Choktán. The origin of the Karnátí is close by near Chujía in the valley which it enters a few miles to the south-west. The end of the valley appeared from this place to turn southward, where it entered the head of the Púráng valley and the view in this direction was terminated by a huge snowy mountain, the last and greatest of a chain which comes from the south-eastward along the left bank of the Karnátí, the Huniya name of it is Momonangí or Nímo Nangí; the Bhótiyas call it Gúrla and the Hindus name it Mandhautgíri, having an elevation of 25,360 feet above the level of the sea. Owing to its eminence and its height exceeding any other peak within a radius of forty miles, it is one of the most striking objects in this part of the Himálaya. Beyond Gúrla we came on Chujía Tol (15,250 feet), a favourite resort of herdsmen and shepherds from Púráng, consisting of a side ravine running from north-west to south-east into the main valley, then descending again a very considerable hill, part of which was very steep and stony, the path reaches a summit of which the elevation is 17,000 feet.

The most remarkable part of the prospect from this eminence was the Indian Himálaya, the view of which extended from Gúrla on the extreme east, as far westwards perhaps as Laphkheí, including all the outer part at east of the snowy range of Byáns, Dárma, and Juhár, and from this elevated station the spectator seems almost to be looking down upon the top of the snowy range, which here loses much of its apparent height, but with an increase of visible breadth in the same proportions, so that the range assumed something of the appearance of a wide field or sea of snow tossed into a thousand heaps in the most gigantic confusion. The northern face of the Himálaya thus seen from a commanding station, though still much broken into ravines, peaks and ridges, exhibits a much more gradual and flatter general declivity, with smoother and rounder slopes than the vast rocky walls of the southern face, and a much greater expanse of snow, which extends down to the limit of congelation in a regular line, scarcely broken here and there by a few more rocky prominences. The snow line here is perhaps between fifteen and sixteen thousand feet, much about the same as on the south side. A zone of one thousand feet or so must be allowed for the variation of the line according to the nature of the subordinate slopes, their individual exposures, and degree of proximity to the open country northward, in which direction the snow line appeared to Captain Strachey to be somewhat higher, as was noticed at Bháwíti. The termination of the Himálaya in the table-land is generally abrupt and well-defined, and the transition to a new climate seems to be similarly well-marked and sudden. The great bulk and height of the mountainous range appears to arrest the progress of the Indian rainy season, and to the northward, consequently, there is so little free moisture in the upper air, that snow does not fall in sufficient quantities to withstand the heat of the sun for many days together, at very considerable elevations: hence the line of snow on the mountains that rise from the northern table land is on an average perhaps two or three thousand feet higher than on the Indian Himálaya, though the atmospheric temperature on the former may possibly be colder at equal heights.

From this summit the path descends again as much as it came up from Chujía Tol, but more gradually into a level valley with flat bottom, varying from one to three furlongs
In width, winding between steep rounded hills for many miles together along which it continued to where a small stream of water made its appearance. The same of this valley is Amlang: a little further on the stream turns northward, and drains into the Gyanima water, which is visible from Lamsa-Choktan Elevation of Amlang 16,380 feet. Turning eastward Amlang is left over the low hills on the right side of the valley; a mile or two of undulating ground leads into another valley similar to Amlang; a mile further on leads into a third valley or a second branch of the last, like others, but open at both ends, and a mile down, divided into two branches going eastward and south-eastward, the road following the former. Beyond this the path follows a course north of east and crossing the stream again which runs into Rakas Tal ascends rising ground at the foot of lofty hills on the other

Here is the first view of Rakas Tal, a mile or two to the south-east further on, at a point opposite the middle of the eastern shape a side, a full view of the lake is obtained. It is in long irregular crescent some seven miles wide east and west, and twenty miles long north and south. A lofty range of hills stretch north-westward, separating the lake from the head valley of the Karnali. These hills rise abruptly out of the water in bold rocky banks with many deep inlets, promontories, and one or two small islands of the same character. This part of the lake is altogether so irregular in outline that it could hardly be defined without detailed survey and close inspection of every point. The eastern shore is bounded by shelving ground and low hills, the south end being a good deal recessed, eastward, into a deep bay, the middle part advancing, further westward in a rocky bank of moderate height, and the north and sweeping round to the westward, as far as could be seen, with a margin of green grassy plain from the back of which the Ghangri mountains rose in dark steep slopes. The western shore of the lake was undulating ground or low hills at the foot of steep and lofty ones. The water of the lake was of the clearest, brightest blue, reflecting with double intensity the colour of the sky above, and the northern horn of the water, overshadowed by the wall of mountain rising above it, was darkened into a deeper hue, partaking of the fine purple colour that distinguishes the rocks of Ghangri. The path now inclined northward, the hilly bank over which it came subsiding into level shore sloping down to the water's edge. The path lies over this for two or three miles, the water half a mile to the right, and as far to the left Tsabgya Gumba is passed, but is not visible under the steep hillsides, this is the only Gumba on the banks of Rakas Tal. The shore of the lake here showed marks of variation in the water-level to the extent of a few feet, ground which appeared to have been lately inundated, now half dry and swampy, was covered with a very thick efflorescence of soda (or some such salt), which must arise from the soil, as the water was quite pure and sweet. The course now about northward passed under a small rocky headland, which advances close to the water's edge, and then entered on another low flat, bearing marks of occasional inundation in places; here two promontories of low clear land appear stretching into the lake for a mile or two, one from the south and the other from the north, covered with green grass, high hills being still on the left. The northern horn of the lake now rapidly narrows to the extreme north-western point, where the lake ends in swampy ground interspersed
with puddles of water. This is or ought to be, the exit as the ground evidently slopes down to Changchung where the river is visible.

At the south-eastern corner of Rákás Tál, which forms a large bay under the foot of Guru, there is or was a Drasmála called Lagan-Tunkáng, and a rather marine-looking beach with concentric ridges and shingle showing variations in the water level to the extent of six feet perhaps above the present surface; the shingle and sand are mostly granitic and the former partially rolled; only the southern half of Lagan is visible from Tunkáng, the northern part being hidden by the projecting hilly banks which occupy the middle part of the lake's eastern shore. The extreme breadth of the lake at this its widest may be eleven miles or thereabouts, equal to the middle breadth of Mápan. There is no island in Rákás Tál with a monastery on it.

Rámanga (eastern), a river which has its source in patti Bichhla Dánpur in Kumaon, in a horseshoe-shaped depression of a very mountainous tract. To the north the ridge culminates in a peak 19,554 feet above the level of the sea: on the east, the ridge runs south with a series of peaks ranging from 18,321 to 9,814 feet (to the west of Ganagarh on the Milam route) and which form the water-parting between it and the Gori; on the west the ridge has also a southern direction and in the upper portion separates the Rámanga from the Kshipini and lower down in north latitude 30°-4' from the Sarju. The Rámanga forms the boundary southwards between Bichhla Dánpur and Tallades, and is crossed by the road from Bógaswar to Milam by Ganagarh at Bhakúnda. Further south it forms the boundary between Pungaraun and Baróon of Gangoli and Máli of Sirá, and a road proceeds along its left bank to Pithoragarh crossing at Naya Thal, the road from Almora to Askot. The whole course from Bhakúnda is nearly due south and further on it forms the boundary between Bárabisi, Seti Talla, Waldiya Malla, and Rawal on the left bank and Pungaraun and Bel on the right bank. In this portion of its course it is crossed by a suspension bridge on the road from Gangoli Hát to Bâns. It receives numerous torrents on either bank during its course, but none of any great importance. The name Rámanga is often given to the united stream of the Sarju and Rámanga from their confluence at Rámeswar to Pacheswar, where it joins the Káli.

Râmanga (western), a river which takes its rise in patti Lobba of parganah Chandpurin Garhwal, in north latitude 30°-5' and east longitude 79°-18' is also known as the Ruhut or Ruput.

The drainage area of its head-waters is very clearly marked by lofty ridges. To the north the ridge extends in a direction slightly north-east from the
northern peak of the Dudatoli ridge (10,188 feet) to the Diwall-khâl (7,010 feet) on the Kamprayag road. To the west is the Dudatoli range and on the south its continuation almost due east by the Malkhori pass (6,042 feet) to the exit of the Râmganga near Mehalchauri. On the east the ridge extends from Diwalli by Kandal (8,558 feet) and Kânpur (9,512 feet) then comes Bânsu above Nithiya and Thajkharak (7,806 feet) to Sungarkâli. The western ridge separates the drainage area of the Râmganga from that of the Nyâr, a tributary of the Ganges; the northern ridge separates it from the Bharârigâr, a tributary of the Pindâr and the eastern ridge also from the Pindâr valley. The streamlets converge on the south-eastern corner of the basin and at Gaonli below Lâthiya form a considerable river in the rains, which escapes by a narrow chasm (now bridged) from the Lobha valley near Mehalchauri. The Lobha valley is about eight to eleven miles in breadth from the eastern to the western watershed and ten miles in length from north to south, so that the drainage waters as seen at Mehalchauri represents the surplus moisture of one hundred square miles of hill country from rainfall and springs. There is no other outlet for these waters than the Râmganga, and Mehalchauri would seem admirably adapted to form a station for registering the volume of water carried off from a given area of typical hill country while rain gauge stations here and at Lobha and Bilkot would sufficiently indicate the rainfall in its valley, upland, and mountain divisions. Mehalchauri bridge lies in latitude 29°-58'-50" and longitude 79°-22'-10" at an elevation above the sea of 4,350 feet.

From Mehalchauri the Râmganga has a course for a short distance due east through the eastern range by a deep and narrow gorge, emerging from which it bends to the south-east, receiving the Khansar-gadhy on the left bank. Thence sweeping around the south-eastern continuation of the Lohbagarh range it receives the Turag Tal river and then takes a south-westerly course by Ganas, receiving the Kotlar-gadhy rising on the western declivity of Dunagiri on the same bank and the Khansar-gadhy from Panuwa-khâl on the opposite bank. Numerous hill torrent pour into it from either side further down. The story goes that the gods once intended to make Dwâra their home, and they resolved to make there a prayâga or confluence of the Râmganga and the Gâgas. The order was issued to the streams to unite their waters and the Gâgas passed on the message to the Râmganga to come up the Bairti valley from Ganas and break down the barrier that separates the Dwâra flat from the Bairti valley. The messenger, was a semal tree, and when it come to Chhani it said: "I am very tall and can see a long way off and there is no necessity for my giving myself the trouble of going any further; surely the Râmganga must come down by Panuwa-khâl." In the meantime the Râmganga had turned north-east as Mehalchauri and came round and passed by Ganas without being stopped. The roar of the waters aroused the semal, and he called out to the Râmganga to come his way to Dwâra. But he received the reply "too late" and the Gâgas was obliged to proceed lower down to meet the Râmganga and abused his messenger, hence the phrase—

"tu semal ko rebâra khâi." 

"you are a messenger of the semal sort," applied to those who neglect their instructions.

The course from Ganas leads to Bhikiva-ke-Sain, in latitude 29°-42'-4" and longitude 79°-16'-30" where the Râmganga receives the Gâgas on the left bank.
Further south-west the united streams of the Hingwa and Bino rivers fall into it on the right bank and in latitude 29° 34′ 40″ and longitude 79° 8′ 25″, the considerable stream of the Mandhal river on the same side. Hence the Râmgâra enters the Bhâbar flowing nearly due west through the Pâtli Don, where it receives among others the Palán and Sona rivers on the right bank. Then turning south-eastwards, the Râmgâra bursts through the outer range corresponding to the Siwaliks of the Dehra Don and enters the plains near the Kâliagarh fort south of the Kâliagarh peak (2,319 feet) in the Bijnor district, about ninety miles from its source.

Râmgâra or Râmgâr, a parganah of Kumaon contains three pattis, viz., Râmgâr, Malla and Talla and Agar. The assessment at each settlement was as follows:—

<table>
<thead>
<tr>
<th>Year</th>
<th>1815</th>
<th>1817</th>
<th>1818</th>
<th>1820</th>
<th>1823</th>
<th>1826</th>
<th>1828</th>
<th>1833</th>
<th>1843</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rs.</td>
<td>1,944</td>
<td>1,946</td>
<td>3,517</td>
<td>1,959</td>
<td>3,501</td>
<td>1,914</td>
<td>2,304</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The incidence of the land tax on the total area amounts to Rs. 0-14-1 per acre, and on the cultivation to Rs. 1-8-9 per acre. The assessable area comprises 2,610 bâis, of which 1,122 are culturable and 1,488 are cultivated (18 irrigated). The population at settlement numbered 2,683 males and 2,474 females. This parganah lies between the Gâgar and Lohukot ranges, both uniting eastwards in the Moteswar peak. The upper parts belong to Agar, and there is hardly any tallon or lowland capable of irrigation.

The Sauns or Sons occupy the Agar villages whence they are called Agarís. Their special avocation is mining, in which they are engaged throughout the district. Of late years, however, this has given place to work on roads and at the new sanitaries and in the Bhâbar. The climate is fairly salubrious, but the soil is poor. The Agarís remain at home from May until November and then disperse to their several occupations elsewhere. The people of Râmgâr pay revenue according to the capability of their villages. The inhabitants of the picturesque village of Nâyakâna on the Almora road are Pâtas and Nâyaks—the former the dancing-girls of Kumaon, and the latter a class originally springing from that corrupt source, and afterwards, by intermarriage with other inferior tribes, becoming a separate clan, only occasionally recruited by births from Pâtas. The daughters born to Nâyaks, however, themselves recruit the members of the frail sisterhood. The Nâyaks have, during the British rule, been the chief clearing of the Cuhakhâta Bhâbar, and as elsewhere remarked their villages of Haldwâni, &c., are highly flourishing. The people of Borhakot and Juta also possess tracts of land in the Bhâbar. The parganah now contains 26 estates comprising 31 villages. The mines of the Agar pattis were formerly leased for very large sums, they now yield less than Rs. 100 a year. The principal mines are found in Agar, Ghurkhâni, Khunikhâya, Kumâl, Parbâra, and Pâtli.

Râmgâr Malla, a patti of parganah Râmgâr in Kumaon, is bounded on the north by Râmgâr Talla; on the west by Dhaniya-
kot; on the south by Mahryûri Talli, and on the east by Agar. This patti was separated from Râmgâr at the recent settlement. The statistics of the Malla and Talla pattis may be shown thus:

<table>
<thead>
<tr>
<th>Pângâr</th>
<th>Assessable Area in Mils</th>
<th>Assessment in Rupees</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cultivated</td>
<td>Current</td>
<td>1815</td>
</tr>
<tr>
<td>Malla</td>
<td>Total: 500</td>
<td>46</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Irrigated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talla</td>
<td>232</td>
<td>1</td>
<td>186</td>
</tr>
</tbody>
</table>

The incidence of the existing assessment on the whole area is Rs. 1-1-0 per acre in the Malla and Rs. 0-14 per acre in the Talla patti. The incidence on cultivation is Rs. 1-3-4 and Rs. 1-4-10 respectively. In 1872-73 the iron mines were leased with the Agar patti at Rs. 92 a year. The patwâri resides in Sunkiya.

Râmgâr Talla, a patti of parganah Râmgâr in Kumaon, is bounded on the north by Kotali Malli; on the south by Râmgâr Malla; on the east by Agar, and on the west by Dhaniyakot. This patti was separated from Râmgâr at the recent settlement. The statistics are given under the Malla patti.

Râmgâr, a travellers' rest-house on the upper road from Naini Tal to Almora, 12 miles from the former and 20 miles from the latter, is situated in latitude 29°-25'-8" and longitude 79°-35'-40", at an elevation of 5,872 feet above the level of the sea in parganah Râmgâr in Kumaon. There is also a dharmakâla or rest-house for native travellers, to which water is conveyed by a series of wooden gutters from the Gâgar pass above.

The population of the neighbourhood migrate to the Bhâbar during the cold and hot seasons, and are on this account better off than the majority of hill-men. The valley about two miles from the bungalow are the remains of the iron works erected by Government and now belonging to the Kumaon Iron Works Company constructed for smelting the rich iron ore of the valley which belongs to the hematite and magnetic varieties. Some account of this project has been already given.

