba (mango); Mangifera Indica. Kádál (plantain); Musa paradisiaca. Nichu (litchi); Nephelium lichi. Kar-
manga; Averrhoa carambola. Belambi; Averrhoa bilimbi. Kandmul; sweet potato. Sajiná (horse-radish tree); Moringa pterygosperma. Karenda; Carissa Carandas. Ankakuli; Carissa diffusa. Pitáság; Mollugo spergula. Pichu (peach); Amygdalus Persica. Mahul; Bassia latifolia. Mekhuya (custard-apple); Anona squamosa. Ata; Anona reticulata. Mūlā (radish); Raphanus sativus. Parbatkāuriyā (Roselle, or red sorrel); Hibiscus sabdariffa. Bhendi (esculent okro); Abelmoschus esculentus. Tentuli (tamarind); Tamarindus Indica. Mūg (green gram); Phaseolus Mungo. Birhi; Phaseolus Roxburghii. Koloth (horse gram); Dolichus biflora. Lobhiya-chhai; Dolichus Simensis. Khoriyā; Lablab vulgaris. Pāṭhāsim; Lablab cultratus. But (chick-pea, or Bengal gram); Cicer arietinum. Harar; Cajanus Indicus. Makā or Butā (Indian corn); Zea mays. Kagjinebu (acid lime); Citrus Bergamia. Kamlanebu (sweet orange); Citrus aurantium. Bātābinebu (Shaddock); Citrus decumana. Turanja (lemon); Citrus limonum. Notiyā; Amarantus campestris. Kharā; Amarantus frumentaceus. Puruni-ság; Portulacca oleracea. Methi (fenugreek); Trigonella foenum-graecum. Nariyal (coconut); Cocos nucifera. Tāl (Palmyra palm); Borassus flabelliformis. Khejuri (Indian date); Phoenix sylvestris. Guya (Betel-nut palm); Areca catechu. Narkuli (country gooseberry); Cicca disticha. Anỳal; Emblica officinalis. Amra (hog-plum); Spondias mangifera. Chhachhindarā (snake-gourd); Trichosanthes anguina. Karena; Momordica charantia. Janhi; Luffa acutangula. Ksharbuj (melon); Cucumis melo. Phuti; Cucumis Momordica. Kakuri (cucumber); Cucumis sativus. Tarbuj (water-melon); Curcurbita citrullus. Baitakkakhāru (red-gourd); Curcurbita maxima. Pānī-kakharu; Curcurbita pepo. Lāu (bottle-gourd); Lagenaria vulgaris. Khamb-Alu (yam); Dioscorea alata. Amritadhan (Papaw); Carica papaya. Sanpuri (pine-apple); Ananassa sativa. Agasthi; Agati grandiflora. Piyāj (onion); Allium ascalonicum. Rasun (garlic); Allium sativum. Pui (Malabar nightshade); Basella alba. Kaith (wood-apple); Feronia Elephantum. Bel; Ægle Marmelos. Bhursunga (curry-leaf tree); Bergera Koenigii. Rang-cháuliyā (red guava); Psidium pomiferum. Dhaha-cháuliyā (white guava); Psidium pyriflum. Pāl (arrowroot); Curcuma augustinfolia. Jāmkuli (blackberry); Eugenia Jambolana. Saptā (saponilī); Achras sapota. Sakarkand (Tapioca); Janipha Manihot. Rási (rae-seed); Sesamum Indicum. Rāi-saris (white mustard-seed); Sinapis alba. Sarishā (black mustard-seed); Sinapis nigra.

*Drugs.*—Ghikumāri (Indian Aloe); Aloe Indica. Dhablá-Dhuturā (white-flowered thorn-apple); Datura alba. Kalā Dhuturā (yellow-flowered thorn-apple); Datura fastuosa. Bheji-begun; Solanum
PRINCIPAL VEGETABLE PRODUCTS OF PURI.

jacquini. Akránti; Solanum diffusum. Nabhi-ánkuri; Solanum trilobatum. Phutphutiyá; Cardiospermum halicacabum. Kuchilá (strychnia-tree); Strychnos nux vomića. Katak; Strychnos potatorum. Arksha; Calotropis gigantea. Mendi; Tylophora ashtamática. Uttururi; Daemia extensa. Chimrinainmul (country sarsaparilla); Hemitodesmus Indicus. Khaeyá (catechu-tree); Acacia catechu. Bába (Babool-tree); Acacia Arabica. Urmáru (yellow thistle, or Mexican poppy); Arégeone Mexicana. Podiá (Mint); Mentha sativa. Gais; Phlomis Zeylanica. Dhalá tulasi (sweet basil); Ocymum basilicum. Kalk-kalá (holy basil); Ocymum sanctum. Rukun-Hátpochá; Plecanthrus aromaticus. Beguniyá (five-leaved chaste-tree); Vitex negundo. Hálim; Lepidium sativum. Paláš (barradar teak); Butea frondosa. Gokshura; Pedalium Murex. Chitá; Plumbago Zeylanica. Kainch (wild liquorice);Abrus precatorius. Kárádána; Pharbitis nil. Isvarjátá; Aristolochia Indica. Pitakáruya; Wrightia antidysenterica. Gab (Castor-oil plant); Ricinus communis. Ganjá (gunja, or common hemp plant); Cannabis sativa. Tundapodá; Toddalea aculeata. Bach (sweet flag); Acorus calamus. Sunári; Cassia fistula. Pán-mauri; Anethum panmori. Barjuyán (Bishop's weed-seed); Pthychotis ajowan. Maruyá (rue); Ruta graveolens. Gugul; Boswellia thurifera. Dálí (pomegranate); Punica granatum. Gilá (Bonduc nut); Guilandina bonduc. Nim (Neem-tree); Azadirácta Indica. Bádám (almond-tree); Terminalia catappa. Bákátá; Terminalia beleirica. Harirá; Terminalia chebula. Guluchi; Cocculus cordifolius. Báigab; Jatropha curcas. Hárbhángá; Vitis quadrangularis.

Miscellaneous.—Bet (rattan cane); Calamus rotang. Bhun Bet; Calamus reticulatus. Sárengá Báns (Bamboo); Bambusa arundinacea. Belengí Báns; Bambusa tulda. Dhán (paddy); Oryza sativa. Durbóghá (hay grass); Cynodon dactylon. Akshu or Akhu (Sugar-cane); Saccharum officinarum. Ankshuyá; Saccharum spontaneum. Bend (sweet-scented grass); Andropogon muricatum. Sanu (a famine grain); Panicum frumentaceum. Agarthá; Panicum Coromandelianum. Kákuriyá ghás; Eleusine Egyptiaca. Mándiya; Eleusine Coracana. Barjhnánje; Pistia stratiotes. Páni-sióli (tank-weed for cleansing water); Menyanthes cristata. Muyámuyá; Sagittaria sagittifolia. Rakta pitta; Ventilago Madraspatana. Chákáná; Cassia tora. Pisíná; Maba buxifolia. Dumdumá; Monetia tetracantha. Kánti; Cæsalpinia sepiaria. Gokshra; Tribulus lanuginosus. Hátiánkusá; Pisonia aculeata. Dokáná-síju; Euphorbia antiquorum. Patrasíju; Euphorbia Morila. Ksharísíju; Euphorbia tirucalli. Káinchi-Kakuri; Coccinia Indica. Sábhára; Epicarpurus Orientalis. Bainch; Flacourtia sepiaria. Cháldíbríyá; Antidesma pubescens.
APPENDIX VII.

A CHRONICLE OF THE KINGS OF ORISSA,
FROM 3101 B.C. TO 1871 A.D.


B.C.
3089-2358. Parikṣhit, a monarch of the Mahābhārata, of the Lunar Race of Delhi. Reigned 731 years. [According to Stirling, 3083-2326 B.C.]
2358-1807. Janmejaya, a monarch of the Mahābhārata, and the patron of that work; sprung from the Lunar Race of Delhi. Reigned 551 years. [According to Stirling, 2326-1810 B.C.]
1807-1407. Sankar Deva. Reigned 400 years. [According to Stirling, 1810-1400 B.C.]
1407-1037. Gautam Deva. Extended the Kingdom of Orissa to the Godāvāri River. Reigned 370 years. [According to Stirling, 1400-1027 B.C.]
1037-822. Mahendra Deva. Founded the town of Rājmahendri as his capital. Reigned 215 years. [According to Stirling, 1027-812 B.C.]
822-688. Ishta Deva. Reigned 134 years. [According to Stirling, 812-678 B.C.]
688-538. Sevak Deva. Reigned 150 years. [According to Stirling, 678-528 B.C.]
538-421. **Bajra Deva.** In this reign Orissa was invaded by Yavanas from Márwár, from Delhi, and from Babul Des—the last supposed to be Iran (Persia) and Cabul. According to the Palm-Leaf Chronicle, the invaders were repulsed. Reigned 117 years. [According to Stirling, 528-421 B.C.]

421-306. **Narsinh Deva.** Reigned 115 years. Another chief from the far north invaded the country during this reign, but he was defeated, and the Orissa prince reduced a great part of the Delhi kingdom. The monarch excavated the tank at Dántan near Jaleswar, which exists at this day. [According to Stirling, this prince was called Sarasankha, and reigned 421-306 B.C.]

306-184. **Mankrishna Deva.** Reigned 122 years. Yavanas from Kashmir invaded the country, but were driven back after many battles. [According to Stirling, this king was called Hansa, and reigned 306-184 B.C.]

184-57. **Bhoj Deva.** A great prince, who drove back a Yavana invasion, and is said to have subdued all India. Reigned 127 years. [Stirling's date here coincides with that of the Palm-Leaf Record; and when this is the case, I do not give his figures.]

A.D.

57 B.C. to 78 A.D. Two reigns, that of **Vikramaditya** and his brother **Sakaditya.** Neither the Purúshottama Chandrika nor Stirling gives separate dates for these reigns, but the two extended over 135 years. Vikramáditya made himself master of all India, but was slain by a rebel conqueror from Southern India, named Sáliváhan, identified as his brother Sakaditya, who succeeded him. The current or Sakábda era dates from the end of this reign, 77-78 A.D. During the above fourteen reigns, 3179 (or, according to Stirling, 3173) years of the Kali Yug elapsed.

A.D.

78-143. **Karmarjit Deva;** reigned 65 years.

143-194. **Hatkeswar Deva;** reigned 51 years.

194-237. **Bir Bhuvan Deva;** reigned 43 years. [According to Stirling, the name of this prince was Tribhuvan.]

237-282. **Nirmal Deva;** reigned 45 years.

282-319. **Bhim Deva;** reigned 37 years.

319-323. **Sobhan Deva.** During this reign of 4 years, the maritime invasion and conquest of Orissa by the Yavanas under Red-Arm (Rakta Báhu) took place. The king fled with
the sacred image of Jagannáth, and with those of his brother
and sister, Balbhadra and Subhadrá, and buried them in a
cave at Sonpur. The story of Rakta Báhu's waging war
with the ocean, which overwhelmed his forces and formed
the Chilká Lake, will be found in chapter ii. of my Orissa.
The lawful prince perished in the jungle, and the Yavanas
ruled in his stead. [According to Stirling, the reign com-
menced 318 A.D.]

323-328. **Chandra Deva**, who, however, was only a nominal
king, as the Yavanas were completely masters of the country.
They put him to death in A.D. 328. [Stirling calls this
prince Indra Deva.]

328-474. Yavana occupation of Orissa, 146 years. [According to
Stirling, these Yavanas were Buddhists.] See my Orissa,
chap. v.

474-526. **Yayati Kesari**, who expelled the Yavanas and founded
the Kesari or Lion Dynasty. Reigned 52 years. This
prince brought back the image of Jagannáth to Puri, and
commenced the Temple City to Siva at Bhuvaneswar. His
capital was at Jáipur. [According to Stirling, he reigned
from 473 to 520 A.D.]

526-583. **Surjya Kesari**; reigned 57 years.

583-623. **Ananta Kesari**; reigned 40 years. [According to
Stirling, this and the previous reign extended from 520 to
617 A.D.]

623-677. **Alabu Kesari**, who completed the Temple of Bhuvan-
eswar, reigned 54 years. [According to Stirling, he was
called Lalát Indra Kesari, and began to reign 617 A.D.]

With the exception of five kings, Stirling does not give
the names of the other monarchs of the Kesari Dynasty
from Lalát Indra Kesari to the extinction of the line. He
merely says that 32 uninteresting reigns followed, extending
over a period of 455 years. The Palm-Leaf Records,
however, give the names of 40 princes. Only three of the
five kings referred to by Stirling can be identified in the
list.

677-693. **Kanak Kesari**; reigned 16 years.

693-701. **Bir Kesari**; reigned 8 years.

701-706. **Padma Kesari**; reigned 5 years.

706-715. **Briiddha Kesari**; reigned 9 years.

