HARYANA DISTRICT GAZETTEERS

REPRINT OF
ROHTAK DISTRICT GAZETTEER, 1883-84

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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.

The Editor sought information and data for the drafting of this gazetteer from settlement reports, draft gazetteer and Census report of 1881. The draft edition of this gazetteer was revised by Colonels Gray and Harcourt and Messrs. Steel and Fanshawe. This gazetteer was published under the aegis of Punjab Govt. in 1883-84. The Printing was carried out by the Central Press Company Ltd., Calcutta.

The Volume is the reprinted edition of the Rohtak District Gazetteer of 1883-84. This is the fourteenth 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.

Jeet Ram Ranga
Joint State Editor (Gazetteers)

January, 1999

GAZETTEER

OF THE

ROHTAK DISTRICT.

1883-4.

Compiled and Published under the authority of the

PUNJAB GOVERNMENT.

PREFACE.

THE period fixed by the Punjab Government for the compilation of the *Gazetteer* of the Province being limited to twelve months, the Editor has not been able to prepare any original matter for the present work ; and his duties have been confined to throwing the already existing material into shape, supplementing it as far as possible by contributions obtained from district officers, passing the draft through the press, circulating it for revision, altering it in accordance with the corrections and suggestions of revising officers, and printing and issuing the final edition.

The material available in print for the *Gazetteer* of this district consisted of the Settlement Reports, and a draft *Gazetteer* compiled between 1870 and 1874 by Mr. F. Cunningham, Barrister-at-Law. Notes on certain points have been supplied by district officers ; while the report on the Census of 1881 has been utilised. Of the present volume, Section A, of Cap. V (General Administration), and the whole of Cap. VI (Towns), have been for the most part supplied by the Deputy Commissioner ; Section A of Cap. III (Statistics of Population) has been taken from the Census Report ; while here and there passages have been extracted from Mr. Cunningham's compilation already referred to. But with these exceptions, the great mass of the text has been taken almost, if not quite verbally, from Mr. Fanshawe's Settlement Report of the district.

The draft edition of this *Gazetteer* has been revised by Colonels Grey and Harcourt and Messrs. Steel and Fanshawe, and by the Irrigation Department so far as regards the canals of the district. The Deputy Commissioner is responsible for the spelling of vernacular names, which has been fixed throughout by him in accordance with the prescribed system of transliteration. The final edition, though completely compiled by the Editor, has been passed through the press by Mr. Stack.

THE EDITOR.

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Table No. 1, showing LEADING STATISTICS.

1	2	3	4	5	6
DETAILS.	DISTRICT.	DETAIL OF TAHSILS.			
		Rohtak.	Jhajjar.	Sámpla.	Gohána.
Total square miles (1881)	1,811	587	469	417	338
Cultivated square miles (1878)	1,416	461	366	346	243
Culturable square miles (1878)	257	90	56	38	73
Irrigated square miles (1878)	230	17	50	77	86
Average square miles under crops (1877 to 1882) ...	1,216	357	291	306	262
Annual rainfall in inches (1866 to 1881)	18·8	18·8	19·3	20·8	20·1
Number of inhabited towns and villages (1881)... ...	486	104	181	123	78
Total population (1881)	5,53,609	1,71,215	1,12,485	1,42,177	1,27,732
Rural population (1881)	4,54,147	1,20,690	1,00,835	1,31,359	1,01,263
Urban population (1881)	99,462	50,525	11,650	10,818	26,469
Total population per square mile (1881)	306	292	240	341	378
Rural population per square mile (1881)	251	206	215	315	300
Hindus (1881)	4,68,905	1,34,917	97,668	1,29,508	1,06,812
Sikhs (1881)	159	95	7	11	46
Jains (1881)	5,000	1,336	104	263	3,295
Musalmans (1881)	79,510	24,834	24,703	12,394	17,579
Average annual land revenue (1877 to 1881)*	2,21,853	2,11,024	2,24,740	2,66,151	2,19,938
Average annual gross revenue (1877 to 1881) †	1,058,832	...	...	...	...

* Fixed, fluctuating, and miscellaneous. † Land, Tribute, Local rates, Excise, and Stamps.

ROHTAK.

CHAPTER I.

THE DISTRICT.

SECTION A.—DESCRIPTIVE.

The Rohtak district is the most south-eastern of the three districts of the Hissár division, and lies between north latitude 28° 19′ and 29° 17′, and east longitude 76° 17′ and 77° 0′. It is situated on the confines of Rájpútána, far beyond the southern boundary of the Panjáb proper; and is in shape extraordinarily like Ireland, with the south-eastern portion of Jhajjar superadded. Its length is 62 miles, and its breadth in the centre 40 miles. The centre of the district is about 730 feet above sea level, and the fall of the country as far as the Jhajjar border is from north to south at about one foot per mile. In Jhajjar the slope is slightly from south to north, and the Rohtak district is remarkable as the point where the watershed of Malwah to the north-west changes to that of Rájpútána from the south. In the three northern tahsíls there is also a very considerable slope from west to east. The district is bounded on the north by Jínd territory and the Pánipat tahsíl of Karnál; on the east by the Sonepat and Delhi tahsíls of Delhi and the Gurgáon tahsíl of the Gurgáon district; on the south by the Pataudi State, the Rewári tahsíl of Gurgáon, and the Náhar villages of the Dujána Nawáb; and on the west by the Dádri pargana of Jínd, the Bhawáni and Hánsi tahsíls of Hissár and the Jínd territory itself.

It is divided into four tahsíls, of which that of Gohána comprises the northern, that of Jhajjar the southern, that of Sámpla the east central, and that of Rohtak the west central portion of the district. At the points of junction of the three southern tahsíls, and completely surrounded by Rohtak villages, are situated the two estates of Dujána and Mahrána, comprising an area of 11½ square miles, and forming a portion of the territory of the Dujána State. Some leading statistics regarding the district and the several tahsíls into which it is divided are given in Table No. I. on the opposite page. The district contains two towns of more than 10,000 souls, as follows:—

Rohtak	...	...	...	15,699
Jhajjar	...	...	...	11,650

The administrative head-quarters are situated at Rohtak a little to the north-west of the centre of the district; and while only the southern half of the Jhajjar tahsíl lies more than 25 miles from the civil station, the furthest points are barely 40 miles distant. Rohtak stands 27th in order of area and 19th in order of population, among the 32 districts of the province, comprising 1·70 per

Chapter I, A.