The march from Naini Tal to Râmgâr is one of the most beautiful and characteristic in the outer Himalaya. The road leaving the margin of the lake ascends a few hundred feet to avoid a formidable landslide caused by the rotten

1 Gaz. X, 262.
shales of which the mountains along the north side of the lake are composed. It then passes under the peak of Lariya-kánta and above the barrack of Kála-khán winding amongst the great grassy spurs and deep wooded khuds which run down from the northern prolongation of Lariya-kánta. Passing by Bhawál it reaches the Ninglát stream by a steep descent. From the baniya's shop there, a steady rise along an outlying spur of the Gágar range for four miles to the Gágar peak (7,835 feet) and pass, whence a descent of two miles leads to Rámgar bungalow. The botany of this march and indeed all the way to Almora has been investigated and recorded by Major Madden in one of his delightful papers.1

From Rámgar to Piura bungalow, ten miles, the road first dips one thousand feet, to the level and comparatively open valley of the Rámgar stream; a mile or so further on, the road crosses to the right bank of the stream by a pretty iron suspension bridge, beyond which and some 200 feet above the road is the Náyakána village, very pretty and neat, the residence of that curious class who have been described amongst the castes in Kumaon. From the bridge there is a somewhat long ascent to the gallery, where the road keeps for two miles along the south-east face of the hot and bare Lohakotí or Pathargarhi mountain, which rises fully a thousand feet higher (7,635 feet). About Náyakána commences the mica-slate formation so general thence northwards; on the gallery it is blended with strata of blue crystalline limestone, the whole dipping north-east. At the east end of the gallery is the Deodara pass on the east which joins Pathargarhi to Mukteswar. Here Almora is first seen, backed by the snows, but the view is soon lost, for the road now makes a second dip into the glen of the Deodar stream; this rises in Mukteswar and joins the Kosi above Munras. Its slopes exhibit a rich expanse of cultivation about Kilaúr, Basígaon, and Tikari in contrast with the gloomy forests of the Gágar. From the valley there is a long ascent to the Laldana Báníyak where there are the remains of a small fortlet belonging to olden days. About east and some 200 feet lower is the Piura (g.v.) travellers' rest-house.

Rámñagar, the chief market of the Kota Bhábar in Kumaon, is situate in north latitude 29°-23'-35" and east longitude 79°-10'-9", at an elevation of 1,204 feet above the level of the sea on the right bank of the Kosi, distant 12 miles from Kota; 6 miles from Dhikuli; 12 from Mohán; 20 miles from Seti; 36 miles from Khaírnya, and 56 miles from Almora. It is the great lowland mart of western Kumaon as Haldwáni is for midland and Barmdeo for eastern Kumaon. In 1881 the population numbered 3,096 souls, chiefly Báníyas. Before 1850, Chikkiya was the principal mart for forest and hill produce, but it has since then quite given place to Rámñagar. There is a police-station, dispensary and forest bungalow here.

The routes to and from Rámñagar being the most important in the tract lying along the foot of the hills, we give them here. From Barmdeo to Chhímí

1 J. A. S. 1848, page 414.
Chauki Dharmal six miles, for the first five miles the road follows straight; the numerous streams flowing from the foot of the hills into the Sarda, and has many ascents and descents. The Deun or Chhini stream flowing from the ravines west of Bastiya is crossed close to the encamping-ground. From hence to Dogari, six miles, the road crosses the bed of the Kulanriya and numerous small sets or torrents with some difficult places for laden carts when there is rain. There is a Chauki and Dharmalas here. Jaulash is the next stage, nine miles; the road as usual and indeed all along crossing numerous beds of torrents, here and there where sandy very difficult and requiring some rough repairs. There are native rest-houses here. To Chorgaliya (1,048 feet) nine miles: here there is a small bazaar, reached after crossing the Nandhar (Dewa) and its numerous offshoots. Next stage is Haldwani (q.v.) twelve miles, then Chaunchala six miles, and Kaldhangi six miles. From Kaldhangi the stages are Ballpara one mile, and Ramnagar six miles. Proceeding westwards we have Dhela seven miles, the name of the village and river (unbridged) passing by Himmatpur and Sawaldeh. Next comes Laldhang (1,117 feet) with a Chauki three miles from Dhela crossing an unbridged stream. Next comes Jharna, four miles, after crossing the Phika, the western boundary of the Kumaon Bhatar. Three miles further on is Dharon with a Chauki (q.v.) whence roads branch off to all parts of Garwhal. Five miles on the Ramganga is crossed at Kaliaghar by Lakhrigat, where there was once a fort. The next stage is Kala-Shahid or Kala-Sayyid (1,008 feet) seven miles; then Pahhran nine miles; Sameha eight miles; Haldubhata nine miles; Laldhang, a bazaar and chauki, ten miles; Chila thirteen miles, and Kankhal three miles. The entire road from Ramnagar to Chila is unmetalled, but is passable for laden carts from November to the rains, crossing the sets by improvised log-bridges. This is the main road for the traffic from the east including Nepál to the Ganges, and is also largely used by pilgrims passing to the great assemblages at Hardwar. It is also used by the timber merchants for exporting the produce of the forests to the plains, and is continually crossed by the roads leading into the hills direct from the plains.

Rangor, a patti of pargana Chaugarkha in Kumaon, is bounded on the north by Dárún; on the west by Laknanpur Malla and Sálam Malla; on the south by the latter patti and the Panár river separating it from the pattis of Kali Kumaon; and on the east by Bel of Gangoli. Portions of this patti were transferred to Dárún at the recent settlement. It is drained by the Panár river, a tributary of the Sarju falling into it on the left bank above Ramswar. The assessable area comprises 4,156 bMISS, of which 1,660 are cultivable and 2,496 are cultivated (189 irrigated). The assessment in 1815 amounted to Rs. 429: in 1820 to Rs. 1,005, in 1843 to Rs. 1,108, and is now Rs. 2,481, which falls at Rs. 0-9-7 per acre on the total assessable area and at Rs. 0-15-11 per acre on the cultivation. Upwards of 688 bMISS are outside the revenue-roll as gíthah and waste. The population at the time of settlement
numbered 4,283 souls, of whom 1,699 are females. The copper mines at Chimmakholi are unworked, but the iron mines at Ukhalgarha, Bhandoli, and Pálikúri are leased with the other mines of Chaungarkha in Dárún, Kharabi, and Lakhanpur, and yield a revenue of Rs. 625 a year. The patwári resides in Gáuli, and there is a school in Chaukhóli.

Ranigadh, a patti of parganah Chandpur in British Garhwal, is bounded on the north by Nágpur Bichhla; on the south by Taili Chandpur and Kandárasyún; on the east by Taili Chandpur and Bichhla Nágpur; and on the west by Dhanpur, from which some villages were received at the recent settlement. The patwári of Dhanpur residing in Panái collects the land revenue. The patti lies along the left bank of the Alaknanda river, below its confluence with the Pindar. The hills are generally steep, and the tops are covered with oak and pine. There are copper mines at Dhanpur at the head of the valley just outside the patti, Pangur, Bamek, and Sibyadib Andikholi, all at work, and an old mine of the same metal at Lawári. Dhanpur has also a lead mine. The iron mines of Kharsayí, Kotí, and Sukund are also worked. These are all situate on the Dhanpur range crowned by the peaks of Dobri (9,862 feet), Gwánagarh (9,821 feet), and Pandobri (9,859 feet).

Rawal, a patti of pargana Shor in Kumaon, is bounded on the north by Wáldiya Mallá; on the west by the eastern Rámganga river; on the south by the Sarju, and on the east by Wáldiya Tallá. The Lohugháát and L¡thorargarh road passes through Gún, in this patti, where there is a travellers' rest-house. Thákil, on the east, rises to 8,161 feet. The assessable area comprises 1,515 básie, of which 902 are cultivated (253 irrigated) and 613 are culturable. The land tax yielded Rs. 166 in 1815, Rs. 343 in 1820, Rs. 455 in 1843. The present assessment amounts to Rs. 1,010 and falls on the total assessable area at Rs. 1-0-6 per acre, and on the cultivation at Rs. 1-7-6 per acre. The population at settlement numbered 1,955 souls, of whom 892 were females. The patwári resides in Bhátyúra, and there is a school in Tharkot.

Ráwatsýún, a patti of pargana Búrásyún in British Garhwal, is bounded on the north by the Alaknanda river, on the east by Kathol-syún, on the south by Jwálasyún, and on the west by Bangarhsyún. The patwári of this patti, resident in Margana, collects the land
revenue of patti Bangarhsywn and Sitonsyun also; the three aggregated in 1864 Rs. 2,811 for land revenue and saddhart, and Rs. 64 for gunth paid by 5,346 souls. This patti contains a small strip of land along the left bank of the Alakunda, mostly level or of easy slope, and is traversed by the road from Hardwar to Srinagar.

Ragaruban, a patti of pargana Kali Kumaon in Kumaon, is bounded on the north-west by the Panar river, a tributary of the Sarju, which separates it from patti Rangor of pargana Chaugarkha; on the north-east by the Sarju river, which separates it from Bel of Gangoli; on the east by Gomdes; on the south by Charal Malla; and on the south-west by Sai-Bisung. The assessable area comprises 3,813 bisis, of which 1,380 are cultivable and 2,433 are cultivated (63 irrigated). The land tax amounted to Rs. 910 in 1815, to Rs. 1,100 in 1820, and to Rs. 1,514 in 1843, and now stands at Rs. 2,467, which falls on the acre of cultivation in the assessable area at Rs. 1-0-2, and on the acre of the total area at Rs. 0-10-4. The population at settlement numbered 2,310 males and 1,851 females. The villages that lie between Charal and the Sarju are for the most part situate on high ridges and slopes. The climate is good; but from the poorness of the soil the coarser grains, like marduwa, predominate. The patwari resides in Baparu, and there is a school in Ragaru.

Ringwaarsywn, a patti of parganah Chaundkot of British Garhwal, is bounded on the north by Mawalsywn; on the south by Jain
tolsywn; on the east by Kimgarigar; and on the west by the Barahsywn parganah. The Pauri and Dharon road passes through this patti, which is drained by a branch of the Mahilad river forming its northern boundary. The patwari of this patti resides in Gajera, and has also charge of the collection of the land-revenue in Mawalsywn and Jaintolsywn, which in 1864 aggregated Rs. 2,392 plus Rs. 71 for resumod gunth and revenue-free lands.

Rithagar, a patti of parganah Chaugarkha in Kumaon, is bounded on the north by Kharahi; on the west by Syunar Mall; on the south by Lakhanpur Talla and Darun; and on the east by the Sarju river which separates it from Athgaon of Gangoli. Portions of Darun and Kharahi were transferred to this patti at the recent settlement. The two eastern roads from Almora to Bageswar pass through it on
either side of the Jarauli peak (6,200 feet). This patti occupies the valley of the Jillar-gadh, a tributary of the Sarju, which it joins on the right bank near Dungari-lekbo. The patwâri resides in Khâkar. The lower part near the Sarju is covered with a luxuriant tropical vegetation, and is hot and unhealthy. During the rains the people are much troubled by the mîra, a small fly that leaves an irritating mark like a bruise wherever it bites, and if scratched the bite becomes a sore of a leprous appearance. The assessable area amounts to 1,634 bâsis, of which 770 are culturable and 863 are cultivated (200 irrigated). The assessment in 1815 was Rs. 74; in 1820 was Rs. 405; in 1843 was Rs. 444; and at present is Rs. 1,124, which falls at Rs. 0-11-0 per acre on the total assessable area and at Rs. 1-4-10 per acre on the cultivation; about 176 bâsis are held as gûnth outside the revenue-paving area. The population at the time of settlement numbered 1,258 souls, of whom 548 were females. The upper part of the patti near Bilauri and Chhauna has a good climate and some fine cultivation, and here the Joshis of Jhijhâr have a settlement. Both these villages belong to Râotela Râjpûts connected with the Chanda. The hamlets depending on Naugaon comprise a large portion of the patti, of which some fourteen villages belong to Jageswar temple. Portions are admirably adapted for the cultivation of tobacco, turmeric, and sugarcane.

Sâbali, a patti of parganah Malla Salân in Garhwâl, is bounded on the north by Bangárasyûn and Dhaundiyâlsyûn; on the south by Khâtali; on the west by Saindhâr and on the east by Chaukot of Kumaon. Khâtali, Sâbali and Saindhâr occupy the valleys of the Eastern Nyâr and Khâtali river and have fairly good villages. The population of Sâbali in 1858 numbered 2,330 males and 2,135 females. The patwâri usually resides in Chandoli and has also charge of Bangárasyûn. A fairly elevated range runs down the western portion in a south-easterly direction culminating in the peaks of Motikhâl (7,688 feet), Tilkâni (6,421), under which there is an unworked iron mine at Chorkhanda, and Agargarah (6,102 feet). There is a school at Bangâr.

Sahasradhara, or 'spring of a thousand sources,' lies in a glen to the south of the Dún water-parting ridge a little east of Râjpur on the route to Mussooree in Dehra Dún. The water here
has a fall of about thirty feet and leaves an incrustation of lime on all it touches. Particles thus accumulating for centuries have formed a projecting ledge, and thus a sort of cave, from the roof of which falls a perpetual shower that turns every leaf and blade of grass coming into contact with it into a sort of petrifaction. One of the lumps thus formed in a smaller cave adjoining resembles the linga emblem of Siva and is tended as such by Brahmans from Nágál. There is also a sulphur spring. Here, as in the glen of the Bāliya and Nihál below the Aýárpátha cliffs at Náini Tál, the clay slate and limestone rest on beds of aluminous shale and white gypsum which becomes of an exceedingly hard texture. Gypsum appears under analogous circumstances at Jutog near Simla and under the Krol rocks near Subáthu. In the former place, as in the Lohakoti hill, the limestone becomes crystalline in contact with the micaceous rocks. Immediately opposite the stalactitic caves at Sahasradhárá a passage into the hills up a torrent leads to the gypsum beds, which consist of two strata separated by a reddish argillaceous schist, the whole lying horizontally without apparent dip. The quality of the gypsum varies as much as the colour from a compact crystalline mass to a loose powdery and arcnaceous soil: the colour varies from an almost translucent white to a dirty grey. About four miles north at Salkot is another bed of gypsum.

Saindhár, a small patti or sub-division in parganah Malla Salán of British Garhwál, lies in separate scattered patches between the Eastern Nyár river on the south and the Machhlád on the north.

Saknyána or Shaknyána or Saka country, a jágir or seif situate on the north-east frontier of Dehra Dún, is bounded on the northwest by the Bandal river and on the south by the Song.

The tracts known as Saknyána, Deori and 'Athur, with the villages of Kot-Padíyár and Sonár in the hills and Bájawalá in the Dún, were granted to Siva Rám by the Garhwál Rájá for services rendered, subject to an annual bhet or offering of Rs. 500 báchcha. On the conquest of Garhwál by the Gorkhális the grant was resumed, but on the conquest by the British, the siefs were restored1 to Siva Rám by a paurımás of Mr. Fraser confirming them as heretofore held, but this was interpreted as free of revenue for life. Siva Rám died in 1818, and the Garhwál Rájá demanded that the jágir should be resumed or the revenue be paid as before. Hari Rám, the heir of Siva Rám, appealed to the British Government, and Mr. Traill recommended the grant in perpetuity of the portion in the hills should be confirmed to Káshi Rám and Hari

1 Because of some alleged services: see Williams' Memoir, p. 178.
Sálam Malla, a patti of parganah Changarkha in Kumson, is bounded on the east by Rangor; on the south by Talla Sálam; on the west by Mahryúri-Dolphát and Lakhanpur Malla, and on the north by the latter patti. It was formed from Sálam at the recent settlement and lies on the right bank of the upper portion of the Panár river. The patwári usually resides in Kandára; the statistics of the Malla and Talla pattis may be shown thus:

<table>
<thead>
<tr>
<th>Sálam.</th>
<th>Assesable Area in báis</th>
<th>Assessment in Rupees</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Cultivated</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Irrigated</td>
<td>Dry</td>
</tr>
<tr>
<td>Malla</td>
<td>2,565</td>
<td>2,086</td>
<td>53</td>
</tr>
<tr>
<td>Talla</td>
<td>3,409</td>
<td>2,700</td>
<td>60</td>
</tr>
</tbody>
</table>

In the Malla patti 126 báis are held free of revenue and in the Talla patti 58 báis. The assessment falls at Re. 1-1-5 per acre of cultivation in the former and at Re. 1-1-2 per acre in the latter. Six villages were received from Lakhanpur and one was transferred to Chálái at the recent settlement.

1 From Commissioners, 28th December, 1818; 31st January, 1824; to Commissioners, 30th January, 1819; 31st August, 1824; 19th November, 1824.  
8 Major Young’s letters of 15th December, 1830 and 28th July, 1830, quoted by Mr. Williams.
Sálam Talla, a patti of pargana Chaugarkha in Kumaon, is bounded on the north by the Panár river, which separates it from Sálam Malla; on the west by Mahryúri-Dolphat; on the south by Malli Rau and on the east by Bangor. This patti was formed from Sálam at the recent settlement. For statistics see Sálam Malla. The patwári lives in Jainti, where there is a school.