715-726. **Bata Kesari**; reigned 11 years.
A.D.
726-738. Gaja Kesari; reigned 12 years.
738-740. Basanta Kesari; reigned 2 years.
740-754. Gandharva Kesari; reigned 14 years.
754-763. Janmejaya Kesari; reigned 9 years.
763-778. Bharat Kesari; reigned 15 years.
778-792. Kali Kesari; reigned 14 years.
792-811. Kamal Kesari; reigned 19 years.
811-829. Kundal Kesari; reigned 18 years; built the Temple of Markandeswar in Puri.
829-846. Chandra Kesari; reigned 17 years.
846-865. Bir Chandra Kesari; reigned 19 years.
865-875. Amrita Kesari; reigned 10 years.
875-890. Bijaya Kesari; reigned 15 years.
890-904. Chandrapal Kesari; reigned 14 years.
904-920. Madhusudan Kesari; reigned 16 years.
920-930. Dharma Kesari; reigned 10 years.
930-941. Jana Kesari; reigned 11 years.
941-953. Nripa Kesari. A warlike and ambitious prince, who founded the city of Cattack. Reigned 12 years. [Stirling dates the foundation of Cattack by this prince in 989 A.D.]
953-961. Makar Kesari. Constructed a long and massive stone revetment to protect the city of Cattack from inundation. Reigned 8 years. [Stirling calls this prince Markat Kesari, and places the construction of this work in 1006 A.D.]
961-971. Tripura Kesari; reigned 10 years.
971-989. Madhav Kesari; (according to Stirling) built the fortress of Sarangarh on the south bank of the Kaitjuri River, opposite the city of Cattack; reigned 18 years.
989-999. Gobinda Kesari; reigned 10 years.
999-1013. Nritya Kesari; reigned 14 years.
1013-1024. Narsinh Kesari; reigned 11 years.
1024-1034. Kurma Kesari; reigned 10 years.
1034-1050. Matsya Kesari; built the great bridge across the Athranda, at the entrance to Puri, existing to this day; reigned 16 years.
1050-1065. Baraha Kesari; reigned 15 years.
1065-1078. Baman Kesari; reigned 13 years.
1078-1080. Parasu Kesari; reigned 2 years.
1080-1092. Chandra Kesari; reigned 12 years.
1092-1099. Sujan Kesari; reigned 7 years.
1099-1104. Salini Kesari; reigned 5 years. His queen built the Nat Mandir or Dancing Hall of the Temple of Bhuvaneswar.

1104-1107. Puranjan Kesari; reigned 3 years.

1107-1119. Vishnu Kesari; reigned 12 years.

1119-1123. Indra Kesari; reigned 4 years.

1123-1132. Suvarna Kesari; reigned 9 years. The Kesari Dynasty ended with this prince, who died childless, and was succeeded by Chorgangá, a king from the south. See my Orissa, chap. v. Another Palm-Leaf Record containing a list of the Kings of Orissa, and kept by a Bráhman family of Puri, gives a different account of the extinction of the line. It states that Básudeva Báhanpati, a powerful officer of the Orissa Court, having been driven from the royal presence, went to the Carnatic, and instigated Chorgangá of that country to invade Orissa, which he did, conquering Cattack, and establishing a new dynasty. [According to Stirling, 36 princes of the Kesari line ruled over Orissa 473-1131 A.D., of whom, however, he only gives the names of nine. One of these, Barujýa Kesari, is said to have quadrupled the land-tax, and another, Surajya Kesari, to have reduced it to the old rate.]

1132-1152. Chorganga, the founder of the Gangávansa Dynasty; reigned 20 years. His memory is preserved by the name of a quarter in Puri city, called the Churang Sáí, and also by a tank in that town bearing the same name. [Stirling places this reign 1131-1151 A.D.]

1152-1166. Gangeswar.—His territories are said to have extended from the Ganges to the Godávari, and to have included five royal cities, Jáipur, Chaudwár, Amrávatí, Chatná, and Biránasi, or Cattack. As a penance for a crime, he excavated a splendid tank called Kausalyá Gangá, between Piplí and Khuríhá. [According to Stirling, he ascended the throne 1151 A.D.]

1166-1171. Eklatakam Devá; reigned 5 years.

1171-1175. Madan Mahadeva; reigned 4 years.

1175-1202. Anang Bhim Deo, one of the greatest of the Orissa kings. He made a survey of his whole kingdom, measuring it with reeds; and built the present Temple of Jagannáth. Reigned 27 years. [According to Stirling, he ascended the throne in 1174 A.D.]
1202-1237. Rajrajeswar Deva; reigned 35 years. [Stirling places his death in 1236 A.D.]

1237-1282. Langulya Narsinh; reigned 45 years; built the great Sun Temple at Kanarak on the Sea (the Black Pagoda).

1282-1307. Kesari Narsinh; reigned 25 years. This prince filled up the bed of the river Balagandi, which ran between the temple and the country house of Jagannath, and which obstructed the cars that carried the idols at the great festival. Previously a double set of cars had been required for the conveyance of the images. [According to Stirling, this prince was called Kabir Narsinh, and erected the bridge across the Atharanala at the entrance to Purli; the bridge which the Temple Records ascribe to Matsya Kesari, who reigned 1034-1050.]

1307-1327. Pratab Narsinh; reigned 20 years.

1327-1329. Gatikanta Narsinh; reigned 2 years.

1329-1330. Kapil Narsinh; reigned 1 year.

1330-1337. Sankha Bhasur; reigned 7 years.

1337-1361. Sankha Basudeva; reigned 24 years.

1361-1382. Bali Basudeva; reigned 22 years.

1382-1401. Bir Basudeva; reigned 19 years.

1401-1414. Kali Basudeva; reigned 13 years.

1414-1429. Nengatanta Basudeva; reigned 15 years.

1429-1452. Netra Basudeva; reigned 23 years.

1452-1479. Kapilendra Deva, originally a common herd-boy, tending the flocks of his Brahman master, but afterwards raised to the throne. Reigned 27 years.

1479-1504. Purushottama Deva.—The King of Conjevaram refused to marry his daughter to this prince, on the ground of the Orissa Dynasty holding the office of Sweeper to Jagannath. Purushottama accordingly invaded the southern country, defeated the Conjevaram king, and carried off his daughter, whom he swore should be married to a sweeper, in revenge for her father’s refusal. The minister to whom he entrusted the execution of his order, brought forth the princess at the next great festival of Jagannath, as the king himself was publicly performing his lowly office before the god, and presented her in marriage to his master.

1504-1532. Pratab Rudra Deva; reigned 28 years. A learned man, deeply versed in the Sastras. His reign was disturbed by theological discussions as to the merits of the
Buddhistic and Brähmanical religions. Stories are told of how sometimes one, sometimes the other, of these religions obtained supremacy over the mind of the prince, and how the followers of each were persecuted by turns. The great Vishnuvite reformer Chaitanya visited Puri during this reign, and finally converted the king to the Vaidik faith. The Temple of Barāha at Jāipur was constructed by this king; and the Annalists state that he extended his conquests as far as Cape Comorin, capturing the city of Vizianagaram en route. The Afghāns, however, made incursions into Orissa and plundered Puri, the idols being removed and secreted beforehand. [According to Stirling, he reigned 1503-1524 A.D.]

1532-1533. **KAŁUYA DEVA**, son of the last-mentioned king. Reigned 1 year, when he was murdered by Gobind Bidyādhar, the Prime Minister. [According to Stirling, 1524-1529.]

1533-1534. **KATHARUYA DEVA**, THE LAST OF THE GANGAVANSA LINE, brother of the previous king, like him assassinated by Gobind Bidyādhar, who now ascended the throne, after murdering all of the royal blood.

1534-1541. **GOBIND BIDYADHAR**; reigned 7 years. Disputes with the Muhammadans as to the possession of Rājmahendri. [According to Stirling, he began to reign 1533 A.D.]

1541-1549. **CHAKRA PRATAB**; reigned 8 years.

1549-1550. **NAR SINH JANA**; reigned 1 year.

1550-1551. **RAGHU RAM CHHOTRA**; reigned 1 year.

1551-1559. **MUKUND DEVA**, or Telingā Mukund Deva; reigned 8 years. The last of the independent kings of Orissa, and a man of great courage and ability. He constructed a large landing-place (ghāt) on the Huglī at Tribeni, near the town of Huglī. During his reign, Kālāpahār, the general of the Muhammadan King of Bengal, invaded the province with a large force. The Orissa king was defeated and slain in a battle outside the walls of the capital, Jāipur, and the monarchy overthrown, A.D. 1559. [According to Stirling, 1555 A.D.] Kālā Pahār plundered the holy city of Puri. The Muhammadan writers place the conquest of Orissa in 1567-68, and after a careful comparison of authorities, I have adopted this last date. See chap. vi. of my ORISSA.

1559-1578, An anarchy of 19 years, after which Rām Chandra or Deva, the son of the Prime Minister of the previous reign, 1568-1578. was elected to the throne. During the anarchy the Afghān
governor of Orissa, Dáúd Khán, invaded Bengal, but was defeated by the Mughuls under Munim Khán, and the province was annexed to the Mughul Empire. [According to Stirling, the anarchy lasted 1558-1579 A.D.]

1578-1607. **Ram Chandra Deva**, the first prince of the present family of Khurdha; reigned 29 years. Rájá Todar Mall, Akbár's general, and afterwards Prime Minister, was deputed to restore order in Orissa. He confirmed the native prince on the throne, but towards the end of this reign the province was disturbed by a rival claimant, who appealed to the Emperor Akbár. Rájá Mán Sinh, another Hindu general of the Mughul Empire, was sent to adjust the quarrel, which he managed amicably by bestowing on the claimant the Fort of Al and its dependencies. [According to Stirling, the reign lasted 1580-1609 A.D.]

1607-1628. **Purushottama Deva**; reigned 21 years; was slain in battle. From this period the Orissa kings were merely Rájás of Khurdhá. See my Orissa, chap. vi.

1628-1653. **Narsinh Deva**; reigned 25 years. Invasion of Orissa by a Muhammadan general from the south, named Sháhbáz. The king finding himself unable to resist the invaders, was compelled to purchase peace by the payment of a large sum of money. This prince brought the images of the sun and moon from the Temple of Kanárak to Purl. [According to Stirling, he reigned 1630-1655 A.D.]

1653-1654. **Gangadhar Deva**; reigned 1 year. [According to Stirling, 1655-1656 A.D.]

1654-1662. **Balabhadrada Deva**; reigned 8 years. [According to Stirling, 1656-1664 A.D.]

1662-1690. **Mukund Deva**; reigned 28 years. [According to Stirling, 1664-1692 A.D.]

1690-1713. **Drabya Sinh Deva**; reigned 23 years. [According to Stirling, 1692-1715 A.D.]

1713-1718. **Krishna Deva**; reigned 5 years. [According to Stirling, 1715-1720 A.D.]

1718-1725. **Gopinath Deva**; reigned 7 years. [According to Stirling, 1720-1727 A.D.]

1725-1736. **Ram Chandra Deva**; reigned 11 years. [According to Stirling, 1727-1743 A.D.]

1736-1773. **Bir Kisor Deva**; reigned 37 years. Habib Khán, a Muhammadan officer of the Marhattá army, invaded and
wrested the province from this king, but afterwards restored it. In 1753 the Marhattás finally took possession of the province. [Stirling places this reign 1743-1786 A.D.]

1773-1791. Drabya Sinh Deva; reigned 18 years. [According to Stirling, 1786-1798 A.D.]

1791-1810. Mukund Deva; ruled 19 years. Occupation of Orissa by the British and expulsion of the Marhattás in 1803. In the following year this prince headed a rising of the Khur- dhá people, but was defeated and taken prisoner. After being kept in confinement for some time in Cattack and Midnapur, he was allowed to retire to Puri.

1810-1857. Ram Chandra Deva; ruled 47 years.

1857-1871. Dibya Sinh Deva, the present Rájá of Khurdhá. He is the fifteenth of the line of princes who succeeded in 1575 to the Orissa kingdom, as a fief of the Mughul Empire, after the anarchy which followed the extinction of the Gangavansa dynasty. The above Chronicle, taken from Hindu sources, does not truly represent the facts of Orissa history after the Musalman conquest in 1568. See my Orissa, chap. vi.

W. W. H.
THE MUHAMMADAN HISTORY OF ORISSA,
FROM 1510 TO 1751,
AS TOLD BY THE PERSIAN ANNALISTS.

The following Abstract has been compiled from the Akbar-námah, Afn-i-Akbar, Makhzan-i-Afghání, Badáoni, and Tuzuk-i-Jahángír. For the early connection of the Muhammadans with Orissa between the thirteenth and sixteenth centuries, see chapter vii. of my Work on that Province. I am indebted to Professor Blochmann’s mss. for the materials from which the following events are taken:

A.D. 1510 (?)—Muhammadan invasion of Orissa by Ismá‘íl Ghádí, General of Husain Sháh, King of Bengal.