Descriptive.

General description.

cent. of the total area, 2·94 per cent. of the total population, and 4·08 per cent. of the urban population of British territory. It contains but little more than half the average area of a Punjáb district; but in extent of cultivation it ranks eighth, and in amount of revenue sixth, among the districts of the province. The latitude, longitude, and height in feet above the sea of the principal places in the district are shown below :—

Town.	N. Latitude.	E. Longitude	Feet above sea-level.
Rohtak	28° 54'	76° 38'	712
Jhajjar	28° 37'	76° 41'	800*
Sámpla	28° 47'	76° 49'	850*
Gohana	29° 8'	76° 45'	730*

* Approximate.

Physical aspect.

Though Rohtak possesses no grand scenery, yet the canals with their belts of trees, the lines of sand-hills, the natural streams and lakes, and a few small rocky hills, in the south-west, give the district more diversified features than are met with in many of the plain tracts of the Punjab. The eastern border lies low, at the same level as the Delhi branch of the western Jamná canal, and the Najafgarh *jhíl*, to which the streams of the Sáhibi and Indori pass across the eastern corner of Jhajjar. A few miles from the east border, taken at the centre of the district, the surface rises gradually to a level plateau, which, speaking roughly, stretches as far as the town of Rohtak, and is in a manner demarcated east and west by two rows of sand-hills. Beyond the western line the surface slopes up again, till it ends on the Hissár border in a third high range. The depth of the water below the surface in the wells of those villages which are removed from the influence of the canals and streams, testifies clearly to the general exterior configuration of the country. Along the whole east border the depth to the water is 28 feet; at a distance of ten miles from the Delhi boundary, and along a line drawn from below the canal village of Gánwri in Gohána to Khúngái in Jhajjar, the average depth is 67 feet; down the centre of the district from the town of Rohtak to Gwálesan the depth is 67 feet also; at a distance of 7-9 miles from the western border, the water is 80 feet below the surface, and along the western boundary of the Rohtak tahsíl 115 feet. Through the centre of the northern *pargana* and extending down to the Delhi and Hissár high road, runs a well-marked broad depression called locally the Nái *naddi*, and which was once, no doubt, an arm of the river Jamná. Along the bed or edges of this line of drainage, the Rohtak canal is brought, with a length of 32 miles in this district. The west of the Gohána tahsíl is irrigated by the Bútánah canal; while the villages on the eastern border, and in the north-east of Sámpla, receive water by means of long courses dug from the Delhi branch. The line of sand-hills which, with breaks here and there, runs down the eastern side of the Rohtak tahsíl, rises to a considerable elevation in the Jhajjar sub-division which it crosses obliquely in a south-east direction. Below this range

the nature of the country changes, and the surface becomes more undulating, and the soil lighter; the depth of the water from the surface is also less by ten feet than in the wells along the northern edge of the tahsíl, and, except in a few westerly villages, does not lie more than 45 feet from the ground. This is the tract of the wells, which elsewhere in the district are found in numbers only in the flood-affected tract of Sámpla, and in a few villages above and below Bahádurgarh on the low-lying eastern border. Along the east of the Jhajjar tahsíl and in the south-east corner of Sámpla, lie the villages which receive floods on their way to or from the Najafgarh *jhíl*, and which are locally called *dahri* or *dábar*; in the southern tahsíl the course of the streams is dotted with lakes enclosed by sand-hills. In the extreme south-east of the district three small rocky hills are found, rising about 300 feet above the surface of the country, and of the same nature as many others situated in Rewári and Dádri, and visible from them.

Canals.

The Rohtak canal derives its origin from the first attempt of Nawáb Mardán Ali Khán to divert water from the old channel constructed for the irrigation of the hunting ground of Hissár-Firoza to the city of Delhi, which occurred in or about 1643 A.D. Seeking to avail himself of the former line as far as possible, the great engineer took his canal out of that dug more than 250 years before him at Jóshi, and followed the natural depression of the Nái *naddi* to Gohána, from which point he turned off in a south-east direction to Játolá below Kharkhaudah. This line may still be plainly traced from Gohána, to the north-east corner of Sámpla, through Rabarhá, Katwál, Bhainswál Kalán, Farmánah Bidhlan, and Khándah. The alignment, however, did not turn out a success, and on one occasion the works below Gohána, by which the water was diverted from the depression, gave way, and a terrible flood poured down the hollow on to the old town of Lálpura, lying two miles west of Rohtak, which it is said to have destroyed. This is hardly possible, though the malaria engendered by the flood may have been the cause of the depopulation of the place; but at any rate on account of this accident a new line, which is still in use, was dug for the Delhi canal, from Rer, above Jóshi, to Játolá. After fertilising the country for 120 years, the Rohtak canal, which, under the Mughals, extended only as far as Gohána, ceased to flow about 1760 A.D. In 1795 it was described by George Thomas as "out of repair, dried up, and in many places almost destroyed." The people spoke of it regretfully then, as the *Nahr-i-Bihisht*, the Canal of Paradise. Water was first restored in 1821, and four years later the canal was properly repaired; in 1831 it was extended to the town of Rohtak, and has continued to run without interruption ever since. During all the mad follies of the summer months of 1857, no one attempted to destroy the canal. Shortly after it was re-opened, the famine of 1833-34 gave an immense impulse to irrigation, and a second drought in 1837-38 led the people to turn their attention to the permanent use of the water of the canal. It leaves the Hissár branch at Jóshi, 14 miles above the northern boundary of Gohána, and enters the district with

Chapter I, A. Descriptive. Canals.