Salán Malla, or Malla Salán, a pargana in Garhwál, has ten pattis or sub-divisions, each of which is separately noticed, viz., Bangáryún, Dhaundyálsyún, Gujarú, Iriyakot, Khátali, Kolágár, Meldhár, Sábali, Saindár and Talán. The assessments at each settlement may be shown as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>1815</th>
<th>1816</th>
<th>1817</th>
<th>1820</th>
<th>1823</th>
<th>1828</th>
<th>1833</th>
<th>1840</th>
<th>1864</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rs.</td>
<td>4,929</td>
<td>5,343</td>
<td>6,049</td>
<td>6,069</td>
<td>8,341</td>
<td>8,748</td>
<td>9,076</td>
<td>9,900</td>
<td>11,916</td>
</tr>
</tbody>
</table>

The statistics of the current settlement show that the pargana consists of 285 estates comprising 411 villages and containing a total assessable area of 15,096 acres, of which 14,212 are cultivated. The mill-rent amounted to Rs. 26, and the land-revenue to Rs. 11,916, of which Rs. 305 are alienated in gánth and mudít. The land-revenue falls on the total assessable area at Rs. 0-12-7 per acre, and on the cultivation at Rs. 0-13-5 per acre. The population in 1841 amounted to 16,132, of whom 7,300 were females; in 1858 to 29,471 (14,626 females); in 1858 to 30,388 (14,730 females); in 1872 to 38,618 (19,353 females) and in 1881 to 41,125 (21,044 females). Malla Salán is bounded on the north by Chaudkot; on the east by Kumaon; on the south by Talla Salán and on the west by Ganga Salán. It lies to the north of the outer range of hills and is drained by the tributaries of the Eastern Nayár. There is a large and dense population for the hills and industrious, too, rearing large quantities of red pepper and cardamoms.

Salán Talla or Talla Salán, a pargana of the Garhwál district, is subdivided into eleven pattis each, of which is separately noticed, viz., Bhábár, Bijlot Walla and Taḷḷa, Bángi, Badalpur Malla and Talla, Kauriya Walla and Palla, Painán and Síla Malla and Talla. The assessments at the various settlements of the land-revenue have been as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>1815</th>
<th>1816</th>
<th>1817</th>
<th>1820</th>
<th>1823</th>
<th>1828</th>
<th>1833</th>
<th>1840</th>
<th>1864</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rs.</td>
<td>3,843</td>
<td>4,146</td>
<td>4,682</td>
<td>5,585</td>
<td>6,833</td>
<td>7,113</td>
<td>7,411</td>
<td>7,183</td>
<td>11,475</td>
</tr>
</tbody>
</table>
At the current settlement the parganah contained 435 separate maháls or estates, comprising 580 villages, having a total assessable area of 15,487 acres of which 14,334 were cultivated. The millrent amounted to Rs. 4 and the land-revenue to Rs. 11,475, of which Rs. 283 were alienated in gránth and mudí. The population in 1841 amounted to 13,343 souls, of whom 5,894 were females; in 1853 to 20,324 (12,862 females); in 1858 to 26,064 (12,720 females); in 1872 to 36,165 (17,426 females); and in 1881 to 37,924 (19,055 females). Talla Salán is bounded on the north by Malla Salán, on the west by Ganga Salán; on the south by the Bijnor district and on the east by Kumnon.

Kauriya and Badalpur lie chiefly to the north of the first range of hills. In Badalpur there are some fertile and populous villages resembling those near Almora. The climate of Painún in the Mandhál valley is very malarious and generally the patts to the south are still covered with sal and bambu forest conserved by the forest department including the Kotri and Pátli Dúns. Still crops of ginger, turmeric, tobacco and capsicum are grown in the clearings and afford valuable resources to the cultivators. In his report on the settlement in 1840 Mr. Batten remarks that Bijnor, Búngi and Painún and the Dúns below gave him considerable trouble and required much care. “A decrease of revenue and a total remodelling of the village leases were found necessary. Painún is situate in the valley of the Mandhál river, the climate of which is almost as bad as that of the Taráí. Wild elephants abound and commit great depredations on the crops in the rainy season. Tigers also are numerous and kill both men and cattle. Síla is situate on both sides of the Koh river. Large portions of it are waste, and some of the villages are unfavorably placed on the border of the sal forests, which here, as in Badalpur, begin to take the place of oaks and pines and other alpine vegetation. The Pátli Dún is traversed by the Rámganga, as that river approaches the plains, from which the Dún is separated by a steep sandstone range, resembling in almost every respect, save in the fewness and difficulties of its passes, the Siwálík range between the Ganges and the Jumna. The quantity of flat land is very small indeed in comparison with the hills and ravines, and the forests of sal and bambu (the timber of which is floated down the Rámganga in rafts) are plentiful and valuable.” The first triennial settlement was made for one year only and up to 1822 was included in the farm of forest produce. Permanent villages were then established and a regular settlement was made with the cultivators, but owing to the climate it was difficult to procure them. Accordingly in 1840 the settlement was made with Padum Singh Negi at Rs. 275 (a reduction of Rs. 100 having been allowed). He had an hereditary claim to the lease of this tract; and though his right to the samindári had not been previously admitted, he was then granted all lands which he might redeem under a proprietary tenure. Four of the villages included in his lease are situated outside the lower range in the gorges of the passes. The Kotri Dún, properly so called, is merely a small uncultivated valley, with very rich pastures, situated in the midst of the lower hills near Kotdwára. With the exception of granite the rocks are of the
Salán Ganga or Ganga Salán, a parganah in Garhwál, has nine pattis or sub-divisions, each of which is separately noticed, viz., Dobryálsyún or Dhángu Malla, Dhángu Talla, Karaunda Walla and Palla, Langúr, Udepur Malla, Bichhla and Talla and Ajmer. The assessment of the land-revenue from the conquest to the present day was as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>1815</th>
<th>1816</th>
<th>1817</th>
<th>1820</th>
<th>1822</th>
<th>1828</th>
<th>1833</th>
<th>1840</th>
<th>1864</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rs.</td>
<td>5,099</td>
<td>5,699</td>
<td>6,177</td>
<td>7,833</td>
<td>8,957</td>
<td>9,508</td>
<td>9,649</td>
<td>9,618</td>
<td>14,031</td>
</tr>
</tbody>
</table>

The statistics of the current settlement show that there are 395 estates comprising 499 villages and containing a total assessable area amounting to 22,277 acres, of which 20,965 are cultivated. The mill-rent amounted to Rs. 60 and the land-revenue to Rs. 14,031, of which Rs. 218 are released in gunth and muft. The entire land-revenue falls on the total assessable area at Rs. 0-10-0 per acre and on the cultivation at Rs. 0-10-8 per acre. The population in 1841 numbered 16,538 souls, of whom 7,324 were females; in 1853, 28,078 (13,853 females); in 1858, 30,925 (14,778 females); in 1872, 40,877 (20,329 females); and in 1881, 44,632 (21,955 females). Ganga Salán is bounded on the north and west by the Ganges; on the south by the Bijnor district; and on the east by parganahs Malla and Talla Salán.

Dhángu, as its name in the hill language implies, is rocky and rugged, especially in the neighbourhood of the Ganges, which here forces its way through steep precipices; some of the villages are small and poor, and a slight reduction of the revenue in 1840 was thought expedient. Karaunda and Langúr are chiefly in the vicinity of the Koh, both of which had their irregular boundaries rectified at the recent settlement. Langúr is remarkable for its two fortresses of that name on the crest of a high precipitous ridge, which separates the Koh from the Nyúr river. Here the last Garhwál Raja, before retreating to Dehra Dún where he was killed, made the last vigorous defence of his country against the invading Gorkhális, who, were before Langúr Garh for some years. Ajmer and Udepur, though in their lower parts very jungly, contain in the heart of the parganah some very fine villages, and the country is not unlike the fertile tract near Bhúmtáli in lower Kumaon. The Udepur hills, covered with sal forests stretch into the Chandi Dún and are separated from the Dehra Dún by only a strip of level ground and the Ganges: the produce includes turmeric, ginger, red pepper and cardamoms; in the winter the people are engaged as bamboo-cutters and wood-sellers. The market of Bídásari is situated in Udepur and the landholders find also a near market for their grain, turmeric, &c., at Kotdwar and Hardwáir. The geological formation is the same as in Talla Salán.
Sarju, or 'ganger,' from Sanskrit 'sri,' to go, a considerable affluent of the Káli river, to which it often gives its name. From the confluence at Pacheswar in Káli Kumao, the united stream is known as the Sarju or Káli as far as Barmdeo, and as the Sárđa or Ghágra to its confluence with the Ganges in the Ballia district at the extreme southern point of the North-Western Provinces.

The Sarju rises on the southern slopes of a ridge in patti Malla Dánpur of Kumao and is separated on the east from the sources of the eastern Rámanganga and on the west from the sources of the Kuphi or eastern branch of the Pindar by spurs leading down from the mass culminating in the Nandakot peak. The sources are situate in north latitude 29°-59' and east longitude 80°-1'-50", in the depression within which the village of Jhuandi is situate, and are crossed by a ford at Waichhám on the track between Supi and Nāmik. The breadth at Supi, eight miles from its source, is about fifteen yards, and in May there is only about two feet of water. On the west a lofty chain of mountains running south-west separates it from the Pindar river, and on the east a similar chain separates it from the eastern Rámanganga. The height of the latter ridge is so elevated that even in May snow rests on the more lofty summits. About the source also snow rests until late in the year. At Supi the bed of the river is 5,659 feet above the level of the sea. A few miles below Supi the bed narrows to twelve yards with a depth of twenty-four inches, and a few miles still lower down or fifteen miles from its source it is forty-five yards wide and twenty-seven inches deep. The valley here is tolerably wide and gives space for numerous villages on either bank. Near its source it is crossed from Khati in the Pindar valley by a road leading to the Bhotiya tract of Munayári.

It then holds a south-westerly course, receiving many minor streams, and enters the patti of Tallá Dánpur in latitude 29°-59' and longitude 77°-59"; where it receives on the right bank the Kanaíd-gadh and a short distance lower down the Pungar gadh thirty-one miles from its source. About a mile lower down it receives the Lahor river on the right bank from Patti Malla Katýur, and hence taking a south-easterly direction passes four miles lower down by Bágewar at an elevation of 3,143 feet above the level of the sea, receiving on its right bank the Gumti or Gomati river. Further on much of the drainage of the Gangoli pargana falls into it on the same side by the Bhadrpati-gadh and that of Changarkha by the Gât-gadh, Jaleir-gadh, Bhaur-gadh, Ałakandí and Saniau-gadh. Thirty-five miles below the confluence of the Rámanganga with the Gumti it receives the Panár river on the same side and about three miles further down on the left bank the Rânganga (eastern) at Bágewar in latitude 29°-31'-23" and longitude 80°-9'-40", with an elevation of 1,500 feet above the level of the sea. About ten miles above its confluence with the Panár, sixty miles from its source, the average breadth is about fifty yards and the drift four and a half to five miles an hour, with a depth in May of eight feet and fordable in December (West). Here it is a most impetuous and roaring torrent dashing over the rocks with the greatest force and noise and casting the spray about in all directions. A few miles below Bágewar, whence it is indifferently called the Rámanganga and Sarju, the river is crossed by an iron suspension bridge on the road between Lohughát and Pithora-
garh in a glen from which the hills on either side rise very steeply and are thickly clothed with pine forest. From Râmeswar it forms the boundary between the Shor and Kâli Kumaon parganah in a south-easterly direction, and after a course of twelve miles falls into the Kâli on the right bank at Pachheswar in latitude 29°.27' and longitude 80°.18'. About a mile above this confluence the river is fordable in the dry season and about eighty yards in breadth and four and a quarter feet deep with a drift of about four miles an hour. The length of the river from its source to its confluence with the Kâli has been estimated at eighty-two miles. The confluences at Bâgswar with the Gûnti; at Râmeswar with the Râmganga and at Pachheswar with the Kâli are sacred prâyâgas or junctions which have periodical semi-religious assemblages in their honor. The local Brahmans say that the Sarunj could not force its way through the mountains until the present channel was formed by a great devotees by virtue of the power acquired by his austerities. They also identify the form of Siva worshipped here with the Ishta Adam of the Musalmâns and his Sakti with Maha Hûwa. They also state that the most destructive tigers in the neighborhood are men in the form of animals, a belief like the lycanthropy of the tigres and the loup-garou of the French. A large fish called sah or fresh-water shark (Bogarius Yarrellii) is found in the Sarunj from Bâgswar downwards. It is said to attain a length of six feet, scaleless and with teeth like a dog.

Sât Tâl, a collection of lakes in parganah Chhakhâta of the Kumaon district about nine miles from Naini Tâl, turning off from the Râmgâr road at Bhuwâli and three miles from Bhîm Tâl. These are the most picturesque if not the grandest of the lakes of this district. They are formed by landslips in the basin of the range in which they lie. The first lake met with is a deep black tarn wooded to the water's edge and connected by an underground passage with the fourth. Passing further into the basin a second very small pool is met with close to the third at the irrigation embankment; thence the path winds round the third to the fourth, which is the largest and is a very considerable sheet of water about 1,100 yards in length by 350 in breadth. All the three larger ones communicate with each other and the water-level has been raised considerably by the embankment, which makes these lakes a reservoir for the supply of water to the Bhâbar during the dry season from February onwards. Below the embankment to the south is another small lake, the fifth, and beyond this in the bed of the stream two lakes now dried up: hence the name 'Sât Tâl,' or 'seven lakes.' The surplus drainage join the Bâliya flowing from Naini Tal and eventually the Gûnti, an affluent of the Râmganga.
The following outline map is from soundings made by Mr. Yule of Bhim Tal:

**SĀT TĀL**

*The depths are given in feet.*

*Sacle 10 inches = 1 Mile.*

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**Saun,** a patti of parganah Shor of Kumaon, is bounded on the north by Pattis Mahar and Nayades; on the west by the Chandrabhāga river, and on the south and east by the Kāli river, which separates it from Nepāl. The principal villages lie along the valley of the Chandrabhāga river and in the table-land among the hills between it and the Kāli, where the village of Mādh is
Situates. The peak of Diwali on the left bank of the Chandrabhaga
attains an elevation of 6,460 feet above the level of the sea and
Dhian on the right bank of the Kali rises to 5,182 feet. The
assessable area comprises 1,621 biseis, of which 612 are culturable
and 1,008 are cultivated (226 irrigated). The land-tax yielded
Rs. 501 in 1815, Rs. 752 in 1820 and Rs. 858 in 1843. The existing
assessment amounts to Rs. 1,476 and falls on the total assess-
able area at Rs. 0-14-7 per acre on the cultivation at Rs. 1-7-5
per acre. The population at settlement numbered 2,619 souls,
of whom 1,400 were males. The patwari resides in Chaupakbiya,
where there is a school.

Seti Malla, a very small patti of parganah Shor in Kumaon,
lies to the west of Pithoragarh in the same valley and separated
from the remainder of Seti by the range (6,898 feet) crossed by
the road to Bains. Bajeti and its hamlets and Pandegaon are the
only villages of any importance in this miniature patti. The
statistics and history are given under Seti Talla. The revenue is
paid into the peshkar at Pithoragarh.

Seti Talla, a patti of parganah Shor in Kumaon, is bounded
on the north by patti Barabisi of Sir, from which it is separated
by the Kaliyani river; on the west by the Ramganga river; on
the south by pattis Waldiya Malla and Bichhla and on the east
by Kharayat. The road from Pithoragarh to Almora passes
through this patti from east to west, crossing the stream from Bains
by a bridge and the Ramganga by an iron suspension bridge.
There is a traveller’s rest-house at Bains in latitude 29°-36'-44"
and longitude 80°-11'-5". To the north as far as the water-shed
of the Kalipani the country is highly cultivated: Asurchuli, with a
temple here, attains a height of 6,930 feet above the level of the sea
and Iryarikot 6884 feet.

<table>
<thead>
<tr>
<th>Seti</th>
<th>Assessable Area in Bisis</th>
<th>Assessment in Rupees</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Cultivated</td>
<td></td>
</tr>
<tr>
<td>Malla</td>
<td>265</td>
<td>48 139</td>
<td>78</td>
</tr>
<tr>
<td>Talla</td>
<td>1,630</td>
<td>476 493</td>
<td>589</td>
</tr>
</tbody>
</table>
The incidence of the present land tax on the total assessable area is Rs. 0-15-8 per acre in the Malla patti and Re. 0-15-4 in the Talla patti: on the cultivation the rates are Re. 1-7-6 and Re. 1-7-5 per acre respectively. The patwári resides at Báns; there is a school in Dhárgaon.

