

**HARYANA DISTRICT GAZETTEERS**

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**REPRINT OF  
PHULKIAN STATES (PATIALA, JIND AND NABHA)  
GAZETTEER, 1904**



**GAZETTEERS ORGANISATION  
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## PREFACE TO REPRINTED EDITION

The District Gazetteer is a miniature encyclopaedia and a good guide. It describes all important aspects and features of the district; historical, physical, social, economic and cultural. Officials and other persons desirous of acquainting themselves with the salient features of the district would find a study of the Gazetteer rewarding. It is of immense use for research scholars.

The old gazetteers of the State published in the British regime contained very valuable information, which was not wholly re-produced in the revised volume. These gazetteers have gone out of stock and are not easily available. There is a demand for these volumes by research scholars and educationists. As such, the scheme of reprinting of old gazetteers was taken on the initiative of the Hon'ble Chief Minister of Haryana.

Though the Phulkian States namely; Patiala, Jind and Nabha were princely states in those days yet a single gazetteer covering three states was compiled under the aegis of the British regime. This gazetteer was printed at the Punjab Govt. Press, Lahore in 1909.

The Volume is the reprinted edition of the Phulkian States (Patiala, Jind and Nabha) Gazetteer of 1904. This is the tenth in the series of reprinted gazetteers of Haryana. Every care has been taken in maintaining the complete originality of the old gazetteer while reprinting. I extend my appreciation to Sh. A. K. Jain, Editor, Gazetteers and Sh. J.S. Nayyar, Assistant, who have handled the work with efficiency and care in the reprinting of this volume.

I am very thankful to the Controller, Printing and Stationery, Haryana and his staff in the press for expeditiously completing the work of reprinting.

December, 1998

Jeet Ram Ranga  
Joint State Editor (Gazetteers)

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WITH MAPS.



1904.

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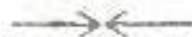
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## INTRODUCTION.



### THE PHULKIAN STATES.

THE three Native States of PATIALA, JIND and NABHA in the Punjab are collectively known as the Phúlkián States. They are the most important of the cis-Sutlej States, having a total area of 7,599 square miles, with a population (1901) of 2,176,644 souls, and a gross annual revenue of Rs. 88,00,000. The main area of this group of States lies between  $74^{\circ}$  and  $77^{\circ}$  E. and  $29^{\circ}$  and  $31^{\circ}$  N. It is bounded on the north by the District of Ludhiána, on the east by Ambála and Karnál, on the south by Rohtak and Hissár, and on the west by the Ferozepore District and the Faridkot State. This area is the ancestral possession of the Phúlkián houses. It lies mainly in the great natural tract called the Jangal 'Desert or Forest,' but stretches north-east into that known as the Pawádh, or 'East,' and southwards across the Ghaggar into the Nardak, while its southernmost tract, round the ancient town of Jind, claims to lie within the sacred limits of the Kurukshetra. This vast tract is not however the exclusive property of the States, for in it lie several islands of British territory, and the State of Máler Kotla dovetails into the centre of its northern border. On the other hand the States hold many outlying villages in British territory. Nevertheless the three States, as a group, hold a comparatively continuous area, though individually each resembles Brunswick or the County of Cromarty, its territory being scattered and inextricably intermingled with that of its sister States. Besides its share in the ancestral possessions of the Phúlkián houses, Patiala holds a considerable area in the Simla Hills acquired in 1815. In addition to these possessions, the three States hold a fairly compact block of outlying territory in the south-east of the Punjab, between  $75^{\circ}$  and  $76^{\circ}$  E. and  $27^{\circ}$  and  $28^{\circ}$  N. This block is bounded on the north by Hissár, on the east by Rohtak and Gurgaon, and on the south and west by Rájputána. Each of the States received a part of this territory as a reward for its services in the Mutiny.

The ruling families of the Phúlkián States are descended from Phúl, their eponym, from whom are also descended the great feudal, but not ruling, families of Bhadaur and Malaud, and many others of less importance. Collaterally again the descendants of Phúl are connected with the rulers of



Faridkot, the extinct Kaithal family and the feudatories of Arnauli, Jhumba, Siddhúwál, and, north of the Sutlej, Atárl. These numerous branches of a vigorous stock belong to the great Siddhú-Barár tribe, the most powerful Jat tribe south of the Sutlej, and claim descent from Jaisal, a Bhatti Rajpút, who, having founded the State of Jaisalmer in 1180 A.D., was driven from his kingdom by a rebellion and settled near Hissár. Hemhel, his son, sacked that town and overran the country up to Delhi, but was repulsed by Shams-ud-Dín Altamash. Subsequently however in 1212 A.D. that ruler made him governor of the Sirsa and Bhatinda country. But his great-grandson Mangalráo having rebelled against the Muhammadan sovereign of Delhi was beheaded at Jaisalmer. His grandson sank to Jat status by contracting a marriage with a woman of that class, and though the great Siddhú-Barár tribe in the ensuing centuries spread itself far and wide over the Malwá country up to and even beyond the Sutlej, the descendants of Khiwa fell into poverty and obscurity, until one of them, Sanghar, with a few followers entered the service of the Emperor Bábar. Sanghar himself fell at Pá nipat in 1526 A.D., but the emperor rewarded his devotion by granting his son Baryám the *chaudhriyat* or superintendency of the waste country south-west of Delhi, and thus restored the fortunes of the family. This grant was confirmed by Humáyún, but Baryám in 1560 fell fighting against the Muhammadan Bhattis, at once the kinsmen and hereditary foes of the Siddhú tribe. Baryám was succeeded as *chaudhri* by his son Mahráj and his grandson Mohan, who were both engaged in constant warfare with the Bhattis until the latter was compelled to flee to Hansi and Hissár, whence he returned with a considerable force of his tribesmen, defeated the Bhattis at Bedowál, and at the advice of the Sikh Guru Har Govind founded Mahráj in the Ferozepore District.

But the unceasing contest with the Bhattis was soon renewed and Mohan and his son, Rúp Chand, were killed by them in a skirmish about 1618. His second son, Kála, succeeded to the *chaudhriyat* and became the guardian of Phúl and Sandálí, the sons of Rúp Chand. Phúl, whose name means 'blossom,' was blessed by the Guru Har Govind, and from him many noble houses trace their descent. He left six sons, of whom Taloka was the eldest, and from him are descended the families of Jind and Nábha. From Ráma, the second son, sprang the greatest of the Phúlkián houses, that of Patiala. The four other sons only succeeded to a small share of their father's possessions.

Phúl had in 1627 founded and given his name to the village which is now an important town in the Nábha State. His two elder sons founded Bhól Rúpa, still held jointly by the three States; and Ráma also built Rámpur. The last named successfully raided the Bhattis and other enemies of his line. He then obtained from the Muhammadan Governor of Sirhind the superintendency of the Jangal tract, his cousin Chain Singh being associated with him in the office, but Ráma could brook no rival and caused his cousin to be assassinated, only to fall in his turn a victim to the vengeance of Chain Singh's sons. The blood-feud was duly carried on by Alá Singh Ráma's third son, who killed all but one of the sons of Chain Singh. Alá Singh, now quit of his nearest enemies, established a post at Janghera to protect its people against the chiefs of Kot and Jagráon. In 1722 he entrusted Bhadaur to his elder brother, and re-built Barnála, where he too

<sup>1</sup>In Griffen's 'Punjab Rajas' he is said to have been the elder brother, while in 'Jugráfia Patiala' he is called the younger. See also 'Tárikh Patiala,' foot on p. 1 where he is described as the younger brother.



up his residence. Shortly afterwards his son Sardul Singh attacked and destroyed Nima, the possession of a Rájput who was related to the powerful Rái Kalha of Kot. This roused the Rái to a determined attempt to destroy the rising power of Alá Singh, and collecting a large force led by the Rájput chiefs of Halwára, Malsin, Thattar and Talwandí, and the famous Jamál Khán, Raís of Máler Kotla, and strengthened by an imperial contingent under Sayyid Asad Alí Khán, general of the Jullundur Doab, he attacked the Sikhs outside Barnála. The imperial general fell early in the day, and his troop abandoned the field. The troops of Máler Kotla and Kot followed their example and the Sikhs obtained a complete victory, routing the Muhammadan forces and taking many prisoners and much booty. This victory raised Alá Singh to the position of an independent chief and the Sikhs flocked to his standard. But the next 10 years were consumed in desultory warfare with the Bhattís, and Alá Singh was driven to ally himself with the imperial governor of Sirhind against the chief of Kot, who was forced to abandon his principality. Alá Singh however soon quarrelled with his ally, and was in consequence thrown by him into prison, where he would have perished but for the self-sacrifice of a follower, a relative of Cháin Singh, his hereditary foe. Thus freed, Alá Singh built the fort of Bhawánigarh, 22 miles west of the present town of Patiála. Three years later his general, Gurbaksh Singh, Káleká, subdued the territory of Sanaur or Chaurási in which the town of Patiála lies, and fortified the latter place to hold the conquered territory in check. Meanwhile the Díván of Abd-us-Samad Khán known as Samand Khán, governor of Sirhind, had fled for protection to Alá Singh, who refused to surrender him. Samand Khán thereupon marched on Sanaur, but only to meet with a severe defeat. Bhái Gurbaksh Singh, the founder of the Kaithal family, next invoked the aid of Alá Singh in subduing the country round Bhatinda, which was then held by Sardár Jodha of Kot Kapúra. Alá Singh despatched a considerable force against this chief, but effected nothing until the Sikhs from the north of the Sutlej came to his aid, overran the country and placed Bhái Gurbaksh Singh in possession of it. Alá Singh next turned his arms against two neighbouring chiefs, who having called in vain upon the Bhattís for help were slain with several hundred followers and their territories annexed. With his son Lál Singh, Alá Singh now proceeded to overrun the country of the Bhattí chiefs, who summoned the imperial governor of Hissár to their aid, but in spite of his co-operation they were driven from the field. This campaign terminated in 1759 with the victory of Dhársul which consolidated Alá Singh's power and greatly raised his reputation.

1731 A.D.

1741 A.D.

1749 A.D.

1753 A.D.

On his invasion of India in 1761 Ahmad Shah Durrání had appointed Zain Khán governor of Sirhind, but the moment he turned his face homewards, the Sikhs, who had remained neutral during his campaigns against the Mughal and Mahratta powers, attacked Sirhind which was with difficulty relieved by Jamál Khán of Máler Kotla and Rái Kalha of Kot. In 1762 Ahmad Shah determined to punish the Sikhs for this attempt on Sirhind, and though a great confederacy of the Phúlkián chiefs and other Sikh leaders was formed and opposed his advance near Barnála, the Durrání inflicted on them a crushing defeat, their loss being estimated at 20,000 men. Alá Singh himself was taken prisoner, and Barnála occupied by the Afgháns. The chief's ransom of four lakhs was paid with difficulty, and he was released, but Ahmad Shah, in pursuance of his policy of employing the Sikhs against the Mughal power, gave Alá Singh a robe of honour with the title of Rája and authority to coin money in his own name. These gifts however raised the suspicions of the Sikhs, and Alá Singh only recovered his position in their eyes when in 1763 he headed the forces

The invasion of Ahmad Shah

1762 A.D.

1763 A.D.

took Sirhind after Zain Khán had been defeated and slain outside its walls. In this battle the nascent State of Jind was represented by Alam Singh, grandson of Taloka, and that of Nabha by Hamir Singh, his great-grandson. After the victory the old Mughal District of Sirhind was divided among conquerors. Sirhind itself with its surrounding country fell to Alá Singh, Amloh to Nabha, and a considerable area to Jind. In this year Jind and Nabha may be deemed to have come into being as ruling States, henceforward their histories diverge.



# PATIALA STATE.

## CHAPTER I.—DESCRIPTIVE.

### Section A.—Physical Aspects.

THE most eastern of the three Phólkián States—Patíála, Jínd and Nábhā—Patíála derives its name from its capital city which was founded by Rájā Alá Singh, the first independent ruler of the State, about 1762 A.D. With a total area of 5,412 square miles, it is considerably the largest and most wealthy of the Native States in the Eastern Punjab, and is more populous than Baháwalpur, which has nearly three times its area. Most of its territory lies in the eastern plains of the Punjab, which form part of the great natural division called the Indo-Gangetic Plain West. Owing however to its political history the territories of the State are somewhat scattered. They comprise a portion of the Simla Hills and a tract called the *iláqa* of Nárnaul, which now constitutes the *nisámat* of Mohindargarh in the extreme south-east of the Province on the borders of the Jaipur and Alwar States in Rájputána. Moreover, the territory of the State is interspersed with small tracts and even single villages belonging to the States of Nábhā, Jínd and Máler Kotla, and to the British Districts of Ludhiána, Ferozepore and Karnál, while on the other hand the State includes several detached villages or groups of villages which lie within the natural borders of these States and Districts.

The scattered nature of the Patíála territories makes it impossible to describe its boundaries clearly and succinctly, but the map gives full details and renders any lengthy description superfluous. Briefly the State may be described as consisting of three main portions, each of which is bounded by the territories noted below:—

The main block, between N. lat.  $29^{\circ} 23'$  and  $30^{\circ} 55'$  and E. long.  $74^{\circ} 40'$  and  $76^{\circ} 59'$ , comprising the plains portion of the State west of the Jumna Valley and south of the Sutlej, is bordered thus:—

*North.*—Ludhiána and Ferozepore Districts.

*West.*—Hissár District.

*South.*—Hissár and the State of Jínd.

*East.*—Karnál and Ambála Districts.

Thus the main portion of the State forms roughly a parallelogram 139 miles from east to west and 125 miles from north to south, with an out-lying tract to the south of the Ghaggar river, which forms part of the *nisámat* of Karnagarh. The second block lies within the Simla Hills between  $30^{\circ} 40'$  and  $31^{\circ} 10'$  N. lat. and  $76^{\circ} 49'$  and  $77^{\circ} 19'$  E. long., and is thus comprised within the Himálayan area. The State here comes into contact with several of the Simla Hill States, for it is bounded on the north by Kotí, Bhajjí and Bhágal, on the west by Nálágarh and Mahlog, and on the east by Sirmúr and Keonthal, while on the south it is separated from tahsíl Kharar of the Ambála District by the watershed of the Siwálik Range. This block has a maximum length of 36 miles from north to south and a breadth of 29 miles from east to west. It forms part of the *nisámat* of Pinjaur. The third block is the *iláqa* of Nárnaul which is remote from the main territory of the State, lying 180 miles from its capital, between N. lat.  $27^{\circ} 47'$  and

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B.



**CHAP. I. A.** 28° 28' and E. long. 75° 56' and 76° 17'. It is bounded on the north by the Dádrí *ilāga* of the Jind State, on the west and south by Jaipur State territory, and on the east by the State of Alwar and the Nābha *ilāga* of Bawal Kānti. It is 45 miles from north to south and 22 from east to west.

**Descriptive.**  
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**Development.**

The plains part of the State does not differ materially from the surrounding Districts of Ludhiāna, Ambāla and Karnāl, though the tract irrigated by the Sirhind Canal in the north stands out in a pleasing verdant contrast to the sandy tracts of the south-west. In the hills the scenery is varied and picturesque.

**Rivers.**

The Patiala State as a whole is badly watered. No great river runs through it or near its borders, and the chief stream which traverses the State is the Ghaggar, which runs from the north-east of its main portion in a south-westerly direction through the Pawādh, and thence in a more westerly direction separating the Pawādh from the Bāngar, after which it leaves the territory of the State. Its bed is narrow and ill-defined in Rājpora and Banūr, but in Ghanaur the banks are low and the stream floods easily. Lower down it narrows in places, but generally speaking is not confined in the rains to any clear or well-defined channel.

**Sirhind *chod*.**

The slope of the main block of the State is from north-east to south-west, and in the rainy season the surface drainage of the country near Rūpar enters the State near Sirhind and flows through the Fatehgarh, Bhawānigarh and Sunām tahsils and spreads over the country about Jakhepal and Dharmgarh. This stream is known as the Sirhind, Mansūrpur or Sunām *chod*, and probably follows the alignment of the canal, which was cut about 1361 A. D. by Fīroz Shah III, when he constituted Sirhind into a separate district.<sup>1</sup>

**Jhambowāl *chod*.**

South of this stream runs the Jhambowāl *chod* which rises near Chinārthal, runs through Bhawānigarh and Karmgarh thānās and joins the Ghaggar near Bhainī. A third torrent, the Patialewāl Nadi, rises near Manī Mājra, and carrying with it the water of several other torrents flows past Patiala, and falls into the Ghaggar near Patārsī.

**The Ghaggar.**

Centuries ago, it is said, the Sutlej flowed through the Govindgarh tahsil, and though it is probable that the river changed its course early in the 13th century, the old depressions are still to be seen, with ridges of high sand running parallel to them. In the Himālayān area the principal stream is the Koshallia which, after receiving the waters of the Sukna, Sirsalā, Jhajra, Gambhar and Sirsa, debouches on to the plains near Mubārikpur, and is thenceforward known as the Ghaggar.

**Mohindargarh.**

In the Mohindargarh *nizāmat* the two main streams are the Dohān and the Krishnāwatī, with its tributary the Gohlī. The Dohān rises in the Jaipur hills, and traversing the *parganas* of Nārnaul and Mohindargarh flows into the Jind territory to the north. The Krishnāwatī also rises in Jaipur territory and enters the *nizāmat* on the south at Mathoka, and passing Nārnaul enters the Nābha territory on the east. The Gohlī or Chhalak rises near Bārherī in *pargana* Nārnaul and falls into the Krishnāwatī near Nārnaul town.

**GEOLOGY.<sup>2</sup>**

Mr. Hayden writes—

**Geology.**

"The Phūlkiān States are situated chiefly in the Indo-Gangetic alluvium, but their southern portions, in the neighbourhood of Gurgāon District, contain outliers of slate and quartzite belonging to the Delhi system."