A.D. 1520 (?)—Battle near Kandapalli (Condapilly), and conquest of Telingána by Sultán Kulf Kutb Sháh, the monarch of the Southern Muhammadan Kingdom.

A.D. 1567-68 (A.H. 975).—Afghan conquest of Orissa by Sulaimán Kararání, King of Bengal and Behar. The last independent native king of the Province, Rájá Mukund Deo, was slain in the battle fought outside the walls of his capital, Jáipur. Siege and capture of the city and temple of Puri by Kálá Pahár.

A.D. 1571 (A.H. 979).—Conquest of Rájmahendri by Malik Náib, general of Ibráhím Kutb Sháh, King of Golconda. (A.D. 1550 to 1581.)

A.D. 1572 (A.H. 980).—Death of Sulaimán, who is succeeded by his son Báyazíd as King of Bengal, Behar, and Orissa. Báyazíd murdered by Hánsú, his brother-in-law. Dáúd Khán, second son of Sulaimán, succeeds. Khán Jahán Afghán, appointed Governor of Orissa, and Kutlu Khán Lohání, Governor of Puri.

A.D. 1574 (A.H. 982).—Behar conquered by the Emperor Akbar, and flight of the rebel King of Bengal, Dáúd Khán, to Orissa. First
invasion of Orissa by the Mughuls under Munim Khán and Akbar’s Hindu general, Rájá Todar Mall.

A.D. 1574, 25th March (A.H. 20th Zíkád’á 982).—Great battle of Tukaroi or Mughulmárf, near Jaleswar, between the Mughuls under Munim and Rájá Todar Mall, and the Afgháns under Dáúd, in which the latter were completely defeated. After the battle, Munim advanced upon Cattack, where a peace was concluded, Dáúd ceding Bengal and Behar to the Mughuls, in return for which he was acknowledged as King of Orissa by the Emperor Akbar.

A.D. 1575 (A.H. 983).—Afghán invasion and occupation of Bengal by Dáúd Khán, from Orissa, on the death of Munim Khán, Akbar’s Governor of Bengal and Behar. Husain Kulí Khán Jahán appointed Governor of Bengal and Behar by the Emperor, in succession to Munim Khán.

A.D. 1576, 12th July (A.H. 15th Rábl-ul-Sání 984).—Battle of Agmahall (Rájmahal), in which the Afghán insurgents were completely defeated, and their leader, Dáúd Khán, slain by the Imperial troops under Husain Kulí Khán Jahán, the new Governor of Bengal.

A.D. 1576 (A.H. 984).—The Afgháns again defeated near Húglí, and retreat into Orissa. Nominal annexation of the Province to the Delhi Empire.

A.D. 1578 (A.H. 986).—Death of Husain Kulí Khán Jahán, Governor of Bengal; succeeded by Muzaffar Khán.

A.D. 1579 (A.H. 987).—Masúm Khán Kábul, appointed Governor of Orissa by Akbar.

A.D. 1580 (A.H. 988).—Rebellion in Orissa and Bengal, under the leadership of Masúm Khán, the newly-appointed Governor of Orissa. Muzaffar Khán, Governor of Bengal, killed by the rebels. Orissa cleared of Mughul Imperialists. The rebels, assisted by the Afgháns of Orissa and Ghorághát, occupy Behar. Usurpation of the throne of Orissa by Kutlú Khán, a Lohání Afghán. Battle of Salimábád, south of Bardwán, in which Kutlú Khán defeats Mírzá Naját, Akbar’s Governor of Sátgáon, and extended his power as far as the Dámodar. Mírzá ’Azíz Kokah Khán i A’zám appointed Governor of Behar, Bengal, and Orissa, by the Emperor Akbar.

A.D. 1581 (A.H. 989).—Kutlú defeats and kills Kiyá Khán Gang, in Orissa.

A.D. 1582 (A.H. 990).—Behar and Western Bengal recaptured by Mírzá ’Azíz, Akbar’s Governor. His officers are unsuccessful in their operations against Kutlú Khán of Orissa.

A.D. 1583 (A.H. 991).—Battle on the Dámodar river, south of Bardwán, near Mughulmárf, in which Kutlú Khán was defeated by
Sadik Khan and Shah Kul Mahram. Death of Kalā Pahār, the conqueror of Puri.

A.D. 1584 (A.H. 992).—Peace concluded between Akbar's officers and Kutlū Khan, the latter being allowed to retain Orissa. Akbar disapproves of the treaty made by his generals with Kutlū.


A.D. 1592 (A.H. 1000).—'Isā dies. The two sons of Kutlū Khan, Khwājah Sulaimān and Khwājah 'Usmān, seize Puri, and break the treaty. Rājā Mān Sinh invades Orissa a second time. Great battle at Banāpur, in which the Afghān Orissa rebels were completely defeated by Mān Sinh. Capture of Jaleswar, Cattack, and Fort AI by the Imperial troops. The Afghāns make a last but ineffectual stand at Fort Sārangarh, then submit, the two sons of Kutlū Khan becoming vassals of the Delhi Empire. Orissa finally annexed to Akbar's Empire. Rājā Mān Sinh appointed Governor of Behar, Bengal, and Orissa. Rājā Rām Chandra Deo, the native king of Orissa, and three of his family, made grandees of the Delhi Court.

A.D. 1598 (A.H. 1007).—Jagat Sinh officiating Governor during the temporary absence of his father Rājā Mān Sinh. Revolt of the Orissa Afghāns under 'Usmān. Defeat of the Imperial troops under Mahā Sinh, a younger son of Rājā Mān Sinh, by the Afghāns under 'Usmān, near Bhadrak. Occupation of Orissa and south-western portion of Bengal by the Afghān rebels.

A.D. 1599 (A.H. 1008).—Return of Rājā Mān Sinh; he defeats 'Usmān near Sherpur 'Atāl, north of Bardwān, and pursues him to Mohespur, near Bishenpur. Southern Orissa retained by the Afghāns.

A.D. 1605 (A.H. 1014).—Death of Akbar, and accession of Jahāngīr. Mān Sinh reappointed as Governor of Bengal and Orissa.

A.D. 1606 (A.H. 1015).—Mān Sinh recalled, and Kutb-ud-dīn, Jahāngīr's foster brother, appointed Governor of Bengal and Orissa.

A.D. 1607 (A.H. 1016).—Kutb-ud-dīn, killed at Bardwān by Sher Khan, husband of Nur Jāhān. Jahāngīr Kulī Khan, Governor of Behar, appointed to act as Governor of Bengal and Orissa.

A.D. 1607 (A.H. 1016).—Orissa created a separate Governorship; Háshim Khan appointed Governor.
A.D. 1611 (A.H. 1020).—Rājā Kalyān Mall appointed Governor of Orissa, vice Háshim Khán, transferred to Kashmir. The Afgháns under Usmán make a last effort to regain their independence, but are defeated, and their leader killed by Shujáat Khán near the Subanreká river. All Orissa, with the exception of Khurdhá and Rájmahendri, finally annexed to Delhi. Mukarram Khán appointed Governor of Orissa.

A.D. 1613 (A.H. 1022).—Mukarram Khán defeats the Rājá of Khurdhá, and annexes his territory to the Delhi Empire. Rájmahendri is acknowledged to be independent.

This defeat ended the struggle between the Afgháns and the Mughuls, and Orissa remained simply a province of the Mughul Empire until 1751, when the Marhattás obtained it. The remnants of the Afgháns still used it as a basis for marauding expeditions; one of which, in 1695–98, attained the dignity of a revolt, and temporarily wrested Bengal and Orissa from the Empire.

In the following pages I have generally adopted Mr. Stirling's and Major Stewart's accounts:

A.D. 1621 (A.H. 1031).—Prince Sháh Jahán rebels against his father, Emperor Jahángír, and takes possession of Orissa before its Deputy-Governor, Ahmad Bey, could prepare for resistance. He recruits his army by enlisting the Afghán chiefs with their followers into his service, and takes possession of Bardwán.

A.D. 1634 (A.H. 1043).—Sháh Jahán, now Emperor of Delhi, gives a firman to the English, allowing them to trade with their ships in Bengal; but Azim Khán, then Governor of Bengal, Behar, and Orissa, restricted their vessels from entering any other port than Pippli, near Balasor, and the English established their first factory in Bengal at that place.

A.D. 1636 (A.H. 1046).—Surgeon Gabriel Boughton cures a daughter of the Emperor who had been dreadfully burnt. As a reward to Mr. Boughton, his nation is allowed to trade in Bengal and Orissa free of all duties.

A.D. 1640 (A.H. 1050).—Sultán Shujá, Governor of Bengal, Behar, and Orissa, licensed the English to build factories at Balasor and Hugli, in addition to that at Pippli, in reward for the success of Surgeon Boughton in curing a sick lady of the Governor's seraglio.

A.D. 1685–1688 (A.H. 1097–1100).—East India Company makes war with the Mughuls. The Balasor Governor threatens our factory, and imprisons two of our English servants. Captain Heath accordingly attacks and plunders the town. (29th November 1688.)
A.D. 1695 (A.H. 1107).—Revolt of Subhá Sinh in Bengal. He is joined by the Orissa Afghans under Rahim Khan. Bengal and Orissa fall into the hands of the rebels, but are afterwards reconquered by the Imperial troops.

A.D. 1706 (A.H. 1118).—Murshid Kulé Khan, Governor of Bengal, Behar, and Orissa, appoints his son-in-law, Shujá-ud-dín Muhammad Khan, Deputy-Governor of Orissa, with two Bráhmans, Bhupati Ray and Kisor Ray, as his secretaries. The District of Midnapur, which heretofore formed a part of Orissa, was at this time annexed to Bengal.

A.D. 1725 (A.H. 1139).—Death of Murshid Kulé Khan Shujá-ud-dín, Governor of Bengal, Behar, and Orissa. He appoints Muhammad Taki, his illegitimate son, as his Deputy in Orissa. On the north, the remainder of the old Jaleswar Division (Sarkár) lying between Tamluk, Midnapur, and the river Subanrekhá, was, with the exception of a few small Fiscal Divisions, annexed to Bengal. On the south, the Nizám's Government took possession of the estate of Tikáli Raghnáthpur and the Chilká Lake, belonging to the Rája of Khurdhá (Rája Rám Chandra Deo), who rebelled, but, after a long struggle, he was captured and taken as a prisoner to Cattack. The priests of Jaggannáth fled with the sacred image across the Chilká Lake, on account of the oppressions of the Deputy. Twenty-two police stations were established in the jurisdiction of the Khurdhá estate, in order to keep in check the turbulent spirit of the people.

A.D. 1734 (A.H. 1147).—Death of Muhammad Taki Khán. Murshid Kulé Khán, son-in-law of Shujá-ud-dín, appointed Deputy-Governor of Orissa. He induced the priests to bring back the idol of Jaggannáth to the temple, as the absence of it seriously affected the public revenues. Important financial reforms in the Province, inaugurated by Mr Habib, who assisted the Deputy as his Diwan. Excessive cheapness of food; rice selling at 320 lbs. for a shilling in Bengal.

A.D. 1739 (A.H. 1151).—Shujá-ud-dín dies. Sarfaráz Khán becomes Governor of Bengal, Behar, and Orissa.

A.D. 1740 (A.H. 1153).—Ál Vardí Khán defeats Sarfaráz Khán, who is slain in the battle, and usurps the throne. He requests Murshid Kulé Khán to retire from Orissa. The latter refuses. Ál Vardí Khán marches towards Orissa with 12,000 men. Murshid Kulé Khán is defeated on the north of Balasor, and embarks on board a ship for Masulipatam. Ál Vardí Khán marches to Cattack, and gives the Government of the Province to his nephew, Sayyid Ahmad. The new Deputy becomes very unpopular. The people rise, and imprison him in his own house. One Bakhir Khán now assumed the Government of Orissa. Ál Vardí Khán defeats Bakhir Khán on the banks of the
Mahánaḍí, and rescues his nephew. He appoints Muhammad Másum Khán to the Deputy-Governorship of Orissa.

A.D. 1741–2 (A.H. 1154–5).—Alí Vardí Khán returns to Bengal, and encamps at Midnapur, when he hears that the Marhattás have invaded the country by way of Orissa. He marches towards Bardwán and fights several small engagements with the Marhattás. Eventually Bháskar Pandit, the Marhattá general, demands a million sterling and all the elephants (Bengal Governor’s) as the price of his quitting the country; but is refused. The Marhattás devastate Bengal and seize Orissa, killing the Governor, but are finally defeated and driven out. Abdul Rasúl Khán is appointed Governor of Orissa.

A.D. 1745 (A.H. 1157).—Raghuji Bhonslá, the Marhattá, invades Bengal, reduces Orissa, and on his return to his own kingdom at Nágpur, leaves Mír Habíb to defend the newly-acquired Province.