Shor or Sor, a parganah in the Káli-Kumaon sub-division of the Kumaon district, is bounded on the north by parganahs Síra and Askot; on the east by the Káli river, which separates it from Nepál; on the south by parganah Káli-Kumaon, and on the west by parganah Gangoli. It at present contains eleven pattis, viz., Kharáyat, Kharakdes, Mahar, Nayádes, Ráwal, Seti-Malla, and Talla, Sáun, and Waldiya Malla, Bichhla, and Talla, each of which is separately noticed. The principal village is Pithoragarh, which lies near the centre of the parganah, just where a spur of the Chandák ridge, forming the water-parting between the Káli and Rámganga, enters the valley of Seni-Shor. The Kálapáni river divides patti Seti from parganah Síra on the north; south of this lies Waldiya Malla, while the Talla Patti of Waldiya runs across to Thákil. Ráwal trends towards Rámeswar and Sáun runs between the Chandrabhága and Káli as far as Pacheswar. The central plateau between Thákil and Dhuj is occupied by the villages of Seti-Malla, Mahar, Kharakdes, and to the north-west Kha-

ráyat.

The road from Almora passes through Báns in Seti, where there is a travellers' rest-house, and thence up the fertile valley of Cháma to Pithoragarh. The Lohughát road passes south under Thákil with a bungalow at Gún, whence there is a magnificent view down to the Sarju and Rámganga at Rámes-

war. This road is in direct communication with Bármdéo and also by Debi Dhúra with Almora. The road to the Byáns and Dárma passes runs northwards by Dhuj through Askot. On the east there is a road to Jhúlaghát, where the Káli is spanned by an iron suspension bridge erected at the joint cost of the British and Nepálásé Governments, but a guard on the Nepál bank forbids egress in that direction to the traveller. Shor contains some of the fairest scenery in eastern Kumaon and may justly be termed its garden. Thákil especially is thickly wooded and contains some remarkable trees and plants.
The assessment at each settlement was as follows:—

<table>
<thead>
<tr>
<th>Year</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>1816</td>
<td>3,586</td>
</tr>
<tr>
<td>1817</td>
<td>4,002</td>
</tr>
<tr>
<td>1818</td>
<td>4,596</td>
</tr>
<tr>
<td>1819</td>
<td>5,426</td>
</tr>
<tr>
<td>1820</td>
<td>6,141</td>
</tr>
<tr>
<td>1821</td>
<td>6,638</td>
</tr>
<tr>
<td>1822</td>
<td>6,627</td>
</tr>
<tr>
<td>1823</td>
<td>6,687</td>
</tr>
<tr>
<td>1824</td>
<td>14,113</td>
</tr>
</tbody>
</table>

The present assessment falls on the whole assessable area at Rs. 0-15-9 per acre and on the cultivation at Rs. 1-7-11 per acre. The total revenue area comprises 14,287 bsis, of which 4,860 are cultural and 9,426 are cultivated (3,479 irrigated), 204 bsis are held free of revenue by temples. The population at settlement numbered 10,012 males and 8,938 females, and in 1881 there were 18,081 males and 12,435 females. There are 280 mahals or estates comprising 363 villages.

In Mahar, Wardy and Sann sugarcane, tobacco and cotton are far from uncommon products, while cereals are abundant. Amongst jungle products Shor is famous for its honey and phasel or phalee, a kind of vegetable butter produced from the fruit of the Besia bijuaceae, a handsome tree abounding in this parganah. The troops in Pithoragarh and the Bhotiyas when passing through during the cold weather consume most of the surplus grain. Sir H. Ramsey writes:— "This parganah has improved very much, though not quite in the same way as Gangoli. It was pretty well cultivated at the last settlement. Prices have risen immensely; and in trying to ascertain the causes of the rise I was usually told that rupees had become cheap, which means that the people have become rich and are not compelled to sell at low rates. Since I came to the district I remember wheat selling at a mound and barley at 70 sers for the rupee at Pithoragarh. Of late years wheat has not been procurable there at 20 sers; not because there is no wheat but because the Bhotiya traders purchase it at a higher rate and 15 to 16 sers of flour per rupee is now the common price." There is a small import trade with Doti in jhi, wax, honey and phasel and an export of cotton, metales, cloth and European goods by the Jhula-ghat, also called Júghât from its being so narrow that an ox with a yoke could not pass it. At the earlier settlements it was found that the lands in this parganah was measured with a jhi containing six bsis. The latter varied with the quality of the soil, requiring an average 40 dili or two bsis of seed to the bsi in the most fertile and best watered lands. In lands of inferior quality the bsi required a proportionately greater quantity of seed, though the produce in both is the same.

In 1820 there were six pattis containing 361 villages. These were left untouched at the settlement in 1842, and in 1871 the present pattis were formed from the older ones. Shor, Sira and Askot formed until a late period a portion of the NepáI state of Doti and are still known as Doti in the western part of Kumaon. One of the arguments used by Ranjor Singh Thapa against peace at any price with the British in 1815 was that with eastern Kumaon Doti would fall to the conquerors. Some account of the Shor Raj. and the conquest of this tehs has already been given. "The inhabitants," writes Batten, are,

1 On the earlier settlements see Truill to Board, 30th June, 1821.
2 Gaz. XI, 496, 537-550, 537, 541, 553, 568, 570.
though brave and active, a sicken and factional race to whom the following couplet has been applied:—

'Shor hardm-khor, bhep bhurana chahi mai tor;
Shor ki nali katu kau mano : joi jaithali khassam jaindene.'

'Shor eats the bread of dishonour; the fathers are panders, the daughter remains in the father's house.'

The peck of Shor is a quart in Kātyūr: the wives are the great ones, the husbands of no account.'

Another verse runs:—

'Shor ke nali, katu kau mano; jayaji tāli kaswajt mano,'

'An ell in Shor is an inch in Kātyūr: but the wife is master in Shor.'

A mōna is a quarter of a nāli, but the Shor nāli is smaller than the Kātyūr mōna, thus reversing the order of things. Seni Shor is the name given to the undulating valley within which Pithoragarh is situated. It was also called Nandhākūr Shor from the nine principalities into which it was divided, each with its own fort:—Uncha-kot, Bhāktā, Bilorkot, Udāparkot, Dhanyakot, Bahajkot, Bamunakot, Deodārkot and Dūnikot. Until lately the Dhurubandā or feud between the Mārdā and Phartiyāls was exceedingly bitter in this parganah.'

Sīla Malla, a patti of parganah Talla Salán of British Garhwāl, is bounded on the north by Langūr and the Kauriya pattis; on the east by the Badalpur pattis, on the west by Sīla Talla and on the south by the Chokum Dūn. There are several fine villages about Sīla, but south of Byānsī the country consists of a mass of ravines and torrents utterly unculturable. There are schools at Kota and Pīra. The pātwāri who resides in Mulwara collects the land-revenue of Kauriya Palla and Badalpur Talla also, the aggregate of the three pattis in 1864 was Rs. 2,463.

Sīla Talla, a patti of parganah Talla Salán of British Garhwāl, is bounded on the west by Ajmer; on the north by Langūr; on the east by Sīla Malla, and on the south by the Kotri Dūn. The only large village is the mart of Kotdwar separately noticed. The pātwāri of Ajmer, who resides in Ghota, collects the land-revenue of this patti also.

Sīlaur Malla, a patti of parganah Pāli Pachhāon in Kumaon, is bounded on the north by Sīlaur Talla and Bichula Dora; on the west by the former patti and Kakalasun Walla; on the south by Malli Doti and on the east by the same patti and Athāgūli Walla. This patti was separated from Sīlaur at the recent settlement. The eastern boundary run up close to the station of Rānīkhet; on the west the boundary is the lower waters of the Galna stream to the Gingāri (5,627 feet) and Upraikhet
The statistics of the Malla and Talla pattis may be shown thus:—

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cultivated.</td>
<td></td>
<td>1815</td>
</tr>
<tr>
<td>Total.</td>
<td>Irrigated.</td>
<td>Dry.</td>
<td></td>
</tr>
<tr>
<td>Malla.</td>
<td>2,699</td>
<td>34</td>
<td>2,134</td>
</tr>
<tr>
<td>Talla.</td>
<td>2,754</td>
<td>35</td>
<td>2,386</td>
</tr>
</tbody>
</table>

The incidence of the land tax on the total assessable area in the Malla patti is Rs. 0-15-4 per acre and in the Talla patti is Rs. 0-15-2 per acre: on the cultivation it falls at Rs. 1-3-1 and Rs. 1-1-3 per acre respectively in each patti. The patwári resides in Malota, where there is a school.

Silaur Talla, a patti of parganah Páli Pachháon in Kumaon, is bounded on the north by the Gágás river, which separates it from Walla Nayán and Talla and Bichhla Dora; on the west by Kakalasaun Walla; on the east by the Malla patti, and on the south by the latter patti and Kakalasaun Walla. This patti was separated from Silaur at the recent settlement. The patwári resides in Pipalkoti, where there is a school.

Simalkha, a patti of parganah Dhaniyakot in Kumaon, is bounded on the north by the Kosi river; on the west by Uchakot; on the east by Dhaniyakot, and on the south by Kota Talla and Malla. Simalkha, situate on the left bank of the Kosi, gives its name to the patti and is the only considerable village in it. The total assessable area is only 356 bises, of which 67 are culturable and 289 are cultivated. The land-revenue rose from Rs. 241 at the conquest to Rs. 346 in 1820 and Rs. 367 in 1843; it is now Rs. 360, which falls at Rs. 1-4-8 per acre on the total assessable area and at Rs. 1-9-5 per acre on the cultivation. The population numbered 678 souls, of whom 329 were females. The patwári resides in Mallagaon, where there is a school.

Siptí, a patti of parganah Káli-Kumáon in Kumaon, is bounded on the north by Pharka, Gangol, Sui-Bisung and Cháral-Malla; on the east by the last-named patti, Cháral-Talla and Pálbelou-
Malla; on the west by Asi, and on the south by Pálbelon-Talla. The assessable area comprises 2,452 bighas, of which 917 are cultivable and 1,534 are cultivated (124 irrigated). The land-tax yielded Rs. 545 in 1815; Rs. 754 in 1820; Rs. 984 in 1843; and now stands at Rs. 1,793, which falls on the whole area at Rs. 0-11-8 per acre, and on the cultivated acre at Rs. 1-2-8. The population at settlement numbered 1,551 males and 1,256 females. It was formerly united with Gangol as one parganah, and appears now to be fairly populated, though a good deal of cultivable land exists. The coarser grains are the staple and rice and wheat are not much grown, but here the people mainly consume only the poorer grains, so that the price is almost as high as the better grains in other pattis. The patwári resides in Búyal and there is a school at Dyártoli.

Síra, a parganah of the Kumaon district, is bounded on the east by Askot; on the south by Shor; on the west by Gangoli and on the north by the Bhotiya parganahs of Juhár. The Rámanga (western) forms the western boundary and the Kálápání or Bichol river the southern. It contains five pattis, viz., Athbisí Malla and Talla, Bárabásí, Dindihát and Máli. Bárabásí lies to the south; then comes Athbisí; to the north-west Máli and to the north Dindihát, all of which are separately noticed.

The northern portion of Síra lying near the Gori is exceedingly wild and rugged and characterised by deep gorges and high mountains with little or no cultivation. The route from Bágavár to Askot by Thal passes through this parganah and a road also connects Thal with Shor by Nichol and Sucídí. Near the former road are the celebrated temples Dúkal, Bhágaling and Sírakot. The fort at Sírakot was once the residence of the Malla branch of the Sahi dynasty of Doti, but on the conquest of Síra by Ratan Chand of Kumaon a portion of the reigning family removed to Askot, where they are at present represented by the Házár of that place. Dindihát was the great market-town of the old Síra state. Athbisí owes its name to its having been set apart for the separate maintenance of the Rási, while Bárabásí formed the portion of the State lands assigned for the military and other public charges. Under the Chand Rajas Sírakot became the State prison, and it was here that Dip Chand, the last of the legitimate Chands, was murdered by command of his base-born cousin, Mohan Singh. MacLelland in his geology of Kumaon mentions the prevalence of cretinism and goitre in the upper valleys of this parganah.

The history of the assessment of the land-revenue may be shown thus:

<table>
<thead>
<tr>
<th>Year</th>
<th>1815</th>
<th>1816</th>
<th>1817</th>
<th>1818</th>
<th>1830</th>
<th>1833</th>
<th>1835</th>
<th>1843</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rs.</td>
<td>1,905</td>
<td>2,199</td>
<td>2,383</td>
<td>2,760</td>
<td>3,011</td>
<td>3,223</td>
<td>3,305</td>
<td>5,999</td>
</tr>
<tr>
<td>Rs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The present assessment falls at Rs. 1-6-1 per acre on the whole assessable area and at Rs. 1-13-6 per acre on the cultivation. The whole area liable to revenue amounts to 6960 bāris, of which 2,336 are cultivable and 3,623 are cultivated (1,758 irrigated): 251 bāris are held free of revenue by temples. The population at the present settlement numbered 4,215 males and 3,629 females and in 1881 there were 5,859 males and 5,550 females. In the earlier settlements up to 1840 Sirī and Askot were taken together. In 1821 there were 238 revenue-paying villages; there are now 166 nakadī or estates containing 236 villages. The prevailing tenure is bha.-bhanī or (bhāyādharā).

The copper mines of Sirī are mentioned in the mineralogical notices and would seem to require merely better methods of working and more workmen to yield a fair return of ore, but the distance from a market would still render the enterprise one of doubtful value commercially. In 1840 those mines were leased for Rs. 85 a year and in 1884 they yielded nothing. The Khasiyas of the ordinary agricultural class decline to labour in them, while the Agras are slowly disappearing or taking to other occupations.

Sirīgur, a small patti in parganah Chandpur of British Garhwal, is bounded on the west by Sīli-Chandpur; on the south by Lobha; on the north by the Pindar river, separating it from Kapri and Karākot of parganah Badhān; and on the east by Pindarwār, from which it is separated by the Agargār stream. It was formed from patti Chandpur in 1864, when two villages were added to it from Chandpur, and eight from patti Pindarwār. The patwāri of Sīli-Chandpur, resident at Kewar, collects the land-revenue. This patti runs from the right bank of the Pindar to the water-parting of the Rāṅganga. There is an iron mine at Swau-Gheliya.

Sitonsyún, a patti of parganah Bārahsyún in British Garhwal, is bounded on the north by Bangarsyún and Idwalsyún; on the south by Danalsyún; on the east by Gangawārsyún and on the west by Kandwālsyún. Sitonsyún occupies the valley of the Siton, an affluent of the Randi.

Someswar, a village and temple and traveller's rest-house in patti Borārau Walla and parganah Bārahmandal of Kumaon is situate in north latitude 29°-46′-40″ and east longitude 79°-38′-55″, at an elevation of 4,572 feet above the level of the sea, 16 miles west of Almora by Hawalbāg. There is a traveller's bungalow here.

Srīnagar or Sirīnagar, a large village in patti Katholsyún of parganah Dewalgarh of the Garhwal district, is situate in latitude 30°-13″ and longitude 78°-48′-15″, seven miles from the headquarters station of Čāori, at an elevation of 1,758 feet above the level of the sea.
The town is situated in a hollow or valley on the left bank of the Alaknanda river, about three miles long and about half to three quarters of a mile broad, the hills sloping down close to the town on the southern side. Viewed from above the hollow or valley consists of two long flats, one some 50 to 80 feet broad, extending along the base of the inclosing mountain above the other, on which the town is built. This valley has apparently been excavated by the river and left dry by the stream flowing further to the northward, and leaving between its present margin and the original bank a space of land stretching three or four furlongs south of the town, and now laid out in small fields and enclosures, among which mango trees are thinly scattered. The aspect of the surrounding mountains is very barren, and in the dry season their scanty vegetation is soon parched up, except in a few places. On a mass of rock about 30 feet high in the middle of a bank of shingle close to the town are the ruins of a fakir's but formerly connected with it; and on the opposite side are several hamlets situated along the base of the mountain. The site has somewhat the shape of the segment of a circle, of which the river's bank is the chord. The principal street, which contains the bazaar, is about half a mile long and tolerably broad, but the others are so narrow that two persons can scarcely pass abreast. The houses are built of small stones and are usually two stories high with shelving roofs covered with slates. The lower stories are allotted for stores or shops, the families occupying the upper. A great deal of wood-work is used in the houses themselves, part of the walls and the arched verandahs, called tibdi and dandyali, are of wood; the houses of the better classes are little distinguished from those of others, except by a narrow balcony. A gloomy air is given to the town from this uniformity, which probably resulted in former times from the desire of the wealthier inhabitants to avoid attracting the notice of extortionate rulers. The residents are principally some of the older and more important families of the district, many of whose members are in the Government service, priests of the numerous temples which are scattered over the place, and Baniyas, the majority of whom have come from Najibabad, in the Bijnor district, and taken up their residence here.