a nominal maximum discharge of 300 cubic feet per second; the bed, however, is at present badly silted, and the actual discharge is about 220 cubic feet only. The Bútánah canal was dug in 1836-37, in order to water the higher-lying villages to the west of the main central depression; it also leaves the Hissár canal near Jóshi, and has a maximum discharge of 180 cubic feet per second where it enters the Rohtak district. Near Gangánah it divides into two branches, one fork passing east of Bútánah, and the other west. Irrigation from these canals is, as a rule, effected by short water-courses; the only large distributaries are those to Ahmadpúr, Májrá, Gánwri, Káhní and Púthí, and Makraulí Khurd. The north-east corner of Gohána is watered by the tail of the Waisarwalla Rájbaha (discharge 30 cubic feet per second), which leaves the Rohtak canal 11 miles above the border. Below this corner a number of cuts taken out of the Delhi canal, which is about 5 or 7 miles distant, and known as the Jadid Rájbáhás Nos. IX and XII (which are named locally after the villages which they irrigate), and the Bhainswál Rájbáhá, water the border villages of the tahsíl. Rájbáhá No. XII enters the district at Saragthal, and is tailed into the Rohtak canal, below the Rabarhá bridge after crossing the lands of Kakánah, Jauli, Kherí Damkan and Barotah. The discharge of this channel is at present 90 cubic feet per second, and it is intended to supply irrigation to all villages below the point where it joins the Rohtak canal, and thus allow the obstructions caused by the old canal banks, across the lines of natural drainage around and above Mahmúdpúr and Gohána to be removed. The villages along the eastern border began to irrigate in 1833-36, with the exception of those on the Bhainswál Rájbáhá, which was constructed in 1867, but all the distributaries from the Delhi canal have lately been remodelled. The Sámpla villages are irrigated by six principal water-courses, known as the Silánáh, Sisánáh, Rohnáh, Baronáh, Gopálpur, and Tikri Rájbáhás; the last irrigates the three detached canal villages of Bahádurgarh, Parnálah and Hasanpur. The channels, except the last, were constructed between A.D. 1833 and 1839; the Rohnáh and Gopálpur cuts have a discharge of about 25 cubic feet per second each, the others are smaller; the Delhi canal is 3 or 4 miles distant from the edge of the district where these water-courses are taken out of it. The Gopálpur Rájbáhá has lately been much improved and extended, and it now reaches down to Asaudah.

Canal drainage lines.

Closely connected with the canals are the canal drainage lines of the Sámpla tahsíl. These unite east of Hasangarh, from which place a shallow course is scratched on the surface of the country through Jasaur, Asaudah and Sánkhaul to the depression which runs up from the far north end of the Najafgarh *jhíl* to Bahádurgarh. A second channel, which runs down the Delhi border from Thana Kaláu by Kutabgarh, Ládpur and Nizámpur, is also tailed into the Bahádurgarh depression. The west arm of the Rohtak drain comes from Juán, eight miles above the northern border of the tahsíl, and passes through the villages of Ridháo, Gorar, Bakhetá and Humáyúnpur; into it the waters of the Juán swamp pour, when the rains are heavy and the Delhi canal is full. Two eastern branches, the westerly from the Bhatgáon *jhíl* and the

easterly from Badánah (which places lie five and four miles from the Sámpla border), unite in Kusudah and pass through Kharkhaudah and Rohnáh to Hasangarh, the floods being diverted by a moderate cutting and bank from breaking across the north of Kharkhaudah and joining the drainage line at Thana Kalán above mentioned. The lines are known locally as the Gaudá *nálá*, putrid channel, or *bad-ro*, and during late years they have wrought terrible havoc in the villages which they traverse. The channel was badly chosen, and was quite unprotected; the floods used to escape into the village ponds, over the village lands, and up to the interior of the very villages themselves. The drainage lines have been completed, and have been supplemented by a drain from Narkaudah which passes into the main drain; and are now in perfect working order.

Canal drainage lines.

Turning from the canals, we come next to the natural streams of the Jhajjar tahsíl, which flow from south to north, and, after falling into the Jamna through the Najafgarh *jhíl*, flow back from north to south. The Sáhibi rises in the Mewát hills running up from Jeypur to Alwar near Manoharpur and Jítgarh, which are situated about 30 miles north of the capital of the former State. Gathering volume from a hundred petty tributaries, it forms a broad stream along the boundary of Alwar and Patau, and crossing the north-west corner of the former below Nimránáh and Shájehánpur, enters Rewári above Kót Kásim. From this point it flows due north through Rewári and Pátaudi (passing seven miles east of the former town, and three miles west of the latter), to Lohári in the south-east corner of the Jhajjar tahsíl, which it reaches after a course of over 100 miles. Flowing through Lohárí and throwing off branches into Pataudáh and Kheri-Sultán, it again passes through the Gurgáon district, till it finally enters Rohtak at the village of Kutáni. The Indori rises near the old ruined city and fort of Indor, perched on the Mewát hills, west of the Gurgáon town of Núh. One main branch goes off north-west and joins the Sáhibi bed on the southern border of the Rewári tahsíl; while the collected waters of a number of feeders of the north branch pass three miles west of Táuru, spread over the low lands round Bahora and ultimately also fall into the Sáhibi near the south of Pátaudi. The two streams have no separate bed now above this point; the east branch in Kutáni, which is called the Indori, really takes off three miles below the Jhajjar border from the same bed as the west branch or Sáhibi. The reason why the Indori preserves its separate name, and is almost the better known of the two streams, is that owing to the proximity of its sources its floods appear after a moderate rainfall, while the Sáhibi, which flows a long distance through a dry and sandy country, comes down in volumes only in years of heavy rain. Under native rule, moreover, the Sáhibi used to be dammed across at Kot Kásim and Jharthal on the south border of Rewári, and its waters were diverted to the west, so that only the Indori floods flowed down the Sáhibi channel. Still, in spite of the two names, it is an undoubted fact that there is only one channel by which the united waters of both these streams enter the Rohtak district.

