

FINAL REPORT
ON THE
REVISION OF SETTLEMENT
OF THE
SHAHPUR DISTRICT

IN THE
PUNJAB,

1887-94.

BY

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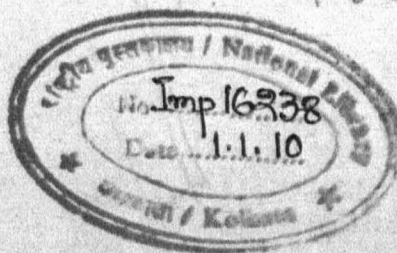
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FINAL REPORT
ON THE
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OF THE
SHAHPUR DISTRICT.

CHAPTER I.

DESCRIPTION.

1. The Shahpur district is bounded on the north by the Jehlam district, on the east by Gujrát and Gujránwála, on the south by Jhang and on the west by Dera Ismail Khan and Bannu. Its average length from east to west is about 96 miles, and its breadth from north to south averages about 50 miles, but varies from 27 miles near the centre to 72 miles near the west boundary. According to recent re-measurements its total area is 4,737 square miles. It is divided into two nearly equal portions by the river Jehlam, the western half constituting the Khusháb tahsíl, while the cis-Jehlam half is subdivided into two nearly equal portions, one being the Bhera and the other the Shahpur tahsíl.

General description.

2. With the exception of the small portion of the Salt Range which is included in the north of the Khusháb tahsíl, the whole of the district forms part of the Indus basin, and lies almost entirely between 550 and 700 feet above sea-level with a gradual slope towards the south-west of about a foot and a half in the mile. The Chenáb and Jehlam rivers, crossing this plain on their way to the Indus and the sea, have worn for themselves wide valleys, some fifteen or twenty feet below the general level, leaving between them a comparatively high-lying upland tract, called the Bár, while beyond the Jehlam, and between it and the Indus river, is another wide expanse of upland, locally known as the Thal.

Physical features.

3. The Chenáb river, which forms the south-eastern boundary of the district for a distance of 25 miles, must at some comparatively recent date have flowed considerably to the west of its present bed. At a distance from it to the west, varying from 10 to 15 miles, a well-defined bank, called the Nakka, separates its valley from the Bár uplands, and the tract below this bank is intersected in many places by sandy channels, small and large, which have evidently been occupied by the river at various periods, and are generally known as *Buddhi*, i. e., old branches of the river. The annual inundations affect only a narrow fringe along the river, varying in width from two to six miles, and averaging little more than three. The soil of the Chenáb valley is generally light and sandy, and inferior in productive power to the richer loams of the Bár uplands and the Jehlam valley, the deposits left by the annual floods of the Chenáb being much less fertile than the rich silt brought down by the Jehlam. The minimum recorded discharge of the Chenáb river is 3,600 cubic feet per second, and the maximum about 700,000 cubic feet per second, but in ordinary years the discharge varies between 5,000 and 250,000 cubic feet per second. In the Chenáb valley the under ground water-level is everywhere near enough to admit of irrigation from wells, and the well water is good and sweet. Near the river, just outside the strip of cultivation which depends directly on the river floods, there is a belt of cultivated land thickly studded with wells, each of which is surrounded by a clump of fair-sized trees, the water-level here being from 15 to 30 feet below the surface. Beyond this belt as far as the Nakka bank, the wells are deeper, water being found at from 25 to 40 feet according to the distance from the river; the wells and villages are more sparse and the trees fewer, and larger tracts of uncultivated bare ground are found: so that the country presents a less flourishing appearance than the better irrigated tract bordering the river.

The Chenáb valley.

4. On ascending the Nakka bank, we find ourselves on the Bár uplands which stretch across about twenty miles to the similar bank which again dips down into the Jehlam valley. Here instead of the sandy soil of the Chenáb low-lands we get a good strong loam, capable of growing excellent crops with sufficient moisture: but the water-level is here from 50 to 80 feet below the surface, the water is generally brackish, and wells are few and far between. A considerable area is cultivated, with the aid of the drainage from the neighbouring higher ground, but by far the greater part of the Bár is still uncultivated, covered with a thick growth of shrubs and bushes, and producing in good seasons an excellent crop of grass, which forms the sustenance of the large herds of cattle kept by the inhabitants of the scattered villages. Towards the south-west, in the Shahpur tahsíl, the soil gets in some places more sandy, in others more saline, and both trees and grass become comparatively sparse and stunted.

5. On descending the northern edge of the Bár—a bank some ten or fifteen feet high, known as the Danda—we find ourselves in the valley of the Jehlam, a tract somewhat similar in character to the valley of the Chenáb, but much more fertile, better cultivated, better wooded, and more thickly inhabited owing no doubt to the richer quality of the alluvial silt annually brought down by the Jehlam. In winter, the river shrinks into a narrow channel, sometimes not more than 200 yards wide, with a minimum discharge of about 6,000 cubic feet per second. Towards the end of March, when the snows begin to melt on the distant Himalayas, the river gradually rises, till in May and June it attains an average height of about six feet above its usual winter level, with a breadth of about half a mile. When heavy rains fall on the lower hills the river is liable to sudden freshets, sometimes rising as high as twelve feet above winter-level and giving a discharge of over 200,000 cubic feet per second. These freshets, while sometimes causing temporary damage, are generally of incalculable benefit by depositing a fertile silt over many square miles of country, and leaving the land sufficiently moist to produce excellent crops with the aid of a scanty rainfall. The valley, which is little more than two miles wide where the river enters the district, rapidly widens until at Shahpur it is ten miles, and at Sáhiwál fifteen miles wide. It is intersected by winding channels, in which the river must formerly have flowed. At present however the Jehlam hugs the western border of its valley pretty closely, and leaves on the east a wide level low-land of fertile soil with abundance of sweet well water at a depth below the surface varying from 15 to 55 feet, according to the distance from the river. Advantage has been taken of this store of water to sink numerous wells for purposes of irrigation, and during the last thirty years several canals have been constructed both by the State and by private persons to conduct the water of the river in the annual flood season on to the land of the valley at a distance from its present channel. So good are the soil and water and so profitable is cultivation, that the Jehlam valley as a whole is much more densely populated than any other part of the district, and although it comprises less than a fourth of the total area, it contains much more than half the population of the whole district, and the only five towns which have more than 6,000 inhabitants each are all situated in this tract. Near the river the villages are thickly clustered, almost every acre is cultivated, the wells are numerous and the country well wooded; but in the south of the district where the valley is fifteen miles wide and canals have not yet been constructed to irrigate land at any great distance from the river, the tract, locally known as the Ara, intermediate between the riverain proper and the Bar upland, receiving no irrigation directly or indirectly from the river and having a very scanty rainfall, is dependent for its cultivation almost entirely on wells, and as the underground water-level is from 30 to 55 feet below the surface, and the soil is hard and clayey and cannot be continuously cropped, there is much less cultivation and very few trees. The soil is however rich, and when canal-irrigation from the Jehlam has been extended into this tract, it will soon equal the rest of the valley in prosperity.