A.D. 1747 (A.H. 1160).—Mír Jáffar appointed by the Bengal Governor to expel the Marhattás and Afgáns from Cattach, but fails. Ataullá Khán supersedes Mír Jáffar, and defeats the Marhattás near Bardwán. Alí Vardí, the Bengal Governor, now takes the command himself, and defeats the Marhattás in several engagements. The Afgáns in Behar revolt, and the Marhattás join them, but are defeated.

A.D. 1750 (A.H. 1162).—Jánojí, the son of Raghuji the Marhattá, returns to his own country (Nágpur), leaving a body of Marhattás under Mír Habíb for the defence of Cattach.

A.D. 1751 (A.H. 1164).—Alí Vardí Khán, the Bengal Governor, marched towards Cattach to expel the Marhattás from Orissa, but cannot bring them to a decisive engagement. He practically cedes to them the Province of Orissa, and engages to pay twelve lakhs of rupees a-year as the Chauth for Bengal. See my Oriissa, chap. vi.
APPENDIX IX.

THE LITERATURE OF ORISSA:

BEING AN ANALYTICAL CATALOGUE OF 107 URIYA WRITERS,
ALPHABETICALLY ARRANGED; WITH A BRIEF DESCRIPTION
OF 47 MSS. OF UNDETERMINED AUTHORSHIP.

The following pages are based upon manuscripts (vernacular and English), chiefly supplied by Mr. T. Ravenshaw, Commissioner of Orissa.

I. ABHIMSANYU SAMANT SINHAR; lived about 100 years ago. The most celebrated and popular of his works are, (1) Bidagdha Chintamani; and (2) Prarti Chintamani, the subject of both being the amours and adventures of the shepherd god Krishna and his mistress Radhá.

II. ACHYUTANAND DAS; lived about 100 years ago; his works are Anant Goyā, or 'The Eternal Mystery,' a religious book containing an account of the penances and austerities which the ancient sages performed for the sake of their salvation; (2) Achyutānand Mālikā, a prophetical work; and (3) Sapta Bhāgvata, or a version of the Vaishnava Scriptures in Sanskrit, called the Bhāgvata.

III. ARAT DAS; period not known; author of Jagannāth Janāna, which consists of prayers to, and praises of, Jagannāth.

IV. BALBHADRA BHANJ; period not known; a Rājā of Gumsar, and supposed to be the ancestor of Upendra Bhanj, another prince of the same State, and the most eminent of the Orissa poets. His work is called Bhababatī, a romance relating the love adventures of a prince.

V. BALRAM DAS; lived 300 years ago; a Vaishnav of Purī, and author of numerous works, of which the twenty-three following are the chief: (1) Bedhā Parikrama, or 'A Walk around the Sacred Enclosures of the Purī Temple,' a poetical work describing the various minor shrines and deities connected with the temple of Jagannāth; (2) Arjuna Gītā, a religious poem; (3) Bhaba Samudra, an ethical poem;
(4) Bhāgyvata Gītā, a Vaishnava Scripture translated from the Sanskrit, constantly read and quoted by the URIYAS; (5) Bhakti Rasāmrita Sindhu, or 'The Sea of the Nectar of Faith,' a work on devotional subjects; (6) Bhuta Keli, the sports of Krishna and Rādhā; (7) Birāta Gītā, an ethical poem; (8) Chandī Purāṇ, an account of the destruction of the buffalo demon Mahīshāsuras by Chandī, a name of the Goddess Kālī; (9) Chhatisā Gītā, a religious poem; (10) Gaja Nistārana Gītā, a tale of the Mahābhārata, regarding the rescue of an elephant from the teeth of a tortoise; (11) Ganesa Beguti, a poem on religious subjects; (12) Garura Gītā, a rather famous work on metaphysical subjects; (13) Gītā Sāra, an ethical work; (14) Gupta Gītā, a poem containing metaphysical and ethical discourses between Krishna and Arjuna, the third Pāṇḍava; (15) Krishna Līlā, or the sports of Krishna; (16) Mahābhārata, an URIYAS version of the Sanskrit Epic of the same name; (17) Mrugānī Stuti, a tale of the deliverance of a roe from distress by Parasarāma, and her praises to her deliverer; (18) Nāmāvatna Gītā, a religious poem; (19) Rāmāyaṇa, an URIYAS version of the Sanskrit Epic of the same name; (20) Rasabinoda, the sports of Rādhā and Krishna; (21) Rasakeli, the same; (22) Sarfra Bhugola, metaphysical and theological discourses between Krishna and Arjuna; and (23) Tulā Bhinā, the same.

VI. Bardhdaman Mahapatra; lived six hundred years ago; a Brāhmaṇ of Puri, and a Sanskrit author of some note; his works are, (1) Bardhdamān Kārikā; and (2) Durgotsaba Chandrikā, both in Sanskrit, the former on Smriti (Hindu Law), and the latter about the worship of the ten-handed goddess Durgā, another name and form of Kālī.

VII. Basudeva Misra; period unknown; a Brāhmaṇ who wrote two Sanskrit grammatical works: (1) Bāsu Prakriyā; and (2) Sāra Manjarī.

VIII. Basudeva Sarma; period not known; a Brāhmaṇ who wrote a Sanskrit work on rhetoric, called the Sāhitya Darpana Tikā Prabhā Smriti.

IX. Basudeva Tripathi; period unknown; a Brāhmaṇ who compiled a Sanskrit book on Hindu rites and ceremonies, called the Prayaschitta Bilochana.

X. Basu Rath Bajapayi; period unknown; author of a Sanskrit work on Smriti (Hindu Law) which bears his own name.

XI. Bhagaban Kabiraj; lived 600 years ago; author of a noted work in Sanskrit, written in a dramatical style, called the Gundichā Champā, describing the Bathing and the Car Festivals of Jagannāth.
THE LITERATURE OF ORISSA.

XII. Bhakta Charan Das Kabi; lived 150 years ago; author of Mathurá Mangal, a famous work on the sports of Krishna and Rádhá, the ms. of which was lately published in Cattack.

XIII. Bhikari Patnaik; period unknown; wrote a small drama, Lankádánya Nátiká, on the conquest of Lanká (Ceylon) by Ráma Chandra.

XIV. BhimaDas; lived 200 years ago; a Vaishnav of Purl who wrote a book, Bhakti Ratnamálá, on religious subjects.

XV. Bhima Dhibara; lived 150 years ago; a highly esteemed poet of the fisherman caste. His works are, (1) Kapatpasa, a tale from the Mahábhárata, of the loss of his kingdom, at dice-playing, by Yudhisthir; and (2) Bhárat Sábitrl, a poetical version of the Bhárat.

XVI. Bidyakar Purohita; lived 200 years ago; a Brähman who wrote a Sanskrit book, Náráyan Shataka, on Náráyan, another name of Vishnu.

XVII. Bidyakar Bajapayi; period unknown; wrote a Sanskrit work on Smriti, called the Bidyákar Paddhati.

XVIII. Bipra Kantha Das; lived 250 years ago; he wrote two popular books called (1) Napai; and (2) Chhapai, containing small ballads on the early sports of Krishna.

XIX. Biswa Nath Das Kabi, alias Purushottama Biswa Nath Khuntia; lived 300 years ago; a writer of great celebrity, and author of the Bichitra Rámayana, or 'The Wonderful Rámayana,' an Uriyá version of the original Sanskrit Epic. Of all the translations of the Rámáyana in Uriyá, this is the most popular, and passages from it are still recited by dancing boys when the scenes and events of the epic are acted on the stage.

XX. Biswa Nath Patjosi; period not known; a Brähman who wrote a Sanskrit drama, Usha Parinaya NátaK, which gives an account of the love and marriage of Ushá, the daughter of King Bán, with Aniruddha, grandson of Krishna.

XXI. Biswa NathNama Pandit; lived 300 years ago; wrote a Sanskrit book, Smrití Sár, on Hindu Religious and Domestic Law.

XXII. Biswambhara Misra Kabi; lived 200 years ago. His work is Bichitra Bhárat, or 'The Wonderful Bhárat,' a poetical translation of the Aranya and the Birát volumes of the Mahábhárát, very popular with the Uriyás.

XXIII. Braja Nath Das; period not known. His works are; (1) Ambiká Biláś, or 'The Love of Ambiká,' a tale from the Mahábhárát; (2) Samara Taranga, a poem on war; and (3) Gunáチcha Bije, a poem on Jagannáth's journey to his country seat during the Car Festival, with his brother Balbhadra and sister Subhadrá.
XXIV. CHAKRA DATTA; a Bengali Kayasth; period unknown. He wrote a medical work which bears his own name, and is consulted by native physicians in the country south of Cattack.

XXV. CHAKRAPANI PATNAIK; lived 150 years ago; a Karan who wrote a Sanskrit work called the Gundichá Champá, describing the Bathing, the Car, and other festivals of Jagannáth.

XXVI. CHANDRA MANI MOHANTA; lived 150 years ago. His works are, (1) Sudarsan Bilás, a Sanskrit work on the amours and sports of Sudarsan; (2) Hansa Dut, a translation of the work of the same name of Rúp Goswámi, the Bengali Vaishnav; and (3) Sabda Kalpa Latá, a Sanskrit lexicography.

XXVII. CHANDRA SIKHARA RAY; period unknown; a Brahman, and the religious preceptor of the king. He wrote Madhuraniruddha Náta, a Sanskrit drama on the adventures of Aniruddha, Krishna's grandson. This work is much esteemed by the Uriyá Pandits.

XXVIII. DHANANJAY BHANJ; period unknown; a Gumsar Rája who composed two books: (1) Raghu Náth Bilás; and (2) Ráma Bilás, both based upon the Rámáyana.

XXIX. DHANI DAS; lived 150 years ago; wrote a Sanskrit book on astrology called the Nakshatra Katapáyá.

XXX. DHARANI DHAR; lived about 250 years ago; translated in verse the celebrated poem, Gíta Govinda of Jayadeva Goswámi.

XXXI. DIBAKAR MISRA; lived 200 years ago; wrote the book Jagannáth Charitámrita, on Jagannáth.

XXXII. DIBYA SINH MAHAPATRA; lived 200 years ago; wrote two Sanskrit books: (1) One on Hindu Law; and (2) The other on Hindu funeral ceremonies.

XXXIII. DINBANDHU DAS; period unknown; a Brahman, author of a work called Chhanda Cháru Prabhá, on love matters.

XXXIV. DINBANDHU RAYA; lived 250 years ago; a Rája of one of the Tributary States who wrote a book called the Radhá Bilás, about the amours of Rádhá.

XXXV. DINA KRISHNA DAS, also called SINDHU; lived about 300 years ago; a Karan Vaishnava, and so popular an author that he is considered to be the son of god Jagannáth. His works are written in an elegant and remarkably simple style, and his descriptions of natural scenery are often very beautiful. The following fifteen of his works still enjoy a wide popularity among high and low:—(1) Rasakalilol, or 'The Waves of Sentiment,' an account of the early sports of Krishna; (2) Chakradhar Bilás, a work on the same subject; (3) Madhusudan Bilás, another work on the same subject;
(4) Madhabakar Gita, a medical work; (5) Arttatran Chautisá, hymns addressed to Jagannáth; (6) Báramás Kaili, or 'The Twelve Months' Cuckoo,' a lamentation of Rámá's mother on her son's exile; (7) Jagomohana, on Jagannáth; (8) Sámu'drika, a rare book on palmistry, translated from the Sanskrit; (9) Gundichá Bijé, a poem describing Jagannáth's journey to his country house during the Car Festival; (10) Pratáp Sindhu, a book said to contain lectures which the sage Vasishtha delivered to King Dasaratha, Rámá's father; (11) Guna Ságara, a poem on Krishna's early life; (12) Ujwala Nílmani Káriká, a work in prose describing the amours of Krishna and Rádhá; (13) Rádhá Kanacha, a work containing certain incantations and ceremonies; (14) Dwádasa Kunja Lilá, on amorous sports of Krishna; and (15) Krishna Dás Bali, a medical work.

XXXVI. GADAHAR MAHAPATRA RAYA GURU; lived 200 years ago; the religious preceptor of the Orissa Rájá. He wrote the following works in Sanskrit: (1) Kála Sára; (2) Sráddha Sára; and (3) Achára Sára, on Hindu rites and ceremonies, etc.

XXXVII. GADADHAR PATNAIK; lived 170 years ago; wrote a book on amorous subjects, called Rasa Kalpa Lata.

XXXVIII. GOPAL BHANJ; lived 600 years ago; contemporary with King Lánguliyá Narsinh, who built the Black Pagoda at Kanárak, on the shore of Orissa. He is the author of the Arka Mahatmya, a Sanskrit work describing the sanctity and the building of the temple.

XXXIX. GOPENDRA BHANITA; lived 200 years ago; author of a rather popular book, called Madhupa Chautisá, on the sports of Krishna among the shepherd-maids of Brindabán.