<sup>1</sup> Elliot's History of India, IV, p. 11.

<sup>2</sup> Compiled from the Geology of India and other sources.



The Patiala State may be divided for geological purposes into (1) the Patiala Siwálíks, (2) the outliers of the Arávalí system in the Mohindargarh *nizámat*, and (3) the plains portion of the State west of the Jumna valley and south of the Sutlej.

The Patiala Siwálíks lie between  $30^{\circ} 40'$  and  $31^{\circ} 10'$  N. and  $76^{\circ} 49'$  and  $77^{\circ} 19'$  E., forming part of the Siwálík Range. From a physical point of view, they may be further sub-divided into Dún and Hill. Of these the first extends along the foot of the hills from Rámgarh in Ambála District on the south-east to Nálágarh on the north-west. On the south-west it is bounded by Maní Májra, also in the Ambála District, from which it is separated by the range of Siwálík hills known as the Dún Khols. These Khols present a tangled mass of small ravines, fissures and scarped walls, throughout which degradation has set in to such an extent that every year during the rains a large quantity of detritus is carried down by the streams into the Ambála plains, and it seems hopeless to expect that this action can now be stopped altogether, though much might be done by replanting and restricting grazing. In great measure the erosion must be ascribed to the laying bare of the soft sandstone formation by the destruction of the forests, for there is no doubt but that at one time this tract was clothed with dense forests of trees, of the species found in the low hills, as is evident from the old roots and petrified stems still found in many places. East of the Ghaggar river near Chandí is another range of low hills, and the portion belonging to Patiala, called the Ráitan Khols, extends from the Mír of Kotáhá's *iláqa* to Rámgarh. The other features of the Dún are (1) the Ráitan plateau, situated between Pinjaur and the Ghaggar river, some 12 square miles in extent; (2) the small isolated hills that rise out of the Dún. The Ráitan plateau is of alluvial formation and is traversed by several streams which have cut deep into the stony soil on their way to the Ghaggar.

The hill division includes two separate tracts. The smaller one about 9 square miles in extent occupies the northern portion of the Jabrot valley, south of the Phágú-Mahású ridge, and is surrounded by the Koti and Keonthal States. The larger tract extends through about 300 square miles of the mass of hills south of the Dhámí and Bhajji States as far as the Pinjaur Dún, and is bounded on the east by Keonthal, Kotí, Simla, the Gírf river and Sirmúr, on the west by Bhágal, Kuniár, Bhaghát, Bharaulí in Simla District, Bija and Mahlog States. The whole territory is divided by the Jumna-Sutlej water-shed. The chief physical features are (1) the main ridge or water-shed, marked by the Jakko, Krol, Dagsháí and Banásar peaks, (2) the western off-shoots on which are the Sanáwar, Garkhal and Karárdeo (Kasaulí) peaks, and (3) the main valleys drained by tributaries of the Sutlej, Gírf, Ghaggar and Sirsa rivers.

Tára Deví hill is a well known peak. The area which drains into the Sutlej belongs to Patiala, that which drains into the Jumna belonging to Keonthal. It seems to be composed of (1) limestone and shales, (2) sand-stone, (3) shales and clay, (4) quartzite and granite, the granite nodules being actually seen in a tunnel of the Kálka-Simla Railway for a distance of about 13 chains. Hexagonal shaped pieces of granite are said to have been found in the tunnel and sold by the Pathán coolies at Simla. The rock occurs in intrusive masses and veins, ramifying throughout the rock gneiss and schists and even penetrating the slates.

At Jabrot all the uppermost beds forming the summits of the southern face of the Mahású ridge are composed of mica schist with abundant quartz veining at intervals, while the base of the hill consists of slaty

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## Descriptive.

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## Geology.

Metamorphic  
rocks.  
Azoic period.

<sup>1</sup> All hard and crystalline rocks being destitute of fossils.



**CHAP. I. A.** rock with little or no crystalline metamorphic rock, the other beds being of the infra-Krol group resting on the Blaini bands and the Simla slates. Traces of copper are seen above Maudh village.

**PHYSICAL ASPECTS.**

Industrial products of the system.

Good roofing and flooring slates are quarried at Kemli near Jatogh and in Bāgrī Kalān. There are some sand pits in Nāgilī, a village in *pargana* Bharaulī Khurd. In *pargana* Keotan Kalān there was a copper mine, but its working was stopped by a change in the course of the Sōrajmukhī, a tributary of the Gīrī. Limestone is found in Malla (5 *kos* east of Pinjaur), and in the vicinity of Pinjaur. At Taksāl (2 miles north of Kālka) white limestone is quarried from the Kālī Mattī kī Chōī. Particles of gold mixed with dark sand are collected from the Sirsa river.

Transition system.  
"Geology of India," page 68.

Accepting the validity of a distant Arāvalli system of transition stage it may be described as consisting of quartzites, limestones, mica and feldspathic schists, and gneisses. In the *nisāmat* of Nārnaul some outliers here and there seem to belong to the Arāvalli system striking nearly from south-west to north-east in Rājputāna. In many places on sinking wells to a depth of about 20, 30 or 40 *hāths*<sup>1</sup> sandstone formations are likely to be met with. It is impossible to tell what beds may be concealed beneath the Nārnaul plain, which is a portion of the Indo-Gangetic alluvium.

Industrial products.

Limestone is quarried near Māndī (3 miles south of Nārnaul). It is turned into quicklime—for whitewash—and exported to Patiala and other places at a distance. At Mānderī, near the Police Station of Nārnaul, a rough building stone is obtained. At Khārda a kind of white stone used for building material and for making pillars is quarried. At Antrī, 8 miles south of Nārnaul, is an outlier where iron ore is mined, and in its neighbourhood fine white slabs are found. Near Bāil, 16 miles south of Nārnaul, is a hill where there are copper mines, but owing to the scarcity of fuel they are not worked. Here are also found small round diamond-shaped corneilians set in large blocks of stone. Rock crystals, quartz, mica schists and sandstones used for building purposes are found at Masnauta (south-west of Nārnaul), Pāchnauta, Antrī, Bihārīpur, Danchaulī, Golwa, Islāmpur, Sālārpur and Mandlāna. Fine slabs are found at Sarāī, Sarelī and Sālārpur. The limestone quarries at Dhānī Bathotha are noted for the good quality of their stone. Crude beryl is found at Taihla 2 miles from Nārnaul. Concrete (*kankar, ror*), called *morind* by the people, is found in many places in the surface alluvium.

In tahsīl Mohindargarh near Mādhogarh, 6 miles west of Kānaud, a gritty sandstone used for mill-stones is found. Near Sohila, 7 miles from Kānaud, there is an outlier where roofing slate is quarried, and near the same place sand, used for manufacturing glass (*kanch*) bracelets, is obtained. Dhosī is the loftiest hill in the *nisāmat*. The soil in the tahsīl of Nārnaul is *rosī*, while *bhut* or sand is abundant in Kānaud.

Carbonaceous system of the Simla Himalayas.  
"Geology of India," pages 33-34.

The boulder beds are overlaid by a series of shales or slates, characterised by the greater or less prevalence of carbonaceous matter, which underlie the limestone of the Krol mountain. The carbonaceous impregnation to these shales is very irregularly distributed, being often extremely conspicuous, especially where the rock has undergone crushing but at other times wanting at any rate near the surface. Not infrequently the blackest and most carbonaceous beds weather almost white by the removal of the carbonaceous element. Above these beds there is usually a series of quartzites of very variable thickness, varying from about twenty feet in the

<sup>1</sup> One *hath* = 1½ feet.



sections south of the Krol mountain to some thousand feet in Western Garhwál. They are very noticeable at Simla, forming the whole of the Boileauganj hill and the lower part of Jatogh, where they have been called Boileauganj quartzites.

In the Krol mountain the uppermost beds are blue limestones with associated shaly bands, mostly grey in colour, though there is one distinct zone of red shales, but as no carbonaceous beds are associated with them, and as the underlying quartzite exhibits remarkable variations in thickness, it is uncertain whether these limestones of the Krol group are the equivalents of carbonaceous or graphitic limestones or belong to a later unconformable system. The beds of the carbonaceous system contain, in most of the sections, interbedded basaltic lava flows, and more or less impure volcanic ashes either recognisable as such, or represented by hornblende schists, where the rocks have become schistose. The range of the volcanic beds varies on different sections. Their usual position is in the upper band of carbonaceous shales, but they are also found among the quartzites and in the upper part of the infra-Krol,<sup>1</sup> though they never, so far as is known, extend down as far as the Blainí group (the group so named from the village and *khad* of Blainí or Baliání in the *pargana* of Bharaulí Khurd).

There is a great similarity between sections in the Kashmír and Simla areas. In both boulder-bearing shales of presumably glacial origin are overlaid by a series of slates and quartzites, characterised by a carbonaceous impregnation and by the presence of contemporaneous volcanic beds, and in both the uppermost member is a limestone. The resemblances are not mere lithological ones between rocks, such as have always been in process of formation at every age of the earth's history. They are exhibited by the rocks which owe their origin to wide reaching causes, which have only occasionally acted, and it is difficult to resist the conclusion that they are evidence of the contemporaneous origin of the two rock series and not merely accidental.<sup>2</sup> Small concretionary globules (nodules) often occur in the Krol limestone and are taken by some for organic remains. Pandit Mádhó Rám, Naib Nazim of Patiala Forests, says that traces of a coal mine<sup>3</sup> have been recently found by him near Kandághát. In tunnelling the Barog hill section of the Kálka-Simla Railway a coal seam was also seen.

From a stratigraphical point of view the Himálayán mountains may be divided into three zones which correspond more or less with the orographical ones. The first of these is the Tibetan, in which marine fossiliferous rocks are largely developed, whose present distribution and limits are to a great extent due to the disturbance and denudation they have undergone. Except near the north-western extremity of the range they are not known to occur south of the snowy peaks. The second is the zone of snowy peaks and lower Himálayás, composed mainly of crystalline and metamorphic rocks and of unfossiliferous sedimentary beds, believed to be principally of

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Carbonaceous  
system of the  
Simla Himá-  
layás.

" *Geology of  
India*," page 136.

Tertiaries of  
the Himálayas.  
" *Geology of  
India*," page 464.

<sup>1</sup> The beds between the Krol and the Blainí group classed as infra-Krol shales are often carbonaceous and have been taken for coal.

<sup>2</sup> The correlation by Dr. Stoliczka of the quartzites of Boileauganj with the Kuling, and of the Krol with the Liling limestone of Spiti, are probably correct, and curiously enough an apparent confirmation was published, about the same time as his Memoir, in Professor Gumbel's description of a specimen from the Schiagintweit collection (said to have been obtained at Dharmpur in this State), containing 3 fossils, *Lima lineata* and *Natica guillardoti* found also in the Muschelkalk of Europe, and the new species *N. Simlaensis*. Dharmpur is, however, a well known locality on the tertiary rocks, and the specimen in question must have come from a totally distinct ground, probably in Tibet.

" *Geology of  
India*," page  
138.

<sup>3</sup> *Civil and Military Gazette* of 21st November 1903.



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## Descriptive.

PHYSICAL  
ASPECTS.Tertiaries of  
the Himálays.

"Geology of  
India," page 465.

"Geology of  
India," pages  
349-50.

Lithography:  
Sabáthú group.

## Dagshái group.

## Kasaulí group.

"Geology of  
India," page 351.

## Palæontology.

palæozoic age. The third is the zone of the sub-Himálays, composed entirely of tertiary and principally of upper tertiary deposits, which forms the margin of the hills towards the Indo-Gangetic plain, and has so intimate a connection with, and so important a bearing on, the history of the elevation of the Himálays that it will require a more detailed notice here than the others.

The stratigraphy and palæontology of the rock, composing this tertiary fringe (Patiála Siwálik<sup>1</sup>), are indicated in the following table:—

1. Upper tertiary or Siwálik series: Upper, Middle and Lower Siwálik.
2. Lower tertiary or Sirmúr series: Kasaulí, Dagshái and Sabáthú groups.

The lowest of the three groups into which the lower tertiary has been divided is named after the military station of Sabáthú, near which it is well exposed. It consists principally of greenish grey and red gypseous shales with some subordinate lenticular bands of impure limestone and sandstone, the latter principally found near the top of the group. The beds are everywhere highly disturbed and the bottom bed of the Sabáthú group is a peculiar ferruginous rock, which is very well seen at Sabáthú itself, and in the shaly beds immediately overlying it there is a seam of impure coal. The coal is too impure and too crushed to be of any economic value.

The beds of the Dagshái group proper consist almost exclusively of two distinct types of rock. One is a bright red or purple, homogeneous clay, weathering into small rounded nodular lumps; the other a fine-grained hard sandstone of grey or purplish colour. The passage from the Dagshái to the Kasaulí group is perfectly transitional: indeed the distinction of the two merely depends on the absence of the bright red nodular clays of the Dagshái group.

The Kasaulí group is essentially a sandstone formation in which the argillaceous beds are quite subordinate in amount. The sandstones are mostly of grey or greenish colour and are as a rule more micaceous and at times distinctly felspathic. The clay bands are gritty, micaceous, and but seldom shaly. At the upper limit of the Kasaulí group some reddish clay bands are seen on the cart road to Simla. These clay bands are softer and paler than those of the Dagshái group and resemble the clay of the lower portion of the upper tertiaries near Kálka.

The Sabáthú group is most palpably of marine origin and of nummulitic age as is shown by the numerous fossils it contains. The Dagshái group has yielded no fossil, except some fucoid markings and annelid tracks, which are of no use for determining either the age or mode of origin of the beds. Fossils of oak leaves and branches have been found near Dagshái by Pandit Mádhó Rám of the Forest Department, Patiála, but the great contrast of lithological character suggests a corresponding change of conditions of formation, and it is probable that they were deposited either in lagoons or salt-water lakes cut off from the sea or were of sub-aërial origin. The Kasaulí group has so far yielded no fossils, but plant remains, and this, taken in conjunction with its general similarity to the upper tertiary deposits, renders it probable that it is composed of fresh-water, if not sub-aërial deposits.

<sup>1</sup> In Sanskrit Siw = the name of the god of Hindu mythology and *álak* or *álá* = abode. Mythologically supposed to be the abode of Siwa. the name Siwálik has been applied by geographers to the fringing hills of the southern foot of the Himálayan range, and has been extended by geologists to that great system of sub-aërial river deposits which contains remains of the "Fauna Antiqua Sivalensis."

The upper tertiaries are like the lower divided into three groups. The lowest of these, known as the Náhan, consists of clays and sandstones, the former being mostly bright red in colour and weathering with a nodular structure; the latter firm or even hard, and throughout the whole not a pebble of hard rock is to be found.

The middle Siwálíks consist principally of clays, and soft sandstones, or sand rock, with occasional strings of small pebbles, which become more abundant towards the upper part till they gradually merge into the coarse conglomerates of the upper Siwálíks. The above classification, being dependent on the lithological characters, not on the palæontology, of the beds, is not strictly accurate; however it seems certain that the three successive lithological stages do represent successive periods of time, though part of the conglomerate stage on one section was certainly represented by a part of the sand rock stage on another.

At Cháil the uppermost group has been identified as consisting of similar ingredients to those in the uppermost group of Simla. Shales, dark clay, in some places red clay, are the main compounds of this group, the underlying strata being similar to those of Krol. Iron ore is found in the Asni stream bed.

At Rájgarh in *pargana* Keotan the uppermost group is composed of black sandstone, and the underlying series of strata closely resemble those of the Siwálíks. At Banásar in the *pargana* of Nálí Dhátí the uppermost group consists of hard gravel and sandstones, and the underlying strata appear similar to those of the Siwálíks.

#### FLORA.

*Kikar* grows abundantly in the Pawádh and Dun, and is used for various agricultural purposes. *Beri* is planted on wells and fields, and in Mohindargarh *nisámat*, Sunám, Samána and Sanaur there are groves of it. Banúr and Sirhind, the eastern parts of the Pawádh, are noted for their mangoes. The *pípal*, *barotá* and *ním* are planted on wells and ponds near villages, principally for their shade. The *ním* is common in Mohindargarh; its wood is useful. Avenues of *shísham* have been planted along the canals and of *siras* on the roadsides. *Frás* is common near village sites and is useful for roofing. The *dhák* is found in marshy lands and *bírs*. The *jand*, *karír*, *rerú* and *jál* are common in the Jangal, Bángar and Mohindargarh tracts. The *khair*, *gugal* and *indok* are common in Mohindargarh, and the *khajúr* (date-palm) in the Pinjaur Dún and in the Bet (Fatehgarh tahsíl). A comprehensive list of the flora of the State is given below:—

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India*," pages  
465-66.

Trees.



## CHAP. I, A.

## Descriptive.

PHYSICAL  
ASPECTS.Trees and  
shrubs.

*Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses and some Weeds.*

By Pandit Sunder Lal Pathack, Conservator of Forests, Patiala State.

Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
<b>Trees and Shrubs.</b>					
1	Kangu	Flacourtia aspidia	Bixinez	Dun	Wood used for agricultural implements and for making combs, &c. Fruit edible.
2	Kandroya	Do. ramentche	Do.	Do.	Ditto ditto.
3	Chirindi	Xylocarpus longifolia	Do.	Lower Hills	Wood aromatic, used chiefly for fuel and charcoal.
4	Gandhela	Murraya koenigii	Rutaceae	Dun, Lower Hills and Baghat.	Leaves aromatic, used to flavour curries by Madrasis.
5	Barnasi	Limonia acidissima	Do.	Do. do.	The hard yellow wood used for axles of oil-presses and rice-pounders. Locally used for fuel.
6	Beru	Skimmia laurole	Do.	Simla, Mahasu (common)	Leaves have a strong orange-like smell, when crushed.
7	Bahdin or Doh	Melia azadirach	Meliaceae	Plains Dun (common) and Lower Hills (planted).	Wood, yellowish soft, is used sometimes for furniture. Bark and leaves for medicine. An oil is extracted from the fruit.