6. On leaving the immediate neighbourhood of the Jehlam, and ascending the high bank which bounds its valley to the west, one suddenly plunges into a wilderness of sand, which extends westward for about thirty miles to the boundary of the district, and beyond

that about as far again to the edge of the Indus valley. This desert tract known as the Thal, which occupies almost the whole of the Sind Sagar Doáb, forms a marked contrast to the level loamy Bar soil of the uplands on the other side of the Jehlam. Its surface consists of a succession of sand hills between which the harder subsoil appears in strips and patches. This sandy prairie is covered in years of good rainfall with grass and stunted bushes, but in seasons of drought, which are of frequent occurrence, it is little better than a desert. Cultivation is carried on in small patches, trees are rare, the underground water is from 40 to 60 feet below the surface, and generally brackish, irrigation from wells is almost unknown, the few villages are very far apart, and the scanty population subsists chiefly on the produce of the flocks and herds which wander from place to place in search of grass.

7. The sandy hillocks of this desolate region end somewhat abruptly at a distance of seven or eight miles from the steep escarpment of the Salt Range which bounds the horizon to the north. The tract between the desert and the hills is for the most part a flat barren plain of hard soil, impregnated with salts, and producing hardly even a bush or blade of grass. Near the base of the hills however the mountain torrents have brought down immense quantities of *detritus* from the sandstone and lime-stone rocks above, and have covered the nearer portion of the salt and sterile plain with a fertile soil sloping gradually outwards from the base of the precipitous hills. In years of favourable rainfall the torrents rush down from the gorges, and spread in deltaic fashion over the *moraines* they themselves have formed, being brought under control soon after they leave the hills by an elaborate system of embankments. The scarcity of good water is one of the marked characteristics of this part of the district, and in the hot season when the ponds dry up the people and cattle have often to go long distances for a drinkable supply as the well water is almost everywhere very salt. Still the land immediately along the foot of the range is so fertile when irrigated by the hill torrents that a large population inhabits the tract and derives a living from agriculture: but their prosperity, dependent as it is entirely upon a very uncertain rainfall, is more than usually precarious.

8. The most southernly corner of the Salt Range is included in the Sháhpur district. Here its southern edge rises precipitously from the level plain to a general height of some 2,500—the Sakesar hill, the highest point in the range, being 4,992 feet above the level of the sea. On the north side however it slopes much more gradually towards the Tallagang plateau which lies some 1,800 feet above sea level. The portion of the range which lies in this district consists of two parallel ridges running east and west and including within them several valleys with a general height above sea level of from 2,000 to 2,500 feet, divided from each other by numerous smaller ridges, generally long and narrow and running east and west parallel to the general direction of the range. Of these valleys much the most important is the Sún, a land-locked basin immediately to the east of Sakesar with a length of 14 miles and a maximum breadth of 4 miles. The surplus drainage from the hills around collects in the Uchháli lake at the bottom of the valley. Two similar but smaller lakes are found in the Khabakki and Jáhlár basins. The soil of the valley is exceedingly fertile and does not vary much in general character throughout the tract, except that in the north-east it is sandy and inferior. Its productive powers however vary greatly from village to village and even in the same villages, according as the situation of the field places it more or less in the way of intercepting the drainage water from the hills above and the fertilizing deposits it brings down. Hence the very elaborate system of embankments maintained by the industrious peasants, the result of which is that the slopes of the valleys have been gradually worked into a succession of terraces, one below the other, and that in some cases the dams are so strong and so well designed that the natural channel of a large torrent remains perfectly dry and the whole stream is turned on to the ridges on either side, and, passing gradually down from terrace to terrace, irrigates a large area of comparatively high land, which would otherwise remain dry and almost unculturable. The fertile soil thus irrigated supports a large population.

9. The average annual rainfall varies considerably for different parts of the district and decreases rapidly as one goes south-west away from the Himalayas. At Midh, in the Chenáb valley, it averages 15 inches. On the Jehlam it averages 16 inches at Miáni, 15 inches at Bhera and Sháhpur, and 12 inches at Sáhiwál. At Núrpur in the middle of the Thal the average is only 7 inches, and in the Salt Range at Naushahra it is 16 inches. Taking 15 inches as the average rainfall of the district, it may be said that 11 inches fall in the summer and 4 in the winter months. The rainy season commences towards the end of June or beginning of July and lasts for little more than two months. On the rainfall of July and August depends the sowing of the autumn crop. Rain in September is very favourable both for maturing the autumn crop and for moistening the ground for the wheat sowings. The spring crop, once in the ground, is chiefly dependent on the showers of January and February. But the chief characteristics of the rainfall here is not its scantiness, but its variableness both from year to year, and from place to place. The rainfall of one year may be four times that of another, and excellent rain may have fallen in one village, while another a few miles off, may have got none. The prosperity of the district, and especially of those parts of it which are chiefly dependent on the local rainfall, varies very greatly from year to year according to the amount and opportuneness of the rainfall.

10. Some parts of the Sháhpur district, and especially the dry uplands of the Bár and Thal, and the waterless, treeless tract along the foot of the Salt Range, are among the hottest regions in India in the months of May and June. The temperature in the shade rises day after day to 115° , or more, and at night it goes down to about 85° . When the monsoon rains commence the temperature falls considerably and in July and August seldom goes above 105° in the shade. About the middle of October the cold season sets in and for nearly six months the district enjoys almost perfect weather.

Leading statistics.

11. The following are some of the leading statistics of the district:—

DETAILS.	District.	DETAIL OF TAHSILS.		
		Bhera.	Shahpur.	Khusháb.
Total square miles	4,737	1,169	1,030	2,538
Cultivated square miles (1893)	1,074	354	364	356
Culturable square miles (1893)	3,186	756	616	1,814
Irrigated square miles (1893)	507	180	301	26
Average square miles under crops (five years ending 1892-93).	793	280	249	264
Annual rainfall in inches (1884-93)	14.0	15.4	12.7	10.7
Number of inhabited towns and villages (1891)	705	290	266	149
Total population (1891)	493,588	195,585	146,376	151,627
Rural population (1891)	440,738	171,008	127,933	141,795
Urban population (1891)	52,852	24,577	18,443	9,832
Total population per square mile (1891)	102	168	142	61
Rural population per square mile (1891)	91	147	124	57
Hindús (1891)	66,065	28,266	22,706	15,093
Sikhs (1891)	9,777	2,368	3,737	3,672
Musalmán's (1891)	417,661	164,917	119,919	132,825
Gross final fixed land revenue	644,864	255,119	194,503	195,242
Present khálsa land revenue (1893-94)	544,398	214,820	165,293	164,285

CHAPTER II.

STATISTICAL HISTORY.

12. According to the professional revenue survey made at various times between 1853 and 1865 the total area of the district is 4,651 square miles, or including the rivers 4,697 square miles; according to the recent remeasurements made by the patwáris it is, including that portion of the rivers which lies within the boundary of the district, 4,737 square miles, of which in 1893 477 square miles were returned as unculturable, 3,186 as culturable, and only 1,074 square miles, or less than a fourth of the total area of the district, as under cultivation.

According to the records of regular settlement which were compiled at different times between 1855 and 1864, the total cultivated area excluding land recently thrown out of cultivation was 304,870 acres. The area under cultivation has gone on steadily increasing year by year and was returned in 1888 as 612,659 acres and in 1893 as 687,217 acres, or much more than double the area of regular settlement. During the last six years cultivation has increased at the average rate of more than 12,000 acres per annum. The increase of cultivation in the different tahsils since regular settlement has been 131 per cent. in the Bhera tahsíl, 173 per cent. in the Sháhpur tahsíl and 89 per cent. in the Khusháb tahsíl. The more rapid rate of increase in the two former tahsils has been mainly due to the extension of irrigation from inundation canals.