Natural streams.

Sáhibi.

Indori.

Chapter I, A.

Descriptive.

Indori.

On reaching Kutáni, the stream divides into two branches. One passes due north and joins the depression between Yakúbpúr and Fattehpúr; the other turns west, and in Naglah again divides, the one branch passing up to the low lands above Dádri, and the other continuing west to Záhidpúr. After throwing an arm into the Bathérah *jhíl*, the latter turns north to Aurangpúr, and flows through a lake there along the foot of the sand-hills to Silánah and the two Silánis. At this point it changes its course abruptly to the east, and passes through a gap in the sand-hills to the lake between Kot Kalál and Súrah, and thence working south to the lakes of Kailoí and Dádri (where it is joined by the branch going north from Naglah), falls into the expanse between Súndhí, Yakúbpúr and Fattehpúr, to which the branch from Kutáni flows direct. From here the re-united stream turns sharply to the north again, and passing through a second sand ridge, between Fattehpúr and Niwánah, enters Bádli through the masonry sluices of the often threatened but still existing *band* of Nawáb Faiz Muhammad Khán. Thence it passes into the Delhi district by two arms, the best defined going through Dewarkhánah and Lohat to Dhindhása, and the other by a huge shallow sweep up the west side of Bádli and under the town. When the floods come down in full volume, all the depressions along their course fill from side to side: the water generally rises in a few days and passes off in two or three weeks. The lakes above Aurungpúr and below Kot Kalál and Súrah never dry, and even the others usually retain some water in the lowest parts of their beds all the year round. The Najafgarh *jhíl* lies five miles distant from the Jhajjar border, and throws out from the centre and northern end two shallow depressions, fourteen miles and eight miles long, back to Bapaniah and Bahádurgarh; while the low-lying lands of Jhajjar are thus irrigated by the streams as they come down to the *jhíl*; those of Sámpla are affected by floods passing up from the overfilled *jhíl* itself. The view of the lakes with their waters rendered intensely blue by the surrounding sand-hills, fringed with luxuriant crops of wheat and sugarcane, and covered with flocks of ducks, geese, and snow-white pelicans, is very beautiful in the spring.

Kashaoti.

Besides the Sáhibi and Indori, the Kashaoti or Hansaoti used to irrigate the Jhajjar tahsíl. This rises below Patan, west of the northern sources of the Sáhibi, and takes a uniformly north-eastern course along the border of Nimránah, to the western boundary of Rewári, from which it passes into the corner of the Jhajjar below Koslí, after a course of some 60 miles. It was once united to the Sáhibi by a channel across the south of the Jhajjar tahsíl, but this has long ceased to carry water, and is hardly traceable now. The main depression is well marked in many places, and in the spring may be easily traced by the more luxuriant crops grown along its bed. Five and a half miles below the Rohtak boundary, the stream is dammed at Dahina, and, in consequence, flood waters seldom come down it now, except in years of very heavy rain. Inside the Jhajjar tahsíl its course runs between Koslí and Guriáni, past Túmbáherí, Chhapár, and across the north of Khúdan to Surahtí, where it divides into two arms. The eastern branch passes due north through the sand-hills, and ends in the south corner of the lands of Jhajjar: the western turns to Kanwáh (near which it is most markedly

defined), and following the north-western slope of the sand-hills along their southern base, extends to Chhúchhakwás, and thence by a broad flat depression, to the south of the Rohtak tahsíl itself below Berí.

Sand-hills.

Sand-hills run down the centre of the district in two pretty regular and parallel lines from north to south, the western-most, by the town of Rohtak, being the far more important: parallel again to these is the short line on the Hissár border. The worst stretches of sand are found in the range which slopes downwards across the north of the Jhajjar tahsíl. The sand-hills which lie south of this chain are of a different character to any others, being broad-backed and without sharp crests. There are four kinds of sand-hills: those on which inferior autumn crops are grown; those on which good grass is found with *bábúl* bushes, and *khíp* and *pála* jungle; those on which *sar* and *ákh* alone will grow; and those on which nothing will grow, being merely beds of shifting sand, constantly moving on from west to east and occasionally threatening villages, as in the case of Búriawás. The sand-hills of the northern tahsíl are generally of the first class with a little drift sand on their crests. The second class is well represented by the ridges in Dubaldhan and Dúrínáh; the third class may be seen in the lines round Káraudah; while the fourth consists generally of patches scattered throughout ranges of one of the other classes. The worst stretch of this type lies west of Dáolah and Baktiárpúr in Jhajjar.

Soils.

The surface of the country, although flat, undulates more or less everywhere, and a perfectly level stretch of any extent is rare. The soil consists as a rule of a good, light-coloured, alluvial loam, called *rauslí*, which yields splendid crops in return for very little labour; the lighter and sandier soil found in the ridges and at lower elevations is called *bhár*, while the clay soils are termed *dákar* and *matyár*, according to their tenacity; the former splits into fissures after being irrigated. The clay soils are found only in depressions, to which the greater amount of their argillaceous matter has been conveyed by the rain from the surrounding higher lands: they are commonest along the central canal drainage line, and in the naturally flooded (*dahrí*) depressions, where they form an exceedingly rich black soil in Jhajjar, and a curious grey soil (perhaps in the process of becoming black) round Bupaniáh. The names of the soils were introduced by the North-Western Amins at the first Regular Settlement, but they are now universally and solely recognised. The whole of the soil contains salts, and is termed *khárí biswáh* by the people. The water in the drinking wells throughout the district is kept sweet only by the canals, or the natural streams, or the tanks, on which they are everywhere sunk.

Saline efflorescence.

Reh efflorescence, called *shór*, is unfortunately not unknown, although it has not developed along the canals in Rohtak so badly as in Delhi and Karnál; it occurs chiefly in Mahmúdpúr and a few other villages above Mahmúdpúr in the north-east of the Gohána tahsíl, round Kharkháudah, and above the town of Rohtak. The evil in nearly all of these cases is caused by obstructions to the natural drainage lines. The main depression down which the Rohtak

Chapter I, A. Descriptive.