	Tuni (Hill Tun)	Cedrela serrata	...	Do.	...	Jhabrot Kaemli	...	The leaves used for fodder. The wood light red and flesh coloured for bridges and hoops of sieves.
8	Tuni	Do. toora	...	Do.	...	Plains and Lower Hills	...	Timber highly valued for furniture, door-panels, and carving, &c.
9	Bhambela	Euonymus Hamiltonianus	...	Celastraceæ or Celastrineæ	...	Jhabrot, Fagu Narkanda	...	Wood used for carving spoons: branches lopped off for fodder.
10	Do. variety	Do. lacerus	...	Do.	do.	Simla, Shab, Jhabrot and Narkanda.	...	Wood carved into spoons. Leaves and branches lopped for fodder. Seeds strung up as beads.
11	Do. do.	Do. pendulus	...	Do.	do.	Simla, Shab	...	Wood rarely used except for fuel.
12	Do. do.	Do. tingens	...	Do.	do.	Simla, Kaimli and Jhabrot	...	Wood used for fuel. The outer bark of old stems gives a yellow dye.
13	Doodoo	Eleodendron glaucum	...	Do.	do.	Baghat and Lower Hills	...	Wood used for making karts, and fuel root believed to be a specific for snake-bite, and bark used medicinally.
14	Rabla	Do. Roxburghii	...	Do.	do.	Do. do.	...	Wood used for fuel.
15	Katheru	Rhamnus triquetra	...	Rhamnaceæ	...	Upper Hills	...	Wood capable of being used for agricultural implements.
16	Khanaur	Aesculus Indica or Pavia	...	Sapindaceæ	...	Upper Hills (planted)	...	Wood turned into cups, dishes and platters. Fruit given to cattle and goats and used for washing clothes.
17	Reetha	{ Sapindus Mukorossi } { Do. emarginatus }	...	Do.	...	Upper and Lower Hills	...	Used medicinally and also for washing silk cotton clothes.
18	Kainju	Acer caesium	...	Do.	...	Upper Hills, Mahasu	...	Made into cups.
19	Kanfla	Do. caudatum	...	Do.	...	Do. do.	...	Wood seldom used except for fuel.
20	Jhariman	Do. cultratum	...	Do.	...	Jhabrot and Mahasu	...	Wood used for making ploughs, bedsteads and jampán poles and cups. Leaves and twigs for fodder.

# CHAP. I. A. Descriptive.

## PHYSICAL ASPECTS.

## Trees and shrubs.

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shrubs.*Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses and some Weeds—continued.*

S. N. [ 1906 ]	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
<b>Trees and Shrubs—continued.</b>					
22	<i>Kasichhi</i>	<i>Acer pictum</i>	Sapotaceae	Jhabrot and Mahāsu.	Wood used for agricultural implements and drinking cups.
	<i>Parangū</i>	<i>Do. oblongum</i>	Do.	Upper Hills and Mahāsu	Wood used for fuel; leaves for fodder.
23	<i>Kaichis</i>	<i>Do. villosum</i>	Do.	Do. do.	Makes excellent hedge; wood used for fuel. Grows freely on dry slopes if planted.
24	<i>Saratka</i>	<i>Dodonaea viscosa</i>	Do.	Baghat and Lower Hills	Fruit eaten and used in Hindu medicines.
25	<i>Tung</i>	<i>Rhus parviflora</i>	Anacardiaceae	Hills 5,000	Wood prized for carving.
26	<i>Kak</i>	<i>Do. cotinus</i>	Do.	Do.	Fruit often eaten by the hill people and used medicinally.
27	<i>Tatri</i>	<i>Do. semi-alata</i>	Do.	Simla and Mahāsu	Heart wood, is golden, highly esteemed for carving and all kinds of ornamental work. Galls called <i>baker singhe</i> are used in native medicine.
28	<i>Kakkar</i>	<i>Pistacia integerrima</i>	Do.	Baghat and Lower Hills	Leaves greedily eaten by cattle. Gum exported. It can be easily propagated from cuttings.
29	<i>Jangan</i>	<i>Odia wodler</i>	Do.	Dun, Baghat and Lower Hills.	

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30	<i>Ambara</i>	...	<i>Spondias mangifera</i>	...	Do.	...	Dun	...	Fruit made into pickle.
31	<i>Dak</i>	...	<i>Butea frondosa</i>	...	Leguminosae	...	Baghat, Patiala, Lower Hills and Dun	...	Leaves used for fodder and are also used as plates. Yellow dye is obtained from the flowers.
32	<i>Steun or shisham</i>	...	<i>Dalbergia sissoo</i>	...	Do.	...	Baghat, Dun and Plains...	...	Wood used for nearly all purposes and highly valued as timber.
33	<i>Kural</i>	...	<i>Bauhinia purpurea</i>	...	Do.	...	Dun, Plains and Lower Hills.	...	Wood used for implements, bark for tanning, leaves and buds for fodder.
34	<i>Kachnar</i>	...	<i>Ditto variegata</i>	...	Do.	...	Do. do.	...	Wood used for implement's, and flowers are eaten as currie.
35	<i>Papri (Khañat)</i>	...	<i>Ditto racemosa</i>	...	Do.	...	Do. do.	...	Leaves acid and are used as fodder.
36	<i>Kihar or babul</i>	...	<i>Acacia arabica</i>	...	Do.	...	Plains and Dun	...	Green pods and leaves used for fodder. Bark for tanning and dyeing. Wood for implements, tent-pegs, and used for various purposes for timber, &c. Gum obtained from the bark used medicinally.
37	<i>Khair</i>	...	<i>Do. catechu</i>	...	Do.	...	Dun and Lower Hills	...	Wood ditto. Kha obtained from the heart-wood is eaten and is used for tanning and dyeing.
38	<i>Phulahi</i>	...	<i>Do. modesta</i>	...	Do.	...	Plains, Dun and Lower Hills.	...	Wood used for implements, &c.
39	<i>Khatti or balatti khas</i>	...	<i>Do. farnesiana</i>	...	Do.	...	Baghat and Lower Hills	...	Excellent perfume made from the flowers.
40	<i>Rora or khajura</i>	...	<i>Do. leucophylla</i>	...	Do.	...	Plains	...	Wood used for fuel. Bark ground and eaten mixed with flour.
41	<i>Phulahi khar</i>	...	<i>Do. rupestris</i>	...	Do.	...	Plains and Hills	...	Wood used for fuel; bark for tanning; lac obtained from branches.



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Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
<b>Trees and Shrubs—continued.</b>					
42	Siris	Albizia Lebbek	Leguminosæ	Baghat, Plains and Dun	Leaves and twigs lopped for camel fodder. Wood used for sugarcane-crushers, oil-mills, wheel-curbs, wheel-work and furniture.
43	Do.	Acacia odoratissima	Do.	Plains and Dun	Wood takes a fine polish and is used like the foregoing.
44	Valditi siris	Do. stipulata	Do.	Plains and Lower Hills	Branches lopped for fodder. Wood suitable for tea boxes. Gum obtained from the tree.
45	Chusi	Do. julibrissinif	Do.	Baghat and Lower Hills	Heart-wood, takes a good polish, and is used for furniture.
46	Kalhi	Indigofera pulchella	Do.	Do.	Branches used for fencing.
47	Kathkauri	Do. Leterantha	Do.	Do.	Leaves used as fodder for sheep and goats.
48	Sannan	Ougeinia dalbergioides	Do.	Do.	Twigs used as fodder for sheep and goats. Gum obtained from the bark, and wood used for implements, furniture and building purposes.

49	<i>Robinia (False acacia)</i> ...	<i>Robinia Pseud-acacia</i>	...	Do.	...	Lower and Upper Hills (planted).	Flowers white, fragrant, and wood fit for fuel. An American tree planted in hills.
50	<i>Velaki</i> <i>enali</i> (beige-wood).	<i>Inga dulcis</i>	...	Do.	...	Plains (planted)	Branches used for fencing and wood for fuel. Pods for chatni.
51	<i>Papri</i> or <i>Sakhalin</i> ...	<i>Pongamia glabra</i>	...	Do.	...	Dun	Leaves used as fodder and wood as fuel.
52	<i>Gul Sharfi</i> ...	<i>Poinciana regia</i>	...	Do.	...	Plains (planted)	Flowers fragrant, showy.
53	<i>Gul Turra</i> ...	<i>Do. pulcherrima</i>	...	Do.	...	Do. do.	Garden plant.
54	<i>Laser</i> ...	<i>Desmodium illaefolium</i>	...	Do.	...	Upper Hills, Simla-Mahasu	Leaves used as fodder.
55	<i>Pajja, Padam and Hindi-keya</i> cherry.	<i>Prunus Pladum</i>	...	Rosaceæ	...	Lower and Upper Hills ..	The branches, with the bark on, are used for walking sticks and the fruit eaten.
56	<i>Yanroi</i> ...	<i>Do Padus</i>	...	Do.	...	Jhabrot	Leaves lopped for fodder and the fruit eaten.
57	<i>Keik</i> ...	<i>Pyrus variolosa</i>	...	Do.	...	Baghat and Lower Hills	Wood used for walking sticks, combs and tobacco pipes; fruit eaten; and leaves and twigs lopped for fodder.
58	<i>Rauns</i> ...	<i>Cotoneaster acuminata</i>	...	Do.	...	Jhabrot and Mahasu ..	Sticks are made from long straight branches.
59	<i>Gingaru</i> ...	<i>Crataegus crenulata</i>	...	Do.	...	Do. do.	Makes good walking sticks.
60	<i>Bukhar ka darakti</i> ...	<i>Eucalyptus rostrata</i>	...	Myrtaceæ	...	Plains, Baghat and Lower Hills (planted).	Wood used for timber. Oil obtained from the leaves. The leaves used for medicines.
61	<i>Do.</i> ...	<i>Do. citricodora</i>	...	Do.	...	Hills and Plains (planted).	
62	<i>Do.</i> ...	<i>Do. globulus</i>	...	Do.	...	Do. do.	Wood used for combs. The pounded fruit is used to poisoning fishes.
63	<i>Chilla</i> ...	<i>Casearia tomentosa</i>	...	Samydaceæ	...	Dun, Baghat and Lower Hills.	
64	<i>Bodra</i> ...	<i>Marlea begoniaefolia</i>	...	Cornaceæ	...	Lower and Upper Hills ...	Wood used for building huts, and leaves as fodder.

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*Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses  
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Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
Trees and Shrubs—continued.					
65	Thamai	Cornus capitata	Cornaceae	Baghat and Upper Hills	Wood used for fuel, and fruit eaten by monkeys.
66	Baikar	Do. oblonga	Do.	Lower Hills and Siwaliks	Timber of no special use.
67	Kaksh	Do. macrophylla	Do.	Upper Hills	Charcoal employed in the manufacture of gun-powder.
68	Arkedhalu	Viburnum coriaceum	Caprifoliaceae	Simla, Baghat and Lower Hills.	An oil is extracted from the seeds.
69	Shobang	Do. punctatum	Do.	Do. do.	Wood used for fuel.
70	Barkha	Hymenodictyon excelsum	Rubiaceae	Dun and Lower Hills	Wood used for implements, scabbers, toys, &c.; bark for tanning; and leaves as fodder.
71	Bathwa, Katila or Chamidi	Wendlandia exserta	Do.	Lower Hills and Hurlpur	Wood used for building and agriculture implements.
72	Kara	Randia dumetorum	Do.	Dun, Baghat and Lower Hills.	Wood used for implements, walking sticks, fences and fuel. Leaves as fodder. Unripe fruit for poisoning fish. Bark and fruit used in medicines.

73	Kaim	...	Stephegyne parvifolia	...	Rubiaceae	...	Plains and Dun	...	The wood used for making combs, building, furniture and implements. Leaves for fodder.
74	Halda	...	Adina cordifolia	...	Do.	...	Dun and Sin. lks	...	The wood used for combs, furniture, implements and opium boxes.
75	Skarar	...	Hamiltonia suaveolens	...	Do.	...	Baghat and Lower Hills Khushida.	...	The charcoal used for making gun-powder.
76	Ayar and ariana	...	Pieris ovalifolia	...	Ericaceae	...	Barugh to Jabrot	...	The leaves poisonous to goats and camels; used to kill insects. An infusion made from them is applied in skin diseases.
77	Bras	...	Rhododendron arboreum	...	Do.	...	Do. do.	...	The wood chiefly used for fuel and charcoal. Flowers eaten and applied in headache. Tender leaves often cooked as vegetable.
78	Shanlara	...	Myrsine africana	...	Myrsinaceae	...	Upper Hills	...	The fruit (Sabrang) is used in native medicines.
79	Ladh, Lajh	...	Symplocos crataegoides	...	Styracaceae	...	Lower Hills	...	The wood used for carving; leaves for fodder. Leaves and bark make a yellow dye.
80	Kan, kahu or saifan	...	Olea cuspidata or ferruginea	...	Oleaceae	...	Aimergh and Nalf dharbi, one lower.	...	Best wood for cogs of wheels, used for agricultural implements, cotton-wheels, walking-sticks, in turning and for combs. Leaves bitter and a good fodder for goats. Fruit (pulp) eaten, and oil extracted from it.
81	Kewar or keor	...	Holarrhena antidyenterica	...	Apocynaceae	...	Dun, Baghat and Lower Hills.	...	Bark, leaves and seeds used in medicines; the bark for dysentery; wood used for carving and turning.
82	Kiranda	...	Carrissa diffusa	...	Do.	...	Do. do	...	Fruit eaten. Wood hard, sometimes used for making combs.

# CHAP. I. A. Descriptive.

## PHYSICAL ASPECTS.

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*Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses and some Weeds—continued.*

Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
Trees and Shrubs—continued.					
83	Kaner	Nerium odorum	Apocynaceae	Plains and Lower Hills (planted).	Flowers fragrant.
84	Gulchira	Plumeria acutifolia	Do.	Lower Hills and Dun (planted).	
85	Chamror	Ehretia laevis	Boraginaceae	Dun and Baghat	The wood used for fuel and implements, and leaves as fodder.
86	Akas nira	Millingtonia hortensis	Bignoniaceae	Plains and Kalka	Wood used for fuel.
87	Kahira	Tecoma undulata	Do.	Plains	Wood used for implements.
88	Arni	Clerodendron phylomoides	Verbenaceae	Plains and Lower Hills..	
89	Dushkanas	Callicarpa macrophylla	Do.	Baghat and Lower Hills	Heated leaves applied as a cure in rheumatism.
90	Traak	Tectona grandis	Do.	(Planted) Plains	Timber tree.
91	Bajkol	Machilus odoratissima	Lauraceae	Baghat and Lower Hills	Wood not much used.
92	Suon	Litsea lanuginosa	Do.	Do. do.	Wood yellow when first cut.
93	Sharai	Litsea consimilis	Do.	Mahdsu	Firewood.

Shikhar	...	Litsea Zeylauea	...	Do.	...	Do.	...	Ditto.
94 Gdi	...	Brideia montana	...	Suparbiaceae	...	Baghat and Lower Hills	...	Wood used for curbs, agricultural implements and buildings. Leaves lopped for fodder.
95 Lalpali	...	Poinsepia pulcherrima	...	Do.	...	Plains and Dun (planted)	...	Garden plant.
96 Jera pofa	...	Putranjiva roxburghii	...	Do.	...	Kamli and Lower Hills	...	Nuts worn by women during pregnancy to prevent abortion. Wood used for tools and turning, leaves for fodder, and nuts strung around children's necks, and Rasdag is made from seed.
97 Kamal	...	Mallotus philippinensis	...	Do.	...	Baghat and Lower Hills	...	Wood used for fuel, bark for tanning, and the fruit dust (Karrifa) used for dyeing silk and in medicines.
98 Gargas	...	Securinega lenocopyrus	...	Do.	...	Do. do.	...	Wood chiefly used for fuel and the fruit eaten.
99 Inroi	...	Ulmus wallichiana	...	Do.	...	Lower and Upper Hills	...	Leaves used for fodder. Bark gives a strong fibre. Wood capable of fine polish.
100 Papre	...	Do. integrefolia	...	Do.	...	Dun	...	Wood employed for roof, also used for carts, door frames and spoons.
101 Khara	...	Celtis Australis	...	Do.	...	Lower and Upper Hills	...	Wood used for carts, whip handles, &c., and leaves lopped for fodder.
102 Khagshi	...	Trema politoria	...	Do.	...	Dun and Lower Hills	...	Bark gives a strong fibre. Leaves lopped for fodder and serve as sand paper for polishing wood.
103 Singar	...	Boehmeria rugelosa	...	Do.	...	Baghat and Lower Hills	...	The wood used for making bowls and dairy utensils.
104 Sakars	...	Do. or Debragasia bicolor.	...	Do.	...	Do. do.	...	Leaves used as fodder. Fruit boiled and eaten in times of famine.
105 Gular or daddha	...	Ficus glomerata	...	Do.	...	Do. do.	...	

# CHAP. I. A. Descriptive.

## PHYSICAL ASPECTS.

Trees and shrubs.