13. The area actually cropped is given for regular settlement as 288,494 acres, on the average of the four years ending 1888 it was 428,793 acres, and on the average of the five years ending 1893 it is 507,954 acres; of which 202,934 acres were harvested in the kharíf and 305,020 acres in the rabi. The area cropped is thus nearly double what it was at regular settlement and is increasing at the rate of 16,000 acres a year, and the proportion of the kharíf and rabi harvested areas is almost exactly as two to three. The area harvested, however, varies greatly from year to year, according to the seasons. In the exceptionally dry year 1891-92, it was only 385,635 acres, and in the following year which had an exceptionally heavy rainfall it was 596,111 acres. But even in the latter year which gave the highest harvested area on record a seventh of the total area under cultivation produced no crop, and on an average of years no crop is grown on more than a fifth of total cultivated area. This fact is of great importance in judging of the incidence of the assessment.

Means of irrigation.

14. The classification of the total area under cultivation according to means of irrigation is as follows (in acres) :—

	Cháhi.	Nahri.	Sailáb.	Báráni.	Total.
At settlement (1854-64)	131,545	2,192	45,625	125,508	304,870
In 1893	236,524	87,654	69,838	293,201	687,217
Increase per cent.	80	Great.	53	134	125

The number of wells in use has increased from 4,646 at settlement to 6,773 in 1887 and 6,865 in 1893. The average area returned as *cháhi* per well is 34 acres, and the area of *cháhi* crops actually harvested per well is 25 acres on the average of the last three years, i.e., only three-fourths of the total area returned as ordinarily cultivated with the aid of irrigation from wells actually produces an irrigated crop on an average of years.

The area flooded directly by the rivers is not capable of any further marked increase, and has remained fairly constant at about 69,000 acres for the last five years.

The area cultivated by means of the local rainfall, aided in part by mountain torrents or the drainage from neighbouring higher ground, has much more than doubled since settlement and has increased in the last five years by 40,000 acres. On the average of the last five years however only 200,432 acres have produced an unirrigated crop, so that on an average of years more than a fourth of the unirrigated area under cultivation fails to produce a crop.

The enormous increase in canal irrigation is a marked feature in the history of the district. The area irrigated by canals increased from 68,650 acres in 1888 to 87,654 acres in 1893, and is likely to go on increasing rapidly as canals are being further developed.

15. There was practically no canal irrigation in the district until in 1860 Mr. Macnabb, Deputy Commissioner, cleared out at his own expense an old river channel which developed into the canal called after him the Macnabbwáh, and induced Malik Sáhíb Khán, Tiwána, to excavate a large canal to irrigate a grant of waste land given him at Kálra. The profits secured were so great that numerous other canals were soon after constructed, some by the State and others by private persons, and although several of these have since been abandoned or absorbed in others, there are now in existence four State and 16 private canals, more or less in working order. The State canals are (1) the Station Canal and (2) the Sáhíwál Canal, both in the Shahpur tahsíl, the latter of which has now absorbed the Macnabbwáh and the Old Sáhíwál Canal, (3) the Rániwáh in the Bhera tahsíl and (4) the Corbynwáh in the Khusháb tahsíl. The first two are the property of the Imperial Government and the two last are Provincial property.

16. The State canals in the Shahpur tahsíl, which then consisted of the Station Canal, the Macnabbwáh and the Old Sáhíwál Canal, were purchased in 1870 by the Imperial Government from local funds at a cost of Rs. 20,610. In 1877 to 1880 an additional capital expenditure was incurred and the capital outlay raised to Rs. 40,739, at which it stood till 1891. Taking the averages of five-yearly periods we have the following statistics :—

Period.	Capital outlay to end of year.	Collections less refunds.	Working expenses.	Net revenue.	Interest charges.	Percentage of net revenue on capital outlay.
	Rs.	Rs.	Rs.	Rs.	Rs.	
1870-75	20,610	6,006	4,107	1,899	824	9.2
1875-80	40,739	11,781	6,929	4,852	1,629	11.9
1880-85	40,739	18,413	9,663	8,750	1,629	21.5
1885-90	40,739	34,849	17,751	17,098	1,629	42.0

Since 1890 further expenditure has been incurred under an Engineer Officer specially deputed for the improvement of these canals, and the accounts for the last three years stood as follows :—

Year.	Capital outlay to end of year.	Collections less refunds.	Working expenses.	Net revenue.	Interest charges.	Percentage of net revenue on capital outlay.
	Rs.	Rs.	Rs.	Rs.	Rs.	
1890-91	40,739	49,601	38,629	10,972	1,629	26.9
1891-92	81,181	48,315	26,535	21,780	3,247	26.8
1892-93	1,36,867	67,161	28,524	38,637	5,475	28.2

For the first twenty years of their working the balance of revenue at the credit of these canals, after deducting working expenses and interest, was Rs. 1,29,430, or more than three times the capital expenditure up to that time; and in 1893, after twenty-three years of working, these canals, notwithstanding a new additional capital expenditure in the last two years of Rs. 96,128, after deducting from the income all kinds of expenditure, including working expenses, interest, and even the capital outlay itself, had brought in a clear profit to the State of Rs. 53,501.

17. Still more favourable are the returns of the Ráníwáh Canal in the Bhera tahsíl. This canal was originally excavated in 1870 by the Deputy Commissioner with the aid of *takávi* advances to the amount of Rs. 19,500, and the income of the canal in the first year of its running was Rs. 5,642 and in the second Rs. 19,070. The *takávi* advances were paid off and in the third year after the commencement of the canal the *capital cost was extinguished*, and Government was in possession of a canal *which had cost it nothing*, capable of irrigating 6,000 acres and having a net revenue of Rs. 7,000 per annum. Since then the canal has been gradually extended out of revenue, yet in no year have the working expenses exceeded the income. There is no capital account, for the capital has been repaid, and there is no interest charge against the canal.

Taking the average of five-yearly periods the statistics are as follows:—

Period.								Collections less refunds.	Working ex- penses.	Net revenue.
								Rs.	Rs.	Rs.
1870-75	...	...	...	...	...	...	...	9,920	6,251	3,669
1875-80	...	...	...	...	...	...	...	14,167	6,626	7,541
1880-85	...	...	...	...	...	...	...	28,430	8,200	20,230
1885-90	...	...	...	...	...	...	...	38,280	11,245	27,035

The corresponding figures for the last three years have been:—

Period.								Collections less refunds.	Working ex- penses.	Net revenue.
								Rs.	Rs.	Rs.
1890-91	...	...	...	...	...	...	...	45,390	9,613	35,777
1891-92	...	...	...	...	...	...	...	33,964	7,094	26,870
1892-93	...	...	...	...	...	...	...	50,750	22,039	27,711

This canal, after extinguishing its capital cost, has during the twenty-three years since it was commenced brought in to the Provincial Government a net profit of over Rs. 3,80,000.

The Corbynwáh Canal in the Khusháb tahsíl was originally made in 1879 by Captain Corbyn, Deputy Commissioner, at the cost of the District Board and Khusháb Municipal Committee, but finally in 1891 was acquired by the Provincial Government, together with Malik Sher Muhammad's canal, alongside which it ran. The capital cost of the combined canal to Government is estimated at Rs. 38,671, including Rs. 13,671 spent on improvements after the acquisition. During the five years ending 1892 it irrigated on the average 2,428 acres, had an income of Rs. 1,959 and an expenditure of Rs. 1,019, and brought in a net profit of Rs. 940 per annum.

Private canals.