Raja Ajai Pal of the Chand dynasty, who was also the founder of the present Garhwal line of Raja, commenced the palace the ruins of which are still extant, but it was completed by his successors. The town is said at one time to have had a large population and to have been of much greater extent than at present. But many years before the British rule—the exact date is not known—a flood of the Alaknanda swept away at least one-third of it, and the place ceased to be the residence of the Raja since 1803, when Pradhaman Sah was expelled and subsequently fell at Delhi in fight with the Gorkhas. In the same year an earthquake nearly destroyed the town; so that when Harper visited it in 1808 not above one house in five was inhabited, the rest being heaps of ruins. At the time of Moorcroft's visit in 1819 it had a few manufactures of coarse linens and woollens, and he notes that it had not even then recovered the effects of the earthquake and inundation of 1808, the only street being the bazaar, about half a mile long. The number of the houses in 1821 was 562, of which 438 were inhabited by Hindus, ninety-six by Doms and twenty-eight by Mussalmans. The census of 1858 gave a total of 1,835 inhabitants, of which 949 were males. During the season of pilgrimage the population receives a vast addition. In 1865 the permanent population was 1,351. In 1872 it was 2,040, and in 1881, was 2,100.

1 As. IIcs. Vitr. 338: 1. 6.
The town, though the population has increased, is not a flourishing one, and its decay has been hastened by the removal of the Rájá's residence to Tihri and the damage done year by year by the river, which would appear to be in course of time able to destroy the whole site. Behind the principal street are some isolated buildings and temples, some of which are extremely well built. The public buildings are the tahali, the Sadr Amin or Subordinate Judge's court, the school and dispensary. None of these have the slightest architectural pretensions. Since these public offices have been placed here there has been some little improvement in the town; but the trade even now is very insignificant, consisting for the most part of cotton piece-goods, salt, tobacco, cooking utensils of copper and brass and grain for local wants.

Were it not, however, for the influx of pilgrims who come yearly in large numbers to the shrines of Kedarnáth and Badrináth and who generally rest a few days to visit the few small temples at the place itself, the trade of Srinagar would otherwise almost cease, as a new mart at Koldwára at the foot of the hills has risen of late years, and the people prefer going direct there, as they can purchase all that they require at cheaper rates. Owing to the smallness of the place no municipality exists; but with the sanction of Government the people have assessed themselves in order to defray the expense of the police and conservancy establishments. The older buildings comprise numerous temples and the ruins of the residence of the former Rájás. Of the former the chief is that of Kamaleswar, which is supported by villages assigned both in Garhwáli and Tíhri for the purpose. Some of the temples are of massive stone beautifully fitted together, but they have very little architectural beauty.

The palace of Rájá Ajaípal must have once displayed considerable architectural pretensions and extent, as its ruins even now cover some acres of land. It was built of large blocks of black stone laid in mortar and had three grand fronts each four stories high, with projecting porticoes profusely ornamented in the lower part with elaborate sculptures. The style employed is of no decided school. It is said that no woodwork whatever was used in its construction, and this is attested by the fact that the portions still remaining have none; the windows even to the latticing being of stone, while the only doorway left is of stone carved so as to exactly resemble wood. These doors are very massive and heavy and it must have taken immense labor to put them up, and this has given rise to a legend to the effect that after thousands of men had failed to place the stone door-posts, the Rájá by prayer and fasting did so by himself in one night, but having been seen doing this by a female servant he slew her, so that no one might hear of it. Of the older residence only one, the western wing, is standing and it is almost in ruins. The building, especially over the doorway, is massive and quaintly ornamented. There is another wing also standing to the south, but this is of quite modern date and is, though well built, of very simple structure. There is also said to have been an underground passage to the river by which the females went to bathe, and there are the remains still of a bath or tank in the enclosure, the water for which was brought from a stream at least four miles off. The engineering difficulties to be overcome in doing this must have been very considerable as a ridge of the hill intervenes, but there is no doubt of its having been done, as the traces of the channel are still visible.

The dispensary is a large well built-building under the charge of an Assistant Surgeon and is the chief of several erected along the pilgrim route and maintained
out of the sādhāri funds for the benefit of sick pilgrims, who are tended and helped on their way to their homes. As Srinagar and its neighbourhood, owing to its low position, is not at all healthy, this dispensary is also of much local benefit. The river, owing to its numerous rapids, is not navigable. On the right bank of the river and opposite the town is the village of Rānihāt, containing a temple sacred to Rāja Iswar, at which the dancing-girls who form the majority of the population devote themselves to prostitution by abjuring their kindred and anointing their heads with oil from a lamp placed before the altar of that deity. At a short distance beyond it is the fame of the idol Rāja Devi, or the god of love. In the hot season the temperature at Srinagar is high, as the elevation is not considerable. There are a great number of mango and other plains trees about the town which owing to the great heat flourish.

Sui Bising, a patti of parganah Kāli Kumāon in Kumāon, is bounded on the north by Rangor of Changarkha; on the west by Gangol; on the east by Regarubān and Chārāl-Mallā, and on the south by Sipti. The whole assessable area comprises 2,320 bāris, of which 962 are culturable and 1,358 are cultivated (187 irrigated). The land revenue amounted to Rs. 660 in 1815, to Rs. 969 in 1820, and to Rs. 1,445 in 1843. The existing assessment stands at Rs. 1,942, which gives a rate on the whole assessable area of Rs. 0-13-4, and on the cultivation of Rs. 1-6-10 per acre. The patwāri resides in Karnkarāyat, where there is a school. The population at settlement numbered 1,684 males and 1,615 females.

Sult Mallā, a patti of parganah Pāli-Pachhaon in Kumāon, is bounded on the north by Khatāli of Garhwāl and Talla-Chaukot of Kumāon; on the west by Gujar of Garhwāl; on the south by the Palla and Walla pattis, and on the east by Talla-Chaukot and Palla-Nayān. This patti was formed from Sult at the recent settlement. The patti is drained by the Mainkot-gadh, rising under Khamekgar (7,152 feet), and the upper waters of the Naihel river.

The statistics of the Sult pattis may be shown thus:—

<table>
<thead>
<tr>
<th>Sult</th>
<th>Assessable Area in Bāris</th>
<th>Assessment in Rupees</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Cultivated</td>
<td></td>
</tr>
<tr>
<td>Mallā</td>
<td>3,175</td>
<td>13</td>
<td>2,754</td>
</tr>
<tr>
<td>Palla</td>
<td>2,936</td>
<td>51</td>
<td>2,885</td>
</tr>
<tr>
<td>Talla</td>
<td>3,880</td>
<td>167</td>
<td>3,113</td>
</tr>
<tr>
<td>Walla</td>
<td>2,761</td>
<td>53</td>
<td>2,472</td>
</tr>
</tbody>
</table>
The assessment falls on the cultivated acre in each patti as follows:—Malla, Rs. 1-0-8; Palla, Rs. 1-1-8; Talla, Rs. 1-1-6; Walla, Rs. 1-2-4 per acre. One village was received from Chaukot-Talla at the recent settlement. The patwári resides in Munarh, where there is a school.

Syúnara, a subdivision of parganah Bárāhmandal in Kumaon, divided at the last settlement into two parts, the Malla and Talla pattis, lies north and west of Almora between Binsar and Háwalbágh. The statistics of the two pattis may be shown thus:—

<table>
<thead>
<tr>
<th></th>
<th>ASSESSABLE AREA IN bns.</th>
<th>ASSESSMENT IN RUPEES</th>
<th>INCIDENCE PER ACRE ON</th>
<th>POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cultivated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malla</td>
<td>2,159</td>
<td>275</td>
<td>1,115</td>
<td>766</td>
</tr>
<tr>
<td>Talla</td>
<td>2,618</td>
<td>79</td>
<td>1,991</td>
<td>349</td>
</tr>
</tbody>
</table>

Both the Syúnaras were formerly under one Rája who resided in the Khugmara-kot and then in Syúnara-kot and was absorbed in the middle of the sixteenth century. The patwári of the Malla patti lives in Tákula and of the Talla patti in Háwalbágh. There are schools in Satrálí, Sukár and Hauwalbágh. In 1844 over 60 villages were transferred from Talla Syúnara to Khaspurja and one was received from the Malla patti and six from Borára.

Talán, a patti of parganah Malla Salán, is bounded on the north and west by parganah Chaundkot; on the south and east by other pattis of Malla Salán, including Kolagár and Saindhár. There is a school and a copper mine at Pókhara and an iron mine at Khándwára. This patti comprises numerous small valleys drained by the sources of the Machlúd river. It was ruined by the Gor-khális, who drove most of the people away to sell as slaves, and the rest fled to the plains, but it has since recovered and, strange to say, the people have not benefited by their misfortunes, for they are even more litigious than the people of Chaundkot. The patwári resident in Kánde collects also the land-revenue
of Gorársyún, which in 1864 amounted to an aggregate of Rs. 2055.

Talla Des, a patti of parganah Káli Kumaon in Kumaon, is bounded on the north by Chárál Talla and Gunüde; on the west by the former patti and Pálbelon Malla and Talla; on the south by the Bhábar, and on the east by the Káli river, which separates it from Nipál. The assessable area comprises 4,639 báns, of which 1462 are culturable and 3,176 are cultivated (18 irrigated). The land-revenue yielded Rs. 1,331 in 1815, Rs. 1,408 in 1820, Rs. 1,716 in 1843, and now gives Rs. 3,191, which falls on the whole area at Rs. 0-11-0 and on the cultivated area at Re. 1-0-1 per acre. The population at settlement numbered 2,811 males and 2,271 females. This patti is intersected by the Ladhiya river and is also drained by the Káli.

"Many of the villages near the latter river are inhabited by families related to the people of Doti on the opposite side. Hence, although the heat and excessive jungle of the valley prevent much extension of cultivation, the emigration of discontented persons from the border mountains keep up the requisite population, whose profits from the sale of their ginger and turmeric are considerable. One great inducement which brings over Dantiyálo to this patti is the acknowledgment by the British Government of hereditary shares in occupied land, whereas, on the other side, the State considers the property in the soil as entirely its own." The patwári resides in Támali, where there is a school.

Talládes, a patti or sub-division of parganah Juhár in Kumaon, was created at the recent settlement. It comprises the western portion of the old patti of Talla Juhár on the upper course of the eastern Ránganga river. It contains 37 estates separately assessed to land-revenue, comprising 92 villages with a population at the time of settlement numbering 2,877 souls, of whom 1,391 were females. The principal villages are Chámi, Dor, Hokura, Húpúli, Náchni, Urkhet, Sini and Tejam: see further article Bhootiya Maháls. The patwári resides at Tejam and there is a school in Dor.

Talli Ráu, a patti of parganah Dhyáni Rau in Kumaon, is bounded on the north by Pattis Malli Rau and Asi; on the west by Chaugadh; on the south by the same patti and the Talládes Bhábar, and on the east by Pábelon Talla. At the recent settlement Chaugadh was separated from the patti. The statistics of this patti are given with those of Malli Ráu. There is a school at Chaunda and Ramak. The patwári lives in Majhera.
Tarāi, a district of the Kumaun Division, is bounded on the north by the Kumaun Bhābar (q. v.); on the south by the Pilbhit, Bāzpur, and Morādābād districts and the Rāmpur State; on the east by the Sārda riwer and on the west by the Bijnor district. It comprises a long and narrow strip of country running for about ninety miles along the foot of the hills with an average breadth of about twelve miles and having an area of 589,350 acres or 920.8 square miles. The Tarāi district comprises seven parganahs:—Kāshipur, Bāzpur, Gadarpur, Rudarpur, Kilpuri, Nānakmatta and Bilbori. The head-quarters of the district are at Nainī Tāl from May until November, during which months the extremely unhealthy character of the climate of the Tarāi makes it impossible for any European and many natives to remain there. The Superintendent is the chief Civil Officer, and he is aided by an assistant and two honorary Magistrates, one for the Kāshipur parganah and one for the three parganahs of Bāzpur, Gadarpur and Rudarpur. Regulation IV of 1876 provides that the Tarāi district shall not be subject (a) to the jurisdiction of the courts of Civil judicature constituted by the Regulations of the Bengal Code and by the Acts passed by the Governor-General in Council; (b) to the jurisdiction or control of the courts or offices of revenue constituted by the said Regulations and Acts; (c) to the system of procedure prescribed by the said Regulations and Acts for the said courts of civil judicature and courts of revenue: or (d) to the civil jurisdiction of the High Court of Judicature for the North-Western Provinces. It further prescribes rules for the trial of civil suits; for the trial of revenue suits, regular and summary, and for the transfer by the Local Government of any civil or revenue suit or appeal from any of the local courts to the High Court of Judicature for the North-Western Provinces or to any other court in the North-Western Provinces. In civil and revenue cases an appeal lies to the Commissioner of Kumaun, and in criminal cases the courts are under the supervision of the High Court of Judicature for the North-Western Provinces.

1The area of each parganah is estimated as follows in acres:—Kāshipur, 119,592; Bāzpur, 71,205; Gadarpur, 44,819; Rudarpur, 97,449; Kilpuri, 83,813; Nānakmatta, 51,186; and Bilbori, 121,388 acres. I have to thank Messrs. Macdonald and Kilvert, of the Tarāi district, for the greater part of this notice.
To the north, the boundary is defined for the most part by a series of springs which burst from the surface where the Bhábar (q. v.) or waterless tract ends; elsewhere the boundaries have no marked natural features. The general surface of the tract presents the appearance of a plain with a slope towards the south-east. Towards the north, there are patches of forest which are thicker and larger towards the east, or savannahs of luxuriant grasses and reeds. Cultivation has, of late years, made rapid progress from the south towards the line of springs on the north, but there still remain considerable tracts suitable only for grazing purposes. The whole of the Taráí is intersected by numerous streams and water-courses, the former bringing down the drainage from the hills, the latter carrying off the water which rises to the surface in the Taráí itself. The general slope has an average fall of twelve feet in the mile. It undulates from east to west, rising and falling as it leaves and meets the beds of the streams and drainage channels. The undulations to the north are small and decided, whilst to the south the country is more level and the distance between the river-beds increases. The spring level varies with the undulations; in the hollows, stiff clay land is met with, whilst the rising and upper land contain both sand and loam. The culturable area may be set down at 465 square miles, of which 230 are under cultivation. The soils are chiefly drámat or loam, mattiýár or clay and blów or sand and clay: the mattiýár predominates.

The drainage-system of the Taráí comprises, first, those streams which flow direct from the Himalaya, and, secondly, those which are fed by springs rising in the Taráí itself. Some account of the phenomena has been given in a previous volume, and it will not be necessary to refer to the details of the system here again. On the extreme east is the Sárda (q. v.) and on the west the Peli. Neither of these rivers have broad beds like the Ganges nor do they present any peculiar features. Continuing from east to west we have the Saniya, Deoba, Sukhi, East Bahgul, Kichha or Gaula, West Bahgul, Dubka, Gugi, Naiya, Kosi, Bahilla, Dhela and Phika. Most of these rivers have their sources in the hills and are subject

\[\text{Cas. X.}\]
during the rains to heavy floods. The Deoha becomes navigable for boats and rafts from near Pilibhit, but none of the others, save perhaps the Kosi, carry sufficient water to allow of their being utilised for boat traffic. There are numerous small streams between each of these rivers which are used for irrigation. With the exception of the Sarda, they all are tributaries of the Ramganga, which falls into the Ganges in the Hardoi district. The drainage system as a whole resembles the reticulations of a leaf, the rills on the edge of the moist country unite to form a streamlet, these again form the streams which feed the arterial lines of drainage and all eventually join the great midrib stream, the Ramganga.