XL. GOPí NATH KABÍ BHUSHAN; lived 200 years ago; wrote: (1) Kabi Chintamani, a treatise on the rules of versification; and (2) Ráma Chandra Bihárá, an account of the adventures of Ráma.

XLI. GOPí NATH RATH; lived 150 years ago; a Bráhman, and a Sanskrit commentator on the poets. His works are, (1) Hansadut Tiká; and (2) Nishádha Tiká, Sanskrit commentaries on Hansadut and Nishádha.

XLII. GOVINDA DAS; lived about 250 years ago; a native of the Tributary State of Tigariá, who wrote a Sanskrit grammar called the Prakriyá Sára Byákaran.

XLIII. GOVINDA DAS; lived 260 years ago; a Bráhman Vaishnav who wrote a book called Charana Sudhánidhi, a panegyric on Vishnu in two of his incarnations.

XLIV. GOVINDA SANTRA; lived 300 years ago; a Bráhman, author of (1) Suri Sarbaswa; and (2) Bibra Sarbaswa, both in Sanskrit, two treatises of laws, morals, etc.
XLV. HARA Das; lived about 100 years ago; wrote a prophetical
work called the Hāra Dās Mālikā.

XLVI. HARI Chandan DEVA; lived 300 years ago; a Rājā of
one of the Tributary States; author of a work called Lilābati, a poem
containing an account of the amours of Lilābati, daughter of the Chola
Rājā, and Chandra Bhānu, prince of the Anga Des.

XLVII. HALADHAR Das; lived about 500 years ago; wrote the
following works: (1) Ardhātmya Rāmāyana, another Uriyā translation
of the Rāmāyana; and (2) Haladhar Kārikā, a work on Hindu
Religious and Social Law.

XLVIII. HANUMAN Misra; period unknown; wrote com­
mentations on the celebrated Sanskrit drama, Mahānātaka.

XLIX. HARIHAR KABI; lived about 300 years ago; author of
Suchitra Rāmāyana, a translation of the Rāmāyana in verse, which
almost equals the Bichitra Rāmāyana in elegance of style.

L. HARIHAR ACHARJYA; lived about 300 years ago; author of a
Sanskrit work on Hindu Religious and Social Law, called the Samaya
Pradip.

LI. HARI Krishna MAHAPATRA; period unknown; wrote Ruk­
mini Bilās, an account of the amusements of Krishna’s wife, Rukmini.

LII. HARI NAIK; lived 650 years ago; wrote Gīta Prakās, a
Sanskrit work containing hymns to gods.

LIII. JADUMANI BHANJ; lived 250 years ago; a Rājā of Gumsar;
author of Rukmini Bilās, an account of the sports of Krishna and his
wife Rukmini.

LIV. JAGANNATH Das; lived 350 years ago; wrote the following
works: (1) Pāshanda Dalana, or ‘The Destruction of the Sinners,’ a
religious work; (2) Bhāgvat, a translation of the Vaishnava Scriptures
Bhāgvat, which is very often read and quoted by the Uriyās; (3)
Manasikshā, a series of discourses between the sages Suka and Sanaka
about the youthful sports of Krishna; and (4) Jagannāth Kārikā, a
Sanskrit work on Smriti, or Hindu Religious and Domestic Law. His
works are esteemed by the people.

LV. Jalantara KABI Surjya Rava Guru; lived about 150
years ago; a native of Pārikud; author of the following works:
(1) Chaupadi, a collection of verses; (2) Kesari Chandra Champā,
on the loves of Rādhā and Krishna; (3) Ananda Dāmodar Champā, on
the same subject; and (4) Hāsyārṇaba, comic verses. The first three
are written partly in Uriyā and partly in Sanskrit.

LVI. KABI CHANDRA Raghu Nath PARIKSHA; lived 600 years
ago; wrote the Sanskrit drama of Gopī Nāth Ballabh Nātaka, on the
sports and amusements of Krishna among the shepherddesses of Brin-
dában. This writer was a contemporary of King Lánguliyá Narsinh Deva.

LVII. KABINDRA NARAYANA SARMA; lived 1200 years ago; a contemporary of King Lalát Indra Kesari; wrote the two Sanskrit works: (1) Ekámbra Chandriká; and (2) Birajá Máhátymya, on the sanctity of the sacred places of Bhuvaneswar and Jájpur. Both enjoy a considerable reputation.

LVIII. KÁLÍ DÁS CHOYINI NAMA PANDIT; lived 500 years ago; author of Sudhí Chandriká, a Sanskrit work on Hindu Law.

LIX. KARNAMGIRI; lived 100 years ago; an ascetic who wrote the Bhakti Rasámrita, a book on devotional subjects, and a work of some note among the people.

LX. KÉSÁB DÁS KÁBI; lived 200 years ago; author of Suchitra Bhárata, an abstract of the Mahábhárata in Uriya.

LXI. KRISHNA DÁS; period not known; wrote the following books: (1) Pinsá Ratnákar, on devotional subjects; (2) Git Govinda, an Uriya version of Jayadeva’s Git Govinda; and (3) Bhágvat, a translation of the original work in Sanskrit.

LXII. KRISHNA MÍRSA; lived 250 years ago; his works are, (1) Prabodha Chandrodaya Nátiiká, a Sanskrit drama; (2) Sáhitya Ratnákar Alankár Tiká, a commentary on Sanskrit rhetoric; and (3) Krishna Misra Prakríyá, a Sanskrit grammar.

LXIII. KRISHNA SINHA; lived 200 years ago; translated the Bhárata, Rámayána, and Bhágvat from the Sanskrit, and paraphrased the Haribansá, a noted work on the family of Krishna.

LXIV. KRUPÁ SÍNDHU DÁS; lived 200 years ago; wrote the following books: Srí Jagannáth Stuti, prayers to Jagannáth; and (2) Braja Bihára, sports of Krishna among the shepherd-maids of Brindában.

LXV. KRUPÁ SÍNDHU PÁTNAIK; lived 300 years ago; his works are, Dasa Bali Braja Bihára, sports of Krishna at Brindában; (2) Kamalá Kánt Chautísá, on Krishna’s adventures; and (3) a poem on the same subject called the Saján Chautísá.

LXVI. KUNJA BÉHARI PÁTNAIK; lived 150 years ago; author of Kunja Behári, a poetical work about Krishna.

LXVII. LÁKSHMÍDHIHAR DÁS; lived 200 years ago; wrote the work, Angadapári, an account of Ráma’s embassy to Rávana, King of Ceylon.

LXVIII. LÁKSHMÍDHIHAR MÍRSA; lived 200 years ago; a native of Bhuvaneswar, and author of Saivakalpadruma, a Sanskrit work on rituals to be observed in the worship of Siva.

LXIX. LOK NÁTH BÍDYADHAR; lived 200 years ago; wrote the following works: (1) Chitrakalá, on love adventures; (2) Sarbánga
THE LITERATURE OF ORISSA. [APP. IX.

Sundarl, a poetical romance; (3) Chittotpala; (4) Parimalá; and (5) Rasakalá, all on love matters.

LXX. LOK NATH DAS; lived 100 years ago; author of (1) Karkinábi, and (2) Karmakánda, both Sanskrit works on rites and ceremonies.

LXXI. LOK NATH NAIK; lived 150 years ago; wrote Khari Lilábatí, a mathematical work in Uriyá verse.

LXXII. MADHAVA KAR; lived 400 years ago; wrote Mádhava Kar, a Sanskrit work on medicine. This work is very much esteemed, and is consulted by physicians in the country north of Cattack.

LXXIII. MAGUNI PATNAIK; lived 150 years ago; his work is Rámachandra Bihará, on the adventures of Ráma.

LXXIV. MAHADeVA DAS; lived 200 years ago; writer of (1) Padma Purán; (2) Márkanda Purán; (3) Mágh Máhátmya; (4) Baisákhi Máhátmya; (5) Kártil Máhátmya; and (6) Rámáyana, all translations from the Sanskrit works of the same name.

LXXV. MANIKYA DEVA PANDIT; period unknown; wrote Sudhí Guchchha, a Sanskrit work on rites of purification.

LXXVI. MARKANDA DAS; lived 600 years ago; his works are, (1) Kesab Kaili, complaints of Jasodá, Krishna’s mother; and (2) Gyán Udaya Kaili, a theological work.

LXXVII. NARAYAN ACHARJYA; lived 300 years ago; author of Sulakshana, a Sanskrit work on rites of purification.

LXXVIII. NARAYAN PUROHITA; lived 700 years ago; author of Brata Ratnákar, a treatise on versification, written in a kind of Uriyá verse called the Chhandá.

LXXIX. NIDHI RATH; lived 300 years ago; translated into Uriyá the Ritu Sanhár of Kálidás.

LXXX. NILAMBAR BHANJ; lived 150 years ago; a Rájá of Haldía, and author of (1) Krishna Lilámrita, on the sports of Krishna; and (2) Pancha Sáyaka, on love matters.

LXXXI. NILAMBAR DAS; lived 400 years ago; his work is Jaimuni Bhráta, an Uriyá version of the Mahábhráta.

LXXXII. NARSINH BAJPAYI; lived 300 years ago; author of (1) Achá Pradip; (2) Vyavasthai Pradip; (3) Práyaschitta Pradip; (4) Bápáyáíí Smriti; and (5) Dána Ságara, all in Sanskrit, on Hindu ceremonies, rites, the virtue of bestowing alms and gifts, etc.

LXXXIII. NARSINH PATNAIK; lived 90 years ago; wrote a Sanskrit lexicography in verse, called the Sabda Máldá.

LXXXIV. PADMA NABH DEVA; lived 400 years ago; a Rájá of one of the Tributary States who wrote a romance called the Prabhábatí.
THE LITERATURE OF ORISSA.

LXXXV. Padma Nabh Pariksha; lived 150 years ago; author of Gita Tala Prabandha, a work giving instructions on music.

LXXXVI. Pitambara Rajendra; lived 200 years ago; a Raja of one of the Tributary States; wrote Ramlilá, sports of Rámachandra.

LXXXVII. Pindiki Sri Chandana; period unknown; his work is Mukunda Málá Gíta, a book of hymns and invocations.

LXXXVIII. Pitambara Misra Kari Chandana; lived 150 years ago; his works are the following: (1) Gundichá Champá, a Sanskrit work on Jagannáth’s journey to his country house during the Car Festival; (2) Náráyana Shataka Tíká, a commentary on the Sanskrit work Náráyana Shataká; (3) Jatakálankár Tíká, a commentary on the Sanskrit astrological work Jatakálankár; (4) Ráma Birudáráli, a Sanskrit work on Ráma Chandra’s adventures; and (5) Pitambárí Chandí, a commentary on the Chandí Bhágvat in Sanskrit.

LXXXIX. Pitambara Deva; lived 300 years ago; a Raja who wrote a work on devotional subjects, called the Akhíla Rasa Chintámáni.

XC. Purushottama Das; lived 200 years ago; translated Gundichá Bijë, or the journey of Jagannáth to his country seat, from the Sanskrit work of the same name.

XCl. Purushottama Misra; lived 500 years ago; a Bráhman, and the author of the following works: (1) Sangita Náráyana, Sanskrit hymns, music, etc.; (2) Kshetra Mákhatmya, a celebrated work containing an account of Purúr and the gods in it; and (3) Nárádri Mákhatmya, a Sanskrit work on Jagannáth, his temple, etc.

XClI. Purushottama Parhi; lived 300 years ago; wrote (1) Anarghya Rághava Tíká, a commentary on the Sanskrit drama Anarghya Rághaba; (2) Samasta Kábímnánkár Tíká, Sanskrit commentaries on all the poets; and (3) Amarkosh Tíká, a Sanskrit commentary on Amarkosh, the Sanskrit dictionary.

XClII. Rághu Náth Das; lived 150 years ago; a celebrated Sanskrit scholar, author, and commentator. His works are: (1) Baidya Kalpa Latiká, a Sanskrit work on physics; (2) Práyaschitta Tarangini, a Sanskrit work regarding purification from pollution; (3) Amarkosh Tíká, a commentary on the Sanskrit dictionary Amarkosh; (4) Rághu Náth Dás Prakriyá, a Sanskrit grammar; (5) Barddhamán Byákaran Tíká, a Sanskrit commentary on the Barddhamán Byákaran, a grammar; (6) Samasta Kábímnánkár Tíká, a commentary on all the poets; (7) Sanskrita Manjari, a Sanskrit work on rules of grammar; (8) Rághuvansá Tíká, a Sanskrit commentary on Káli Dás's Rághuvansá, a work on the ancestors of Ráma; and (9) Utpáta Tarangini, a Sanskrit poem.

XClIV. Ráma Chandra Bajapayi; lived 400 years ago; a Purúr
THE LITERATURE OF ORISSA.

Bráhman who wrote a Sanskrit work on Hindu Social and Religious Law, called the Karmánga Paddhati.