18. The private canals now in existence are as follows:—

No.	River.	Name of Canal.	Approximate area irrigated (acres.)
1	Chenáb	Makhdúmánwála	1,000
2		Dáimwála	200
3		Muhkamdúnwála	800
4	Jehlam	Píránwála	2,400
5		Amírchandwála	100
6		Núnánwála	5,500
7		Sultán Mahmúdwála	6,500
8		Nabbewála	100
9		Chaharumi	500
10		Sahib Khánwála	12,000
11		Mekanánwála	5,000
12		Chillwála	5,500
13		Sarfaráz Khánwála	4,500
14		Jhammatánwála	200
15		Nathuwála	600
16		Kandánwála	100
Total Private Canals ...			44,500

This area is approximately the maximum irrigated in a good year, the average irrigation being considerably less. Besides the Malik Sher Muhammad canal bought up and absorbed in the Corbynwáh, as already mentioned, the Jahán Khánwála in Bhera was purchased by the Provincial Government some years ago for Rs. 5,000 and absorbed in the Rániwáh, and the Mahotewála has recently been purchased by the Imperial Government for Rs. 1,200 and absorbed in the Sáhiwál Canal. A full account of each of the private canals will be found in the Assessment Reports.

19. The proportion of total harvested area occupied by the different crops at last settlement and now will be seen from the following statement:—

Crop.		AT LAST SETTLEMENT.		AVERAGE OF FIVE YEARS ENDING 1893.	
		Area in acres.	Percentage of total area.	Area in acres.	Percentage of total area.
CEREALS AND PULSES.	Rice	394	...	2,000	...
	Wheat	131,224	46	211,671	42
	Barley	9,739	3	13,103	3
	Maize	602	...	5,721	1
	Jowár	15,802	6	38,578	7
	Bájra	59,415	21	92,087	18
	Other cereals	4,442	2	8,975	2
	Gram	10,005	4	26,053	5
	Múng and másh	2,346	1	4,119	1
	Peas, moth and other pulses	5,864	2	14,084	3
Total cereals and pulses ...		239,833	85	416,391	82
OIL SEEDS.	Linseed and Til	2,696	1	3,854	1
	Rape and others	1,901	1	16,822	3
Sugarcane		1,033	...	1,272	...
Cotton		21,879	8	31,868	6
Other fibres ... ..		...	...	57	...
Tobacco		1,004	...	1,230	...
Vegetables and fruits		12,959	4	29,971	6
Poppy		708	...	3,542	1
Miscellaneous		1,351	1	2,796	1
Total ...		283,364	100	507,803	100

Almost every crop has increased immensely in actual area, except sugarcane and tobacco, which are almost stationary. The crops which have increased most in proportion are rapeseed, vegetables and poppy, while wheat, *bájra*, and cotton, the staple crops occupy a smaller proportion of the harvested area than they did thirty years ago. Still wheat occupies 42 per cent. of the area cropped and forms the staple food of the people: *bájra*, which is largely consumed in the winter months, occupies 18 per cent. and cotton 6 per cent. of the total area

Prices.

20. I quote here what I wrote about prices in 1888.

"Enquiry was made by examination of the books of the principal traders in seven towns in different parts of the district, viz., Mith on the Chenáb, Bhera, Sháhpur and Sáhíwál along the east of the Jehlam, Khusháb on its west bank, Núrpur in the Thal, and Naushahra in the Salt Range, and the results were checked by comparison with the prices recorded for the district head-quarters in the Gazette. It is found that on a series of years the averages for the different towns do not differ very much, so that it is sufficiently accurate to take their average as representing prices for the whole district. The harvest prices thus ascertained are as follows (in sérs per rupee):—

Period.	Wheat.	Bájra.	Jowár.	Gram.	Barley.	Tárámíra.	Gur.	Cotton un-ginned.	Chína.	Ghi.
Fifteen years, 1850-1864	41	47	52	51	57	36	17	15	69	3½
Thirteen years, 1865-1877	26	30	34	32	38	32	13	11	41	2
Ten years, 1878-1887	21	25	28	27	31	27	11	12	36	1½
Percentage of total area under crop ...	43	19	7	3	2	2	...	10	...	...

Taking the average of the fifteen years, 1850 to 1864, which cover the period of settlement operations, as representing the prices of last settlement, and the average of the last ten years as representing the prices now prevalent, it may be said that that quantity of each article which would then have fetched Rs. 100 in silver, now fetches as follows:—Wheat Rs. 195, *bájra* Rs. 188, *jowár* Rs. 186, gram Rs. 189, barley Rs. 184, *tárámíra* Rs. 133, *gur* Rs. 155, *china* Rs. 192, cotton Rs. 125, and *ghi* Rs. 179. That is to say—the principal food-grains—wheat, *bájra*, *jowár*, gram, and barley, which together occupy three-fourths of the area under crop—have each increased in money-value more than 80 per cent., since last settlement and the price of wheat, which is by far the most important, has practically doubled. Cotton, however, which occupies 10 per cent of the cultivated area has risen in price only 25 per cent.; and the price of *ghi* has risen 79 per cent.

In order to ascertain the prices to be assumed for the present assessment calculations, we cannot do better than take as our guide the average prices of the last ten-year period, which includes years both of plenty and of scarcity, of brisk export and of brisk import. To go further back would involve us in the low prices which prevailed before the extension of railway communication to this neighbourhood and the establishment of the export trade through Karáchi to Europe, which now regulates the price of wheat throughout the Panjab, nor would it be safe to speculate much on the probable future of the wheat trade, which depends so greatly on the harvests in America and Russia, on the value of silver, and other factors difficult of estimation. Making some allowance for the distance of the peasant from market, and the low prices of the villages as compared with the towns, I have assumed the following prices as the basis of assessment calculations throughout the district (in sérs per rupee):—

	Wheat.	Bájra.	Jowár.	Gram.	Barley.	Tárámíra.	Gur.	Cotton, un-ginned.	Chína.	Ghi.
Average prices for the ten years, 1878-1887.	21	25	28	27	31	27	11	12	36	1½
Average price assumed for assessment purposes.	25	30	35	35	40	35	15	15	45	2

For the six years since 1887 the average harvest prices for the district calculated in the same way have been as follows (in sérs per rupee):—

	Wheat.	Bájra.	Jowár.	Gram.	Barley.	Tárá-míra.	Gur.	Cotton ungin-nel.	Chína.	Ghi.
Average price for the six years 1888-1893.	19	20	24	24	28	17	11	9	28	1 $\frac{1}{2}$

The prices of all produce have therefore been considerably higher during the last six years than during the previous ten, and although at this moment (1894) owing to good harvest here and low prices in England, grain is cheap, there is no reason to suppose that the prices assumed for assessment purposes are in any case too high. Indeed in some cases they are obviously too low. For purposes of comparison hereafter I estimate as below (1) what may be considered average bázár harvest prices under present circumstances; (2) the prices that might now be fairly taken for assessment purposes, *i.e.*, as the prices which producers are likely to get on an average of years for their surplus produce (in sérs per rupee):—

	Wheat.	Bájra.	Jowár.	Gram.	Barley.	Tárá-míra.	Gur.	Cotton ungin-nel.	Chína.	Ghi.
Average bázár harvest prices.	20	23	27	27	30	20	11	10	30	1 $\frac{1}{2}$
Fair assessment prices.	25	28	32	32	35	25	13	12	35	2

In every case, except wheat and *ghi* it seems safe now to assume higher prices than were actually assumed in the assessment calculations, and, if those calculations were again worked out on the prices that now seem fair, they would give a considerably higher estimate of the money value of the half net produce.