Saline efflorescence.

canal is taken, commences above Safidon, and is joined at intervals by a number of others from the east, starting below Karnál and Pánipat. One of these side lines joins the main branch at Mahmúdpúr, another at Gohána, and here it is that the chief development of *reh* is caused by the drainage water being held up by the canal bank. Round Chhichhrauli and above Rohtak, the harm is done by the canal crossing the main depression of the Nái naddi; in the north-east of Sámpla the water-courses check the natural flow of the surface drainage water in many places, and recently the floods from the *bad-ro* have in most villages seriously aggravated the evils of older origin. The Rájpút estates in the south-east of Jhajjar, and those in the east of the circle, of unlined wells (*cháhát khám*) suffer a good deal from salt efflorescence; elsewhere the surface of the soil throughout the district is generally free from this pest. Brine wells exist in Záhidpur and Silánáh, and salt is manufactured from them.

Climate.

The hot months of the year begin from the end of April, though the nights often remain cool until June. During June and July the heat is intense, until the rain falls; at the same time it is certainly not so fierce a heat as in the centre and west of the Punjab. Hot winds blow steadily from the west all day, enabling cooling appliances to be worked indeed, but bringing up constant dust-storms (*ándhi*) from the Rájpútána desert, often of such density as to produce almost utter darkness. The first rains fall between 25th June and 15th July, as a rule; but the heat remains moderated for only a few days after each downpour. The final rains take place from 20th September to 15th October; after this the nights become deliciously cool, but the days are still hot till the middle of November. Frost generally occurs about the close of the year, and sometimes again in February. During February and March, strong winds often blow, to the great discomfort of sojourners in tents, and in the latter end of March and in April thunder-storms are not unusual. The average rainfall of the district for the last 19 years has been 19½ inches; 12·4 from June to August, 4·2 in September and October, 1 inch at Christmas, 1·9 inch at other odd times. In the adjoining districts, the average rainfall for the same period is as follows:—Karnál 30·2, Delhi 31·8, Gurgáon 30·3, Hissár 18·1; in the North-Western Provinces the rain belt, of from 25 to 30 inches, faces the Punjab districts which lie along the Jamná. The climate, though severe in point of heat, is healthy, and may be not inaptly described in the quaint language of the memoirs of George Thomas, as "in general salubrious, though when the sandy and desert country lying to the westward becomes heated, it is inimical to an European constitution."

Table No. III shows in tenths of an inch the total rainfall registered at each of the rain-gauge stations in the district for each year, from 1866-67 to 1882-83. The fall at head-quarters for the four preceding years is shown in the margin. The distributions of the rainfall throughout the year is shown in Table Nos. IIIA and IIIB.

Year.	Tenths of an inch.
1862-63 ...	226
1863-64 ...	349
1864-65 ...	193
1865-66 ...	194

Chapter I, A.

Descriptive.

Health and sanitation.

In sanitation the district is as backward as any in the Punjab, and this is the more dangerous because man and cattle alike drink from the open tanks (*johars*) and not from the wells, as in many parts. The death-rate is put at 21 per 1,000, but this is of course, as elsewhere, much below the real mark; the normal birth rate of six municipal towns is put at 38 per 1,000. The number of deaths from fever is over the average for the whole Punjab; the number of cholera deaths in the two years of the Hardwár fair, *viz.*, 1867 and 1879, were 1,066 and 2,930. There is not the least doubt that the cholera in 1879 was brought from Hardwár. The first cases occurred seven days after the great day of the fair, and of 168 villages attacked, people from 135 had been to the fair. There were over 4,000 seizures in all; and the towns suffered less than villages as compared with 1867: nearly all the villages which suffered most were in the Rohtak tahsíl,—Borí, Sánghí, Nidánah, Mehim and others. Small-pox was prevalent in 1869, 1877 and 1878: in the first year nearly ¾ of the deaths were due to this disease. The average number of deaths for ten years up to 1878 was 11,044; but the deaths of the last year of that series, and of the year next following (1879), reach the startling figures of 20,178 and 35,782. During those two years a terrible scourge of fever fell on the district, and the deaths of these two seasons equalled those of no less than 5½ average preceding years. Over 46,000 deaths of the above sad tale were due to fever, and in autumn the sickness was so severe that the crops could not be cut, and the usual harvesting wage to the reaper was *one-half of* the yield. This sickness cannot fail to have been a great blow to the people, one-tenth of the population having been taken away in two years. It has been often observed that severe fever follows cholera, and this was certainly the case in Rohtak in 1879, but it was not so in 1869: the people maintain that severe sickness always follows shortly after a year of drought, which they are disposed to believe generates noxious influences in the soil. In 1877 and 1878, when small-pox was raging, the people turned readily to vaccination, but it is not popular among the children and women. Mr. Fanshawe writes: "When a sudden stampede of the former, accompanied by violent yells and sudden falls, has taken place as I entered a village, I have been informed, by way of apology, that it was not I whom the children feared, but that they supposed that I was the *ilkawálá Sáhib*." The average deaths of the first four months of the year are 2,792, or 698 per month; of the second four months, 3,410, or 852 a month; and for the last four months, 4,842, or 1,210 per month. Sickness increases suddenly with the fevers of September: October and November are the worst months of the year; in December there is a fall again to the level of September, and in January the nominal standard of the first third of the year is reached."

Sickness of 1879.

Canal villages.

The subject of sanitation cannot be treated without reference once more to the state of the villages swamped by the canal and drainage channels. The former were inspected by Dr. Dempster in 1847 A. D., and again by Dr. Taylor in 1867; the reports of both have been printed, and the state of things disclosed in them is most melancholy. In 1847 the percentage of persons suffering

Chapter I, B.

Geology, Fauna and Flora.