## CHAP. I, A.

## Descriptive.

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*Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses and some Weeds—continued.*

Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
<b>Trees and Shrubs—continued.</b>					
105	<i>Bar Baroka</i>	<i>Ficus bengalensis</i>	... Euphorbeaceae	Baghat and Plains Hills	The wood used for well curbs; leaves and twigs as fodder; and milky juice for bird-lime.
107	<i>Jarphat</i>	<i>Do. Cunia</i>	... Do.	Do. Lower Hills	Fruit eaten. Fibres of the bark used for ropes. Leaves as fodder and for polishing wood.
108	<i>Pipal</i>	<i>Do. religiosa</i>	... Do.	Do. Plains and Lower Hills	Worshipped and held sacred by Hindus. Leaves and branches used for fodder; wood for packing cases and charcoal.
109	<i>Tarniaf or Tremuel</i>	<i>Do. roxburghii</i> or <i>macrophylla</i>	... Do.	Baghat and Lower Hills	Fruit eaten, and the leaves used for fodder and as plates.
110	<i>Pilkan</i>	<i>Do. rumphii</i>	... Do.	Plains	Shady.
111	<i>Kunch</i>	<i>Alnus obtusifolia</i>	... Cupuliferæ	Hills	Wood used for making charcoal, for iron smelting.
112	<i>Kuki, aite</i>	<i>Do. nepalensis</i>	... Do.	Do.	Bark used for tanning and dyeing, and the fruit medicinally.
113	<i>Morra</i>	<i>Quercus dilatata</i>	... Do.	Jhabrot	Leaves used for fodder. Wood for implements, building, axe-handles, walking-sticks and jhampān poles.

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## Descriptive

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114	Ban	Do.	incana	Do.	...	Baghat and Upper Hills ..	Wood makes a good fuel, and is used for building and ploughs. Acorns eaten by bears, monkeys and squirrels.
115	Kharshu	...	Quercus semicarpifolia	Cupulifere	...	Jhabrot	Leaves used for fodder, and acorns eaten by bears.
116	Bani	...	Do. annulata	Do.	...	Baghat and Lower Hills	Uses similar to those of Eda.
117	Shinri or shemkarah	...	Carpinus viminea	Do.	...	Upper Hills	Hard wood used for fuel, and much esteemed by carpenters.
118	Kail	...	Pinus excelsa	Conifereæ	...	Jhabrot and Kaimli	Sap-wood gives resin. Wood of stumps used for torches, and tar and pitch extracted from it.
119	Chil	...	Do. longifolia	Do.	...	Lower and Upper Hills ..	Wood used for building. Economic uses. Seeds eaten, sap-wood yields resin; bark gives good charcoal.
120	Kedun or Deodar	...	Cedrus deodara	Do.	...	Chail, Jhabrot and Kaimli	Timber tree. Wood used for buildings and sleepers, most durable, proof against white-ants. An oil is extracted from the wood.
121	Kat	...	Picea morinda	Do.	...	Jhabrot	Wood used for planks and packing cases and bark for water troughs.
122	Pindrow	...	Abies Pindrow	Do.	...	Do.	Wood not very durable.
123	Thona or Thaneva	...	Taxus baccata	Do.	...	Do.	Wood is used for bows, carrying poles and furniture, and the fruit eaten.
124	Gulle	...	Cupressus torulosa	Do.	...	Do.	Wood used for buildings; is excellent for sleepers and burnt as an incense in temples.
125	Kashwal	...	Berberis Lycium	Berberideæ	...	Throughout Upper Hills	An extract from the stem and roots is used in medicines.
126	Chakya	...	Aristata.	Do.	...	Do.	
127	Naddas	...	Podophyllum emodi	Do.	...	Chabrot.	



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*Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses  
and some Weeds—continued.*

Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
Trees and Shrubs—continued.					
128	<i>Chopra</i> (holly)	<i>Ilex diphylla</i>	... Illiciaceae	Baghat and Upper Hills	Wood chiefly used for fuel.
129	<i>Shik, adhi or asoti</i>	<i>Terminalia tomentosa</i>	... Combretaceae	Baghat and Lower Hills	Wood an excellent fuel, gives good charcoal, and is used for building, implements, &c. The bark is used for tanning
130	<i>Chkal</i>	<i>Anogeissos latifolia</i>	... Do.	Do. do.	Wood is used for construction, furniture, implements and carrying poles and other purposes requiring toughness and elasticity.
131	<i>Salar</i>	<i>Roswellia thurifera</i>	... Burseraceae	Dun and Lower Hills ...	Heart-wood (ebony) used for ornamental purposes and charcoal; wood used for fuel. Gum resin used in medicines
132	<i>Kharpat</i>	<i>Caraga pinnata</i>	... Do.	Dun	Leaves used for fodder.
133	<i>Frik</i>	<i>Tamarix orientalis</i>	... Tamariscineae	Plains	Wood used for fuel.
134	<i>Deo majdan or bog</i>	<i>Salix babylonica</i>	... Salicineae	Lower and Upper Hills...	Wood fit for cricket bats.
135	<i>Bhal</i>	<i>Do. elegans</i>	... Do.	Jhabrot	Wood used as fuel and leaves as fodder.

136	<i>Red lalia</i>	...	<i>Salix tetraeperna</i>	...	...	Lower and Upper Hills ...	Wood used for gun-powder, charcoal, posts and planks, and twigs made into baskets.
137	<i>Bhains</i>	...	<i>Do. wullichiana</i>	...	...	Do. do.	Branches made into baskets and twigs used as tooth-brushes.
138	<i>Pinkish Alpal, chadiana</i>	...	<i>Populus alba</i>	...	...	Jhabrot	Wood used for water-troughs and leaves as fodder for goats.
139	<i>Kandis</i>	...	<i>Diospyros monnana</i>	...	...	Plains and Lower Hills ...	Wood good for furniture, and leaves as fodder.
140	<i>Burna</i>	...	<i>Crataeva religiosa</i>	...	...	Plains	Fruit used medicinally.
141	<i>Hins or ulia</i>	...	<i>Capparis horrida</i>	...	...	Plains and Dun	Wood used as fire. Twigs, leaves and shoots greedily eaten by elephants.
142	<i>Karir</i>	...	<i>Do. do. ephylla</i>	...	...	Plains.	
143	<i>Mins (variety)</i>	...	<i>Do. sepisia</i>	...	...	Do.	Makes an excellent hedge.
144	<i>Kaurina</i>	...	<i>Cassipoua muricata</i>	...	...	Plains and Dun (planted)	A very good timber tree.
145	<i>Millett rubra</i>	...	<i>Grevillea robusta</i>	...	...	Do. do.	Shrubby wood, used as timber.
146	<i>Dhaura</i>	...	<i>Lagerstroemia parviflora</i>	...	...	Dun (planted)	Wood used for agricultural implements for construction, buggy shafts and axehandles. The bark and the leaves for tanning.
147	<i>Kalacanyje</i>	...	<i>Do. Indica</i>	...	...	Plains and Lower Hills (planted).	It is a garden showy tree.

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Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
<b>Trees and Shrubs—concluded.</b>					
148	<i>Dhawa</i>	<i>Woodfordia floribunda</i>	... Lythraceae	Lower Hills and Dun	Wood chiefly used for fuel. Flowers give a red dye, and the bark used in native medicine.
149	<i>Champa</i>	<i>Michelia champaca</i>	... Magnoliaceae	Lower Hills	Shady, flowers fragrant, and wood used as timber.
150	<i>Muckhund</i>	<i>Pterospermum acerifolium</i>	... Sterculiaceae	Planted	Ditto ditto.
151	<i>Hias</i>	<i>Balanites roxburghii</i>	... Simarubaceae	Plains	Wood used as fuel. Oil expressed from the seeds. Pulp used to clean silk in Rājputāna. Seeds, bark and leaves used medicinally.
152	<i>Lalchitra or dhūsa</i>	<i>Plumbago zeylonica</i>	... Plumbaginaceae	Plains, Lower Hills and lower valleys.	
153	<i>Bui</i>	<i>Fraxinaria crispa</i>	... Compositae	Plains	Eaten by cattle.



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By Pandit Sunder Lal Patnack, Conservator of Forests, Patiala State.

Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
Fruit Trees and Plants.					
1	Beri ✓	Zizyphus jujuba	Rhamnace	Plains and Lower Hills, Khud and Bhagat.	Wood used for agricultural implements and fuel; gives very good charcoal. Fruit is eaten; branches and leaves lopped for fodder and lac produced on branches.
2	Bit	Egle Marmelos	Rutaceae	Plain and Lower Hills "	Fruit dry, stringent.
3	Pahāri ber	Zizyphus oxyphylla	Rhamnace	Hills and Khads.	Fruit acid. The wood, fruit and roots used as medicine as blood purifier.
4	Beri or Yādōeri	Do. cumularia	Do.	Plains and Dun	Fruit eaten, leaves used for fodder and branches for fencing. Roots serve as safe binding.
5	Am	Mangifera Indica	Anacardiaceae	Plains, Dun and Lower Hills.	The tree chiefly valued for its fruit; wood used for making doors, windows, furniture and for tea boxes.

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Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
Fruit Trees and Plants—continued.					
6	<i>Baddām</i> (almond)	Prunus Amygdalus	Rosaceae	Upper Hills	... Fruit valuable.
7	<i>Seo, seb</i> (apple)	Pyrus Malus	Do.	Do.	... Do.
8	<i>Kathā seb</i>	Do.	Do.	Do.	... Sour fruit.
	<i>Akke or Aśāku</i>	Rubus paniculatus	Do.	Baghat and Lower Hills...	Fruit eaten.
9	<i>Khāshānī</i> (apricot)	Prunus armeniaca	Do.	Hills.	
10	<i>Hir</i> (c. sp. berry)	Rubus flavus	Do.	Lower and Upper Hills ...	Fruit eaten; has an agreeable flavour. There are several varieties— R. niveus. R. macilentus. R. ellipticus. R. biflorus R. lasiocarpus.
11	<i>Logūt</i>	Eriobotrya Japonica	Do.	Plains and Dun.	

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12	<i>Amr or Anshiro</i> (peach)	...	Prunus Persica	...	Do.	...	Plains and Lower and Upper Hills.	
13	<i>Nānpālī</i> (pears)	...	Pyrus communis	...	Do.	...	Plains and Hills.	
14	<i>Alāka</i> (plum)	...	Prunus communis	...	Do.	...	Plains, Dun and Upper Hills.	Fruit.
15	<i>Bikī</i> (quince)	...	Pyrus Cydonia	...	Do.	...	Dun and Lower Hills	Do.
16	<i>Pajā</i> (Himalayan cherry)	...	Prunus pnedum	...	Do.	...	Lower and Upper Hills	Fruit eaten; branches are used for walking sticks.
17	<i>Cherry</i>	...	Do. caranus	...	Do.	...	Upper Hill	Fruit.
18	<i>Pālā</i>	...	Pyrus Kumaon	...	Do.	...	Hills.	
19	<i>Kānālā</i>	...	Do. variclosa	...	Do.	...	Baghāt and Lower and Upper Hills.	Fruit eaten; leaves and twigs lopped for fodder, and the wood for walking sticks, combs and tobacco pipes.
20	Strawberry	...	Fragaria vesca	...	Do.	...	Hills.	
21	<i>Yānālā</i>	...	Pyrus baccata	...	Do.	...	Hills and cultivated land	Fruit (sour) eaten.
22	<i>Pālā</i>	...	Do. lanata	...	Do.	...	Do.	Fruit eaten when half rotten, and the wood used for boxes.



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Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
Fruit Trees and Plants—continued.					
23	Amrāḍ (guava)	Psidium Guava	Myrtaceæ	Plains and Dun.	Fruit edible; wood used for building, implements and well furniture, especially suitable for use under water. Bark used for tanning and dyeing, and in medicines.
24	Jāmūn	Eugenia jambolana	Do.	Plains, Baghat and Lower Hills.	
25	Yamunay	Do. variety	Do.	Do. do.	Ditto ditto.
26	Gulāb jāmin (rose apple)	Do. rosea	Do.	Plains and Dun	Ditto ditto.
	Rat Yamunay	Jambou operculata	Do.	Plains.	
27	Karāinda	Carissa carandas	Apocynaceæ	Plains and Dun.	
28	Gondāni	Cordia rothii	Boraginæ	Plains	Fruit edible; wood used as fuel.
29	Phagura (fig)	Ficus virgata	Urticaceæ	Plains and Hills	Fruit edible; leaves used for fodder and serve as plates.
30	Angir	Do. careca	Do.	Plains and Dun	Fruit.

31	<i>Trimal</i>	...	<i>Ficus roxburghii</i>	...	Do.	...	Baghat and Lower Hills	Fruit edible; leaves used for fodder and serve as plates.
32	<i>Kimo</i> (mulberry)	...	<i>Morus indica</i>	...	Do.	...	Lower and Upper Hills	Fruit edible; leaves feed silkworms.
33	<i>Tat</i> (mulberry)	...	<i>Do. alba</i>	...	Do.	...	Plains	Fruit edible; leaves used as fodder and branches for making baskets.
34	<i>Kimo</i> (mulberry, Hill)	...	<i>Do. serrata</i>	...	Do.	...	Hills.	
35	<i>Tat</i> (mulberry)	...	<i>Do. parvifolia</i>	...	Do.	...	Plains and Lower Hills.	
36	<i>Khajur</i>	...	<i>Phoenix sylvestris</i>	...	Palmeae	...	Plains	Fruit eaten; leaves made into mats; and sugary sap extracted from the tree in Bengal.
37	<i>Do.</i>	...	<i>Do. cactylifera</i>	...	Do.	...	Plains (planted).	
38	<i>Kachal</i> (jac tree)	...	<i>Artocarpus integrifolia</i>	...	Urticaceae	...	Plains and Dun.	
39	<i>Badhal</i> (monkey fruit)	...	<i>Do. Lakoocha</i>	...	Do.	...	Do.	
40	<i>Akrot</i> (walnut)	...	<i>Juglans regia</i>	...	Juglandaceae	...	Lower and Upper Hills.	
41	<i>Kaiphai</i> (box myrtle)	...	<i>Myrica sapida</i>	...	Myricaceae	...	Baghat and Lower Hills.	
42	<i>Mitha-Khany</i> (chestnut)	...	<i>Castanea vesca</i>	...	Cupuliferae	...	Upper Hills.	
43	<i>Khimri</i> (kauki)	...	<i>Mimusops Indica</i>	...	Sapotaceae	...	Plains.	
44	<i>Cheeraji</i>	...	<i>Buchanania latifolia</i>	...	Anacardiaceae	...	Dun (planted)	
45	<i>Lasana</i>	...	<i>Cordea Mxya</i>	...	Boraginaceae	...	Plains and Dun	Fruit and medicine.

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*Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses  
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Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
Fruit Trees and Plants—continued.					
46	<i>Mishā hēndē</i>	...	Ebenaceæ	...	Ebony tree.
47	<i>Tenda</i>	...	...	...	...
48	<i>Arā (elephant apple)</i>	...	Rutaceæ	...	...
49	<i>Bajūri nīnāou (Jenion)</i>	...	Do.	...	...
50	<i>Rangtra (orange)</i>	...	Do.	...	...
51	<i>Chakotra</i>	...	Do.	...	...
52	<i>Kewā (sour lime (Lauraf))</i>	...	Do.	...	...
53	<i>Phāla</i>	...	Tiliaceæ	...	...
54	<i>Lichī</i>	...	Sapindaceæ	...	...



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55	Anar or dāra	Punica Granatum	...	Lythraceae	...	Plains and Hills	...	Pomegranate.
56	Gal or mas	Salvadora oleoides	...	Salvadoraceae	...	Plains	...	} Fruit very sweet and eaten; dried fruit is an article of trade. Leaves used for fodder for camels and the wood as fuel.
57	Wan	Do. Persica	...	Ditto	...	Do.	...	
58	Kamrah	Averrhoa Carambola	...	Geraniaceae	...	Plains and Dun.	...	
59	Arind Khurbāḡa	Carica Papaya	...	Passifloraceae	...	Do.	...	Papaya.
60	Sharifa	Anona squamosa	...	Anonaceae	...	Plains and Lower Hills	...	Custard apple.
61	Angur (vine)	Vitis vinifera	...	Ampelidæ	...	Do. do.	...	.
62	Am. peach	Clausena Wampi	...	Rutaceae	...	Dun and Plains	...	Wampi.
63	Kela (plantain)	Musa paradisiaca	...	Musaceae	...	Plains and Lower Hills.	...	
64	Sharani	Corylus colurna	...	Cupuliferae	...	Planted Upper Hills	...	Hazelnut.
65	Dākh (grapes)	Ribes rubrum	...	Saxifragae	...	Hills.	...	
66	Emi	Tamarindus indica	...	Leguminosae	...	Plains and Dun	...	Fruit and medicine.
67	Mona	Bassia latifolia	...	Sapotaceae	...	Plains and Lower Hills	...	Fruits; seed.

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## Economic plants.

*Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses and some Weeds—continued.*

By Pandit Sundar Lal Pathack, Conservator of Forests, Patiala State

Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
Economic Plants.					
1	<i>Sinhal</i>	<i>Bombax malabaricum</i>	Malvaceæ	Dun	Calyx of flower buds eaten, silky wool obtained from the fruits used to stuff pillows and quilts.
2	<i>Pula</i>	<i>Kydia calycina</i>	Do.	Baghat and Lower Hills	Wood used for fuel only and the bark for cleaning sugar.
3	<i>Rehat</i>	<i>Grewia oppositifolia</i>	Tiliaceæ	Baghat, Dea and Upper Hills.	Wood used for car-shafts and <i>banghi</i> poles, leaves for fodder, fibres for rope-making. The fruit is eaten.
4	<i>Dhāman</i>	Do. <i>elastica</i>	Do.	Dun	Pot-herb.
5	<i>Chauli</i>	<i>Amaranthus variety</i>	Amarantaceæ	Plains and Hills	
6	<i>Bil or Bail</i>	<i>Egle Marmelos</i>	Rutaceæ	Baghat, Dun and Lower Hills	Wood used for naves of cart-wheels and the pulp of the fruit used medicinally.
7	<i>Harnal</i>	<i>Peganum harmala</i>	Do.	Plains	Seeds used medicinally.
8	<i>Teybat</i>	<i>Zanthoryum alatum</i>	Do.	Baghat and Lower Hills	Walking sticks and clubs are made from the stem and the fragrant twigs used as tooth brushes.