21. Since last settlement there has been a great improvement in the communications of the district, which is now traversed in every direction by roads passable at all seasons of the year, even up the steep sides of the Salt Range. Within the last few years a branch of the North-Western Railway has been brought into the district with a terminus at Bhera, and the Sindh Sagar branch of the same railway passing through the Khusháb tahsil towards the frontier and on to Mooltan has placed a great part of the district in direct communication with Karáchi. Export and import are now much brisker and prices much higher and steadier than before.

22. The agricultural stock of the district has been carefully enumerated at various times, and the following statement gives the results of the more important enumerations:—

Year.	Cows, bullocks, and buffaloes of all ages.	Sheep and goats.	Horses and ponies.	Mules and Donkeys.	Camels.	Yokes of plough-bullocks.
1869	154,163	172,883	3,485	9,495	14,908	33,535
1887	367,364	266,010	6,465	18,305	16,121	54,128
1890	380,794	308,883	6,036	19,347	16,319	53,546
1893	356,707	308,331	7,696	20,660	12,638	57,009

There has been a very large increase in stock of all kinds, except camels during the last 25 years. Buffaloes, which are greatly valued for their milk, have increased in a much faster ratio than the less valuable cows. Horses and ponies for which this district is famous are rapidly increasing in numbers and

improving in quality. Prices of all kinds of stock have also risen greatly. The present value of the existing stock may be estimated roughly as follows :—

Animals.								Number by enumeration of 1893.	Average value.	Total value.
									Rs.	Rs.
Bulls and bullocks	...	...	...	...	...	...	...	110,940	20	22,18,800
Cows	...	...	...	...	...	...	...	123,625	15	18,54,375
Male-buffaloes	...	...	...	...	...	...	...	15,372	30	4,61,160
Cow-buffaloes	...	...	...	...	...	...	...	35,190	40	14,07,600
Calves and young buffaloes	...	...	...	...	...	...	...	71,580	10	7,15,800
Sheep	...	...	...	...	...	...	...	193,264	2	3,86,528
Goats	...	...	...	...	...	...	...	115,067	2	2,30,134
Horses and ponies	...	...	...	...	...	...	...	7,696	50	3,94,800
Mules and donkeys	...	...	...	...	...	...	...	20,660	10	2,06,600
Camels	...	...	...	...	...	...	...	12,638	50	6,31,900
Total value of stock										84,97,697

This estimate gives the total value of the stock in the district at about 85 lakhs of rupees, or thirteen times the new annual assessment. The owners of stock derive a large income from the sale of surplus animals, and of *ghi*, hides, wool, and hair, of which articles a considerable quantity is annually exported from the district, and the prices of which have risen greatly since last settlement. A bullock's hide now fetches Rs. 2-8, a buffalo's Rs. 4, a sheep's 4 annas and a goat's 8 annas. Each sheep brings in about 3 annas per annum for wool, and each goat one anna per annum for hair. The total income from sale of surplus stock, *ghi*, hides, wool, and hair cannot be much less than four lakhs of rupees per annum.

Cattle are a precarious property, especially in the dry uplands of the Bár and Thal, where they are apt to die in great numbers in a year of drought when the grass fails to sprout and fodder is scarce. For instance, after the dry year 1891-92, in the Bhera tahsíl, the number of cows and bullocks of all ages was found to have fallen off from 110,316 to 86,165, and the number of buffaloes from 39,175 to 31,934, that is, one-fifth of the total number of horned cattle in the tahsíl had died or disappeared within the year, representing a loss of about four lakhs of rupees, or nearly two years' land revenue. At present however (April 1894) the cattle are everywhere in excellent condition and rapidly increasing in numbers.

Population.

23. The total population of the district has been enumerated as follows at different periods :—

Date of census.	Population.	INCREASE PER CENT.		Total cultivation, square miles.	Density per square mile of cultivation.
		Since last census.	Per annum.		
1855	302,790	...	...	476	636
1868	368,288	22	1.7	662	556
1881	421,508	14	1.1	820	514
1891	493,588	17	1.7	986	501

The population of the district as a whole is now nearly two-thirds as much again as it was at last settlement, and is still rapidly increasing, especially in the Shahpur and Bhera tahsís, where canal irrigation is being rapidly developed; the average birth-rate being 37 per thousand, and the death-rate 26 per thousand per annum. Since settlement however cultivation has been

increasing much more rapidly than population, so that at each successive census the density per square mile of cultivation has been less than before, and when the great development of irrigation from wells, canals and embankments is taken into account, it is clear that the prosperity of the district, as measured by the amount of produce per head of population has experienced a great and steady increase.

The distribution of the population over the different physical divisions of the district will be seen from the following statement :—

Tract.	DENSITY OF POPULATION PER SQUARE MILE OF	
	Total area.	Cultivated area.
Chenáb valley	189	488
Bár upland	55	603
Jehlam Valley... ..	261	555
Ara well tract	93	335
Thal desert	16	511
Mohár	70	378
Salt range	103	473
Total district	103	501

The figures for density per square mile of total area show how much denser the population is in the Jehlam and Chenáb river-valleys with their facilities for cultivation than in the dry uplands; the Jehlam valley having a density of 261 per square mile, or about the same as that for the districts of Lahore and Karnál, while the Bár upland has only 55, and the Thal desert only 16 persons to the square mile. The Thal comprises more than a fifth of the total area of the district, but contains little more than a thirtieth of the population.

The density per square mile of *cultivated* area is highest in the Bár upland, where the population still depend more on the produce of their great herds of cattle than on their fields, and very high even in the Thal desert with its shepherd population. In the Jehlam valley with its large agricultural villages it is 555 per square mile, or as high as for the Ludhiána district, or the old Delhi Division. It is lowest of all in the Ara well tract, where less than half the area under cultivation produces a crop in a year, and in the Mohár tract, where also large areas are left unsown in dry years. No part of the district can be said to be over-populated. Captain Davies at last settlement dwelt upon what he considered to be the over-population of the Salt Range, but notwithstanding the increase of population since he wrote, the density per square mile of cultivation in that tract is only 473, which is less than that for the whole district, and less than that for the whole Punjab; and seeing that the cultivated land of the Salt Range is exceptionally fertile, it cannot be said that the population there is excessively over-crowded.

Of the total population of the district 85 per cent. are Musalmáns, including almost all the agricultural classes, and 15 per cent. are Hindús or Sikhs to which religions the trading classes almost all belong. The proportion of rural population to total population, which in 1881 was 87·8 per cent., was in 1891 89·3 per cent., so that the population of the villages is increasing faster than that of the towns.

24. The total number of proprietors, which was 33,641 at regular settlement, was 54,023 in 1893, an increase of 61 per cent., and as the cultivated area has increased in a greater ratio, the average area under cultivation per proprietor has risen from 9 to 13 acres,—an important consideration in estimating the revenue-paying power of the proprietary body.

Proprietors, tenants, and
rent.

The total number of tenants at settlement was 21,335, of whom 4,565 were occupancy tenants. In 1893 the number of tenants' holdings was 60,537, of which 4,315 were held with rights of occupancy. The area held by tenants was at settlement 92,519 acres, and in 1893 293,142, or three times as much. Of this, tenants with rights of occupancy held at settlement 17,021 acres, and in 1893 16,526 acres, so that only 6 per cent. of the total area held by tenants is held with rights of occupancy. Of the 269,099 acres held in 1893 by tenants-at-will paying rent, only 27,389, or 10 per cent. paid rent in cash, and only on 6,360 acres, or 3 per cent. were the rents fixed in cash without regard to revenue rates, while 153,284 acres or nearly 60 per cent. of the total rent-paying area, paid as rent half the produce in kind.