From the earliest times the Tarai streams have been used for irrigation. The simplest and most common procedure was to construct dams where required across the streams, but the results in the end were ruinous both to the land and the climate. The soil became water-logged and gave rise to a severe form of malarious fever which carried away the majority of the inhabitants. The streams being diverted formed immense swamps and swallowed up the arable land. Mr. Fleetwood Williams, C.S., endeavoured to combat the evil and was succeeded by Captain Jones in 1849-51. The Mutiny supervened, and although much had been done, it was not until 1861 that the present system of canals was taken in hand and attention was really given to the reclamation of the swamps in the district. Under existing arrangements, the Irrigation-branch of the Public Works Department has control over all waters between the Sarda on the east and the Baraur on the west, comprising the parganas Bilheri, Nankintha, Kilpuri and a great part of Rudarpur. In the two first-named parganas the irrigation is not carried on directly by the Department; there is plenty of water and the people are allowed to take whatever quantity they wish, provided they do not interfere with the natural drainage lines and thus create swamps.

The Eastern Bahgul system of canals provides for the irrigation of the Kilpuri pargannah and the Maina-Jhundi portion of Nankintha, and is then carried on into the Pilibhit and Bareilly districts. Next comes the Kichaka and Pana systems, with which
the control of the water by the Irrigation Department ceases. Continuing west, the Tarāi runs with the Rāmpur State and the various streams are under the immediate control of the Superintendent, subject however to agreements with the Nawāb of Rāmpur where they pass from the Tarāi to the Rāmpur State. Across the border the system of earthen dams, which formerly obtained in the Tarāi itself, still continues, and the portions of the parganahs running along this border suffer greatly from fever. Every endeavour has been made to induce His Highness the Nawāb to discontinue this, in every sense of the word, wasteful system of irrigation, but without avail. At a no very heavy expenditure, a proper system of canals with due regard to the features of the country might be introduced, resulting in a much larger supply of water and the improved health of the people. In the Kāshipur pargana, an admirable system of irrigation has been introduced by Mr. J. C. Macdonald, which protects nearly the whole of this pargana proper from the effects of drought and assists many villages in the Morādābād district as well. The Tarāi is indebted to the unceasing efforts of this officer, spread over a period of 25 years, for the vast improvements effected in the irrigation of the country, as indeed also for improvements in every branch of the administration of this peculiar tract. Where the land is owned by Government as landlord, the rent and water rates are consolidated; the ordinary revenue officials supervise the arrangements for irrigation as a part of their ordinary duties, and thus no separate establishments are necessary. In parganahs Kilpuri, Rudarpur and Kāshipur, the water rates are as follows:

<table>
<thead>
<tr>
<th>Class</th>
<th>Flow</th>
<th>Lift</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.— Garden and orchards per crop</td>
<td>...</td>
<td>2 0 0</td>
</tr>
<tr>
<td>II.— Sugarcane, tobacco, opium first watering (a)</td>
<td>...</td>
<td>0 8 0 (b)</td>
</tr>
<tr>
<td>III.— All cereals, pulses, oilseeds, first watering (c)</td>
<td>...</td>
<td>0 4 0 (d)</td>
</tr>
</tbody>
</table>

(a) Increasing 4 annas each subsequent watering.
(b) and (c) Ditto 3 ditto ditto ditto.
(d) Ditto 1 ditto ditto ditto ditto.

The principal roads in the district are (1) the road running due east and west from the Sārda river to the Bijnor boundary which connects all the parganahs and is in length about 90 miles; this is a second class unmetalled road, raised and bridged except over the larger rivers;
(2) the Moradabad and Naini Tal line, which runs through the Básipur parganah for a distance of 21 miles and is a second-class road; (3) the Bareilly and Naini Tal line 13 miles in this district; a first-class road, metalled and bridged throughout with a new girder bridge of 3 spans of 100 feet over the Kichha river replacing the old masonry structure which was destroyed by the floods of 1880; nearly parallel to this road runs the Bareilly and Kumaon light railway, now open for traffic; there is one station in this district, at Kichha; (4) the Moradabad and Ránikhet line, which leaving the Moradabad and Naini Tal road at Darhiyául passes through the Káshipur parganah and thence to the hill mart of Rámnagar; it is a second-class road. There are numerous cross roads, of more or less importance, connected with the main lines above noted and the communications are ample for the convenience of the people.

The climate of the Tarúi differs from that of the plains country adjoining, chiefly in variations of temperature between the day and night which are due to the nature of the soil, and are the proximate cause of the heavy sickness which attacks the inhabitants of the tract at the commencement of the hot and towards the end of the rainy seasons; the average rainfall is about 50 inches. It is noticeble that the type of fever prevalent at the commencement of the hot weather is 'remittent,' whilst that of the later months is 'intermittent.'

The wild animals found in the district are those common to the whole Sub-Himalayan tract, such as elephants, tigers, leopards, hyenas, sloth-bears and pigs. Deer abound, the jaraú, swamp, spotted-deer, hog-deer, nilgai and antelope; the four-horned deer is also sometimes met with. Of game birds the peacocks, florican, black-partridge and jungle-fowl are numerous. Of domesticated animals, the cow, buffaloes and ponies are bred in numbers, but generally of an inferior quality and they consequently do not fetch high prices. The climate of the tract affects animals as well as human beings, so that the cultivators have to provide themselves with a cheap and hardy class of cattle which is more suited to their means and to the climate. Fish of various descriptions are
plentiful and are much appreciated, as food, by the Thárús and Bhukssas, the so-called aborigines of the tract. Professional fishermen of the Dhímar caste are not numerous and generally follow some other occupations in addition to fishing. Most classes eat fish, though it is not a favourite or coveted article of food with any large class except Thárús and Bhukssas.

The mode of husbandry is ruder than in the lower plains country; the soil, being naturally fertile, yields a satisfactory outturn with very inferior cultivation, and this fact, combined with low rents, is the chief attraction to an immigrant. Formerly the Taráí was essentially a rice-producing country; the late dry seasons, however, have encouraged rabi cultivation, or other kharif crops, than rice. The Thárús and Bhukssas still look to rice as their staple crop. There is still a large area of waste land, and no pressure of population on the land is felt. Applicants for land, in the northern portion of the district, are increasing, but cultivation of the waste pasture lands, of which there are about 150 square miles, is discouraged. Owing to the increase of cultivation in the Bhábar tract, large herds of hill cattle, which formerly grazed within its boundary, are now forced to come into the Taráí for grazing; numerous flocks of plains cattle have here also to find pasturage, so that a line at which cultivation must cease has had to be drawn.

The following crops are grown in the district:—Rice, wheat (red), barley, joár, bájra, maize, gram, peas, mustard, linseed, sugarcane, cotton, tobacco and melons. Ginger, red pepper, turmeric and hemp are also cultivated, but to no great extent. For the rice crop there are three times of sowing, which are known as the goja, bijhawa and rasauta sowings. The first sowing commences in April or May, when the finer sorts only are sown, and the reaping takes place in September, with an average yield of about 640 lb. to the acre from 40 lb. of seed. The second or bijhawa sowing commences in June, and the third or rasauta in July; the outturn being respectively about 1,120 and 880 lb. per acre. The species known as kanḍéj, bánmattí and senkharchí are only sown with the rasauta and reaping goes on from the end of October until the end of November.
Owing to natural capabilities of the soil, the outturn is so satisfactory that manure is hardly ever thought of: in fact the soil seldom requires it. A large holding for a peasant cultivator would here be considered fifty acres; a middle-sized one, twenty acres, and a small one, six acres. Taking the average stock of a peasant, he will possess two ploughs, employing four to six bullocks, and will cultivate, exclusive of two-crop land, twelve acres of kharif or rain crops and four acres of rabi or cold-weather crops. The gross value of the produce, based on an average of five years in the last decade, is estimated as follows:—Kharif crop, Rs. 163; rabi crop, Rs. 68; total Rs. 231, from which must be deducted the expenditure on seed, cattle, implements, and rent of Rs. 126, leaving a profit of Rs. 105 a year. The work of weeding, watering, cutting and threshing the crops will be done by the family, the value of whose labour cannot be usefully estimated.

The Tarai forests do not contain any valuable timber or any worth preserving beyond the occasional patches of khair (Acacia catechu) and sisu (Dalbergia sissoo) found in Bilheri and the islands of the Sarda. The timber that is most common is haldu (Adina cordifolia) which though of fine appearance is useless as a building or cabinet wood. The sâl-covered patches, some of which run several miles into the plains are worthless as timber-producing reserves, the young trees, in common with all sâl (Shorea robusta) grown in the plains, becoming rotten at the core before they arrive at maturity. The only sâl exported is cut either immediately at the foot of the hills or more generally on some small eminence. It was, doubtless, owing to these considerations that the Tarai forests were removed from the control of the Forest Department in 1865 and were placed under the Superintendent of the Tarai. A small tax is now levied on the export of forest produce and the proceeds are appropriated to the general improvement of the district. The levying of these dues has been recognised formally and has been declared, at successive settlements, to be vested in Government.

With the exception of bricks, all building materials have to be carted from the foot of the Kumaon hills, and are therefore expensive. Bricks, made in the district cost, for the nine-inch brick, Rs. 900 per lakh, and
for the small native brick Rs. 125. Both native kilns (pajawas) and flame kilns are used. The limestone from quarries at the foot of the hills is almost invariably used for lime; it yields a very strong and white lime which is peculiarly suited for fine plaster work and costs about 14 annas per 82lb. Kankar in any quantity is not procurable. For large works, or where there is exposure, sal timber is used; its cost, at the forest depots, is from Rs. 2 to Rs. 2-12-0 per cubic foot, so that when worked up, including carriage, the rate comes to Rs. 2-8-0 to Rs. 3-4-0 per cubic foot. Haldu is much used for unexposed work as light rafters and planking, but does not answer for beams.

The population of the Tharai, excluding Kashipur, which was not annexed until 1870, numbered 67,187 souls in 1854. In 1865 there were 91,802 inhabitants, of whom 51,993 were males and 39,809 were females, and distributed according to religion, 57,918 were Hindus and 33,884 were Muslimas, giving 125 inhabitants to the square mile. In 1872, there were 185.813, or nearly 202 to the square mile, and in 1881 there were 206,993, or 220.7 to the square mile, of whom 113,315 were males and 93,678 were females. Distributed according to religion there were, in 1881, 131,966 Hindus (59,395 females) and 74,979 Muslims (34,263 females) and 48 others not being of those religions. Of the total males, 55,328 are recorded as agriculturists. The increase in the population over the census of 1872 amounted to 10.4 per cent., notwithstanding the great death-rate from fever and bowel-complaints. Of the males, 51,634 were unmarried, 52,424 were married and 9,257 were widowers. Of the females, 28,659 were unmarried, 49,424 were married and 15,595 were widows. The Muslims are almost entirely Sunnis. There are 565 towns and villages, of which there are two having a population above 5,000; two between 2,000 and 3,000; 15 between 1,000 and 2,000; 87 between 500 and 1,000, 241 between 200 and 500 and 218 under 200.

The ordinary mud hut, generally common throughout Rohilkhand, is found in the greater portion of the district. It is built at a cost of about seven rupees for the walls, three rupees and for the grass roof four rupees. The Tharus and Bhuksas, however, build their houses of mud and
wattles, taking particular care in their construction, so that damp is much less felt in such structures. The whole construction is done by the owner and his family, the cost of whose labour cannot be accurately estimated. In the towns of Kāshipur and Jaspur alone are there brick-built houses; the cost of construction depends entirely upon the means and taste of the owner. The average number of occupants to each house, among both urban and rural inhabitants, may be placed at four persons.

There are no customs peculiar to the district itself; panchāyats are resorted to by the Thārūs and Bhūksas and the lower classes generally, but even amongst such distrust in this method of settling disputes is daily gaining ground. The schools in the district are tahsilī and halka-bandī or village schools, aided and indigenous. The arrangements are made by the local educational committee and are generally under the supervision of the Inspector and his Deputy. The language of the peasantry is Hindi, and although the Thārūs have a patois and accent of their own, it is not sufficiently marked to be called a separate dialect, and people of other classes easily understand them. Musalmāns are increasing in numbers in the district, and consequently the religion of Islām is on the increase, but there is no sign of any conversion to that creed from amongst Hindu castes. There is evidence at the present time of a religious movement amongst the Thārūs. They appear dissatisfied with the teaching of the Brahmans and are seeking information regarding other creeds. The Christian religion is not acceptable chiefly because it seems to bring with it expenses they are unable to incur; the creed of Islām, as authorizing the killing of kine, is altogether unacceptable; and were but a teacher of the tenets of Buddhism to appear, it is highly probable that the Thārūs would become converts to that form of religion.

During the year 1883 the following offences against persons and property occurred:—dakaiti, 2; robberies, 32; burglaries and thefts, 149. The value of property stolen amounted to Rs. 8,739, and of this sum Rs. 4,173 were recovered. Of 327 cases cognizable by the police, 252 were enquired into, and in 105 cases conviction followed; and of 265
persons that were tried, 190 were convicted, so that it may be safely
said crime is light in the Tarái. Cattle-thieving, which formerly was
the scourge of the district, is now very much on the decrease. The
old gangs of Abirs, Gújars, Mewátis and Kasánis have been broken
up, and though raids from the Rámpur State do occur at times, they
are not conducted with the same amount of skill. The facilities
for eluding pursuit still remain: the border of the Native State is so
soon crossed, that the chances are greatly in favour of the thieves
as against the police; the work of the latter, therefore, cannot com-
pare favourably with that shown by other districts not similarly
situated.

Malarious fever is the only endemic disease prevalent in the
district. The natural dampness of the soil, combined with great variations of tempera-
ture between the day and night, is the apparent cause of this
form of disease. During the rains malaria does not, as a rule,
appear to be active, but at the commencement of the hot weather
and after the rains have ceased well on into the colder months, it
occurs in its most virulent forms. During the year 1883, 10,005
deaths were registered—

<table>
<thead>
<tr>
<th>Fever</th>
<th>Small-pox</th>
<th>Bowel complaints</th>
<th>Cholera</th>
<th>Other causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,414</td>
<td>414</td>
<td>785</td>
<td>3</td>
<td>186</td>
</tr>
</tbody>
</table>

making an average mortality of 45 per mille. There were 5,183
vaccine operations during that year, of which 4,339 were successful,
254 unknown and 590 unsuccessful. There is only one dispensary
in the district, though at each tahsil medicines are distributed by
compounders, and in the eastern parganas much relief is afforded
by the Bibári dispensary in the Bareilly district. At the Káshi-
pur dispensary, which is under an assistant surgeon, 7,918 patients
were treated during the same year, at a cost of Rs. 2,270 defrayed
from local funds. Cattle epidemics are frequent and in some years,

owing to the large herds which resort to
the Tarái for grazing, the deaths are very
numerous. The most common disease is known as chira, a kind
of dysentery for which there is no certain remedy. It generally
commences when the rains cease and continues until January.
Foot-and-mouth disease also at times attacks the cattle. The epi-
demics are to be attributed to the climate and want of care in
protecting their stock on the part of both cultivators and graziers.
The total land revenue as it stood in 1883 was Rs. 1,66,601. The incidence on total area was Rs. 0.4.5, on cultivated area Rs. 0.14.1, and on the cultivable area Rs. 0.7.2. Save in the parganahs of Káshipur, Nanakmatta and Mainajhundi, the proprietary right is held by Government alone. Parganah Káshipur has been settled for some years: Nanakmatta and Mainajhundi are under settlement at the present time, but the proceedings are not sufficiently advanced to admit of reliable data being given. The general history of the tract has already been given, and here it is only necessary to describe more fully the Káshipur parganah, which was annexed to the Tarái in 1870.

Káshipur, a parganah of the Tarái district, is bounded on the north, by the Kumaon Bhábar and Bijnor district; on the south by the Moradabad district and the Rámpur State; on the east by parganah Bázpur of the Tarái district and the Rámpur State, and on the west by the Bijnor district. Irregular in form, it affords very diverse physical features. The slope from the Kumaon-Bhábar in a south-easterly direction is marked, falling about six feet in a mile. The general appearance presents a succession of gentle dips and rises so widely spread as often to be scarcity perceptible to the observer except from the varying crops which meet the eye, rice in the dips, and cereals, sugarcane and cotton on the higher and drier plateaus.

The Kosi and Dhela are the principal streams, the former on the east the latter in the centre. Each imparts a special character to the surrounding country. On the extreme west are the Phika and Peli, smaller streams, but still of sufficient magnitude to distinctly influence the country through which they flow. The number of minor streams is legion; the chief, however, are the Bahilla between the Kosi and the Dhela; the Tumaria, Dándi, and Laphana intersecting the country between the Dhela and Jaspur. With the exceptions of the Phika and Peli these streams are all perennial. There are no metalled roads in the parganah; the means for locomotion however are sufficient. All the roads radiate from Káshipur town. One runs west to Jaspur, where it bifurcates, one branch going by a
north-easterly route to the hill mart at Rámnagar, the other making for Bijnor, through the Aftalgarh parganah. Another proceeds to Thákurdwára; a third, north and south, going to Rámnagar and Morádabad respectively; a fourth due east to Bázpur; and a fifth south-east to Rámpur. These roads are passable for carts nearly all the year round, though during heavy rains and floods, traffic is for a short time suspended.