XCV. RAMA CHANDRA DAS; lived 200 years ago; his works are, (1) Baldbhadra Bali, concerning Krishna; and (2) Chaupadis, a small book of poems.

XCVI. RAMA CHANDRA PATNAIK; lived 500 years ago; author of (1) Hárábatí, a romance; (2) Saiva Chintámani, in Sanskrit, regarding the worship of Siva.

XCVII. RAMA KRISHNA RATHA; period unknown; wrote a Sanskrit commentary on rhetoric called the Sáhitya Ratnákar Alankár.

XCVIII. SADAJAYA; period unknown; author of (1) Harabatl, a romance; (2) Saiva Chintamani, in Sanskrit, regarding the worship of Siva.

XCIX. SADANANDA KABΪ SURYYA BRAHMA; lived 167 years ago; a popular writer on ethics, devotional subjects, etc.; his works are, (1) Nistára Nîlmani; (2) Namáchintámani; (3) Prema Panchámrta; (4) Jugal Rasámrta Lahari; (5) Prema Tarangí; (6) Prema Lahari; (7) Prema Bhaunri; and (8) Jugal Rasámrta Chaunri; all devotional or theological works.

C. SAMBHU KAR BAJAPAYI; lived 150 years ago; a Bráhman who wrote a Sanskrit book on Hindu Social and Religious Law called after his name.

CII. SARALA DAS KABI; lived 300 years ago; translated Mahábhárata into Uriyá.

CIII. SISU DAMA DAS; period unknown; author of Dáru Brahma Gíta, an interesting work on the discovery of the Dásu Brahma, and the consecration of the Purl temple to Jagannáth.

CIII. SISU SANKARA DAS; lived 250 years ago; translated the Sanskrit drama, Usháparinaya Nátaka, into Uriyá.

CIV. SRIDHAR DAS; lived about 300 years ago; a native of Banki, one of the Tributary States, who wrote a work called the Káncchañ Látá, the early sports of Krishna.

CV. SRIPATI DAS; lived 700 years ago; a celebrated Bráhman astrologer, and author of the famous work on astrology which bears his own name, Srípati, from which the yearly Uriyá almanacks are drawn up.

CVI. TRIPURARI DAS; lived 200 years ago; produced, (1) Kata-páya, a Sanskrit astrological work; (2) Kerala Gíta, an astrological work; (3) Ráma Krishna Keli Kallol, a work on Ráma and Krishna; and (4) Radhá Krishna Keli Kallol, a work on Krishna and Radhá.

CVII. UPENDRA BHANJ; a Rája of Gumsar, and the most emi-
nent of all the Uriya poets; lived 300 years ago. His works are,
(1) Abaná Rasa Taranga, a work on Ráma Chandrá’s Adventures;
(2) Bachantisa, songs on Krishna; (3) Baidehi Bilás, on the adventures
of Ráma; (4) Bhababát, a romance; (5) Braja Lilá, sports of Krishna;
(6) Chandra Kalá, a romance; (7) Chandra Rekhá, a romance; (8)
Chaupadi Bhushana, a small love piece; (9) Chaupadi Chandra, a
small love piece; (10) Chhanda Bhushana, a treatise on versification;
(11) Chitra Lekhá, a romance; (12) Chitra Kábya Bandhadáya, a
treatise on versification; (13) Duhá, ethical tales; (14) Gahá, ethical
tales; (15) Gitábidhana, a lexicography in verse, lately published by
the Cattack Mission Press; (16) Hemamanjuri, a romance; (17) Ich­
chhábatí, the adventures of Cháta and Princess Ichchhábatí; (18)
Jamaka Rájá Chautisá, songs on Krishna; (19) Kalábati, the love
adventures of Bhárata and Kalábati; (20) Kalákantaka, enigmas on
Krishna’s sports; (21) Kámakalá, a romance; (22) Kotí Brahmánda
Sundari, an interesting tale illustrative of woman’s constancy and
fidelity; (23) Kunja Behára, sports of Krishna; (24) Lábanyabátí, an
account of the loves of Prince Chandrabhánu and Princess Lábanya­
báti, a popular work; (25) Muktábáti, adventures of Muktábáti;
(26) Manorama, a romance; (27) Prema Latá, a romance; (28)
Prema Sudhánidhí, an account of the Princess Prema Sudhánidhí, the
daughter of the King of Kerala; (29) Purúshottama Máhámya, on the
sanctity of Purí, its temples, etc.; (30) Ráhás Lilá, sports of Krishna;
(31) Rasa Lekhá, adventures of Rasa Lekhá, a princess; (32) Rasa
Panchaka, songs on the five classes of amorous sentiments; (33)
Rasiká Hárábáti, a work on amorous subjects; (34) Ráma Lilámríta,
adventures of Ráma Chandra; (35) Rasamánju, a treatise on rules of
versification; (36) Shárariti, a version of Kálídás’s Ritu Sanhár; (37)
Sangítá Kaumadí, a treatise on music; (38) Sasi Rekhá, a romance;
(39) Sobhábáti, adventures of Princess Sobhábatí; (40) Subarna
Rekhá, a romance; (41) Subhadrá Parinaya, an account of the mar­
riage of Arjun and Subhadrá, Jagannáth’s sister; and (42) Trailokyá
Mohíní, a romance.

The Authors of the Following Works are Doubtful:—
(1) Artha Kailí, tales about Krishna; (2) Aswattha Kshetra Máhámya,
on the sanctity of Kujang; (3) Basanta Kailí, tales about Krishna;
(4) Bháratámríta, a Sanskrit poem about Bhárata; (5) Bhanja Maho­
daya Nátkiká, a small Sanskrit drama; (6) Bhati Rasámritá Sindhu, a
work on devotional subjects; (7) Bidadhá Mádhava, on Rádhá and
Krishna; (8) Brahma Gyána, a metaphysical work; (9) Chaitanya
Charitámríta, life of Chaitanya, the Vishnuvite reformer of Naddea,
translated from the Bengali; (10) Deolá Tolá, an account of the
building of the great temple of Jagannáth; (11) Dhwani Manjari, a Sanskrit lexicography; (12) Dwirepha Kos, the same; (13) Ekámbra Kshetra, on the sanctity of Bhuvaneswar, its temples, etc.; (14) Ekámbra Purán, a local Purán on the same; (15) Ekákhara Kos, a Sanskrit lexicography; (16) Gyána Chandra Churámani, a work on metaphysics; (17) Itháš Lekhana, on the same; (18) Jaleswara Paddhati, a Sanskrit work on Smrítí; (19) Kánchikáveri, an interesting tale about the conquest of Conjeeveram, and the adventures of Princess Pádmávatí; (20) Kapila Sanhitá, a Sanskrit work on the places of pilgrimage in Oríssá; Purí, Kanárak, Bhuvaneswar, and Jáipur; (21) Kosamanjári, a Sanskrit lexicography; (22) Kshetra Máhámya, a Sanskrit work on the sacred places of Oríssá; (23) Mohanta Nírnaya Rasa, a work on various classes of ascetics; (24) Mantrárnába, a Sanskrit work on the Tantras, the scriptures of the worshippers of the Wife of Síva; (25) Mahi Mandala, a work on creation; (26) Mukunda Mááá, partly in Uriá and partly in Sanskrit, about the adventures of Rámá; (27) Nába Brindában Bihár, on Krishna’s sports with the maids of Brinda-ban; (28) Nánárátha Kosh, a Sanskrit dictionary; (29) Nídána Tiká, a Sanskrit commentary on Nídán, a book of medicine; (30) Párijáát Hará, a small Sanskrit drama on Krishna’s forcibly taking away the Párijáát flower from the garden of the god-king of Heaven; (31) Práchí Máhámya, in Sanskrit, on the sanctity of the small river Práchí; (32) Premloka Náataká, a Sanskrit drama; (33) Purúshottama Kshetra Máhámya, a Sanskrit work on Purí; (34) Rádhá-mrita Gíta, on Rádhá and Krishna; (35) Ráma Sítá Ballabh Náta, a Sanskrit drama on Ráma and his wife Sítá; (36) Ráma Lilá Náatak, another Sanskrit drama of the same sort; (37) Sabda Kosh Told, a Sanskrit grammar; (38) Sampradáya Siddha, a Sanskrit work on Hindu Law; (39) Sahendayánanda, a poem in Sanskrit; (40) Síva Purán, a translation of the original Sanskrit work; (41) Síva Lilámrita, concerning the sports of Síva; (42) Sokábalí, a Sanskrit work; (43) Surjya Kshetra Máhámya, a Sanskrit work on the sanctity of the temple of Kanárak; (44) Tantra Sátra, a Sanskrit work on the Tantras; (45) Tatwárnába, a Sanskrit work on medicine; (46) Tulasi Kshetra Máhámya, a Sanskrit work on the sanctity of Kendrá-párá; and (47) Utkal Máhámya, in Sanskrit, an account of the holy places in Oríssá.

In the names of books and authors I have sometimes transliterated from the Sanskrit orthography, sometimes from the Uriá form, the latter being generally followed when the name is a very common or popular one among the inhabitants of Oríssá. Many of them, although not professedly translations, are paraphrases or compilations rather than original works.
INDEX.

N.B.—The following Index only applies to the text of ‘Orissa’ (both volumes), as the Appendices are themselves so condensed, and embrace such a variety of subjects, that any attempt to give an alphabetical " précis of them would unduly swell this Index.

AFGHANS invade Bengal, ii. 3; conquer Orissa, 7-14; their struggle with the Mughuls in Orissa, 14-29; extinction of Orissa Afghans, 24-26. See Musalmans; also App. vii.

AGRICULTURE. See Husbandmen, Tillage.

ANANG BHIM DEO, builder of Jagannath temple, i. 100.

ARCHITECTURE AND SCULPTURE, Yavana, i. 230-232; sculptures at Jajpur, 265-272; the Hindu Arch, 276, 277, 297, 298; temple of Sun, 281 et seq.; described, 288-298; Sun-pillars, 290; connection of Buddhist architecture with Sivaite, 234; with Vishnuite, 290.

ARYAN CASTES AND MIGRATIONS, i. 36, 37, 94, 174, 177, 201, 205; migrations of Siva worshippers into Orissa, and their settlement, 238-242 (see Brahman); the Aryan colonization of India, Northern, Central, and Southern, 242-265, u. 206. See App. 6-11, 37-41, 123-126.

BAGHA, i. 192, 195. See Buddhism.

ASTRONOMY. Yavana, i. 225, 226.

AVATARS. See Vishnu.

BAILARANI RIVER, i. 82, 270, 272, ii. 177. See App. 35, 74, 97, 98, 109.

BANDOTTI, i. 28, ii. 231.

BANPUR, i. 27, 28; App. i. 29.

BALASOR DISTRICT, statistical account of, App. ii.

BALASOR TOWN, ii. 38, 39, 42, 43, 45, 46, 47; App. ii. 41-43.

BARDWAN sacked by Orissa king, i. 280; captured by Orissa rebels, ii. 26; heroic conduct of the ladies of the palace, 26, 27.

BASU the Fowler, i. 89-97.

BHARGAVI RIVER, i. 48, 56; App. i. 3.

BHUVAESWAR, i. 96, 233-236.

BRAHMAN TENURE-HOLDERS, i. 33, 54, ii. 254.

BRAHMA, i. 92; images at Kanakana, 295.

BRAHMANS, i. 33, 37; migrations and settlements of Sivaite Brahmans in Orissa, 238-242; potato-growing Brahmans of Orissa, 239; Brahman colonization of India, 242; various sorts of Brahmans, 245; shepherd Brahmans of Humalayas, 244-246; ploughing Brahmans of Doab, 246; manufactured Brahmans of Oudh, 247; ploughing Brahmans of Benares, 248; various Brahmans of Bengal, 249, 250; peasant and jungle Brahmans of Central India, 251, 252; aboriginal and fisher Brahmans of Southern India, 253-257; blacksmith, etc., Brahmans of Madura and Ceylon, 258, 259; the Brahmans of the Veda and Epics, 260; analysis of the Brahman caste; earlier and later migrations, 261; differences in race, manufactured Brahmans, 263; the Brahmans a composite caste, 264; the Brahman metropolis of Orissa, Jajpur and its sculptures, 265-272; Brahman villages at Jajpur, 272; Brahman colonization only partial, ii. 206; Brahman villages, 254, 255. See App. i. 7, 8, ii. 37, 38, iv. 123, 124.

BRAHMANI RIVER, ii. 66, 177; App. iii. 73, iv. 98, 106, 109.