Sales of land.

25. The statistics regarding sales of land give the following yearly averages for five-year periods :—

Period.	Number of sales.	Area sold.	Price per acre.
		Acres.	Rs.
1865-70	61	1,407	8
1870-75	137	2,524	11
1875-80	129	2,493	10
1880-85	177	3,544	13
1885-90	638	7,355	15
1890-93 (three years)	759	8,270	20

The number of sales and area sold per annum show a steady increase. The price paid has risen from about Rs. 10 to about Rs. 20 per acre, and for the last eight years has equalled more than fifty times the annual land revenue assessment of the land sold. The area annually sold equals about a three-hundredth part of the total area, excluding that owned by the State, and about half of this fraction annually passes into the hands of non-agriculturists. Appendix I shows what is at present approximately the average market price of different classes of land in each assessment circle. The selling value of the whole privately owned land of the district is now about three crores of rupees, or fifty times the new land revenue assessment.

Mortgages of land.

26. The statistics regarding mortgages of land give the following annual averages for five-year periods :—

PERIOD.	Number of mortgages.	Area mortgaged.	Area re-deemed from mortgage.	ASSESSMENT IN RUPEES.	
				Of area mortgaged.	Of area redeemed.
		Acres.	Acres.		
1865-70	204	6,578	...	...	...
1870-75	338	8,681	...	...	...
1875-80	525	6,959	2,810	...	...
1880-85	575	9,118	3,466	...	...
1885-90	2,099	30,180	7,979	9,943	2,667
1890-93 (three years)	2,103	17,403	7,769	8,574	4,124

The great increase in the last eight years is partly due to settlement operations which brought to light many old mortgages which had hitherto escaped record; but there can be no doubt that the amount of mortgage is rapidly increasing. On the average of the last three years the area mortgaged

annually exceeded the area redeemed by 9,634 acres, or about a two hundred and fiftieth part of the total privately-owned land in the district. As however the land most commonly mortgaged is cultivated land of comparatively good quality, the assessment of the mortgaged land is a better measure of the amount of mortgage than is the total area. On the average of the last three years the assessment of the land mortgaged has exceeded that of the land redeemed by Rs. 4,450, or 0.7 per cent. of the total new land revenue assessment of the district. The following statement shows the increase of mortgage since regular settlement :—

Period.	Number of mortgages.	AREA UNDER MORTGAGE IN ACRES.		Revenue assessment of mortgaged land.	Percentage of assessment of mortgaged land on total assessment of the district.
		Total.	Of which cultivated.		
At regular settlement (1856-58)	3,107	38,008	21,243	Rs. 24,243	6
In 1893	14,627	158,642	80,766	74,362	13

This shows a great increase in the last 35 years. The cultivated area under mortgage now equals 12 per cent. of the total cultivated area, and pays 13 per cent. of the total assessment of the district. The cultivated area held on mortgage by new agriculturists, *i.e.*, by men who were not landowners at the time of the regular settlement is 58,500 acres, paying an assessment of Rs. 52,053 or 9 per cent. of the total assessment of the district. A certain proportion of this is held by village artisans who themselves cultivate the land, but by far the greater part is held by money-lenders taking rents from cultivating tenants or from the owner himself who cultivates the land as a tenant under the mortgagee with little hope of ever redeeming it.

27. For the district, as a whole, these figures are bad enough. But in the more thickly peopled and fully cultivated parts of the district the proportion of the land alienated from its original owners is much more serious. For instance, in the Jehlam circle of the Bhera tahsil $7\frac{1}{2}$ per cent. of the whole cultivated area have changed hands by sale since settlement, 4 per cent. having passed finally into the hands of money-lenders, and 16 per cent. are now held under mortgage, almost entirely by the non-agricultural classes. Among the causes of these transfers are: (1) that many of the owners of land in pastoral villages on the introduction of canal irrigation found they had more land in their hands than they could themselves cultivate and readily parted with their rights in the excess area for cash; (2) that many of them, being addicted to cattle-theft and rioting and of a litigious disposition, became involved in costly proceedings before the criminal and civil courts and burdened their lands for money to pay the fines and costs; and (3) that the standard of food, clothing, and dwellings has risen greatly since settlement, and many landowners have lived beyond their means. The chief cause of the numerous transfers however undoubtedly is the great rise in the money value of land, which made the money-lending classes anxious to get a hold upon it by advancing money on every opportunity to the improvident Musalmán landowners, combined with our legal system which makes it possible to obtain and execute decrees containing more interest than principal.

28. The recent agricultural history of the district has been a somewhat chequered one. The monsoon rains of 1890 were favourable to the kharif sowings and an unusually large area was sown for that crop, but owing to the failure of the latter rains 17 per cent. of the area sown failed to come to maturity. Still the area harvested was about average and the outturn on the whole fair. Unusually heavy rain in November and December made it possible to sow a large area of unirrigated rabi, and the rabi crop, as a whole, was much the largest ever recorded up to then, and although some damage was done by excessive rain, rust and locusts, the gross outturn was probably 50 per cent. above that of an average crop. Rupees 317 were remitted on account of damage done by locusts and Rs. 144 on account of

damage done by hail. Prices which had been high went down considerably and wheat was selling at 18 sérs per rupee in June 1891. Fodder was plentiful and the cattle in good condition. The year was on the whole a very prosperous one for the peasantry.

The following year was very different. The monsoon rains of 1891 began late, were scanty in amount and ended early; and in the winter months, when usually four inches of rain fall, the district nowhere got more than two inches and generally less than one. The kharif harvest was the poorest seen for years, the area harvested being only 64 per cent. of the average area of the last four years, and the gross outturn less than half that of an average crop. This was followed by a rabi harvest also the worst seen for some years, the area harvested being only 85 per cent. of the average and the gross produce not more than 70 per cent. of that of an average crop. For the two harvests taken together the area harvested was only 77 per cent. of the average of the last four years. Prices rose, and in June 1892 wheat sold at 14 sérs per rupee. Quantities of grain were imported from the east. Owing to the drought the grass failed, especially in the Bhera tahsil, and fodder became extremely scarce and dear (*hhúsa* selling at a maund per rupee). An enumeration of the cattle of that tahsil made in the following year, showed that the number of horned cattle of all kinds had decreased from 150,491 to 118,099, so that a fifth of the total number had died or been sold out of the district. Cholera broke out in April 1892 and raged with considerable virulence till August, attacking nearly 6,000 persons, and causing about 3,000 deaths, equivalent to 6 per thousand of the total population of the district. Altogether what with locusts, drought, failure of crops, scarcity of grass, starvation among cattle, and cholera among human beings, the year 1891-92 was perhaps the most disastrous within living memory.