Canal villages.

from enlarged spleen in the worst villages on the main canal was 44, and in 1867 in the same villages it was 25. The new alignment of the canal will do away with much of the worst suffering in Gohána, but the source of the evils of the Sámpla drainage lines is now being controlled and removed. Stone in the bladder is common, as well as guinea-worm, along the irrigated tracts. Intermittent fever and ague are common, with their sequelæ, enlargement of spleen, dropsy, and anæmia. Pneumonia is fatally prevalent throughout the autumn and winter, owing chiefly to the extreme range of temperature during the twenty-four hours.

Tables Nos. XI, XIA., XIB, and XLIV give annual and monthly statistics of births and deaths for the district and for its towns during the last five years; while the birth and death-rates since 1868, so far as available, will be found at page 43, for the general population, and in Chapter VI under the heads of the several large towns of the district. Table No. XII shows the number of insane, blind, deaf-mutes, and lepers as ascertained at the Census of 1881; while Table No. XXXVIII shows the working of the dispensaries since 1877.

SECTION B.—GEOLOGY, FAUNA AND FLORA.

Geology.

Our knowledge of Indian geology is as yet so general in its nature, and so little has been done in the Punjáb in the way of detailed geological investigation, that it is impossible to discuss the local geology of separate districts, but a sketch of the geology of the province as a whole has been most kindly furnished by Mr. Medlicott, Superintendent of the Geological Survey of India, and is published *in extenso* in the provincial volume of the Gazetteer series, and also as a separate pamphlet.

Mines.

The last Administration Report shows the following mines in the Rohtak district: "Labadpúr and Silánah, 1,315 beds for evaporating 125,000 maunds of *khari* salt, and 313 pans for making 31,300 maunds of crude saltpetre. Sales to the amount of Rs. 84,000 were effected during the year, the salts being exported, after being refined, to Farrukhábad and Calcutta for use in preserving skins. Singhpúrah, two mines yielding 600,000 maunds of soft *kankar* of superior quality used for making lime. Mindra, Shádipúr, and Búriáwás quarries of building stone."

Salt.

The following description of the Sultánpúr salt sources, which lie partly in the Rohtak district, has been furnished by the Customs Department. The administrative arrangements are separately described in Chapter V:—

There are clusters of villages south-west of Delhi situated partly in the Gurgáon, and partly in the Rohtak district, where the manufacture of salt by the evaporation of brine raised from wells has been carried on from a period long antecedent to British supremacy. They are known as the Sultánpúr Mahal, are spread over an area of about 20 square miles, and comprise the

villages of Sultánpúr, Saidpúr, Muhammadpúr, Sadhrana, Kaliáwás, Ikhalpur, Mobárikpúr, Bassirpúr, Záhidpúr, and Siláuah. The salt is called Sultánpúrí, and is of good quality, containing about 90 to 95 per cent. of sodium chloride.

Salt.

The manufacture of salt is exclusively from natural brine derived from wells. The brine seems inexhaustible, as some of the works have been in operation apparently for the last 200 years, and no deterioration is observable. The brine is evaporated by solar heat in shallow *chunam* lined pans, which vary in extent from 200 feet by 60 feet, to only 60 feet by 40 feet, and in depth from 10 to 12 inches. To each well is attached one or more sets of pans, each set consisting on an average of about nine pans, so arranged that there is a slight fall from each pan into the one next beyond it. When, after the annual repairs, which take place about February, the pans are all in order, the highest is filled with brine from the well, and the brine is allowed to stand there for one, two or more days, according to the season and the weather, the period being shorter in the hot and longer in the cold weather. After thus standing, the brine is run into the second pan, the first being refilled, and then from the second to the third pan and so on, until the brine reaches the last pan but one, and there it is allowed to remain, receiving perhaps one or two accessions from its predecessor, until a commencement of crystallization is observed, when it is at once turned into the last pan and crystallization allowed to proceed. This is the most delicate part of the process; if the best salt is to be made and at the same time none wasted, the progress of the deposit (for the crystals form on the floor of the pans) must be closely watched. Up to a certain period nothing but edible salt is deposited; after that other allied salts begin to drop, and the edible salt must then be at once removed, and the mother liquor, of which no further use is made, run off: otherwise, especially at some works, the gross products of evaporation taken as a whole are bitter and uneatable. Not more than eight inches depth of brine at most is run into the first pan, and it is reduced to half that quantity, or even less, before it reaches the last but one pan. When the brine has sufficiently concentrated to be transferred to the crystallizing pan, the manufacturer skims the surface of it (taking care not to disturb the sediment) with some flat-curved instrument, usually a cow's rib-bone, with which he succeeds in removing all the lighter impurities, together with leaves, straw, and the like that may have settled on the brine. In the cold weather the salt rarely crystallizes under a month from the date the brine is drawn, but in the hot weather a period of ten or twelve days suffices.

The number of manufacturers employed in 1882-83 was 298; the number of wells worked was 322; and the number of pans 4,487. The annual yield averages some 6½ lakhs of maunds (see figures in Chapter V, Section A). The produce belongs to the manufacturer, who sells it at the current price of the period, unless, as generally happens, it has been hypothecated, in which case the creditor takes possession. After paying the Government dues the salt is exported to the south-eastern districts of the Punjab and into the North-Western Provinces and

Chapter I, B. Geology, Fauna and Flora.

Salt.

Oudh. The Rájpútána-Málwá Railway from Delhi passes closes to some of the salt works, and there is a branch line from the Gurhí Station with sidings to the works in Mubárikpur and elsewhere, but the line does not enter the confines of the Rohtak district. The price of the salt at the works ranges from 9 annas to 2½ annas per maund, according to quality, the average being about 5¾ annas per maund. In the markets which it enters after paying the duty and *hákimi* cess, it sells according to distance and amount of freight at from Rs. 3-2-6 to Rs. 2-10-0 per maund. The preventive system in force is described in Chapter V, Section A.

Other minerals.