BUDDHISM, connection with Jagannath, i. 132; early Buddhist migrations, 177; Buddhist cave-dwellings and rock-inscriptions in Orissa, 178-187; at Udayagiri and Khandguri, 181; a sculptured rock monastery, 183-189; political history of Buddhism, 190-198; arrival of sacred Tooth in Orissa, 190;
INDEX.

its legend, 191, 201; Asoka’s Edicts, 192-195; further characteristics of these Edicts, 202-205; connection of Yavanas with spread of Buddhism, 227-229; struggle of Buddhism with Siva-worship in Orissa, 233; downfall of Buddhism in Bengal, 201; Buddhism in Orissa, 650 A.D., 273; connection of Buddhist with Sivaite architecture, 234; with Vishnuvite, 290; Buddhism, Sun-worship, and Vishnuism, 299, 300; Buddhism and Jaganñath, 304; Buddhism at Tamluk, 309, 310.

Canals in Orissa described, i. 189-194; their cost, 190, 195; how to pay for them, 196-199; App. IV. 109-117.

Car Festival in June or July, i. 131; connection with Buddhist procession. 70; preparations for, 132; description of, 133; self-immolation not practised, 134, 304-308, 321; in thirteenth century, 396. See Jagannath.

CASTE, influence of, ii. 108, 109, 104, 141; broken up by State education, 140, 147. See Aryam Castes and Low Castes; Husbandmen (privileged).

Cattack City, i. 49, 161; founded 953 A.D., 275, 308; captured by English, ii. 57, 58, 60; App. IV. 127, 128.

Cattack District, statistical account of, App. IV.

Cesses, Rural, in Pākud, i. 35, 39, 56, ii. 233, 235.

Chaitanya, i. 87; his life and work, 106-110.

Chaubiskud described, i. 50, 59, 66.

Chignon, circ. 200 B.C., i. 186; circ. 700 A.D., 235, 236; 268.

Chilka Lake, south end, i. 18, 19, 20-29; Pākud shores of, 30-43; northern end, 44-72; schemes for deepening and utilising the Chilka, 73-80; statistics of traffic on Chilka, 77.

Chinese Pilgrims to India, i. 131, 143, 273, 309, 310.

Cholera takes its rise in the overcrowded pilgrim houses of Puri, and breaks out along the line of the pilgrim march, i. 148-167. See App. L 25, ii. 66, iv. 157.

City Life, absence of, in tributary states, ii. 102, 103; town population stationary in Orissa, 129, 130, 131. See App. i. II, ii. 41, 42, 43, iv. 127, 128.

Competition, influence of, on rent, i. 33, 55-59; ii. 212, 213, 267, 268.

Criminal Classes in tributary states, ii. 108, 109; fewness of, in Orissa, 135, 136; App. i. 21, ii. 58, iv. 147.

Cultivators. See Husbandmen.

Currency, gold, silver, and cowrie, i. 317, 326, 349; among the Kandhs, ii. 69; in tributary states of Orissa, 102; in Kherdha, 124; cowrie currency, 168, 169.

Custom, influence of, on rent, i. 33, 55-59.

Dalal cutting described, i. 66, 69-76.

Danish Settlement at Balasor, ii. 46.

Daya River, i. 48, 70, 191; App. I. 2, 3.

Delta, reclamation schemes, i. 47.

Deltaic Rivers, characteristics of, i. 48, 49, ii. 178-180; App. IV. 97, 98, 99, 117.

Denkanal State and its Maharaja described, ii. 104-111; App. IV. 84, 85.

Depopulation, i. 30, 38; by floods, 64-68, 272; ii. 34, 35, 55, 56, 61, 127, 180, 231, 232; App. III. 76.

Desertion of Lands, i. 64, ii. 35, 35, 52, 231, 233, 244, 251, 253, 254.

Domarkhand, i. 66; App. I. 22, 23.

Droughts, i. 64; drying up of the rivers in summer, ii. 179; cost of droughts to Government, 184-187; schemes for averting droughts, 189-192; App. I. 19, ii. 53-56, iv. 115, 116.

Dutch Settlements in Bengal, ii. 37; at Balasor, 46.

Education. See State Education.

Embankments against rivers, i. 49, 65; their cost to the State and their inadequacy, ii. 181-184; schemes for their improvement, 188; App. I. 2, 3, ii. 36, 54, 53, III. 75, IV. 117, 118, 119.

English invasion of Orissa, i. 30; as merchants in Orissa, ii. 36-54; at Patna, 37; at Pippil and Balasor, 38, 39; at Hugli, 39, 40; in Orissa, 40, 41; the era of armed commerce in Orissa, 41-55; in Gangjam, 45-53; as governors in Orissa, 55-173; conquest and annexation of Orissa, 54-59, 164.

Expenditure. See Revenues and ExpHditure.

False Point, ii. 193, 194; App. IV. 101-106.

Family, the simplest unit of rural society among the Kandhs, ii. 72-76, 203-206, 208, 209.

Famine of 1866, i. 38, 40, ii. 34, 35; of 1770, 184; of 1866, 185, 180, 194; efforts to prevent famine, 180-198; App. II. 55; IV. 144. See Droughts, Floods.

Feudal organization and peasant militia of Orissa, ii. 4, 6, 13; in Kandha country, 71, 72; in Kherdha, 169.
INDEX.

124; feudal aristocracy under Hindu dynasties, 216-219, 268; its disintegration under our system, 269, 270.

FISHING COMMUNITIES AND CASTES, i. 31, 32, 45, ii. 233, 234; App. l. 4.

Fish-curing rendered impossible by our Salt Laws, u. 159, 160, 161.

FISCAL DIVISIONS (Parganas), i. 50; machinery for administering the fiscal divisions under Hindus, ii. 215-219; the headman, accountant, and chief swordsmen of fiscal divisions develop into land-holders under the Muslims, 221-224. For lists of Fiscal Divisions see App. l. 22, 23, ii. 58-64, III. 135, 136, 137, 147-156.

FLOODS, i. 30, 35, 49-52, 63, 64; cost of, 64, 65-69; floods of 1866 in Páríkud, 35; in Puri district, 67-69, ii. 174-179; general statistics of floods to 1842, 185; cost of floods to Government, 181, 184; schemes for their control, 188; App. l. 2, 3, 4, ii. 51-56, iv. 99, 108, 109, 117-120. Forts, on Chilka, i. 28; Páríkud, 36; cover the country, ii. 34, 50, 51.

FRENCH SETTLEMENT at Balasor, ii. 47.

GANGETIC or VISHNUVITE DYNASTY (Gangavāsa), its rise, 1132 A.D., i. 275-281; its public works, 281-300; statistics of extent and revenue of Orissa under the dynasty, 317-319; its expeditions southward, 319-321; culmination of its fortunes, 322; its end, 322, 323.

GANJAM CITY, i. 17; district, 18; our factories there, ii. 49; molested by Marthaitas, 50-52; curious judicial proceedings, 53.

GARUK, or sacred vulture of Vishnu, at Jáipur, i. 267.

GOLD, value of, 12th to 19th century in India, i. 316, 317.

GOPALPUR port, i. 17.

GOVERNMENT SHARE OF RENT, under native rajah in Páríkud, i. 34, 35; under English rule, 53, 61, 62; share in the produce of the land under British rule, ii. 166, 167.

GRAIN VALUATION of Land Tax recommended, ii. 172.

GREEKS (Asiatic or Ionian) identified with Yavanas, i. 209-211; their progress through India, 212-224; their influence on Indian science, art, and religion, 225-232.

GUMSA RAJA, ii. 75, 86.

HEADMAN. See Village Headman and Fiscal Division.

HERALDIC DEVICES in ancient Orissa, i. 294, 295, 309; App. III. 82, 84, 86, 87, 88, 89, 90, 91.

HIRED LABOURERS, i. 37, ii. 248. See Low Castes, Non-Aryan Castes, and App.

HOLY FOOD (Mahaprasad) of Jagannáth, i. 86.

HOMESTEAD RENT, i. 35, 39, ii. 242, 245.

HUGLI TOWN, ii. 39.

HUMAN SACRIFICES among the Kandhas, ii. 86, 95-98; suppressed, 99, 100. See Self-immolation.

HUSBANDMEN, i. 32, 37, 62; desert their lands, i. 34, 35, 61; for nomadic husbandmen, see Titlage; husbandmen protected under our system, 266, 267; the husbandmen of Khudhrná and sale of tenant right, 271, 272, 276; App. l. 13, 14, ii. 43, 45, 47, 48, III. 79, iv. 128, 129, 130, 138.

HUSBANDMEN, privileged classes of (Tadhni), i. 54-58, ii. 232, 233; their status and privileges, 241-244; also App.

HUSBANDMEN, non-resident classes of (Pádi) i. 54-58, ii. 232, 233, 241; their status and privileges, 245, 246; also App.

INCOMES, smallness of, i. 40; App. i. 14.

INCOME TAX, its unpopularity and unproductiveness in Orissa, ii. 151; how it could be got rid of, 163, 172.

INDRAVYUAMA, Vishnuvite legend of, i. 89-97.

IONIANS. See Yavanas.

IRON much used in Orissa architecture, i. 297; App. III. 75.

JAGANNATH, i. 29, 32; his holy abode at Puri, 83, 84; his ancient history and flight, 85; his catholicity, 86, 87, 88; legend of origin, 89-93; analysis of legend, 94-97; temple built, 1138 A.D., 100; cost of, 101, 102; composite nature of Jagannáth, 113; medieval legends, 114; his supremacy among the common people, 115; pilgrim tax under Muhammadans, 115; under Marthaitas, 116, 123; under the English, 123, 124, 125; revenues of Jagannáth, 116, 125, 127; monastic endowments, 116-121; Jagannáth under British rule, 122-125; number of pilgrims, 125; their oblations, 127; priests and officers of Jagannáth, 128; description of temple and images, 128, 129; service of temple, 129, 130; its cost, 130; festivals, 130, 131 (see Car-festival); indecencies in his worship,
INDEX.

131, 135; the low castes excluded from his temple, 135, 136; his pilgrim-hunters, 140; his garden-house, 143; village gods, 95, 143; monopoly of the Jagannath cooks in feeding the pilgrims, 146; the temple archives, 128; described in detail, 198-202; Jagannath temple an asylum for King of Bengal, 299; his connection with Buddhism, Vishnuism, and Sun-worship, 288-300; he is left supreme, 135, 138; his higher dependence, fidelity, and valour, 77; judicial procedure, ordeals, 78; Kandh law of inheritance, 79; servile castes, 87, 88; the Kandh funeral rites, 84; their hospitality, 85; the Kandh village described, 87; its servile castes, 87, 88; the Kandh husbandman, 89; a Kandh listed combat, 90; their drunkenness, 91; Kandh deities and religion, 92-94; Kandh priesthood, 95; human sacrifice, 95-98; we form the Kandhs into a nation, 99, 100; Kandh land rights and village system, 203-208; compared with the Hindu system, 208-212; pressure of population and of rents in Kandh country compared with other parts of Orissa, 211-214; App. iii. 76, 77, 82, 83, 84.

KESARI DYNASTY. See Lion Line.

KRUNJHAI STATE, ii. 112, 113-119; a highland law-suit, 115; a highland rising, 117; App. iv. 86.

KHANDGIRI, i. 181.

KHUDHA MAHARAJAH, sweeper to Jagannath, i. 115, 320, 321, 322. See *Khudha Subdivision*.

KHUDHA SUB-DIVISION, i. 178, 181; rebellion of, in 1818, ii. 123-125; the present condition of Khudha Maharajas, 125; their local era and prophecies, 126, 127; their position under the Mughuls and Marhattas, 222; land-system, 268-274. App. i. 27, 28, 29.

KOLAIR LAKE, i. 26, 73, 78.

KOLS, ii. 66, 68; App. iii. 76.

KOYANKAI RIVER, iv. 48, ii. 177; App. i. 2, 3.

KSHATRIYAS, i. 262; App. i. 8, 9, ii. 39, 40, iv. 124.

LAND, increase in value of, i. 52; destination of value, ii. 60, 261-263.

LANDHOLDERS (intermediate between Government and the cultivator), i. 36, 40, 53, 54, 61 (see also Husbandmen, Rights in the Soil, Village Communities); under Marhattas, ii. 32, 33; desert their lands, 52; disappear from Orissa, 60; reappear, 61; landholders unknown in Kandh country, 77, 204, 205, 208, 209, 212, 213; total number of landholders in tributary states and Orissa, 213, 214; three stages of proprietary rights, 214; proprietors merely officials under Hindus, 215-220; transition stage between Hindu and Mughul systems, 221; growth of proprietary rights under Musalmans, 221, 222; various classes of landholders, the Zamindar proper, 223; the Talukdar, 224; origin and growth of proprietors' title analyzed, 225, 226; the subject of their title, 227; four incidents of their title, hereditary succession, 228; specimen of Sonads, 229, 230; their eight sources of income, 231-236; their responsibility for the Land-Tax, 236; procedure against them for arrears by imprisonment or sale, 237; right of private sale or transfer, 238; their aggrandizement at the cost of the village heads, 239; landholders sprung from the village heads, 249-253; Brahmans villages and tenure-holders, 254, 255; landholders disappear in 1803, and require to be 'searched out,' 256; we give them full rights, 257, 258; these rights analyzed, 259-261; present status and numbers,
INDEX. 215

262-264; system of land-rights in Khurda under the Hindu system, 268; and ours, 269-271; individual proprietary rights developed at the expense of village and tenant rights, 268, 272, 273; costliness of private rights to the State, 274, 275. See App. I. 20, II. 57, IV. 145.