The year of almost unprecedented drought was followed by a year of unprecedented rainfall and flood, the total amount of rainfall being in places as much as twice that of an average year. The area sown for the kharif, was very large, and although owing chiefly to excessive rainfall, 14 per cent. of the area sown failed to produce a crop, the area harvested was 29 per cent. above the average of the past four years and the gross outturn fair. Fodder was everywhere plentiful and the cattle in excellent condition. The heavy rains both of summer and winter were favourable for the rabi sowings, and the rabi crop was a bumper almost everywhere. Taking the two crops together, the area harvested was much the highest on record and was 23 per cent. above the average of the past four years. Wheat which had been selling at 10 sérs per rupee fell to 20 sérs in the month of August. Unfortunately the year brought disaster as well as prosperity with it. Owing to the rain and floods great part of the district, and especially the river valleys suffered from an epidemic of fever, which prostrated a very large proportion of the population and carried off in some places nearly ten per cent. of their total number. For the month of October 1892, when the fever was worst, the death-rate for this district of half a million inhabitants reached the terrible figure of 156 per thousand per annum; and for the whole year 1892, including the cholera of summer and the fever of autumn, the death-rate for the district was 57 per thousand, or about double the average. On 7th April a most destructive hailstorm passed across the district from the Salt Range to the Chenáb with a path of nearly fifty miles in length and about two miles broad, doing immense harm to the ripening crops of wheat and poppy. The single village of Nasirpur lost in half an hour at least Rs. 20,000 worth of wheat. Remissions amounting to Rs. 4,192 were granted on this account in 20 villages. The most striking calamity of this year of varying fortunes, however, was the tremendous flood in the Jehlam river, of 20th July 1893, which rose higher than any other flood within living memory, and spread devastation far and wide, reaching in the south of the Shahpur tahsil as far as ten miles from the ordinary river channel. Only 15 persons and about 1,000 cattle were drowned, but over a very large area the unstored grain and fodder were entirely washed away and the growing kharif crop destroyed; 31,000 houses were reported as having been ruined, and large quantities of garnered grain, the produce of the bumper rabi harvest, were irretrievably damaged. Altogether the loss to the people of this district from this one flood was

estimated at eight lakhs of rupees. Still the crops had been so good that the year was a prosperous one for those who escaped the flood and pestilence.

The year now closing (April 1894) promises to be one of unexampled prosperity, notwithstanding the damage done by the flood of July 1893, which destroyed some 40,000 acres of crop in the Jehlam valley. The area harvested in the kharif was for the whole district only 6 per cent. below the average of the last five years, and the outturn was generally fair. But the extensive floods and favourable rain enabled an immense area to be sown for the rabi crop, and the winter rains having proved opportune, the present rabi crop promises to be by far the largest in area and outturn ever seen. The cattle are in excellent condition, and human health is also unusually good. The only drawback to agricultural prosperity is the lowness of prices, wheat at present selling at 30 sérs per rupee; but this is more than counterbalanced by the unusual prosperity of the wage-earning and poorer classes of the people.

29. Since regular settlement then, or say during the last thirty years, the area under cultivation has much more than doubled; the area actually harvested has nearly doubled; the number of wells in use has increased by half and the area protected by three-fourths, canal irrigation, almost unknown at settlement, has developed to such an extent that an eighth of the total cultivated area is now irrigated by canals. The prices of the principal food-grains have each increased in money value more than 80 per cent. Communications have been greatly improved, and a railway now passes through the district. The number of horned cattle has more than doubled, and stock of all kinds have greatly increased in number and value. Population has increased by over 60 per cent., yet the density per square mile of total cultivation is much less than it was, and the average area under cultivation per proprietor has increased from 9 to 13 acres. Nearly 60 per cent. of the rent-paying area pays as rent half the gross produce in kind. The value of land has risen from Rs. 10 to Rs. 20 per acre. Except in certain parts of the district, the area passing out of the hands of the peasants by sale or mortgage into those of money-lenders is not very serious. Thus in every respect in which the prosperity of the agricultural classes is capable of being measured by figures, it shows an enormous improvement since last settlement. And notwithstanding vague traditions of a golden age, and exceptional instances of families and even villages burdened with debt, there cannot be a doubt that in other respects also the peasantry, and especially the landowners, are much better off than they were thirty years ago. They eat better food and wear better clothing, own more horses and more valuable utensils and jewels, and altogether their standard of living is much higher. Above all they are rendered more secure against vicissitudes of seasons and prices by the extension of irrigation and the improvement of communication with the world at large; though it must not be forgotten that the produce of their fields is still subject to great variation, and that prices are by no means steady as compared with those of the great centres of trade. One great fact which sums up the result of many of the others, is that in their land itself the proprietors of the district possess a property, the transferable value of which is now nearly three crores of rupees or about fifty times the new land revenue assessment. The district is at present in a highly prosperous condition, and its future is full of promise. Cultivation and irrigation are being rapidly developed year by year, and although the population is rapidly increasing in number, their level of comfort seems likely to continue to rise.

CHAPTER III.

REVENUE HISTORY.

30. At the beginning of the present century the tract now included within the boundaries of the Shahpur district was held by a number of independent petty chieftains, who were constantly making war upon each other and seizing each other's outlying villages. Between 1803 and 1816 Mahārāja Ranjīt Singh swallowed up the whole of these little States and added them to the territory he had brought under his sway. From that time till annexation in 1849, the country was ruled under the Lahore Darbār by local officers called kárdárs, who from time to time took a lease of the land revenue collections of different blocks of country. Their usual modes of collection were by taking a share of the grain produce or by appraisement of the standing crops; but there was no fixed share to which the demand was limited, and in practice the lessee squeezed as much out of the peasantry as he could and accounted for as little as he could to the Darbār.

31. On annexation in 1849, British officers were deputed all over the country with instructions to assess the revenue of each village separately in cash on the basis of the Sikh returns, on which a reduction of twenty per cent. was to be allowed. The Chenáb portion of the present district was assessed by Mr. Cocks, and the rest of the tract by Mr. Bowring, but the accounts of past collections proved very unreliable, and the new cash assessments based on them were soon found much too high. Toward the close of 1851 a great cry of distress arose throughout the district, and Mr. Thornton, the Commissioner, reduced the demand of the Kálowál tahsíl, which then embraced the country along the Chenáb, from one lakh to Rs. 75,000. Early in 1852 Mr. Gore Ouseley was deputed to make a summary revision of the assessment of the then Shahpur district, which included besides the Bhera and Sháhpur tahsils only the river-side portion of the present Khusháb tahsíl. He found the country in a ruined condition, numbers of wells requiring slight repairs, but with neither men nor bullocks to work them. So heavy had been the revenue demand that it was usual in many villages to spread it over all the cultivators, whether proprietors or others so that no one received any landlord's profits. The non-proprietors, having no consideration to restrain them when they found themselves called upon to pay a heavy rate of assessment without reference to the quality of their produce, deserted the villages in great numbers and emigrated into neighbouring districts. The result of his operations was that the Government demand of the then district was reduced from Rs. 3,42,492 to Rs. 2,67,455 or by 22 per cent., and this demand was collected without difficulty until the assessment of regular settlement was announced. The Khusháb tahsíl had a similar revenue history. There too the first summary assessment made by Mr. Bowring was found much too high, and a considerable reduction was soon afterwards given.

32. In 1854 regular settlement operations were commenced by Mr. Ouseley, who assessed that part of the present district which is comprised in the Bhera and Shahpur tahsils, and the riverain portion of the Khusháb tahsíl. The rest of the latter tahsíl was added to the Sháhpur district between 1857 and 1862, and was regularly settled by Captain Davies in 1864. The operations of regular settlement were in progress for twelve years from 1854 to 1866, and the assessments were announced in various years from 1856 to 1864. In para. 245 of his Settlement Report Captain Davies gives the result of the regular settlement for the district as now constituted (for practically no change of boundary has taken place since he wrote). He gives the assessment of the last summary settlement at Rs. 3,88,237 and that of regular settlement at Rs. 3,76,512, a decrease of three per cent., and seeing that the last summary settlement had reduced the assessment by 22 per cent., it follows that the demand of the regular settlement which has only now been revised was 25 per cent. below that assessed by the

first British officers, and that again was supposed to be 20 per cent. below the actual collections of the Sikh Government. It is not surprising that the assessments were considered low at the time, and were expected to be easily realised.