There is no well-irrigation in the parganah, and on the Jaspur side there is virtually no irrigation except in one or two villages, where it is obtained by damming up the Lapkana stream. The available irrigation is confined to the Káshipur side, east of the Tumaria. Formerly, as in the rest of the Taráí, water was obtained from the various streams by means of earthen dams, and the result was extensive swamps which intensified the malarial nature of the country. This has happily now been put a stop to almost entirely under the management of the present Superintendent of the Taráí. Most of the dams have been removed, and by a system of masonry head-works and falls, with proper levels, the streams are now running in their old beds and doing their proper drainage duties. The canals constructed are entirely self-supporting and have paid their own way from the day they were commenced, leaving a large sum for more extended lines. On the Káshipur side of the parganah, hardly any portion now remains unprotected from the effects of drought.

The average rainfall for a series of years is shown to be from 35 to 40 inches. The extreme southerly portion of the parganah is fairly healthy, the north-eastern corner is the most pestilential. Here the evil effects of the old irrigation system are still evident, though matters in this respect are rapidly mending, and the natural features of the country too are against a salubrious climate: the land lies low, the soil is a stiff clay, and during the rainy season becomes water-logged.

There are only two towns in the parganah, Káshipur and Jaspur, in these markets are held twice a week, they have respectively a population of 14,667 and 7,055. By the last census of 1881 the population of the entire parganah was 74,973, (40,347 males and 34,626 females), being
an increase of 3,194 since the previous census of 1872. The total area of the parganah is 187 square miles, so that the incidence of population is about 400 to the square mile. Of the entire populations 49,263 were Hindús and 25,710 Mussalmáns.

The prevailing tenure is zamindári, viz., undivided ownership.

Tenures.

There are 157 zamindári villages, 14 perfect pattidáris and 12 imperfect. The latter are chiefly those of Chauháns, Ahírs and Játs, who invariably sub-divide wherever they own ancestral property and have a numerous family. There are 128 resumed muáfi plots, 69 subordinate properties and 28 revenue-free plots. No entire muáfi village is to be met with. Of the 250 maháls or estates in the parganah Hindús own 192, Mussalmáns 48, and the Government 10.

The distributions of these properties amongst the various branches of the Hindu and Musalmán communities is thus shown:

<table>
<thead>
<tr>
<th>Caste or class.</th>
<th>No. of proprietors.</th>
<th>No. of maháls.</th>
<th>Area in acres.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thákur</td>
<td>110</td>
<td>37</td>
<td>22,336</td>
</tr>
<tr>
<td>Chauhán</td>
<td>346</td>
<td>35</td>
<td>14,820</td>
</tr>
<tr>
<td>Brahmán</td>
<td>63</td>
<td>17</td>
<td>13,776</td>
</tr>
<tr>
<td>Haniya</td>
<td>58</td>
<td>18</td>
<td>6,502</td>
</tr>
<tr>
<td>Ját</td>
<td>76</td>
<td>32</td>
<td>6,080</td>
</tr>
<tr>
<td>Áhir</td>
<td>66</td>
<td>13</td>
<td>4,866</td>
</tr>
<tr>
<td>Khatri</td>
<td>14</td>
<td>5</td>
<td>1,489</td>
</tr>
<tr>
<td>Káthi</td>
<td>5</td>
<td>3</td>
<td>563</td>
</tr>
<tr>
<td>Others</td>
<td>275</td>
<td>30</td>
<td>13,639</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,014</td>
<td>190</td>
<td>84,000</td>
</tr>
<tr>
<td>Sháikh</td>
<td>84</td>
<td>22</td>
<td>9,617</td>
</tr>
<tr>
<td>Pathán</td>
<td>50</td>
<td>16</td>
<td>5,593</td>
</tr>
<tr>
<td>Sayyid</td>
<td>3</td>
<td>3</td>
<td>1,808</td>
</tr>
<tr>
<td>Kain</td>
<td>10</td>
<td>2</td>
<td>608</td>
</tr>
<tr>
<td>Others</td>
<td>80</td>
<td>7</td>
<td>2,632</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>227</td>
<td>50</td>
<td>20,548</td>
</tr>
<tr>
<td>Government and other co sharers.</td>
<td>13</td>
<td>10</td>
<td>16,125</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>1,254</td>
<td>250</td>
<td>120,733</td>
</tr>
</tbody>
</table>

This parganah is singularly sensitive to variations of seasons—and the climate is varying and not uniform even throughout the parganah. Each year brings a greater or less visitation of fever. Exceptional seasons, by the climatic changes induced and the altered amount and quality
of food, affect the people injuriously. With these drawbacks the
peasantry are not so flourishing as could be wished, but the special
care which is now given to removing causes of unhealthiness must
in time improve their condition. Up to the year 1844, Kāshipur
and Jaspur were separate revenue divisions with distinct settlements,
and formed parts of the Moradabad district. On the 1st May, 1844,
the revenue divisions of the Moradabad district were re-arranged:
Bāzpur, Kāshipur and Jaspur along with sundry villages from
Thākurdwāra, Sarkara, Moradabad and Afzalgarh were constituted
into one parganah under the name of Kāshipur. Shortly before
the mutiny, Bāzpur was transferred to the Tarāi, then in the
Kumaun Division. In 1860, a number of other villages were trans-
ferred to the Tarāi and in the same year the tahsil of Kāshipur and
Thākurdwāra were amalgamated, the headquarters being fixed at
Thākurdwāra. In October, 1870, the entire parganah of Kāshipur
proper was transferred to the Tarāi and the Tarāi district as then
constituted became a district of the Kumaun Division.

Mr. D. M. Smeaton, who conducted the recent settlement of
parganah Kāshipur, sketches the fiscal history of the two tracts,
Kāshipur and Jaspur, as if they had been all along, as they now
are, parts of the same parganah, because the previous settlements,
though distinct, were made at the same time, for the same periods
and under exactly similar circumstances. Mr. Smeaton in his rent-
rate report gives the following account of the previous settle-
ments:—

"Prior to Mr. Money’s settlement under Regulation IX of 1833
there had been eight assessments of the revenue, which may be thus
enumerated:—

(1) The first triennial ... ... ... 1210 to 1212 fasli.
(2) Second ditto ... ... ... 1213 to 1216 .
(3) The quartennial ... ... ... 1216 to 1219 .
(4) The quinquennial ... ... ... 1220 to 1224 .
(5) Four periods of partial extension and alteration up to ... 1244 .

These were, however, merely summary assessments of revenue
and were made upon no recognized principle. Mr. Money when
making his settlement determined to have revenue rates only, and
he fixed the revenue on the whole parganah at Rs. 1,02,367, the
incidence being on the cultivated area Rs. 2 per acre, which made
the incidence of his estimated rental approximately Rs. 8-6-0 an
acre. During the period from 1245 to 1283 fasli, i.e., 1838—1876,
eight mabuls, parts of four villages, were sold for arrears of revenue and purchased by Government, certain other villages being held under direct management. During the currency of the last settlement the price fetched for land is thus shown:

<table>
<thead>
<tr>
<th>Rs.</th>
<th>a. p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>In 1839—Private sale</td>
<td>2.41</td>
</tr>
<tr>
<td>Mortgage</td>
<td>0.12</td>
</tr>
<tr>
<td>Auction</td>
<td>0.32</td>
</tr>
</tbody>
</table>

| In 1875—Private sale | 0.20 |
| Mortgage | 0.14 |
| Auction | 0.10 |

Land may be said to have quadrupled in value since 1839, and this shows that the country has made substantial progress. The new settlement made by Mr. Smeaton runs from 1879 and has recently been finally sanctioned by the Government of India for a period of 25 years. The revenue fixed is Rs. 1,05,388.

The increase of cultivation is about 12 per cent. as compared with the area under cultivation at the time of the last settlement. The present and former state is shown in the following table:

<table>
<thead>
<tr>
<th>Settlement</th>
<th>Total area in acres</th>
<th>Revenue-free</th>
<th>Barren.</th>
<th>Cultivable</th>
<th>Cultivated.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present...</td>
<td>120732.00</td>
<td>619.36</td>
<td>9601.57</td>
<td>48236.31</td>
<td>4983.23</td>
</tr>
<tr>
<td>Former...</td>
<td>106953.00</td>
<td>2318.00</td>
<td>53329.00</td>
<td>2447.00</td>
<td>8142.00</td>
</tr>
</tbody>
</table>

The distribution of the various kinds of crops is thus shown for the present settlement:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>18,150</td>
<td>Wheat</td>
<td>11,098</td>
<td>Rice, wheat and barley</td>
<td>2,723</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>3,528</td>
<td>Gram</td>
<td>1,752</td>
<td>Vegetables, &amp;c.</td>
<td>8,523</td>
</tr>
<tr>
<td>Cotton</td>
<td>2,434</td>
<td>Barley</td>
<td>633</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mung masha</td>
<td>2,129</td>
<td>Other kinds,</td>
<td>1,331</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other kinds</td>
<td>3,349</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30,194</td>
<td>Total</td>
<td>16,214</td>
<td>Total</td>
<td>11,215</td>
</tr>
</tbody>
</table>
From 1841 to 1876 the rise in prices of grain amounted to nearly 60 per cent., as will be seen by the following table:—

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1841</td>
<td>38</td>
</tr>
<tr>
<td>1876</td>
<td>19</td>
</tr>
</tbody>
</table>

In a country where grain rents prevail the profits to land-holders have naturally been greater than to the cultivator.

The population of the pargana is about 34 per cent. greater than it was in 1848. In 1848, 5,5596; 1852,¹ 84,999; 1865, 73,919; 1872, 71,412; 1881, 74,979.

The following table shows the way in which, at the present time, the lands are held by the agricultural community, including proprietors who cultivate and simple tenants of all classes:—

<table>
<thead>
<tr>
<th>Sort of holder</th>
<th>Number of persons</th>
<th>Area in acres</th>
<th>Money-paying area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Area</td>
</tr>
<tr>
<td>Sir holders</td>
<td>...</td>
<td>437</td>
<td>4,460-81</td>
</tr>
<tr>
<td>Cultivating proprietors</td>
<td>...</td>
<td>134</td>
<td>600-46</td>
</tr>
<tr>
<td>Pacháns (head tenants)</td>
<td>...</td>
<td>117</td>
<td>1,143-00</td>
</tr>
<tr>
<td>Occupancy tenants</td>
<td>...</td>
<td>7,519</td>
<td>30,073-70</td>
</tr>
<tr>
<td>Tenants-at-will...</td>
<td>...</td>
<td>5,454</td>
<td>21,175-28</td>
</tr>
<tr>
<td>Holders of service lands</td>
<td>...</td>
<td>285</td>
<td>193-95</td>
</tr>
<tr>
<td>Total</td>
<td>13,046</td>
<td>57,653-20</td>
<td>7,685-04</td>
</tr>
</tbody>
</table>

The home-farm area is comparatively small; occupancy tenants hold more than half the entire cultivation, while tenants-at-will are in possession of nearly 40 per cent. The money-paying area is not much more than one-eighth of the whole, and the total money rental falls at about Rs. 3-8-0 per acre, or nearly 9 annas per village bigha. The crop rates, which are current upon the grain-paying area, vary between one-half and one-eighth; but the chief rates are one-third (thirá), two-fifths (pachkúri or pachdúsa), and one-fourth (chaúbára). The occupancy tenant and the tenant-at-will hold, on an average, nearly the same area, viz., about four acres.

¹ This census was very faulty and cannot be relied on.
Tikhun, a sub-division of parganah Barahmandal, was divided into two pattis at the recent settlement, the Malla and Talla. The statistics of both may be shown thus:

<table>
<thead>
<tr>
<th>Tikhun</th>
<th>Assessable area in bigha</th>
<th>Cultivated area in bigha</th>
<th>Assessment in rupees</th>
<th>Incidence per acre on</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Irrigated</td>
<td>Cultivable</td>
<td>1815</td>
<td>1820</td>
</tr>
<tr>
<td>Malla...</td>
<td>2,376</td>
<td>27</td>
<td>2,212</td>
<td>737</td>
<td>628</td>
</tr>
<tr>
<td>Talla...</td>
<td>3,357</td>
<td>40</td>
<td>2,649</td>
<td>668</td>
<td>897</td>
</tr>
</tbody>
</table>

Tikhun stretches from Bhainskhet to Siyahi Davi. In olden times, it formed the estate of a Khasiya Raja who had his fort in Tikhunkot, but he with the others fell under the Chands in the sixteenth century. The patwari of the Malla patti resides in Bhainskhet and of the Talla Patti in Dhamus.

Tilri, in patti and parganah Baugarh of Tilri Native Garhwal, is situated on the left bank of the Bhagirathi in latitude 30° 22' 54" and longitude 78° 31' 3" at an elevation of 2,278 feet above the level of the sea. The Bhilang joins the Bhagirathi a little above the town on the left side. In 1808 it was a small village, and until 1815, when Raja Sudarsan Sahu took up his residence here, it was little better. In 1819 the only remarkable building was the Raja's residence, subsequently exchanged for a more extensive one, but still having no pretensions to architectural merit. The new town is built on a tolerably flat piece of ground formed by a bend in the Bhilang river just before it joins the Bhagirathi; near here both rivers, for a short distance run almost parallel with each other. The population now amounts to about 2,000 souls. The Bhagirathi is crossed by an iron suspension bridge erected here in 1858 at the Rajah's expense on the Mussoorie road and there is a small bungalow for travellers. It is a very hot place, devoid of trees, and surrounded by bare high hills. A broad road has been constructed up the Bhagirathi valley and hence by Mussoorie to the Dun. The Bhilang contains a kind of trout which is snared in great numbers.
Tons (Northern) or Tanus, a river of Tilri which rises to the north of the Jamnori peaks and but a few miles from the source of the Jumna flowing from the southern base of the same mountains in latitude $31^\circ-5'$, and longitude $78^\circ-40'$. The source of the Tons appears to have been first ascertained in October, 1819, when it was visited by Herbert, who found the stream to issue, thirty-one feet wide and knee-deep, from a snow-bed 12,784 feet above the sea and extending as far as the eye could reach. The course of the river is generally westerly for thirty miles, to the confluence of the Rüpí, on the right side, in latitude $31^\circ-3'$, longitude $78^\circ-10'$, and at an elevation of 5,300 feet. The declivity of the channel in that distance must be above 250 feet per mile; so that the stream is almost a cascade. It is from its source to this confluence with the Rüpí called the Súpin; but downwards the united stream is called the Tons. The Súpin is the larger of the confluent, though the Rüpí is described by Jacquemont as deep, nearly fifty feet wide, furiously rapid, and rushing along with a tremendous roaring. The Tons is about 120 feet wide and holds a south-westerly course of about nineteen miles to the confluence of the Pábar, on the right bank, in latitude $30^\circ-56'$, longitude $77^\circ-54'$: the Pábar is a large stream, though somewhat inferior in size to the Tons. From the confluence, the united stream, still called the Tons, leaves Garhwál and takes a generally southerly direction, forming for the rest of its course the line of division between the British parganah of Jaunsár and the Hill States of Jubbal and Náhan. Thirteen miles below the confluence of the Pábar, the Tons receives the Shalwi, a considerable stream, which flows into it on the right bank, in latitude $30^\circ-48'$, longitude $77^\circ-49'$. It thence flows about forty miles, in a course generally southerly, but very tortuous, through a succession of rugged ravines of limestone, to its junction with the Jumna, in latitude $30^\circ-30'$, longitude $77^\circ-53'$, and at an elevation of 1,686 feet above the sea. As its total course is about 100 miles, it has the enormous fall of above 110 feet in a mile. Though below the junction the united stream bears the name of the Jumna, the volume of the Tons is much the greater, as, when surveyed by Hodgson and Herbert, it discharged 2,827 cubic feet in a second of time, while the amount discharged by the other river was only 1,045 (Thornton).
Uchakot, a patti of parganah Dhaniyakot in Kumaon, is bounded on the north by the Kosi river separating it from Chauthán and Kosiyan Malla; on the west by Kosyán Talla; on the east by Simalkha and on the south by Kota Malla and Talla. The portions near the Kosi are inhabited. The assessable area comprises 1,574 bisis, of which 280 are culturable and 1,293 are cultivated (516 irrigated). The assessment in 1815 amounted to Rs. 1,022; in 1820 to Rs. 1,380; in 1843 to Rs. 1,530 and is now Rs. 2,279, which falls at Rs. 1.7-2 per acre on the total area and Rs. 1.12-2 per acre on the cultivation. The population at the time of settlement numbered 2,280 souls, of whom 1,145 were males. The patwári resides in Malla- gaon, where there is a school.