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*Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses and some Weeds—continued.*

Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
<b>Economic Plants—continued.</b>					
20	मसूर	Desmodium Horibundum	...	Upper Hills (7,000)	Fodder.
21	भक्षल	Pithecellobium utilis	...	Baghat and Lower and Upper Hills.	It is used for hedging. An oil expressed from the seeds is chiefly used for burning and food.
22	मूँ	Cotoneaster microphylla	...	Do.	The branches used for making baskets and the fruit very sweet.
23	हार सिंगर	Nyctanthes Arbor-tristis	...	Do.	The wood used for fuel, leaves for polishing wood and in medicines; orange-dye obtained from the flowers.
24	लसूँ	Cordia myxa	...	Dun and Plains	The wood used chiefly for fuel, fibre of the bark made into ropes, fruit eaten, its pulp used as bird lime, and leaves used as plates.
25	सम्बल	Vitex regundo	...	Baghat and Lower Hills	Roots and leaves used in native medicines and the branches and twigs for basket-making.
26	खमर	Gmelina arborea	...	Dun and Siwaliks	Root, fruit and the bark used medicinally.
27	काँवर (camphor tree)	Campora officinalis	...	Plains and Dun (planted)	Medicinal properties known.

		Phyllanthus Emblica	Euphorbiaceæ	...	Baghat and Lower Hills	The wood gives excellent charcoal and bark and fruit used for tanning and also medicinally and the fruit eaten.
28	<i>Amala</i>	...	...	...	...	Tallow tree.
29	<i>Tarcharbi</i>	...	Do.	...	Plains and Dun (planted)	The oil extracted from the seed which is used medicinally as purgative and used in lamps.
30	<i>Arund</i>	...	Do.	...	Plains and Dun	Milky juice used for blistering and several other medicinal uses.
31	<i>Thor</i>	...	Do.	...	Baghat and Lower Hills	Yields a valuable fibre.
32	<i>Bhabar</i> (Nilghery nettle)	...	Urticaceæ	...	Lower and Upper	Furnishes a textile fibre of great value.
33	<i>Rhya</i>	...	Do.	...	Dun (planted)	Fuel.
34	<i>Sikaru</i>	...	Do.	...	Lower Hill and Kheds	Yields charas and Himáláyan hemp fibre.
35	<i>Bhang</i>	...	Cannabaceæ	...	Lower and Upper Hills	Musk plant.
36	<i>Laskar</i>	...	Ranunculaceæ	...	Upper Hills	Roots employed as a tonic and febrifuge.
37	<i>Atis</i>	...	Do.	...	Do.	Bark used for making shoes.
38	<i>Ka</i> (nettle tree)	...	Do.	...	Upper Hills and Simla	India rubber plant.
39	<i>Rubber</i>	...	Urticaceæ	...	Do. (planted)	Berries form a good preserve mixed with sugar.
40	<i>Sarch</i>	...	Elæagnaceæ	...	Dun	Fruit edible, leaves used for fodder, juice for making curds.
41	<i>Kimri</i>	...	Urticaceæ	...	Plains and Hills	Leaves and bark used for making paper.
42	<i>Kéji</i> (Paper mulberry)	...	Do.	...	Plains and Dun (planted)	

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Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
Economic Plants—continued.					
43	<i>Kuki or Atis</i>	<i>Alnus nepalensis</i>	Cupuliferae	Lower and Upper Hills...	Fruit ( <i>offs</i> ) medicine. Wood used for bedsteads and hooked sticks in rope bridges and the leaves for tanning and dyeing.
44	<i>Bans</i>	<i>Dendrocalamus strictus</i>	Gramineae	Dun and Lower Hills ...	Used for basket-making and manufacture of furniture.
45	<i>Pahāri bāns or Bānsi</i>	<i>Bambusa arundinacea arandinaria utilis.</i>	Do.	Dun and Lower Hills ...	} Used for wicker-work, &c.
46	<i>Pāla Dhārdīar bāns</i>	<i>Bambusa arata</i>	Do.	Dun ...	
47	<i>Chakra kushmal</i>	<i>Berberis Lycium</i>	Berberidaceae	Upper Hills ...	} An extract ( <i>Rasul</i> ) is prepared from the root.
48	<i>Ditto</i>	<i>Do. aristata</i>	Do	Baghat and Lower Hills ...	
49	<i>Papra (Fit Papra)</i>	<i>Fumaria parviflora</i>	Cruciferae	Hills ...	Used medicinally.
50	<i>Sawanjna</i>	<i>Moringa pterygosperma</i>	Moringaceae	Plains and Lower Hills...	Leaves, flowers and fruits are eaten as a vegetable. Leaves also lopped for fodder. Gum obtained from the bark. Roots used medicinally.
51	<i>Nāli</i>	<i>Ipomoea reptans</i>	Convolvulaceae	Plains (vegetable).	

52	<i>Atas del (astvavut)</i>	...	<i>Cuscuta reflexa</i>	...	Do.	...	(Climber.) Seeds official. Flowers pleasant and have a powerful scent.
53	<i>Basuli or Bansa</i>	...	<i>Adhatoda vasica</i>	...	Acanthaceæ	...	Leaves and flowers used in medicines. Wood for gunpowder and charcoal. Horses are very fond of the leaves.
54	<i>Bahra</i>	...	<i>Terminalia bellerica</i>	...	Combretaceæ	Do. and Dun	Fruit myrabolans of commerce. Wood used for packing cases and building.
55	<i>Harr</i>	...	Do. <i>Chebula</i>	...	Do.	Dun	Fruit myrabolans of commerce and native medicine.
56	<i>Salt berries</i>	...	<i>Daphne papyracea</i>	...	Thymelaceæ	Lower and Upper Hills	Paper made out of the fibrous bark.
57	<i>Ykoo</i>	...	<i>Tamarix dioica</i>	...	Tamariscinæ	Plains	Wood used for fuel and branches for making baskets.
58	<i>Mohwa</i>	...	<i>Bassia latifolia</i>	...	Sapotaceæ	Plains and Lower Hills	Flowers eaten. Spirit extracted from them. Fruit is eaten. It also gives a thick oil which is eaten, burnt and also used to adulterate gñi.
59	<i>Manisari</i>	...	<i>Mimusops Elengi</i>	...	Do.	Plains and Dun	Flowers give a very fragrant smell and are used for garlands.
60	<i>Amliw (mountain sorrel)</i>	...	<i>Xyris reniformis</i>	...	Polygonaceæ	Upper Hills	Used as a native remedy.
61	<i>Amliwa (sorrel)</i>	...	<i>Rumex hastatus</i>	...	Do.	Do.	Widely distributed.
62	<i>Phug</i>	...	<i>Collinsonia polygonoides</i>	...	Do.	Plains	Flowers eaten by men, stalk used as fodder for camels and the root as fuel.
63	<i>Ale</i>	...	<i>Calatropis gigantea</i>	...	Asclepiadæ	Do.	Makes a good pillow stuffing; fibres of the bark are used for string. Wood made into charcoal for gunpowder and roots used medicinally.
64	<i>Do.</i>	...	Do. <i>procera</i>	...	Do.	Do.	...

# CHAP. I, A Descriptive.

PHYSICAL  
ASPECTS.

Economic plants.



## CHAP. I, A.

## Descriptive.

PHYSICAL  
ASPECTS.

## Economic plants.

*Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses  
and some Weeds—continued.*

Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
Economic Plants—continued.					
65	<i>Dedmushā</i>	<i>Salix caprea</i>	Salicaceae	Planted.	Fruit pickled.
66	<i>Katār</i>	<i>Capparis aphylla</i>	Capparidaceae	Plains	...
67	<i>Laudār (Loth)</i>	<i>Symplocos paniculata</i>	Styracaceae	Upper Hills	Used in dyeing with madder.
68	<i>Gudgudālā</i>	<i>Sterculia villosa</i>	Sterculiaceae	Dun	Fibrous bark is used for rope-making.
69	<i>Mār phāl</i>	<i>Helicteris Isora</i>	Do.	Do.	Fruit used medicinally.
70	<i>Kurro</i>	<i>Gentiana kurroo</i>	Gentianaceae	Lower and Upper Hills	Root medicine.
71	<i>Kurand Bālā</i>	<i>Chenopodium murale</i>	Salsolaceae	Hills	Used as fodder; seeds medicinal.
72	<i>Lana or Salsula</i>	<i>Anabasis multiflora</i>	Do.	Plains	} Camel fodder; used for the preparation of <i>saji</i> (soda).
73	<i>Bālan</i>	<i>Chenopodium album</i>	Do.	Do. (pot herb)	
74	<i>Tumbā (Kaurtuma)</i>	<i>Cucumis or citrullus colocynthis</i>	Cucurbitaceae	Do.	Fruit extensively used as a purgative for horses. Seeds and pulp medicinal.
75	<i>Kachri, chibhar</i>	Do. pubescens	Do.	Plains	} Fruit eaten.
76	<i>Ban karela</i>	<i>Momordica charantia</i>	Do.	Lower Hills and Plains	

*Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses and some Weeds—continued.*

By Pandit Sundar Lal Pathack, Conservator of Forests, Patiala State.

Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
<b>Grasses and Weeds.</b>					
<b>GRASSES.</b>					
1	<i>Bara</i>	<i>Sorghum Halepense</i>	Gramineae	Plains, Siwaliks and Lower Hills.	Eaten by cattle, sometimes with bad effects.
2	<i>Anjan</i>	<i>Andropogon rwarancusa</i>	Do.	Plains	Used as fodder for cattle; oil is also extracted; a syrup is also obtained from it which is used medicinally.
3	<i>Mirchagandh</i>	<i>Do. Schoenanthus</i>	Do.	Siwaliks	Used medicinally.
4	<i>Patuan or palua</i> /	<i>Do. annulatus</i>	Do.	Plains	Excellent fodder for bullocks and horses when green.
5	<i>Pamn</i>	<i>Do. muricatum</i>	Do.	Plains, Dun and Siwaliks	Used for thatching.
6	<i>Dub or kusha</i> /	<i>Poa or Eragrostis cynosuroides</i>	Do.	Plains and Dun	The sacred grass used sometimes for making sieves.

CHAP. I, A.  
Descriptive.  
PHYSICAL  
ASPECTS.  
Grasses and  
Weeds.

CHAP. I, A.  
Descriptive.

PHYSICAL  
ASPECTS.

Grasses and  
Weeds.

*Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses  
and some Weeds—continued.*

Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
Grasses and Weeds—concluded.					
Grasses—concluded.					
7	Dab or Khabda	Cynodon dactylon	Gramineæ	Plains and Khuda	Well adapted for turfing, given to cows to produce and to increase milk.
8	{ Samsik China	Panicum colonum	Do.	Plains	} Best for forage; seeds eaten by Hindûs on fast days.
		Miliacum	Do.	Do.	
9	Mûnj, sîr or sarhanda	Saccharum munja or sara	Do.	Plains and Doo	Fibres are obtained from sheath for <del>many</del> cordage. Leaves made into mats, bundles of stems used for floating heavy timber. From stems chairs, <del>stalls</del> and basket-work are made and are used for thatching.
10	Sarida or saredia	Heteropogon contortus	Do.	Plains and Hills	Good fodder when young.
11	Sarkara, san, kam or kâki	Saccharum spontaneum	Do.	Plains and Doo	Used for chicks, thatch, &c.; pens made from the stem; given to buffaloes as fodder.





CHAP. I, A.  
Descriptive.  
PHYSICAL  
ASPECTS.  
Climbers.

Flora of Patiala State showing the important Forest Trees, Shrubs, Fruits and Economic Trees and principal Grasses  
and some Weeds—concluded.

Serial No.	Vernacular name.	Botanical name.	Natural order.	Locality.	Uses.
Climbers.					
1	<i>Mikha beē</i>	<i>Cesalpinia sepiaria</i>	Leguminosae	Plains and Dun	Excellent hedge plant, good febrifuge, and different parts used medicinally.
2	<i>Guchā, ratak</i>	<i>Abrus Precatorius</i>	Do.	Dun	The seed is used in weighing gold, &c.
3	<i>Malyhan or Taur</i>	<i>Bauhinia Vahlī</i>	Do.	Dun and Lower Hills	The elephant creeper. The slender branches used for ropes.
4	<i>Shāman (Ganj)</i>	<i>Millettia auriculata</i>	Do.	Baghat and Lower Hills	An enemy of the forest.
5	<i>Bel sarāhī</i>	<i>Pueraria tuberosa</i>	Do.	Swātik and Lower Hills	Sweet tuberous roots, eaten raw and medicinally. Dāk horses fed on it.
6	<i>Matti</i>	<i>Artalotrya odoratissima</i>	Anonaceae	Dun	Flowers fragrant.
7	...	<i>Bignonia venusta</i>	Bignoniaceae	Plains (planted)	Showy.
8	...	<i>Boegainvillea glabra</i>	Nyctaginaceae	Plains	Do.
9	...	<i>Ipomoea carnea</i>	Convolvulaceae	Do.	Garden plant.
10	<i>Safed beē</i>	<i>Perana paniculata</i>	Do.	Baghat and Lower Hills.	



## CHAP. I, A.

## FAUNA.

## Descriptive.

In the hills various kinds of deer are occasionally found—musk-deer, barking-deer, and *chital*. Leopards are fairly common, and an occasional tiger strays over from the Ambāla District and the United Provinces.

## PHYSICAL ASPECTS.

## Fauna.

In the plains there are black buck, ravine-deer, and *nilgāi*. Pig live in the *birs*, and otters in the *Bet*. Wolves are still to be found in the more jungly parts of the State, while foxes, jackals, wild cats and hares are as common here as elsewhere in the Punjab.

The commoner wild birds include peacocks, partridges, quail, sand-grouse, pigeon and snipe. Geese and *kūlan* and the lesser bustard are sometimes seen. In the hills pheasants of various kinds, *chikor*, and jungle fowl abound.

## Snakes.

Among the venomous snakes are the cobra and *karait* and the others usually found in the southern Punjab.

Below is a list of the more important wild mammals, birds and snakes found in the State:—

## Mammals.

Name.	Habitat in the State.
Wolf ( <i>bhogiār, bheria</i> )	... Found scattered.
Jackal ( <i>gidar</i> )	... Common throughout the State.
Fox ( <i>lomra</i> )	... Ditto ditto.
Wild Cat ( <i>jungle bill</i> )	... Found scattered.
Otter ( <i>ad</i> )	... In Bet.
Hare ( <i>sahā, sahāā, khurgah</i> )	... Found everywhere.
Wild pig ( <i>shar</i> )	... Found in the Birs.
Blue Bull ( <i>nilgāi, rejh</i> )	... In the Birs and Bet; not common.
<i>Chital</i>	... In the hills.
Beet ( <i>bhāldā, ichh</i> )	... In Raetan.
Hyaena ( <i>charkh</i> )	... In Raetan and the hills in Mehindargah.
Tiger ( <i>sher</i> )	... Very rarely found in the hills.
Barking-deer ( <i>bakkar</i> )	... In the hills.
Musk-deer ( <i>hastāra musandfa</i> )	... In Jabrot.
Gazelle ( <i>chinkdra</i> )	... Found scattered.
Monkey ( <i>bandar</i> )	... In Narwāna tahsil.
Black-buck ( <i>kālā hien or kālā mirg</i> )	... Fairly common.
Porcupine ( <i>seh</i> )	... Not common.
Panther ( <i>chita</i> )	... In the hills.
<i>Gurāl</i>	... Ditto.
Mongoose ( <i>lucāā</i> )	... Everywhere.

## Birds.

## CHAP. I, A.

## Descriptive.

Name.	REMARKS.
Pearcock ( <i>mor</i> )	... In Nárnaul, Narwána and other parts of the State.
Black partridge ( <i>káld títar</i> )	... In the Bles, the hills and in Nárnaul.
Grey partridge ( <i>títar</i> )	... Common throughout the State.
Quail ( <i>batér</i> )	... Common at the time of harvest.
Lapwing ( <i>latfiri</i> )	... Found everywhere.
Crane ( <i>Kún</i> , <i>Kúlan</i> )	... A cold weather visitant.
Snipe ( <i>cháha</i> )	... Ditto.
<i>Haryal</i> (green pigeon)	... Comes in Asan], Kátak and leaves in Mágh.
<i>Tiliar</i>	... Ditto ditto.
Goose ( <i>magh</i> )	... Comes in Kátak and leaves in Mágh.
Sand-grouse ( <i>bhatitar</i> )	... Ditto ditto.
<i>Dámt</i> or <i>padná</i>	... Comes in Bhádon and goes in Báisákhi.
Sarus Crane ( <i>sáras</i> )	... Occasionally found in pairs.
The great bustard ( <i>tugilar</i> )	... Found in Bet land during the hot and the rainy season.
<i>Chikor</i>	... In the hills.
Jangal owl ( <i>lál murgha</i> )	... In Rastan and the Dun.
Blue rock pigeon ( <i>babálar</i> )	... Found everywhere.

PHYSICAL  
ASPECTS.

Birds.

## List of venomous snakes in the State.

Name.	REMARKS.	Venomous snakes.
Cobra ( <i>káld sánp</i> )	... Found everywhere.	
<i>Karait</i> ( <i>Sángchúr</i> )	... Ditto.	
<i>Dháwan</i>	... Found in Nárnaul.	
<i>Ragadhans</i>	... Ditto.	
<i>Padam</i>	... Ditto.	
<i>Chithabra</i> or <i>kaurella</i>	... Found everywhere.	