Saltpetre is extracted from the earth of old sites in all parts of the district. The mineral wealth of Rohtak consists almost solely of *kankar*, which is found in most parts at a moderate depth below the surface, and proves a fatal enemy to the growth of trees in most parts. Bands of *kankar* beds cropping out of the ground are noticeable in Mokrab, and the villages west of it in the Rohtak tahsíl: the people call lands with *kankar* in them *kakreli*. Particularly pure *kankar* for making lime is found in Birohar and Singhpúrah. The little hills round Guriání are formed of a dark brown-blue limestone, which has supplied building material for all the houses and wells from Ratanthal to Kosli.

Fauna.

The domestic animals of the district are much the same as those elsewhere in the south of the Punjab. Camels are fewer, horses are not common, and horse-breeding is rare. Among the wild beasts, wolves are not unoccasionally met with, and leopards are sometimes seen; foxes, jackals and wild cats abound in the jungles. Snakes are common. Of the deadly kinds the chief are the cobra and *karait*, the former of great size. Scorpions are rare. The return of rewards paid for the destruction of wild animals shows that during the past five years some 550 wolves and two leopards have been killed; the deaths of 72 persons have been caused by snake-bite during the last four years, and one child was killed by a wolf. The tank at Mahmúdpúr was formerly famous for the number of alligators which it contained, but since it was silted up by turning the canal into it, they have disappeared. Wild pigs are to be found in the jungle, under the canal banks, but they are not common. Of game, black buck in the north and west, *chikárá* (ravine deer) throughout the centre and south, and *nílgái* (called by the people *rojh*), in the Chhuckhakwás and Mátanhél reserves, are the largest.* Geese, ducks and teal of all kinds, and flocks of wading birds are found on the Jhajjar lakes, and on some of the swamps along the canal; a few duck may be seen on the tank of nearly every village in the winter; snipe are met with in a few spots in Gohána; black partridge and *kulang* in the canal villages; common partridge, sandgrouse and quail everywhere; hares in all dry patches of jungle, and often in the fields. Bustard are occasionally seen. Peacocks run wild in many villages, but the people are averse to their being shot. The common field birds include no peculiar ones; green pigeons are plentiful round

* NOTE.—In 1828 the author of "Pen and Pencil Sketches in India" met with herds of *nilgai* in the (then) dense jungle between Mohim and Madináh, and shot a hyæna near Rohtak itself.

Jhajjar. The banks of the canal and the canal villages, and even some rain-land villages, are overrun by monkeys, which are great pests. They rifle the sugarcane fields whenever they get a chance; they prevent any young trees from growing, and they often threaten women and children carrying food to the fields; the people, however, are unwilling, on religious grounds, to kill them, though they are very willing to see them killed, and will often ask an Englishman to shoot a few as a warning to the rest. The mosquitoes of the naturally flooded villages are famous, and their fame is recorded in the following lines:—

"Machchar ke ghar Dádri, Nauraugpur thánah;
"Sáth gaon jágir ke, Sándhá, Súndhi, Fattehpur, Yákubpur, Nimanah;
"Thóri thóri Bádli, aur sari Ukhalchárah."

The mosquitoes of Gohána are said not to bite: this may be true as regards natives of the country; they certainly bite Europeans. In the summer evenings, before the whole shade of the trees on the canal banks is dancing with the light of the fireflies, the amount of animal life of all kinds which may be seen from the road is perfectly astonishing.

Trees and vegetation.

Except along the canals and chief water-courses, and immediately round the villages, trees are painfully wanting in the Rohtak scenery. In the fields they are met with only at intervals; though clumps of poor wood are scattered round the outlying ponds and tanks, except in Jhajjar, where there are but few of these. Almost any trees of the plains will grow along the canal banks; the commonest are the *shisham*, *kíkar*, *ték*, mulberry, *siris* and mango. Round the civil station and the tahsíls *shisham* and *siris* are grown. On the village tanks *pipal*, *kendú*, and *kíkar* trees abound; in the village reserved jungles (dignified with the name of *banis*), *jánd*, *jál* and *dhák*, and beneath them low bushes. These reserved village jungles form the only considerable tracts which have not come under the plough in most estates, and their almost invariable presence round the village site is one of the distinctive peculiarities of the district, and forms a striking feature of the revenue survey maps. In the fields the commonest trees are *kíkar* and *vauuj* or *nimbar*, in about equal numbers, the former being more common in Jhajjar, where the *farásh* is the only tree which grows well in the sandy tracts. Groves are rare: a few are to be found in the canal villages, and those in Kailoí (Rohtak) and Sílhóti deserve mention: the village reserved jungles of the canal villages often consist of fine *kíkars* as well as of the trees above mentioned. Two of the Government reserves of the Jhajjar tahsíl contain some timber, but it is generally poor and stunted. The small rainfall, the sandy soil, and the presence of *kankar*, are all unfavourable to the growth of trees, and it has been calculated that every one planted by the district authorities, and which consented to grow to maturity, must have cost between forty and fifty rupees. In nearly all cases the foliage is sadly kept down by the loppings and shearings which the trees undergo to provide an apology for fodder in years of famine. Those, however, which are situated round the tanks and in the village jungles are never felled except for a common village purpose, or when there is no other possible way of paying the

Chapter I, B.

Geology, Fauna and Flora.

Trees and vegetation.

Government revenue. In the few rain-land gardens which exist, the *jáman* and *bér* trees are found in profusion; in the canal gardens pomegranates, limes, apricots, mulberries and mangoes are cultivated, and the sale of their produce yields a considerable income: a few date trees (*khajúr—Phœnix dactylifera*) are scattered in small numbers around some villages; their fruit is almost worthless. Except the Jhajjar reserves (*bírs*) above-mentioned, there are no grass preserves in the district, and no large stretches of jungle; the only moderate sized tracts are at Mátanhél, Chándí, and between Púthí and Bhainswál Khurd. Jungle bushes grow freely everywhere, the most common being the *hins* and *bánsá* and *jhár pálá;* and thorns spring up all around with an amazing facility; round a few villages a cactus hedge (*nágphan—Opuntia dillenii*) may be found. Grass is abundant in seasons of moderate rain on the uncultivated lands and among the crops; but in years of drought it withers from off the face of the country, except in the canal villages.