LAND-MAKING, process of, i. 20-24, 46, 47, 173; ii. 43.

LAND-RECLAMATION on Chilká, i. 40, 79; on Gangetic Delta, 47; on Kolair Lake, 73, 78.

LAND-REVENUE of Orissa under native and British rule, ii. 164-167; its present inadequacy explained, 167-173; App. I. 20, II. 56, 57, IV. 139, 144.

LAND-RIGHTS. See Rights in the Soil, Village, etc.

LAND-SETLEMENT of 1836, i. 53, 60, 61, 62, 64, II. 256-275. See App. I. 20, 24, II. 56, 57, IV. 139, 144.

LEAF-WEARING tribes, ii. 110, 116, 117.

LEASES, i. 38, 53, ii. 243, 245, 266, 271, 272.

LION LINE of ORISSA (Kesari Dynasty), its rise, 474 A.D., i. 232; its national creed, cities, and capitals, 233-241 (see Jajpur); its public works, 274-277; its fall, 278; statistics of revenue, and extent of Orissa under Lion Line, 316.

LOVE-WORSHIP (Vallabhádhra), i. 108, 110-113.

LOW CASTES, i. 36, 37, 38; excluded from Jagannath's temple, 135, 136; among the Kandhs, n. 68, 87, 88; in a Native State, 108, 109; in Keunjhar, 114; influence of caste among them, 140; in the Kandhi hamlet and Hindu village, 206, 210, 211, 241; under British rule, 246-249; in Bráhman villages, 250; App. I. 9, 10, 21, II. 40, 49, 58, III. 76, 77, IV. 124, 125.

MAHANÁDI RIVER, i. 47, 48, 49, 69, 70, 71, 83, 84, 173, II. 64, 65; spoiled as a trade route by our Salt Laws, 161, 162; the Mahanádi distributaries, 177; their statistics and characteristics, 178-181; App. I. I-4, III. 73, IV. 97-106.

MARATHAS as landlords, i. 50, 51, 52, 61, 201; obtain Orissa, ii. 30; their period of misuse, 31-35; their transit dues, 44; their raids and molestations on our factories, 43-54; Lord Wellesley's Marhatta war, 54, 55; we wrest Orissa from them, 55-59; Marhatta land-administration of Orissa, 239, 240.

MARITIME ENTERPRISE in ancient India, i. 176, 197, 312-316.

MEDICINE, Yavana, i. 227. See Sanitation; also the pages devoted to the medical aspects of the respective districts at the end of App. I. II. and IV.

MILITARY CASTES, i. 36; their tenures, 36. See Feudal Organization.

MISSIONARIES, their political work in Orissa, ii. 141; native Christians, famine orphanages, 142-144; the low social position of the native Christians explained, 143; App. I. 11, ii. 47, III. 77, IV. 127.

MONASTIC INSTITUTIONS and Lands (see also Religious Grants), their revenue in Orissa, i. 83; Vishnuite religious houses, 109; monastic revenues, wealth, and abuses in Orissa, 116-121; monastic legislation and attempts at reform, 117, 127.

MOREHÁNJ STATE (see also Peaceck Family), ii. 111, 112, 113; App. III. 87.

MUGHULS, various meanings of the word, i. 232; their struggle with the Afghans in Orissa, i. 14-29. See Muzalmáns.

MUNAGUNI RIVER, i. 66, 70, 71.

MUSALMANS, their hill shrines, i. 179; appear under name of Yavanas, 224, 232; their iconoclasm at Jajpur, 265-268; their buildings at Jajpur, 266; sources of Muhammadan history of Orissa, i. 1, 2; early invasions of Orissa, 3-6; their conquest of Orissa, 7-14; struggles between Afghans and Mughuls in Orissa, 14-29; their decline and present low estate in Orissa, 23-25; App. I. 6, II. 37, 41, III. 77, IV. 126, 127.

NALBANA (Isle of Reeds), i. 29.

NOMADIC HUSBANDRY. See Tillage.

NON-ARYAN CASTES, i. 32, 36, 37, 38, 94, 95; excluded from Jagannath's temple, 135, 136, 175, 176, 177; as the Fisher Kings of Tamluk, 310, 312 (see also Low Castes), ii. 68, 87, 114; App. I. 9, 10, 21, II. 40, 49, 58, III. 76, 77, IV. 124, 125.

OCCUPANCY RIGHTS among the Kandhs, ii. 205; on the plains, 243.

ODRA, or Orissa, derivation of name, i. 172.

OFFICES connected with the land revenue, the origin of proprietary rights, ii. 214, 215; era of offices, 215-222; under Marathas, 239.

ORISSA, state of, at period of our annexation in 1803, i. 49, 55; ancient sanctity of, 82, 84; sacred divisions of, 83; boundaries and revenues of, in 12th
INDEX.

century, 100, 101; conquest of, 122; legislative boundaries of, in 1866, 124; Orissa under native rule, 168-331; Orissa unknown to ancient Sanscrit literature, 168, 169; its first appearance in history, 170; linguistic boundaries of, 171, 172, 174; derivation of the word, 172; early inhabitants of, 175; Buddhistic period of, 177-179, etc. (for details see Buddhism); Orissa delineated, 50 A.D., 197, 198; palm-leaf archives, 198-302; the pre-historical era of Orissa, 3101 B.C. to 323 A.D., 202-206; delineated, 650 A.D., 273; statistics and revenue under Lion Line, 316; value of gold and silver in 12th century, 316; statistics under Gangetic dynasty, 1132-1532 A.D., 317-319; southern expeditions under this dynasty, 326, 321, 323; revenues under this line, 323-326; raids and invasions, 198-200, A.D., ii. 4, 5, 6; Afghan conquest, 7-14; Orissa the Afghan base of revolt, 14-18; under Akbar attached to the empire, 19-22; as a Mughul province, 23, 31; its revolts and rebellions, 24-29; ceded to the Marhattá, 30; under the Marhattá, 30-35; statistics of Orissa revenue under Marhattá, 30-33; the English as merchants in Orissa and the age of armed industry, 38-54; English conquest and annexation, 55-59; state of Orissa when we got it, 1803 A.D., 59-64, 127; our government of the Tributary States (q.v.), 64-120; our three systems of administration in Orissa, 121; our government of the Delta (Orissa proper), 121-173; our legal title to Orissa, 122; Khurdhá rising in 1818, 123-126; Orissa in 1803, 127; town population stationery, 129; love of village life, 130, 132; various features of British rule, 133-140; missionary efforts and State education, 140-149; new taxes inevitable, 151; Income Tax, 151; Salt Tax, 152-153; Stamp Tax, 154; the Land Tax and its inadequacy explained, 154-173; prices and wages, 168-173; rainfall and water supply, 174-176; characteristics of the deltaic rivers, 179; an Orissa flood, 180. For the statistical accounts of the respective districts, see App. I. II. IV.; for the Tributary States, App. III.; for the geology of Orissa, App. V.; its Flora, App. VI.; the chronicle of its native kings, App. VII.; Muhammadan annals, App. VIII.; and its vernacular literature, App. IX.

PAL DYNASTY, i. 261.

PARVATI, i. 82. See also Kéll and Siva.

PEACOCK FAMILY, and kings of Tam­luk and Morbang, i. 308, 309, ii. 112, 113; App. III. 57.

PILGRIM TAX, i. 115, 116, 123, 124, 125, 160.

PILGRIMS (see Jagannáth, also Pilgrim Tax), i. 127, 134; passion for pilgrimage, 137; the pilgrim march described, 138, 139, 141, 146; pilgrim-hunters, 140; arrival of pilgrims in Puri, 142; their devotions, 143-145; their numbers, 77, 126, 138, 145; collated and scrutinized, 150; bad food, epidemics, cholera, 146-148; over-crowding in lodging-houses, 148-152; former museums of the pilgrims, 152, 153; sufferings on the return journey, 153-156; 12,000 lives lost per annum, 156; remedial measures proposed and examined, 157-167; Chinese pilgrims to India, 141, 15, 22, 29, 316.

PILLAI, on the Subanrekha, acquired, ii. 38; abandoned on account of the silting up of the river, 43.

POPULATION OF Páríkud, 38; statistics of population in Orissa, and increase under British rule, ii. 139-132, 138; pressure of population in different parts of Orissa, and its relation to the rise of rent, 211-214. For details, see App. i., ii., and iv.

POLICE, statistics of, in Orissa, and numbers, ii. 134, 137, 138. See Village Watchman. See App. i. 20, 21, ii. 57, 58, iv. 145.

PORTUGUESE SETTLEMENTS in Madras, Orissa, and Bengal, ii. 37, 38.

POST OFFICE, statistics and influence of, in Orissa, ii. 149.

PRICES OF Fuel, i. 29; of precious metals, 12th to 19th century, 316, 317, 326-329; of rice, barley, etc., 14th to 19th century, 327, 328, 329; history of prices in Orissa, 1771-1871, ii. 168-171; App. L 17, 18, ii. 48, 49, 55, iv. 140, 141.

PRECIOUS METALS, history of their value in India, i. 316, 317, 326-329; fall in value of, 1771-1871 A.D., ii. 167-172.

PROLI, his rise to power, i. 277-279.

PROPHECIES in Khurdbá, ii. 126, 127.

PROPRIETORS. See Land-holders.

PUBLIC WORKS, of Buddhism, i. 178-179; of Swayne or Lion Dynasty, 274-277 (see also Jéjpur); of Gangetic or Vishnuvite Dynasty, 100-102, 281-300; under British rule, ii. 139, 193-199. See Canals and Embankments.

PURANAS, i. 98, 99.

PURI CITY (see Jagannáth), i. 83, 103, 109, 114, 142, 144, 145, 148, 160, 162, 163, 276, ii. 56; App. L 11, 12, 13.

PURI DISTRICT (see Floods), Buddhist
INDEX.

Aryan type of Vishnu-worship, 97; Vishnu-Purana, 1045 A.D., 98, 99; Vishnuitc reformation, 93, 100, 102–107; popularity of Vishnu with the peasantry, 109; Vishnuite quetism, 107; Vishnuite reformation continued, 108–112; indecencies of Vishnu-worship, 110–112, 131, 135; explained, 113; mythical contest of Vishnu with Kshattriyas, 262, 263; Vishnuite sculptures at Jaipur, 267–271; Vishnu the god of the common people, 274; his worship becomes the royal faith in Orissa, 1132 A.D., 278–280; Vishnuism in the form of Sun-worship, 281–287; Vishnuism, Sun-worship, and Buddhism, 298–300; Jagannath left supreme, 300; philosophy of the Vishnuitc Avatars, 300.

WAGES, rise in, 1771 to 1871, ii. 168–171, 248; App. I. 17, 18, II. 48, 49, IV. 140.

WASTE LAND, I. 35, 38, II. 60, 61, 212–214, 231, 235, 238, 242, 250, 251, 252, 253, 270; App. I. 17, 24, II. 49, 50, IV. 131, 142.

WATCHMAN. See Village Watchman.

WATER SUPPLY, sources of, in Orissa, I. 67, 68; cost of controlling water supply in Puri district, 63–68; schemes for doing so, 69–76; the general water supply of Orissa, II. 174–180; conttness to Government of its present uncontrolled state, 180–188; its disas-

trous effects on the people, 188, 189; schemes for controlling the water supply, 189–198 (see also Dulta Cutch, Floods, Rivers, Droughts, Piri-kud); App. I. 2, 3, 4, II. 34, 35, 36, III. 72, 73, 74, IV. 97–109, 117–120.

WEAVERS and WEAVING VILLAGES, II. 44, 45, 247.

WILD BEASTS, ii. 127, 128; App. I. 5, II. 36, III. 75, 76, IV. 121.

WOMEN, status of, in Vishnuite sects, I. 110; high status among the Kandhs, II. 83.

YAMA, I. 82.

YAVANAS, legend of their arrival in Orissa, I. 25, 85; identified with Ionian or Asiatic Greeks, 209–211; the Ionans (Yavanas) in Northern India, 212–214, Yavanas and Buddhism in Orissa, 215, 216; Yavanas or Indo-Greek maritime enterprise, 216, 217; Yavanas in Central India, 218; in Southern India, 219–222; disappearance of the Yavanas, 223; the Musalmans as Yavanas, 224; Yavana astronomy, 225, 226; Yavana medicine, 227; Yavana religion, i.e. Buddhism, 227–229, 261; Yavana sculpture, 230–232; expulsion of Yavanas from Orissa, 232.

ZAMINDARS, strict meaning of the word, II. 223. See Landholders, and Rights in the Soil.

OMISSION.

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