Uchýr, a patti of parganah Bárahmandal in Kumaon, lies to the east of Almora between the Sawai and Kumniya streams. Uchýr in 1865 contained 3,161 bisis, of which 808 were culturable and 2,352 were cultivated (63 irrigated). The land-tax in 1815 yielded Rs. 508; in 1820, Rs. 746; in 1843, Rs. 944 and was fixed at Rs. 2,420 at the recent settlement, which falls at Rs. 0.12-3 per acre on the total area assessed to land-revenue and at Rs. 1.0-6 per acre on the then existing cultivation. The population numbered 4,542 souls, of whom 2,181 were females. The patwári resides in Nisuné and there is a school in Dhaur.

Udepur Malla, a patti of parganah Ganga Salán of British Garhwál, consists of a long and narrow strip of land lying along the left bank of the Hiuwál river. The patwári of Dhánku Talla resident in Dhánswi collects the land-revenue. The southern portion of the patti is drained by the upper waters of the Rawaśan Nádi flowing towards the plains, while the Hiuwál drains the northern portions and flows north-west into the Ganges. With the exception of the flats along the river the cultivated land is on steep slopes. The soil is rich and the rock (slate) decomposes rapidly, giving good soil on the steepest slopes. All three divisions of Udepur have improved much of late years.

Udepur Bichhla, a patti of parganah Ganga Salán, is bounded on the west and north by the Talla sub-division; on the east by the Malla portion, and on the south by Ajmer, Bijnor, and Chandí. There is a school at Thanúr. The southern portion consists of a mass of ravines and low hills whence flow the Mitti and Luni
torrents and the Rawásan, Máli and Málin streams. The present patti was separated from Udepur in 1864 and its statistics are given in Udepur Malla. At the settlement in that year it was assessed at Rs. 2,247 from all sources with a population of 4,549 souls. There is a patwári resident in Ranchula who collects the land-revenue. The principal cultivation lies in the heads of the Málin and Rawásan valleys which resemble the beds of dried-up lakes. The lower parts of these valleys are mere rocky gorges of sandstone now included in the protected silt tract under the Forest Department. The principal peaks are Mábigarh on the borders of Ajmer, 5,654 feet; Jaspálgarh near Satling on the left bank of the Rawásan Nadi, 3,650 feet, and a peak on the same bank opposite Amola, 4,108 feet. The Sidhwrála peaks at the extreme south-east in whose ravines the Teli Sot takes its rise, consists of three peaks, the principal being 3,464 feet and those on the left and right 2,719 and 2,775 respectively.

Udepur Talla, a patti of parganah Ganga Salán, is bounded on the north and west by the Ganges and on the south and east by the Bichhla and Malla pattis of Udepur and Dhángu Talla. There are schools at Dharkot and Atta. The patwári lives in Khera. This patti was not separated until 1864, when it was assessed at Rs. 2,441 from all sources and had a population of 5,297 souls. The Tál Bheng and Bidásani streams carry the drainage of the southern portions of the patti into the Ganges. To the west it is traversed by the Hardwár and Srinagar road. The valley of the Tál is comparatively flat, but the left bank of the Hiunwal rather steep with some flats, and the rest contains some unhealthy sites.

Unta-Dhura, or Uta-Dhúra, a pass into Hündes from Patti Malla Juhar of parganah Juhar in Kumaon, lies to the north-east of Milam in latitude 30°-35°-00" and longitude 80°-12°-20" with an elevation of 17,800 feet above the level of the sea, 156 miles north of Almora. It lies over a ridge which is to the north of the main chain of the Himálaya and at right angles west from the dividing range between Kumaon and Tibet. Though inferior in height to the main range, it is elevated enough to necessitate a considerable ascent from the deep gorges of Kumaon. The crest of the ridge forms the boundary between Patti Malla Painkhandha of Garhwál and Patti Malla Juhár of Kumaon, and also the water-
parting between the streams flowing westward by the Alakna-
nda into the Ganges and those flowing eastwards into the Ka-li, as the
Sárda or Ghágra is called in the upper portion of its course. Weller
made the height of the pass from boiling-water 18,540, but he adds,
this must be greatly in excess. The Great Trigonometrical Sur-
vey makes the pass 17,590 feet, the Bamlás peak to the west 17,880
feet and that to the east of the pass, 18,250 feet.

There are five small ridges of stone on the crest which look like pillars from
below, and it is believed that any one who sleeps near them dies. A bitter, piercing
wind blows here with such violence, especially during the rains, as to cause fatal
accidents. Weller writes:—"The south-face and crest of the pass consists
of a black soil, apparently the detritus of a black slate which latter is visible
here and there below the soil. I was much disappointed with the view from
the crest of the pass. The view southwards is very limited, Nánda Deví not
visible; to the north-east and north a few hills are visible; to the north-west is a
sea of hills moderately covered with snow (end of May) and hardly any of them
appearing of great elevation. To the north-east are three bare hills, the first called
Genti with behind it but not visible two other hills which have to be passed on
the direct route to Chirokhan." North is the Balchha ridge into Tibet and east the
conical peak above the Girthi mine. For the march hence to Balchha see the
account of that pass. At the end of May (1841) Batten found the pass closed by
heavy snow and encountered imminent danger in attempting to cross it. Webber
found it completely closed with snow in the beginning of summer. Garden men-
tions an encamping-ground on the bank of a stream at the northern dakhna or foot
of the pass where a few stunted bushes form the only fuel supply. He adds that
the snow lies on the pass for eleven months in the year.

The journey from the hamlet of Bhúi on the Gori to the pass is described by
Manson, who crossed it in September. He started from Bhúi on the left bank of
the Gori in patti Goripáti on the first and passed up the Bálam torrent. Some
six miles up it receives an affluent from the east-north-east and a little higher
up was crossed by a snow-bridge close to the Sáha úlyar o great cave. Thence
along the bed of the river to within two miles of Bálam, which is 17 miles from
Bhúi and is colonised by Dárma Bhotiyas. There is a bad cross-path from Bálam
to Sipu in Dárma by the Hardol or Lipu-ke-thán pass at all times difficult and
dangerous. From the encamping-ground the track leads by a steep ascent to the
top of the Birchigang pass, on which the rocks are composed of grey-wacke, clay
slate, tale-slate, and near the pass a few blocks of quartz. During the ascent
vegetation gradually decreased and towards the summit entirely disappeared and
nothing but broken fragments of clay and tale-slate and quartz remained. The
pass must be about 16,000 feet, the Bálam peak to the south rising to 16,290 feet.
The descent to the bed of the Gori occupies a weary two hours and a half and a
torrent is crossed by a sangu at Sundu before reaching Tota (10,730 feet), a village of
over 500 inhabitants, temperature of water 46°; air 51; wet bulb, 48°. Dwarf birch

1 For Weller's journey from the Uta-dhúra to the Balchha pass, see Bhotiya
Mañals.
1 J. A. S. Ben, XI, 1137: this route is chosen when that along the
right bank of the Gori is closed by accident or by inclement weather.
and rhododendron are the characteristic trees, and about Tola there is some level
ground and cultivation, sa-jam being ripe. Hence to Burphu, five miles, the track
is partly level along the sides of the mountain with numerous slips, and in some
parts precipitous and dangerous. The rocks are less slaty and continue metalliferous.
Burphu is situated in an open part of the valley with numerous fields
around and is divided into two hamlets containing together 484 inhabitants.
A fair-sized torrent is crossed by a spar-bridge and its waters are utilized for corn-mills.
Here the track crosses the Gori by a spar-bridge and about two miles on the
village of Māpa (95 inhabitants) is reached, the rocks being greywacke and clay
slate with masses of quartz, and towards Pāchhu the rock became a reddish-brown
clay on the weather surface, but grey in the fracture. Pāchhu (q. v.) is situated on
the left bank of a small stream proceeding from a glacier on the eastern slope of
Nanda Devi about three miles from Milam and possesses one of the best views of
Nanda Devi to be had.

The Gunka is crossed by a spar-bridge opposite Milam, whence the road
ascends by the left bank, passable, but in some places very bad: no grass, nothing
but loose earth and stones; clay slate and grey silicious sandstone in masses and
fragments; the general appearance of the mountains extremely barren, precipitous
and shattered. The river in several places on either side is bounded by masses
of earth and stone, the débris of the hills above which rise in numerous places
into sharp peaks. Lying in the bed and along the sides of the river are large
masses of conglomerate. During a thaw or a fall of snow or rain, the descent
of stones is almost continuous, rendering the Gunka glen at that time very dan-
gerous. Some of the stones are suspended on the top of the ravine precipices on
little pointed peaks and their appearance on an avalanche day is not reassuring to
the traveller below. The encamping-grounds on the road between Milam and
Dung-udiyr are Jimgang, Sangang (12,080 feet), Sullong Talla (12,910) and
Dung (13,720 feet). Hence the track runs north-west to the foot of the Uta-
dhūra pass at Jim, crossing the river over a bridge of stones which are piled on
nearly a natural bridge of rocks; then in about half a mile to the huge Bamlās
glacier. Crossing this found the Uta stream entering the glacier by an opening
similar to that at its exit. The track continued along the base of the mountain
to the north-west for a mile and a half with very little ascent, then turned north
and commenced rather a steep ascent over a mass of white silicious rock, the
débris of the mountain above. On reaching the summit came to another rather
level piece of ground, but covered with fragments of a darker rock and a blacker
soil. Then another ascent over the same kind of rock and soil and on reaching
the top came in sight of the pass. A little further on crossed two snow-beds;
the first two to three hundred yards wide, the second sixty to seventy yards
wide. After crossing these the last ascent to the pass appears. Long before this
all signs of vegetation had disappeared, and here the mountain was covered
with small fragments of rock, clay-slate, &c. The strata of the heights to the
right and left of the ascent were very much contorted in all directions. Monsoon
was one hour and twenty-five minutes in accomplishing this last ascent, which
he afterwards descended in twenty-five minutes. The summit of the pass is
very rounded, and in some places the strata of clay-slate crops in nearly a
vertical position, but jutting a little to the west-south-west many, indeed
almost all the fragments of rock up to the ascent, were very much intersected
with veins of felspar. To the westward were seen some very lofty snowy peaks,
but clouds concealed the view and to the north the Balchha (q. v.) range formed
the horizon.

**Urgam**, a patti of parganah Nágpur in British Garhwal, is
bounded on the north and east by Painkhanda Malla and on the
west and south by Malla Nágpur. It comprises the valley of the
Urgam river, which joins the Alaknanda on the right bank near
Salna, where there is a bridge. The name is derived from the
Uragas, a sub-division of the Nágas, whose rule is commemorated
in the name of the parganah Nágpur. This patti was separated
from Nágpur Malla in 1864. The patwári of Malla Painkhanda
collects the land-revenue of this patti also.

**Vishnuganga**, a torrent which joins the Dhauli at Vishnupra-
yág, has two principal sources; of these the chief is the Sáraswati,
which rises nearly from the crest of the Mána pass in the glaciers
of the ridge which forms the boundary with Tibet. After a course
of about twenty miles it is joined by the Vishnuganga, a stream of
nearly equal size which rises in an immense glacier to the north-
east of the great peak of Badrináth in latitude 31°-4′-0″ and longi-
tude 79°-28′-0″. The Vishnuganga being the more sacred of the
two gives its name to the united stream and is itself made up of
three tributaries fed by three separate glaciers; the Sátpati to the
south-west, the Pábigár to the west and the Supau or principal
glacier to the north-west. The last comes down from a range
called Pankwadáru constituted as shown by the boulders and
dbris borne along by the glacier of normal gray granite. After
a course of some forty-three miles the Vishnuganga joins the west-
ern Dhauli at Bishnuprayág and the united stream is thereafter
known as the Alaknanda. Nothing can surpass the desolation of
the Saraswati valley from a few miles above Mána to the pass.
A little below Badrináth, at about 10,000 feet above the level of
the sea, an elevation at which elsewhere we find the forest in its
greatest magnificence, all arboreal vegetation ceases, and after we
pass, in the valley of the Saraswati, a few miles further to the
north of the lower limit of the belt of perpetual snow hardly a shrub
or a blade of grass is to be seen. It is evident that nearly the
whole of this valley was once filled with glaciers, and we now sec
almost everywhere the remains of the ancient moraines in the accumulations of fragments of rock and débris which cover the bottom and the sides of the valley. It would be difficult to discover clearer evidence in any part of these mountains than this valley affords of the indisputable fact that an immense diminution has taken place in the snow and glaciers of the Himálaya. The Bhotiyas declare that the process is still going on before their eyes, the whole of the glaciers which come down from the lateral ravines into the valley of the Saraswati have receded far back from the points which they reached within the memory of man, and that parts of the road which were formerly almost impassable from accumulations of snow are now always open and easy during the summer months.¹ One of the more remarkable boulders forms a natural bridge over the Saraswati just a little above its junction with the Vishnuganga: see Manā: Bhotiya Mahāls.

Vishnuprayág, or Bishnuprayág, a halting-place on the road from Srinagar to Badrináth, is situate on the Vishnuganga river in parganah Painkhanda of Garhwál. There is a temple here built on a tongue of rock between the Dhauli and the Vishnuganga rivers, 1½ mile from Joshimath on the Maná road. Vishnuprayág is one of the five sacred junctions and forms a station on the pilgrim route. The scenery around is wild and rugged in the extreme, the mountains are bare and rocky and at the junction the Dhauli from its superior volume carries its stream unmixed for a considerable distance. There is a flight of steps cut in the rock to enable pilgrims to bathe in the Vishnuganga as the river is very deep and swift; bathers are obliged to hold on to iron chains and bars when bathing to prevent themselves being washed away; but even with this precaution a number of persons are yearly drowned at this spot. There used to be a wooden bridge over the Dhauli just above the junction, but the huge rock on the left bank on which a pier rested was washed into the river and there is now a rope bridge (jhāla). Badrináth is 16 miles distant from this place.

Waldiya Malla, a patti of parganah Shor in Kumaon, is bounded on the north by Seti Tallá; on the west by the Rám-ganga (eastern); on the south by patti Rawal, and on the east by

¹ This is the fact, notwithstanding Tréill's statement to the contrary in As. Rea. XVII. 5.
Waldiya Bichla. It consists for the most part of precipitous hills with little cultivation. The statistics are given under the Talla Dúngara and Basti. The Patti. The patwári lives in Báns.

Waldiya Bichla, a small patti of parganah Shor in Kumaon formed at the recent settlement from Patti Waldiya, is bounded on the north by Seti Talla; on the south by Waldiya Talla; on the west by Waldiya Malla and on the east by Seti Malla. The statistics are given under the Talla Patti. The patwári lives in Bajethi.

Waldiya Talla, a small patti of parganah Shor in Kumaon, is bounded on the north by pattis Waldiya Bichla and Mahar; on the west by Rawal; on the east by Saun and on the south by Gúmdes. A portion of the Pithoragarh and Lohughát, road passes through village Bhatýúra of this patti close to the Shor valley, but the greater part of it lies to the east of Thákil (8,161 feet), where a peak near Badbe rises to 7,039 feet and Bhandona near Búnga in the north of the patti to 6,224 feet. The Chandra-bhága stream flows along the eastern boundary in a southerly direction to its confluence with the Káli. The following statement gives the statistics of the Malla, Bichla, and Talla Pattis of Waldiya:

<table>
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<tbody>
<tr>
<td></td>
<td>Cultivated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malla</td>
<td>584</td>
<td>115 143</td>
<td>275</td>
</tr>
<tr>
<td>Bichla</td>
<td>629</td>
<td>117 299</td>
<td>172</td>
</tr>
<tr>
<td>Talla</td>
<td>2,154</td>
<td>555 744</td>
<td>864</td>
</tr>
</tbody>
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The incidence of the land-tax on the cultivated acre in each patti is Rs. 1-11-9 in the Malla, Rs. 1-9-3 in the Bichla and Rs. 1-9-8 in the Talla patti: on the whole assessable area the figures are Rs. 0-13-6, Rs. 1-1-0 and Rs. 0-15-6 respectively. The patwári resides in Bhatýúra, and there is a school in Mahar-khola.