## CLIMATE.

Every degree of heat and cold, as of altitude, is to be found in Patiala. The capital lies low, and is subject to the extremes of climate, while Cháil, the summer head-quarters, lies at a height of 7,000 feet and is cooler in summer time than Simla.

Climate.

The hills, with the exception of the Pinjaur *thána*, have an excellent climate. In Pinjaur *thána* the hot weather is moderate, but the rains are oppressive. In the plains the most healthy parts of the State are the Bángar and the Jangal tracts, and the Mohindargarh *nisamat*. The

Temperature  
Table 6 of  
Part B.



## CHAP. I. A.

## Descriptive.

PHYSICAL  
ASPECTS.Healthiness  
of the State.

Jangal tract and Mohindargarh have a long and dry hot weather, though the heat at night is not excessive so long as the skies are clear.

Speaking generally, the healthiness of the climate in the various tracts varies inversely with the irrigation. The Ghaggar irrigates the Banúr, Rájpura and Ghanaur *iláqas*. In the rains two little streams, the Dohán and Krishnáwattí, flow through the *nizámat* of Nárnaul. The Sirhind Canal irrigates the following *iláqas* amongst others :—

*Nizámat* { Amargarh—Doráhá, Amargarh and Sherpur.  
Barnála—Bhatinda.  
Karmgarh—Chúharpur, Sanaur and Samána.

One result of the irrigation in these areas is to render the country swampy and malarious in the rainy season. The Ghaggar is the chief offender, and its overflow affects the following *iláqas* :—

*Nizámat* Pinjaur—Ghurám, Ghanaur, Banúr, Mardánpur and Rájpura. Mardánpur, however, is less unhealthy than Patialá and *iláqa* Sanaur.

*Nizámat* Karmgarh—Akálgarh.

The following *iláqas* are swampy to a less degree during the rains, owing to percolation :—

*Nizámat* { Karmgarh—Sanaur and Naráingharh.  
Amargarh—Alamgarh and Khumánon.  
Pinjaur—Pinjaur.

Among the driest and healthiest parts of the State the following *iláqas* may be classed :—

*Nizámat* { Karmgarh—Karmgarh, Sunám and Narwána.  
Amargarh—Sirhind, Sáhíbgarh, Chanárthal and Amargarh.  
Anáhadgarh—Bhadaur, Bhatinda, Sardúlgarh, Bhíkhí and Bohá.

It will be noticed that some of these *iláqas* lie in the irrigated areas mentioned above. The irrigation, however, is not excessive here, and as the arrangements for drainage are good, the health of the people is not materially affected.

## Rainfall.

Tables 7, 8, 9 of  
Part B.

The rainfall, like the temperature, varies considerably in different parts. In the hills round Simla the average annual fall is between 60 and 70 inches. About Pinjaur and Kálka at the foot of the Simla hills it is about 40 inches, and decreases as the distance from the Himálayás increases, being probably 30 inches at Sirhind, 25 at Patialá and Páil, 20 at Bhawánígarh, and only 12 or 13 at Bhatinda and in the Mohindargarh *nizámat*. In the south-west the rainfall is not only less in amount, but more capricious than in the north and east. Fortunately the zone of insufficient rainfall is now for the most part protected by the Sirhind Canal, but Mohindargarh is still liable to severe and frequent droughts. An account of the more serious rain famines will be found below (Chapter II, page 136 ff.).

The flood of  
Sambat 1909  
(1852-53 A. D.).

The slope of the country causes in some parts of the State floods (*rau*) in years of heavy rainfall, and these do considerable damage to wells and crops. Patialá, the capital, lies in a depression and is thus very liable to floods. There was a great flood in Sambat 1909. No estimate of the damage done by this flood can be given as no records appear to have been kept. It is however stated that a great part of Patialá outside the Saifábádí and Sanaurí gates was destroyed by the flood.

A sudden and disastrous flood<sup>1</sup> broke over Patiala at 1 o'clock in the morning of the 19th September 1887. Forty lives were lost, and the loss of property was very great. The whole town was surrounded by water and all the gates of the city were closed to egress or ingress. The mail was stopped, telegraph lines were injured, and the telegraph office was demolished. The mail was brought in on elephants the next day. The railway line between Rájputra and Patiala was breached for several days. The flood began to subside in the evening of the 20th September and early the next morning elephants and *sarndis* (water-skins) were employed to rescue those who had taken shelter in the branches of trees, etc. A special Committee was appointed to help the poor who had suffered in the catastrophe, and food was distributed from 11th Kátak to 2nd Poh under the supervision of Bhái Rám Singh, the then Inspector of Schools. *Chhappars* were built and 157,797 people (Hindus 52,957, Muhammadans 87,743, others 17,097) were fed in these two months. The average daily number of persons receiving food was 2,674 and average daily expenses amounted to 6·9 pies per head. The total expenditure including establishment was Rs. 7,225. The 2,500 *lihafs*—quilts—distributed cost Rs. 8,031 more. Major S. L. Jacob, whom the Punjab Government had, at the request of the State, appointed to report on the catastrophe, sent in a report to the following effect:—The Ghaggar is at a distance of 27 miles from the Choá of Sirhind, and there are only 17 bridges between the railway line and the Grand Trunk Road, which are not sufficient to discharge the flood water. The Siwálik mountain ranges having been laid bare of trees, the torrents of water flow down their slopes very freely, and thus it was that at this time water was nowhere less than 5 or 6 feet deep over an area of 27 miles. The result was that the water breached the Grand Trunk Road at 28 different places, and assuming the form of a river 2,870 feet broad rushed on towards Patiala. Naturally the rain water from the north directs its course to Patiala in two directions: some of the water flowing from the north falls into the Ghaggar river and some of it into the Choá of Sirhind. Unfortunately the flood water on its way to the Ghaggar changed its course at Surl, a village in the vicinity of Rájputra, and cut the railway line at two places. The other channel also changed its course and breaking through the railway line joined forces with the first and formed a river half a mile wide.

CHAP. I, A.

Descriptive.

PHYSICAL  
ASPECTS.Flood of Sambat  
1944 (1887).

In order to carry into effect the measures proposed to avoid a repetition of this flood<sup>2</sup> an expenditure of Rs. 2,50,000 was sanctioned for protective works, which had hardly been begun when another flood broke over Patiala on the night of the 19th September 1888. The people, who had been taken by surprise the first time, were this time on their guard, and there was no loss of life or cattle, but the number of houses, both *kachchá* and *pakká*, buildings and walls that were damaged was not less than in the previous year. The works have now been completed, and the Executive Engineer thinks that the city is secure.<sup>3</sup>

Flood of Sambat  
1945 (1888).

<sup>1</sup>See page 112, Administration Report of Patiala State, Sambat 1944, Pasal X,—Miscellaneous and Political.

<sup>2</sup>See page 129, Administration Report of the Patiala State, Sambat 1945.

<sup>3</sup>See below, page 168 ff.



## CHAP. I, B,

## Section B.—History.

## Descriptive.

## History.

1763 A.D.

The earliest history of Patiala is that of the Phulkián States, and its history as a separate and ruling State nominally dates from 1762, in which year Ahmad Sháh Durrání conferred the title of Rájá upon Alá Singh, its chief, but it may be more justly regarded as dating from 1763, when the Sikh confederation took the fortress of Sirhind from Ahmad Sháh's governor and proceeded to partition the old Mughal province of Sirhind. In this partition Sirhind itself with its surrounding country fell to Rájá Alá Singh. That ruler died in 1765 and was succeeded by his grandson Amar Singh, whose half brother Himmat Singh also laid claim to the throne and after a contest was allowed to retain possession of the Bhawánigarh *pargana*. In the following year Amar Singh conquered Páil and Isru from Máler Kotla, but the latter place was subsequently made over to Jassá Singh Ahluwáliá. In 1767 Amar Singh met Ahmad Sháh on his last invasion of India at Karábawána, and received the title of Rájá-i-Rájagán. After Ahmad Sháh's departure Rájá Amar Singh took Tibba from Máler Kotla and compelled the sons of Jamál Khán to effect a peace which remained unbroken for many years. He next sent a force under his general Bakhshí Lakha, a Dogar, to reduce Pinjaur which had been seized by Gharíb Dás of Maní Májra, and in alliance with the Rájás of Hindúr, Kahlúr and Sirmúr captured it. He then invaded the territory of Kot Kapúra, but its chief Jodh having been slain in an ambush, he retired without further aggression. His next expedition was against the Bhattís, but in this he met with scant success, and the conduct of the campaign was left to the chief of Nábha, while Rájá Amar Singh turned his arms against the fortress of Govindgarh which commanded the town of Bhatinda. After a long struggle it was taken in 1771. Soon after this Himmat Singh seized his opportunity and got possession of Patiala itself, but he was induced to surrender it and died two years later in 1774. In that year a quarrel broke out between Jínd and Nábha which resulted in the acquisition of Sangrúr by Jínd from Nábha, Patiala intervening to prevent Jínd from retaining Amloh and Bhádson also. Rájá Amar Singh next proceeded to attack Saifábád, a fortress only 4 miles from Patiala, which he took with the assistance of Náhan. In return for this aid he visited that State and helped Jagat Parkásh to suppress a rebellion, commencing a new campaign in the Bhattí country in 1774. Having defeated their chiefs at Beghrán he took Fatehábád and Sirsa, and invested Rania, but was called on to repel the attack made on Jínd by the Muhammadan governor of Hánsí. For this purpose he despatched Nánú Mal,<sup>1</sup> the Díwán, with a strong force, which after defeating the governor of Hánsí overran Hánsí and Hissár. Rájá Amar Singh also marched to Hánsí from Fatehábád and collected the revenue. Thence he returned to Patiala, and Rania soon after fell. But the Mughal government made a last effort to recover its empire, and Najaf Khán, its minister, was determined to recover the lost Districts. At the head of the Imperial troops he recovered Karnál and part of Rohtak and the Rájá of Patiala, though aided for a consideration by Zábíta Khán Rohillá, met Najaf Khán at Jínd and amicably surrendered Hánsí, Hissár and Rohtak, retaining Fatehábád, Rania and Sirsa as liefs of the empire.

1777 A.D.

The wisdom of this moderation was evident. In 1777 Rájá Amar Singh overran the Farídkot and Kot Kapúra Districts, but did not attempt to annex them, and his newly acquired territories taxed his resources to the utmost. Nevertheless in 1778 he overran the Maní Májra territory and reduced Gharíb Dás to submission. Thence he marched on Siálba,

<sup>1</sup>An Aggarwál Bánia of Sunám.



where he was severely defeated by its chief and a strong Sikh coalition. To retrieve this disaster Rájá Amar Singh formed a stronger confederacy against Siálba, enticed away his troops by offers of higher pay, and at length secured his submission without bloodshed. In 1779 the Mughal forces marched on Karnál, Desu Singh, Bhái of Kaithal, being in alliance with them and hoping by their aid to crush Patiála, but the Delhi minister found it more profitable to plunder the Bhái, and the Khálsa then united to oppose his advance. He reached Ghurám, but retreated thence, in fear of the powerful forces arrayed against him.

CHAP. I, B,  
Descriptive,  
HISTORY,  
1779 A.D.

In 1781 Rájá Amar Singh died of dropsy and was succeeded by his son, Sáhib Singh, then a child of six. Díván Nánú Mal became Wazír, and coped successfully with three distinct rebellions headed by relatives of the Rájá. In 1783 occurred the great famine which disorganised the State, and eventually Nánú Mal was compelled to call in the Mahrattas who aided him to recover Banúr and other places, but in 1788 the Mahrattas compelled him to pay blackmail, and in 1790, though he had been successful against the other enemies of Patiála, he could not prevent the Mahrattas from marching to Suhlar, 2 miles from Patiála itself. Saifábád had been placed in their hands, and Nánú Mal's fall from power quickly followed. With him fell Rání Rajindar, cousin of Rájá Amar Singh, a lady of great ability and Nánú Mal's chief supporter, who had induced the Mahrattas to retire, and had visited Mathra to negotiate terms with Sindhia in person. Sáhib Singh, now aged 14, took the reigns of State into his own hands, appointing his sister Sáhib Kaur chief minister. In 1794 the Mahrattas again advanced on Patiála, but Sáhib Kaur defeated them and drove them back on Karnál. In this year Bedí Sáhib Singh of Una attacked Máler Kotla and had to be bought off by Patiála. In 1798 the Bedí attacked Raikot, and, though opposed by the Phúlkián chiefs, compelled its ruler to call in George Thomas, who advanced on Ludhiána, where the Bedí had invested the fort, and compelled him to raise the siege. Thomas then retired to Hánsí, but taking advantage of the absence of the Sikh chiefs at Lahore, where they had assembled to oppose the invasion of Sháh Zamán, he again advanced and laid siege to Jínd. On this the Phúlkián chiefs hastened back and compelled Thomas to raise the siege, but were in turn defeated by him. They then made peace with Thomas, who was anxious to secure their support against the Mahrattas. Sáhib Singh now proceeded to quarrel with his sister and she died not long afterwards, having lost all influence in the State. Thomas then renewed his attacks on the Jínd State, and as the Phúlkián chiefs united to resist him, he invaded Patiála territory and pillaged the town of Bhawánigarh. A peace was however patched up in 1801 and Thomas retired to Hánsí, whereupon the Cis-Sutlej chiefs sent an embassy to General Perron at Delhi to ask for assistance, and Thomas was eventually crushed. The British now appeared on the scene, and Patiála entered into friendly relations with Lord Lake, the British Commander-in-Chief, in March 1804. In that same year, Jaswant Ráo Holkar, having been defeated by the British, fled to Patiála, and though he was received with courtesy by the Mahárája, was refused aid against the British owing to the friendly relations already established with them. Holkar, thus disappointed, went to the Punjab to seek the help of Ranjít Singh. After his departure Patiála was visited by Lord Lake, and the friendly relations were confirmed by a declaration of Lord Lake in open Darbár to the effect that the British Government would pay respect to the engagements entered into and the pledges given by the Minister, Nawáb

1781 A.D.

1790 A.D.

1794 A.D.

1798 A.D.

1801 A.D.

1804 A.D.



## CHAP. I. B.

## Descriptive.

## HISTORY.

1805 A.D.

1806 A.D.

Najaf Qulí Khán, on behalf of the Mughal emperor. Lord Lake then proceeded from Patiala to the Punjab in pursuit of Holkar, who was compelled to sign a treaty on the banks of the Beás on December 24th, 1805, by which he bound himself not to enter the territories of the British and their allies (Patiala, Kaithal and Jind) on his return journey to Indore. In 1805 dissensions between Rája Sáhib Singh and his wife reached a climax, and the Rání attacked both Nábhá and Jind. These States then invoked the intervention of Ranjít Singh, the Rája of Lahore, and he crossed the Sutlej in 1806. Ranjít Singh did little to settle the domestic differences of the Patiala Rája, but despoiled the widows of the Ráikot chief of many villages. Patiala however received no share of the plunder, and on Ranjít Singh's withdrawal the conflict between Rája Sáhib Singh and his wife was renewed, and in 1807 Ranjít Singh re-appeared at Patiala, when by his influence a compromise was effected whereby Banúr and other tracts, yielding a revenue of Rs. 50,000 a year, were settled on the Rání for her maintenance and that of her son, Kanwar Karam Singh.<sup>1</sup>

1809 A.D.

It was by this time clear to the Cis-Sutlej chiefs that they had to choose between absorption by Ranjít Singh and the protection of the British. Accordingly in 1808, Patiala, Jind and Kaithal made overtures to the Resident at Delhi, which resulted after some delay in a definite promise of British protection, and the enforced retirement of Ranjít Singh from all his acquisitions south of the Sutlej. A proclamation of protection against Lahore was issued in May 1809, which after stating that "the country of the chiefs of Málwa and Sirhind had entered under the protection of the British Government," went on to secure to these chiefs "the exercise of the same rights and authority within their own possessions which they enjoyed before." Two years later it became necessary to issue another proclamation of protection, this time to protect the Cis-Sutlej chiefs against one another.

1814 A.D.

Meanwhile internal confusion led to the armed interposition of the British Agent, who established the Maharání As Kaur as Regent with sole authority. She showed administrative ability and an unbending temper until the death of Maharája Sáhib Singh in 1813. He was succeeded by Maharája Karam Singh, who was largely influenced at first by his mother and her minister Naunidh Rái, generally known as Missar Naudha. The Gurkha War broke out in 1814, and the Patiala Contingent served under Colonel Ochterlony. In reward for their services the British Government made a grant of sixteen *parganas* in the Simla Hills to Patiala, on payment of a *nazrána* of Rs. 2,80,000. Karam Singh's Government was hampered by disputes, first with his mother and later with his younger brother, Ajit Singh, until the Hariána boundary dispute demanded all his attention. The British had overthrown the Bhattís in what is now Hissár and Sirsa in 1803, but had neglected the country as barren and unprofitable. Patiala began to encroach upon it, growing bolder each

<sup>1</sup> It was on this occasion that the gun "Kare Khán" passed into Ranjít Singh's possession. At the storming of Sirhind in 1763 the Patiala Contingent captured a brass gun (called Kare Khán from the two *kardís* or rings on the side) and dragged it in triumph to Patiala, where it was set up in the fort as a trophy. There it remained until Ranjít Singh's visit to Patiala in the autumn of 1807, when he demanded the gun, together with a rich present of jewels, as a sign of his overlordship. Ranjít Singh took the gun to Lahore. It next appears at the siege of Multán, in the 2nd Sikh War, where it was taken by the English, and restored by them to Patiala. This graceful act was much appreciated at the time, but the story seems to have faded from men's memories in the troubled years that followed, for the gun was found only last year along with other cannon and arms in the fort at Bahádurgarh. It has now been brought into Patiala and stands in front of the Maharája's residence.

year, until in 1835 her colonists were firmly established. When the attention of the British Government was at last drawn to the matter, and a report called for, the Mahārāja refused to admit the British claims, refused arbitration, and protested loudly when a strip of country more than a hundred miles long and ten to twenty broad was transferred from his possessions to those of the British Government. The Government, however, listened to his protest, the question was re-opened, was shelved during the Sikh Wars, and only finally settled in 1856, when some 41 villages were handed over to Patiala.