The following is a complete list of the more common trees of the district. They are almost all self-sown, though the *pípal, farásh, siris*, and *shisham* usually require to be planted out. *Jánd* (*Prosopis spicigera*), *Siris* (*Albizzia lebbek*), *Kíkar* (*Acacia arabica*), *ním-bhur* or *ním-ber* (*Zizyphus*), *bukhain* (*Melia sempervirens*), *jand* (*Prosopis spicigera*), *jál* (*Salvadora oleoides*), *khair* (*Acacia catechu*), *beri* (*Zizyphus jujuba*), *barnáh* (*Crateva religiosa*), tamarind (*Tamarindus indica*), *rahírá* (*Tecoma undulata*), *hingó* (*Balanitis ægyptiaca*), *sissu* (*Dalbergia sissoo*),' *ním* (*Melia azadirachta*), *farásh* (*Tamarix orientalis*), *pípal* (*Ficus religiosa*), *kaim* (*Nauclea parviflora*), mango (*Mangifera indica*), *jáman* (*Sizygium jambolanum*), mulberry, *tút* (*Morus*), *dhák* (*Butea frondosa*).

Trees: their uses.

The *kíkar* is the tree most commonly used for nearly all purposes of building, and for household and agricultural instruments; the wheels of carts are generally made of this wood, and its boles furnish the solid blocks which are placed upright in the ground, and form the lower portion of the sugar-mills. The *siris* also, which is called *sirdár-i-darakhtán*, furnishes these stumps. *Shisham* wood is used for nearly all the same purposes as *kíkar*, but less commonly; only the red kind is adapted for agricultural implements. The timber of the *beri, pípal, jáman tút, jánt, siris* and *farásh*, is used in buildings; the mango and *jál* (which is safe from the attacks of white ants) for doors; the *hingó* and red *nímber* for ploughs, rakes, &c., and especially for churns; and the *rahírá* for bed-posts. The *jánt* and *farásh* supply the wattlings for the unlined wells of the Jhajjar tahsíl; the *raunj* and *dhák* are largely made use of for well timbers, as they are unaffected by water. The fire-wood of the country is supplied by the *beri, jál, dhák, raunj, farásh* and *kendú*: the Golia Játs and Musalmáns alone burn the *pípal*; the best charcoal is made from the *kíkar*, and after that from the *jánt, raunj* and *dhák*. This last tree furnishes the wood for the funeral pyres and marriage hearths—ominous conjunction! The *jánt* tree has a seed called *sángar* (and when dry *jhínj*), which the poorer people eat: the *jál* bears a sweet fruit (*píl* or *pílu*), which is especially abundant in famine years, ripening in May, and giving a welcome supply of food to the people. But the greatest stand-by of the lower classes in years of distress is

Trees: their uses.

the *kair* bush (not *khair*). This useful plant bears first a flower called *bárwáh*, which is eatable, and then a fruit which, when in its green state, is called *tint* and is made into a pickle, and when ripe and fit to eat, *pinjú*; in years of famine, it is said that the bush flowers twice. The plum of the *jhár pálá* has already been mentioned. The *kesú* fruit of the *dhák* tree is used for dyeing; a gum also is exuded from this tree, and from the *kíkar*, whose bark is used for tanning and in the manufacture of country spirits.

Grasses.

With moderate rain the cattle have no lack of grass pasture for most months of the year: from April to June grass is always scanty. The owner of a field is entitled to reserve it for the grazing of his own cattle for 12 to 15 days after the crop has been cut; then all the cattle of the village browse over the fields without distinction. The best and commonest grass is the *dúb*, which, with a fair rainfall, lasts all the year round. It is by far the most highly prized by the people, who say, "though all other grass be burned up, the *dúb* will remain fresh." It grows along the ground with long sprays, and has deep roots, which the people dig up as fodder in famine seasons. Most of the other grasses spring up with the early rains, and last only a few weeks or months: the best kinds are called locally *chaprúr*, *sánwak*, *makrá*, *dinjan*, *paluá* and *gándhí*. The *dáb* grass which grows most commonly in the low-lying naturally-flooded lands, is of a coarse and hurtful kind—"though an animal die, yet should he eat *dáb*?" The *káns* grass is said to be good for horses—"*Káns* grass for the horse, a staff for a man"—and is much relished by camels and goats. *Paluá* and *gándhí* form the special food of buffaloes, and *ghatíl* of donkeys; most animals eat the other kinds, but many are not nourishing, and only allay hunger. *Sánwak*, *makrá*, *chaprúr*, and *palenji* bear small seeds, which are gathered and eaten by the people in famine seasons. At such times, too, the cattle have to put up with fodder mixed with sprays of trees, bushes and thorns, especially from the *vasnj*, *ján*, *kíkar*, *shisham*, *sirís* and *jhár-pálá*; these form a most important stand-by in such seasons, and in allusion to their admixture with straw, it is said—"the cattle of the highlands eat the fruit of the *jál* and *ján*." The *jhár-pálá* bush, also called *jhár-berí* (*Zizyphus nummularia*) has been fully described by Mr. (Lord) Lawrence in his report on the Rewári pargana; when green and growing in the middle of the crops, it is called *goblá*; when the crop has been removed, the thorny sprays are cut off close to the ground and given to the camels to eat, or mixed with fodder for other cattle: the leaves of the bushes in the jungle, or whose branches dry up in the fields, are beaten off them and collected in bundles; the thorns are used to protect the roads and enclosures for fuel and fodder. The plant also bears a fruit called the *jungli bér*, which is largely eaten in famine years. Besides the *pálá* bush camels feed on the *jhójhrú*, which grows commonly on *bhúr* soil, and on sprays and leaves of *kíkar*, *vaunj*, *pípal*, *ján*, and *badbér* trees. Goats are fond of the leaves of the *babúl* and of the *badbér* and *ákh* trees, but they will not touch *dák*: "The camel does not touch the *ákh*, nor the goat the *dák*."