Meantime Patiala had been quarrelling with its neighbours. A trifling dispute with Nábha, dating from 1807, had led first to bloodshed and then to ill-feeling between the two States, which lasted for sixty years. Border disputes with Kaithal lasted from 1838 to 1843, when Bhái Ude Singh of Kaithal died and the British Government proceeded to resume  $\frac{4}{5}$ ths of his territory. The quarrel with Nábha was aggravated by the jealousy which Rāja Devindar Singh of Nábha showed towards Patiala and Jind, and it soon became clear that any quarrel involving Patiala on one side would find Nábha on the other.

When hostilities between the British Government and Lahore became certain at the close of 1845, Mahārāja Karam Singh of Patiala declared his loyalty to the British, but he died on December 23rd, the day after the battle of Firozsháh, and was succeeded by his son Narindar Singh, then 23 years old. The new chief was even better disposed towards the British Government than his father, but times had changed since the Phulkián States implored the protection of the British. Ranjit Singh was dead and his pretensions forgotten. The British arms, once believed invincible, had suffered a severe blow in the Kábul expedition. The Phulkián chiefs, seeing that their resources in money and supplies were required for the British armies, began to think that they were necessary to the existence of the British power, not that it was essential to their own. It would be idle to pretend that the same active spirit of loyalty obtained among the Cis-Sutlej chiefs in 1845 which showed itself in 1857. The Patiala chief knew that his interests were bound up with the success of the British, but his sympathies were with the *Khálsa*. However, Patiala provided the British with supplies and carriage, besides a contingent of men. At the close of the war Patiala was rewarded with certain estates resumed from the Rāja of Nábha. The British Government then proceeded to make fundamental changes in its relations with the smaller Sikh States, which very soon led to their absorption. Although Patiala was specially exempted from the operation of these reforms, the Mahārāja sanctioned one of the most important—the abolition of the customs—on the occasion of Lord Hardinge's visit in 1847. Furthermore, as the petty chiefs had had varied and intricate relations with Patiala, the intricacy and confusion were not diminished by the transfer of the territories concerned to the British Government. Difficult questions began to arise. The most important case was that of the *chahármí* villages which was finally settled after years of patient investigation. Another was that of the *Khamánon jágír*. Patiala had no proprietary rights, but she was empowered to administer the tract by the British in 1815. The estate was transferred to Patiala in perpetuity in 1859.

The conduct of the Mahārāja on the outbreak of the Mutiny is beyond praise. He was the acknowledged head of the Sikhs, and his hesitation or disloyalty would have been attended with the most disastrous results, while his ability, character and high position would have made him a formidable leader against the British. On hearing of the outbreak he marched that evening with all his available troops in the direction of Ambála. In his



CHAP. I, B.  
Descriptive.  
History.

own territories he furnished supplies and carriage and kept the roads clear. He gave a loan of five lakhs to Government and expressed his willingness to double the amount. Details of the military services performed by the Patiala troops are given elsewhere.<sup>1</sup> Of the value of the Mahārāja's adhesion the Commissioner wrote : "His support at such a crisis was worth a brigade of English troops to us, and served more to tranquillise the people than a hundred official disclaimers could have done." After the Mutiny, the Narnaul division of the Jhajjar territory, jurisdiction over Bhadaur, and the house in Delhi belonging to Begam Zinat Mahal fell to the share of Patiala. The Mahārāja's honorary titles were increased at the same time. The revenue of Narnaul, which was estimated at two lakhs, was found to be worth Rs. 1,70,000 only. On this the Mahārāja appealed to Government for more territory. The British Government had given no guarantee, but was willing to reward the loyal service of Patiala still further, and consequently parts of Kanaud and Buddhuana, in Jhajjar, were conferred on the Mahārāja. These new estates had an income of about one lakh, and the Mahārāja gave a *nazrana* equal to 20 years' revenue.

1862 A.D.

In 1858 the Phulkiān chiefs had united in asking for concessions from the British Government, of which the chief was the right of adoption. This was, after some delay, granted, with the happiest results. The power to inflict capital punishment had been withdrawn in 1847, but was exercised through the Mutiny. This power was now formally restored. Mahārāja Narindar Singh died in 1862 at the age of 39. He was a wise ruler and brave soldier. The *Punjab Gazette Extraordinary* records of him that he "administered the government of his territories with exemplary wisdom, firmness and benevolence." He was one of the first Indian Princes to receive the K.C.S.I., and was also a member of the Indian Legislative Council during Lord Canning's viceroyalty. His only son, Mohindar Singh, was a boy of 10 at his father's death. A Council of Regency was appointed, which carried on the administration for eight years. The Mahārāja only lived for six years after assuming power. During his reign the Sirhind Canal was sanctioned, though it was not opened until 1882. Patiala contributed one crore and twenty-three lakhs to the cost of construction. The Mahārāja was liberal in measures connected with the improvement and general well-being of the country. He gave Rs. 70,000 to the University College, Lahore, and in 1873 he placed ten lakhs of rupees at the disposal of Government for the relief of the famine-stricken people of Bengal. In 1875 he was honoured by a visit from Lord Northbrook, who was then Viceroy, when the Mohindar College was founded for the promotion of higher education in the State. Mohindar Singh died suddenly in 1876. He had received the G.C.S.I. in 1871.

1876 A.D.

1890 A.D.

A long minority followed, for Mahārāja Rājindar Singh was only 4 when his father died. During his minority, which ceased in 1890, the administration was carried on by a Council of Regency composed of three officials under the Presidency of Sardār Sir Dewā Singh, K.C.S.I. The finances of the State were carefully watched, and considerable savings effected, from which have been met the charges in connexion with the Sirhind Canal and the broad-gauge line of railway between Rājpora, Patiala and Bhatinda. In 1879 the Patiala State sent a contingent of 1,100 men to the Afghan War.<sup>2</sup> The late Mahārāja was exempted from the presentation of *nasars* in Darbār in recognition of the services rendered by his troops on this occasion.

1879 A.D.

<sup>1</sup>Page 172.<sup>2</sup>See page 173.

The organisation of the Imperial Service Troops and the war services of the late Mahārāja are described elsewhere.<sup>1</sup> Mahārāja Rājindar Singh died in 1900, and a third Council of Regency was formed. The present Mahārāja, Bhūpindar Singh, was born in 1891 A. D. The Mahārāja of Patiala is entitled to a salute of 17 guns, and takes precedence of all the Punjab chiefs.

CHAP. I, B.

Descriptive:

HISTORY.

Changes in the relations between the British Government and the Phūlkiān States have been alluded to in the preceding pages. It may, however, be as well to give a succinct account of them here. Before 1821 the Resident at Delhi had charge of all the political relations with protected and independent States in north-west India. In that year he was replaced by an Agent to the Governor-General, and a Superintendent of Protected and Hill States was appointed with his head-quarters at Ambāla. In 1840 a Governor-General's Agent for the North-West Frontier was stationed at Ambāla. After the 1st Sikh War the political charge of the Cis-Sutlej States was entrusted to a Commissioner, who had also certain British Districts in his control. When the new province of the Punjab was founded in 1849, the Board of Administration took over control of the Cis-Sutlej States, and when a Lieutenant-Governor was appointed for the Punjab, the Commissioner of the Ambāla Division, who had taken the place of the Cis-Sutlej Commissioner, became the intermediary between the States and the Punjab Government. The Ambāla Division ceased to exist in 1884, and the States then passed under the political control of the Commissioner of Delhi. In 1900 it was decided by the Government of India to appoint a Political Agent for Patiala, and the remaining Phūlkiān States of Jind and Nābha were included in the Agency. Major Dunlop-Smith, C.I.E., was chosen for the new appointment, and during his absence on leave Captain Popham Young, C.I.E. (Settlement Commissioner in Patiala State), acted for him as Political Agent from January 1901, and handed over charge to Major Dunlop-Smith on the 26th November of that year. In April 1903 the Bahāwalpur State was included in the Phūlkiān States Agency. The head-quarters of the Agency were originally fixed at Ambāla, but Patiala was soon found to be a much more suitable place, and the Agent has resided in Patiala since the beginning of 1902.

1900 A.D.

1903 A.D.

<sup>1</sup> See page 173.

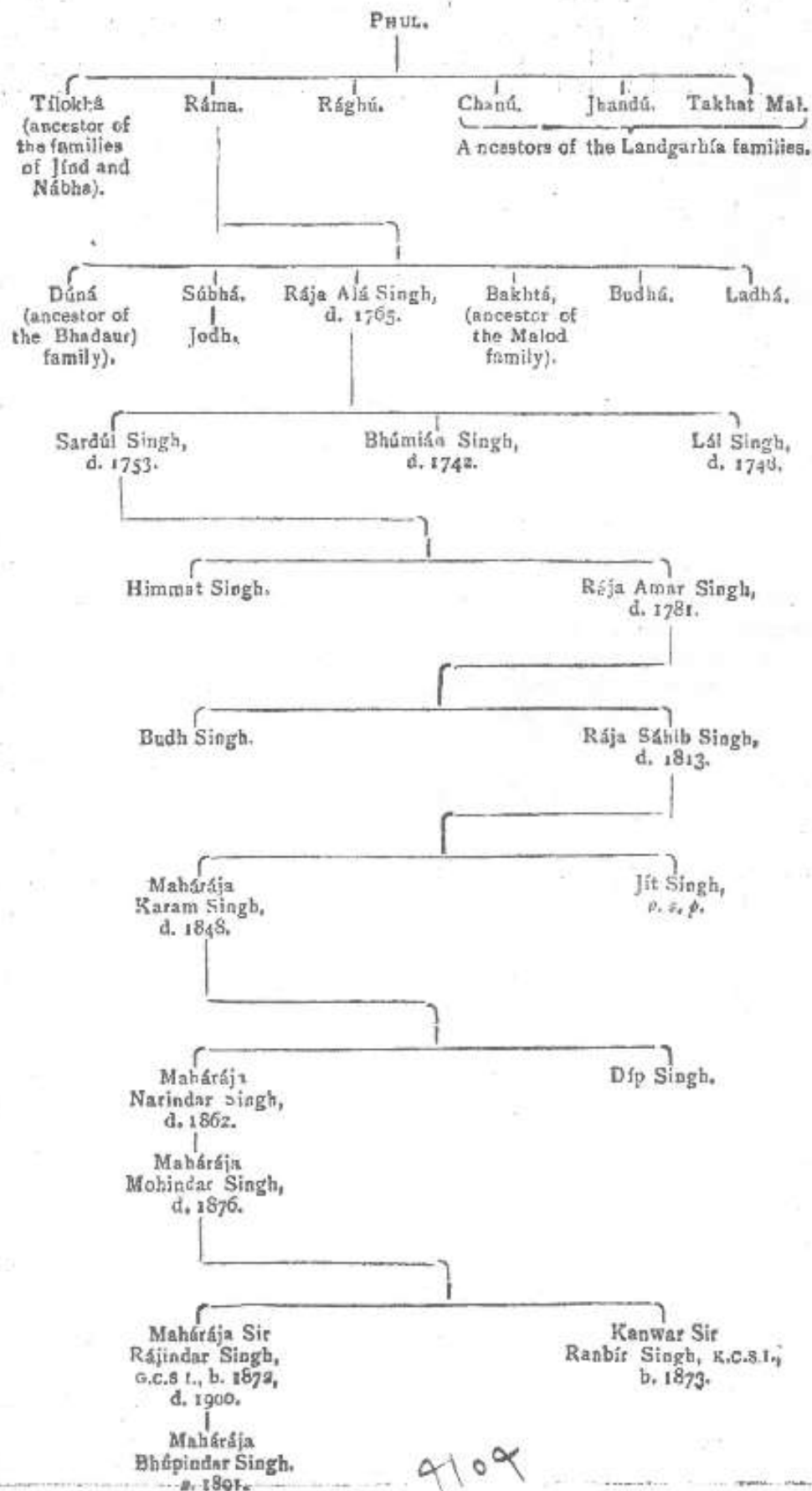


## CHAP. I, B.

## CHIEFS OF PATIALA.

## Descriptive.

## HISTORY.



## Section C.—Population.

## CHAPTER C.

## Descriptive.

## POPULATION.

## Density.

The Phúlkián States are so scattered that comparison of the density of their population with that of any one or more British Districts would be of little value. Taking the three together they have the normal density of the Indo-Gangetic Plain West in which they lie. Patiala has a density of 283 persons to the square mile, and thus stands nearly in the same category as the Karnál and Ferozepore Districts. The density on the cultivated area cannot be shown until the settlement operations are further advanced.

The population and density of each *nisámat* and *tahsíl* is given below, the density shown being that of the total population on the total area:—

Density of *nisámat*s and *tahsíl*s.

	Area in square miles.	Population.	Density.
Patiala ... ..	236	67,679	286.8
Sunám ... ..	470	121,498	258.5
Bhawánigarh ... ..	561	140,309	250.1
Narwána ... ..	576	117,604	204.2
Total Karmgarh <i>nisámat</i> ...	1,843	447,090	242.6
Sáhibgarh ... ..	278	115,391	415.1
Amargarh ... ..	338	123,468	365.3
Sirhind ... ..	240	126,589	527.5
Total Amargarh <i>nisámat</i> ...	856	365,448	426.9
Anáhadgarh ... ..	350	105,989	302.8
Bhatinda ... ..	268	142,413	164.1
Bhíkhí ... ..	629	128,965	205.0
Total Anáhadgarh <i>nisámat</i> ...	1,847	377,367	204.3
Rájpura ... ..	157	55,117	351.1
Pinjaur ... ..	180	55,731	309.6
Banúr ... ..	161	56,674	352
Ghanaur ... ..	208	45,344	218
Total Pinjaur <i>nisámat</i> ...	706	212,866	301.5
Nárnaul ... ..	282	85,130	301.9
Kánaul ... ..	303	55,246	181.1
Total Mohindargarh <i>nisámat</i> ...	587	140,376	239.1
Total of the State	5,839	1,596,692	264.5

Excluding the city of Patiala.

## CHAP. I. C.

## Descriptive.

## POPULATION.

Population of  
towns—Table 7  
of Part B.

The State contains 14 towns and 3,580 villages; and the population of the former is given in the margin. At the Census of 1901, 9 of the towns, including that of Patiala itself, showed a decrease on the figures of 1891, 4 showing a slight increase, while

Bhatinda or Govindgarh had increased from 8,536 to 13,185, or 54 per cent. Its position on the railway and the establishment of a market account for this rapid rate of growth. Only 11 per cent. of the population live in the towns. The average population of the towns and villages is small, being only 397 persons.

Occupied houses number 273,557, of which 32,329 are urban and 241,228 rural. Patiala with 53,545 persons is the only large town. The towns and villages present no features unusual in this part of the Punjab. As in all Native States, the average population of a Patiala village is below the average in British territory. Both Hindu and Muhammadan villages are built on the same plan, the better houses surrounded by high walls and opening on to narrow lanes which lead tortuously to the main thoroughfares. The Chuhras and Chamars have their houses outside the village and facing away from it. In the towns the houses are close together and the high wall is rare. Still even in the towns the thoroughfares are generally narrow and crooked.

## Growth of population.

The marginal table shows the fluctuations in the population of each

	1881.	1891.	1901.
Patiala ...	53,629	55,856	53,545
Karnagarh ...	415,675	444,369	447,090
Amargarh ...	346,989	361,610	365,448
Pinjaur ...	226,274	226,379	212,866
Anahadgarh ...	298,462	347,395	377,367
Mohindargarh ...	126,404	147,912	140,376

*nisamat* since 1881. In 1901 the heaviest decrease on the figures of 1891 was in the Pinjaur and Mohindargarh *nisamats*, the population of which decreased by 13,513 and 7,536 respectively in that decade. In the former the decrease was only nominal owing to the exclusion of the people living in the *dak chaukis* and

railway fence in the hills. In the latter the decrease was due to the seasons of drought which had caused heavy emigration from those tracts in and after 1897.

## Migration.

The following table shows the effect of migration on the population of the Patiala State according to the Census of 1901 :—

Immigrants.				Persons.	Males.	Females.
(i) From within the Punjab and North-West Frontier Province ...	...	...	...	187,212	64,411	122,801
(ii) From the rest of India ...	...	...	...	21,899	8,095	13,804
(iii) From the rest of Asia ...	...	...	...	44	39	5
(iv) From other countries ...	...	...	...	107	77	30
Total immigrants ...	...	...	...	209,262	72,622	136,440
Emigrants.						
(i) To within the Punjab and North-West Frontier Province ...	...	...	...	266,910	92,815	174,095
(ii) To the rest of India ...	...	...	...	15,497	7,246	8,251
Total emigrants ...	...	...	...	282,407	100,061	182,346
Excess of emigrants over immigrants ...	...	...	...	73,145	27,439	45,706

The bulk of the immigration is from the districts, States and provinces in India noted below. There is also a considerable volume of immigration from the countries outside India as given below :—

District, State, Province or Country.							Number of males in 1,000 immigrants.
Ambála	...	...	...	...	...	37,682	340
Hissár	...	...	...	...	...	24,554	324
Rohtak	...	...	...	...	...	1,041	402
Delhi	...	...	...	...	...	1,114	491
Karnál	...	...	...	...	...	20,815	398
Kalsia	...	...	...	...	...	1,609	343
Simla	...	...	...	...	...	6,237	379
Kángra	...	...	...	...	...	1,015	697
Hoshiárpur	...	...	...	...	...	2,920	579
Jullundur	...	...	...	...	...	2,173	524
Ludhiána	...	...	...	...	...	31,195	322
Máler Kotla	...	...	...	...	...	7,688	305
Ferozepore	...	...	...	...	...	7,817	433
Faridkot	...	...	...	...	...	1,651	388
Nábha	...	...	...	...	...	23,080	260
Jind	...	...	...	...	...	10,467	251
Amritsar	...	...	...	...	...	1,091	417
Rájpútána	...	...	...	...	...	16,762	305
United Provinces of Agra and Oudh	...	...	...	...	...	4,268	589
Yághistán and Afghánistán	...	...	...	...	...	33	939
United Kingdom	...	...	...	...	...	84	690
America	...	...	...	...	...	14	857

The emigration is mainly to the districts, States and provinces noted below :—

District, State or Province.						Males.	Females.
Hissár	...	...	...	...	...	12,218	20,832
Rohtak	...	...	...	...	...	1,211	2,226
Dujána	...	...	...	...	...	127	534
Gurgáon	...	...	...	...	...	1,557	3,146
Delhi	...	...	...	...	...	1,498	682
Karnál	...	...	...	...	...	9,487	16,323
Ambála	...	...	...	...	...	11,962	23,262
Kalsia	...	...	...	...	...	739	1,702
Nábha	...	...	...	...	...	472	402
Simla	...	...	...	...	...	771	608
Simla Hill States	...	...	...	...	...	943	2,057
Hoshiárpur	...	...	...	...	...	511	782
Jullundur	...	...	...	...	...	795	1,105
Ludhiána	...	...	...	...	...	10,640	29,788
Máler Kotla	...	...	...	...	...	1,958	6,442
Ferozepore	...	...	...	...	...	11,624	19,628
Faridkot	...	...	...	...	...	2,361	3,572
Nábha	...	...	...	...	...	10,558	24,212
Jind	...	...	...	...	...	4,529	12,193
Lahore	...	...	...	...	...	1,442	618
Amritsar	...	...	...	...	...	656	711
Chenáb Colony	...	...	...	...	...	2,574	1,707
Baháwalpur	...	...	...	...	...	431	248
United Provinces of Agra and Oudh	...	...	...	...	...	2,683	1,024
Bombay	...	...	...	...	...	515	349
Rájpútána	...	...	...	...	...	2,662	6,468



## CHAP. I. C.

## Descriptive.

## POPULATION.

## Migration.

The State thus loses 73,145 souls by migration and its net interchanges of population with the districts, States and provinces in India which mainly affect its population are noted below:—

						Net gain from + or loss to —
Hissar	...	...	...	...	...	— 8,496
Rohtak	...	...	...	...	...	— 2,396
Gurgaon	...	...	...	...	...	— 4,272
Delhi	...	...	...	...	...	— 1,066
Karnal	...	...	...	...	...	— 4,995
Ambala	...	...	...	...	...	+ 2,458
Simla with Hill States	...	...	...	...	...	+ 2,394
Kalika	...	...	...	...	...	— 832
Kangra	...	...	...	...	...	+ 903
Hoshiarpur	...	...	...	...	...	+ 1,627
Ludhiana	...	...	...	...	...	— 9,233
Maler Kotla	...	...	...	...	...	— 712
Ferozepore	...	...	...	...	...	— 23,435
Faridkot	...	...	...	...	...	— 4,282
Nabha	...	...	...	...	...	— 11,690
Jind	...	...	...	...	...	— 6,255
Lahore	...	...	...	...	...	— 1,338
Chenab Colony	...	...	...	...	...	— 4,280
United Provinces of Agra and Oudh	...	...	...	...	...	+ 561
Rajputana	...	...	...	...	...	+ 7,632

Comparison with the figures of 1891 shows that Patiala lost by intra-provincial migration alone 79,698 souls in 1901, or 45,173 more than in 1891.

	Loss by intra-Provincial migration	
	1901.	1891.
Total	79,698	34,525
Chenab Colony	4,280	..
Jind	6,255	3,110
Nabha	11,690	5,095

Taking the figures for intra-Imperial migration, i.e., those for migration in India both within the Punjab and to or from other provinces in India, we have the marginal data.

	Loss by intra-Imperial migration.	
	1901.	
Total	73,296	

A notable feature of the immigration is the proportional excess of females. This is especially noticeable in the case of the neighbouring Districts and States of Hissar, Ambala, Ludhiana, Jind, Nabha and Maler Kotla, and shows that the bulk of the immigration is due to marriages.

## Ages.

Table 10 of Part B.

The figures for age, sex and civil condition are given in great detail in Table 10 of Part B. The following statement shows the age distribution of 10,000 persons of both sexes:—

Age period.				Age period.			
	Males.	Females.	Persons.		Males.	Females.	Persons.
Infants under 1	138	126	264	25 and under 30	460	389	849
1 and under 2	36	31	67	30 " " 35	444	391	835
2 " " 3	123	108	231	35 " " 40	294	248	542
3 " " 4	125	113	238	40 " " 45	402	343	745
4 " " 5	129	113	242	45 " " 50	212	155	367
5 " " 10	695	599	1,294	50 " " 55	295	233	528
10 " " 15	674	516	1,190	55 " " 60	107	73	180
15 " " 20	557	391	948	60 and over	319	268	587
20 " " 25	484	409	893				

Births and deaths are registered throughout the State, but the figures, as tabulated, give a mean birth-rate of 22·1 per mille in 1892—1896 and of 14·9 in 1897—1901. Such rates are impossibly low and point to defective registration or incorrect tabulation, or both. The death-rate for 1892—1896 (18·8 per mille) is also incredibly low.

CHAP. I, C.

Descriptive.

POPULATION.

Vital statistics.

Health.

Drinking-water is generally obtained from wells, except in the Bhikhi, Narwāna and Bohā thānas, where water is 50 to 150 feet below the surface. The people are, as a rule, careless how they feed their children, and little regard is paid to cleanliness. The result is that many children die of diarrhœa, colic, enteritis, eczema, boils, ophthalmia, otorrhœa and catarrh.

Diseases.

1902 was the most unhealthy year the State has known for some time, the registered deaths amounting to no less than 64,094,<sup>1</sup> of which 55,481 were due to plague or fever. Next to 1902 comes 1900 with 44,039 recorded deaths and 1893 with 40,214. The worst outbreak of cholera was in 1892, when 10,784 people died of it. Pneumonia and diseases of the eye are as common here as elsewhere in the Punjab. Plague first appeared in Hedon, a village near the Sutlej, in the Amargarh *nizāmat*, in 1899. It did not, however, spread, and the State was free from the epidemic until March 1900, when a fresh outbreak occurred at Khamānon in the same *nizāmat*. In 1899-1900 there were 26 cases and 19 deaths, and in the following year 166 cases and 98 deaths. The removal of the cordon in 1901-02 was followed by a tremendous rise in the figures, 30,401 cases being recorded with no less than 29,159 deaths. The numbers then fell almost as suddenly as they had risen, and in 1902-03 there were only 8,515 cases with 7,581 deaths. No inoculations for plague were performed in the State in 1899. The number performed in the succeeding years was:— in 1901-02, 40,755; in 1902-03, 29,738; and in 1903-04, 4,030.

#### BIRTH CUSTOMS.

Among the Khatrīs and Arorās of the towns when a woman is pregnant for the first time a ceremony called *ritān* or *bhore* is performed in the 5th or 7th month. The woman's mother sends her a *tewar* or suit of clothes and some sweets, and the women of her *birādārī* assemble, dress her in the *tewar*, and put seven handfuls of the sweets in her *dopatta*; the rest they eat. On the birth of a son the father gives money to the Brahmans and *lāgis* (menials) who bring him *dubb* (green grass) in token of congratulation. The doors of the house are decorated in the villages with branches of the *siris* tree, and in towns with mango leaves strung together (*bandarwāl*). The neighbours who come to offer congratulations are regaled with *gur*. The *sūtāk* or period of seclusion after childbirth lasts for 11 days among Brahmans, 13 among Khatrīs, 15 among Baniās, and 17 among Sūdrās. The purification ceremony (*dasūthan* or *chaunka charhna*) is then performed, a Brahman and the *birādārī* being summoned, the mother and child washed, and food distributed. A name is then given to the child by the *pādḥā* among Hindus, and by opening the Granth Sāhib among Sikhs. The *pādḥā* ascertains the date and hour of birth and prepares the horoscope. The mother does not leave the house for 40 days after delivery. No ceremonies attend the birth of a girl. Among the higher castes boys are shaved with ceremony either at home or at a temple in the 3rd or 5th year. A boy assumes the *janeo* when he has reached his 8th or 11th year,

Hindus.

<sup>1</sup>But these figures are obviously far below the mark.



**CHAP. I, C.** an auspicious day being chosen for the rite, Baniás only wear the *janeo* on the death of their parents.<sup>1</sup>

**Descriptive.**

**POPULATION.**

**Muhammadans.**

The Muhammadans of the lower classes have borrowed the *ritán* ceremony from the Hindus, but they call it *satwánsa*. In the ninth month of pregnancy a *puria* of dried fruits is offered to Bísí Fátima and given to a poor Sayyid woman. In Patiala Muhammadans do not make the woman lie to the north, as they do elsewhere, during confinement. An iron implement is kept on the bed and no cat is allowed in the room. Soon after birth the *asán* is recited, preferably by a religious man, in the child's ear. On the 6th day the *chhathí* ceremony takes place, the child being brought out of the *sachcha khána* and food given to the *birádari*. The *akika* (tonsure) ceremony is performed on the 7th, 14th, or 21st day, goats being sacrificed. One leg is given to the *dái*, a head to the barber, and the rest distributed among the *birádari*. The bones are buried. The child is named the same day, either by the *mulláh*, or an elder member of the family. The mother remains secluded for 40 days, and takes a bath on the 40th day. The *bismilláh* ceremony takes place when a boy is 4 years 4 months and 4 days old. He puts on a new dress (*jáma*), goes to the *mulláh* or some senior member of the family with cash and sweets, and is made to repeat *bismilláh*. This is the commencement of his education. As soon as he has finished the Qurán, comes the *ámin* ceremony, when clothes are given to the teacher and food to the *birádari*. There is no fixed date for circumcision, which may be performed up to the 11th year or at any time before puberty. The *birádari* are invited, the boy seated on a chair, where the barber circumcises him: a rupee or more is paid to the barber, the relations give presents (*tamboi*), and *gur* is distributed among them. For ten days no salt is given to the boy. This custom is not however strictly observed by all classes.<sup>2</sup>

**Sex statistics.**

The number of males in every 10,000 of the population is shown below:—

Census of					In villages.	In towns.	Total.
All religions	{ 1881	...	...	..	5,515	5,383	5,499
	{ 1891	...	...	...	5,503	5,503	5,503
	{ 1901	...	...	...	5,498	5,458	5,494
Census of 1901	{ Hindus	...	...	...	5,506	5,537	5,509
	{ Sikhs	...	...	...	5,545	6,443	5,573
	{ Jains	...	...	...	5,515	5,435	5,485
	{ Muhammadans	...	...	...	5,420	5,225	5,378

<sup>1</sup>For a longer note on the *janeo* see the Gazetteer of Ludhiána District.

<sup>2</sup>Birth and marriage customs peculiar to certain castes will be found described below under "Tribes and Castes."

## CHAP. I, C

## Descriptive

## POPULATION.

## Sex statistics.

Year of life.	All religions.	Hindus.	Sikhs.	Jains.	Muhammadans.
Under 1 year ...	909.6	895.9	899.1	914.3	953.6
1 and under 2 ...	908.7	930.6	820.6	700.0	953.0
2 " " 3 ...	872.8	898.6	769.1	825.0	917.7
3 " " 4 ...	900.2	915.1	814.0	953.4	953.4
4 " " 5 ...	883.1	892.4	803.5	1,297.3	935.4

The marginal table shows the number of females to every 1,000 males under 5 years of age as returned in the Census of 1901.

Infant marriage is not the rule in Patiala. The ages of the married

0-4.	Persons.	Males.	Females.
0-4 ...	36	16	26
5-9 ...	5,270	1,157	4,113
10-14 ...	35,249	9,817	25,432
15-19 ...	75,642	27,239	48,403
20-24 ...	102,776	42,618	60,158
25-29 ...	108,654	51,129	57,525
30-34 ...	108,048	53,287	54,761

people up to 34 are shown in the margin. Full details, by age and religion, will be found in the Patiala Census tables, but it may be noted here that of the married persons whose ages are between 10 and 14, 21,166 are Hindus, 6,876 Muhammadans and 7,129 Sikhs. The comparative infrequency of early marriages among Sikhs is noteworthy. Of the 21,166 Hindus, 6,006 are males and 15,160 females. Of the 6,876 Muhammadans, 1,930 are males and 4,946 females. Of the 7,129 Sikhs, 1,850 are males

and 5,279 females. Thus it appears that Muhammadans and Sikhs are agreed in avoiding those early marriages for their girls which are so frequent among Hindus.

The girl's parents take the initiative and choose a suitable match outside the four nearest *gōts*. Dhāighar Khatris, Brahmans and Aggarwāl Baniās marry into any *gōt* but their own. Betrothal takes place between the 5th and 11th years. Jats and Baniās take money for their daughters, but higher castes do not unless they are very hard pressed. Marriages by exchange are often very complicated, involving a large number of couples. They are looked on with disfavour; *Batte dī karmāi ganjī gāi talākan āi*—"Exchange betrothals are the substitution of a divorced woman for a bald one." If the marriage is without payment the ceremony takes place when the girl is 9 to 15, otherwise it is performed on payment of the price. There are various ceremonies connected with marriage, but they are not peculiar to Patiala. Among Muhammadans the ceremonies are less complex. Marriages seldom take place in Ramzān, the Muharram or Shābān. *Mukhlāwa* is confined to the lower classes. In towns expenditure on weddings reaches the height of extravagance. *Baniā dī kamāl, biāh aur makān ne khāi*—"A *baniā's* earnings are swallowed up by marriage or house-building." The Khatris and Baniās are trying to curtail this expenditure and *bāra* and *dhakūo* (largesse) have been forbidden by the Darbār. Polygamy is rare. The richer Hindus only marry a second wife if the first is barren. Among Muhammadans it is slightly more common. Avowed polyandry is unknown. Remarriage of widows is common among all Muhammadans except Sayyids, Pathāns and Rājput. It is forbidden among Hindus of the higher castes and involves excommunication. Among the Jats a widow generally marries her husband's brother. Divorce is common in the hills. When a woman dislikes her husband she leaves him and goes to her parents. They select another husband for

## Marriage customs.



**CHAP. I, C.**  
**Descriptive.**

**POPULATION.**

**Marriage  
customs.**

**Female infanti-  
cide.**

her, and if she approves of him her first husband is sent for and paid the *rit* money in the presence of the *birádari*. A woman sometimes makes many changes. The interval between her leaving one husband and marrying another is called *thanjáná*.

The vital statistics given in Table 11 of Part B show that in the 5 years (1898—1902) about 127 boys were born to every 100 girls, but that the male death-rate was lower than that of females, only 107 males having died

<sup>1</sup>FEMALES PER 1,000 MALES.

Religions.	Ages.	
	0—5.	All ages.
All religions ... ..	893	820
Hindus ... ..	903	815
Sikhs ... ..	823	794
Muhammadans ... ..	943	850

to every 100 females in that period. The result is that in all the main religions the proportion of females to males gradually falls as the age advances, until, taking the total population, we have the marginal figures.<sup>1</sup>

					<sup>2</sup> Females per 1,000 males.
Jats ...	Hindus ...	...	...	...	773
	Sikhs ...	...	...	...	798
	Muhammadans ...	...	...	...	762
Rájpúts {	Hindus ...	...	...	...	737
	Muhammadans ...	...	...	...	872

<sup>3</sup>FEMALES TO 1,000 MALES.

Village.	Gót.	Religions.	0—5.	All ages.
Rámpur ...	Jat-Mángat ...	Hindu ...	231	543
Do. ...	Do. ...	Sikh ...	516	593
Dhamot ...	Jat-Jhailé ...	Hindu ...	267	527
Do. ...	Do. ...	Sikh ...	500	637
Jarg ...	Jat-Mander ...	Hindu ...	625	650
Do. ...	Do. ...	Sikh ...	636	730

Enquiries made in the State however raise no suspicion of female infanticide, though the castes noted in the marginal return<sup>2</sup> have very low ratios of females, and the ratios are still lower in the villages and tribes noted in the margin.<sup>3</sup> These figures tend to show that much less care is taken of female children than of male.

**LANGUAGE.**

**Language.**

Punjábi is spoken with some alterations throughout the State, except in the hills, where Pahári is spoken. In Patiala proper well-educated Hindus and Muhammadans speak Urdu. In the outlying tract of Mohindargarh Márwári is spoken. In the local Punjábí the past tense ends in *tá* or *dá*, as *kítá*, did; *pítá*, drank; *khádá*, ate. The present tense also ends in *dá*, as in *kardá*, does; *chaldá*, goes. In some forms *n* is inserted before *dá*, as in *khándé*, eats; *pindá*, drinks. In the future *u* is changed into *a*, *piangá*, will drink, *siangá*, will sew. Similarly *ó* is changed into *á*, *khándé hán*, I eat, instead of *khála hún*. In nouns *á* is often changed to *ã* as in *kãm*, work; *kãñ*, ear; *hãth*, hand; for *kám*, *kán* and *hãth*. Sometimes *y* becomes *ai*, *e* or *i*, as in *eh*, this; *ihún*, 'here'; for the Urdu, *yih*, *yahón*. The language of the Mohindargarh *nizámat* resembles Hindí rather than Punjábí. Here *o* is generally used in place of *á*, a