33. The amount mentioned by Captain Davies as the assessment of regular settlement, *viz.* Rs. 3,76,512, appears to have been the *khálsa* demand only. On working out the figures from the settlement records we find that the totals of the assessments at the time they were imposed was Rs. 3,89,445, of which Rs. 3,54,057 were *khálsa* and the rest assigned. The revenue roll actually sanctioned for the year 1865-66 amounted to Rs. 3,62,726, the difference as compared with Captain Davies' statement being apparently due to progressive assessments not yet brought on the roll. The last revenue roll which did not include any assessments of the present revision was that of 1889-90, the amount of which was Rs. 3,94,596, an increase of Rs. 31,870 or 9 per cent. on that of 1865-66. The increase is mainly due to a net increase of about Rs. 12,000 in the assessment of alluvion and diluvion, and to about as much assessed on waste lands sold or leased by the State. The punctuality with which this demand has been paid is seen from the fact that in no year did the balance at the end of the financial year exceed five per cent. of the demand and only in two years, *viz.*, 1868-69 and 1887-88 did it exceed 3 per cent. At the end of the agricultural year, however *i. e.*, in September, after the completion of the rabi collections, the balance was sometimes larger, thus in 1882 after a series of bad years, and again in 1887 after the failure of the rabi harvest, the balance in September exceeded Rs. 30,000 or say 8 per cent. of a year's demand. This was due to time being given the revenue-payers. and on the whole it may be said that during the currency of the regular settlement there were few suspensions and practically no remissions and that the assessment was on the whole realised with ease.

34. It will be convenient here, for purposes of comparison, to bring the revenue history of the district up to date. The revised assessments began to appear on the revenue roll for 1889-90 and gradually found place on the roll until in 1893-94, the new assessment for the whole district were brought on the roll. The figures are as follows (*khálsa* revenue only):—

Year.	Amount on revenue roll.	Remarks.
	Rs.	
1865-66	3,62,726	Beginning of Regular Settlement.
1889-90	3,94,596	End of regular settlement.
1890-91	4,27,300	Chenáb circle new assessments.
1891-92	4,80,846	Bhera, Jehlam, Bár and Hill circle.
1892-93	4,81,055	
1893-94	5,44,398	Sháhpur tahsil and Khusháb plains.

So far as the revenue roll is concerned the revision of assessment has resulted in an initial increase of 50 per cent. over the demand of 1865-66, and of 38 per cent. over the demand of 1889-90, which may be taken as the last year of regular settlement.

The collections of fixed land revenue however do not always correspond with the demand, more especially now that a more elastic system of collection has been introduced, suspensions being granted much more freely of late years than before. The figures for collection of fixed land revenue on the revenue roll have been as follows :—

Year.	Total collections.	Total balances.	Remissions for calamity of season.	Remarks.
	Rs.	Rs.	Rs.	
1889-90	3,96,458	3,867	179	Poor year.
1890-91	4,28,043	1,967	422	Good year.
1891-92	4,23,200	58,193	...	Severe drought.
1892-93	5,10,085	25,757	7,332	Damage done by rain, hail, and flood, otherwise a good year.

The severe drought of 1891-92 necessitated large suspensions in that year, the greater part of which were realised in the following year of unusually heavy rainfall. A large proportion of the balance of 1893 was only nominal, and the total realisable balance in September 1893 was only Rs. 13,325 or about 3 per cent. of a year's demand. Some of this was realised in Kharif 1893, but on the other hand, suspensions amounting to Rs. 25,273 had to be given in the Jehlam valley to villages which had suffered from the unprecedented flood in the Jehlam, and in March 1894 the amount in arrear for the whole district was Rs. 30,670 or 5 per cent. of a year's demand. The present rabi harvest is so good everywhere that notwithstanding low prices, there should be no difficulty in realising almost the whole of this arrear with this rabi instalment, and by September next there should be practically no balance against the district.

35. The actual collections of land revenue, however, embrace other items besides those that appear on the fixed revenue roll. They include enhancements of land revenue realised before incorporation in the revenue roll, water-advantage revenue realised from canal-irrigated lands at the rate of eight annas per acre, and sums realised for grazing and the sale of *sajji* on State lands. Including these and all other items which come under the head of land revenue, the collections have been as follows:—

Year.	Fixed land revenue.	Fluctuating and miscellaneous land revenue.	Total collections.	Remarks.
	Rs.	Rs.	Rs.	
1888-89	4,14,244	47,794	4,62,038	Good year.
1889-90	3,96,458	73,839	4,70,297	Poor year.
1890-91	4,28,043	69,020	4,97,060	Good year.
1891-92	4,23,200	37,696	4,60,896	Severe drought.
1892-93	5,10,085	1,45,424	6,55,509	Good year.

The total collections of the past year were therefore nearly two lakhs above the average of the previous four years, the rainfall and crops being so good that this large increase was realised without difficulty. It was made up of enhancements of assessment, of balances realised, of water-advantage and royalty rates newly imposed, and of an improvement in the income from State lands.

CHAPTER IV.

ASSESSMENT.

36. The assessments of regular settlement were announced at various periods from 1856 to 1864, and the engagements of the revenue-payers were taken for ten years only; but in the orders passed on the Settlement Report the Lieutenant-Governor (Sir Donald McLeod) wrote as follows:—"That the settlement now completed will, in a few years, with the extension of canals, wells, and cultivation, prove very light, I have no doubt; but in a tract so circumstanced this is very desirable; and as I have no doubt as to the care and judgment with which the assessment has been made, I sanction the continuance of the whole without revision until the official year 1880-81, which will, I think, under existing circumstances suffice. The period of settlement therefore expired in 1881, but it was not until 1886 that it was decided to take up the work of re-assessment, and in October of that year I was appointed to the district in order to make the revision of settlement in addition to my other duties as Deputy Commissioner, and by Notification No. 92, dated 7th March 1888, the whole of the Sháhpur district was placed under re-assessment.

37. The instructions regarding the principles of assessment by which I was guided were those issued by the Local Government in 1888 and sanctioned by the Government of India in 1890. They are quoted in full in Appendix II. Briefly, I was instructed to make the estimated value of half the net produce of each estate the maximum for the Government demand, taking as my principal guide the rents paid in money or in kind on an average of years by ordinary tenants-at-will, care being taken not to tax unfairly the capital invested in improvements, and full allowance being made for all circumstances directly or indirectly bearing on the profits and rents of the landowners.

38. The first step towards re-assessment was to determine the circles into which the district should be divided for purposes of assessment calculation. The circles adopted at regular settlement had been based on the main physical features of the country, which have been described in the first chapter of this report, and it was determined to follow the same distinctions with two modifications, made with the view of reducing the number of circles. At regular settlement a distinction was made between the *Hithár* villages subject to the direct action of the river and the *Nakka* villages further away from the river, situated under the high bank bounding the river valley. A glance at the assessment map of last settlement will show that, except on the Chenáb, this *Nakka* is a very narrow strip, and the table of revenue rates at page 71 of Captain Davies' Settlement Report shows that there is nothing in the rates to prevent the *Hithár* and *Nakka* circles from being thrown together. This has accordingly now been done. In the Khusháb tahsil again, the Danda circle of regular settlement is not very different in character from the Mohár circle which it adjoins and has therefore now been included in it. Accordingly the district has, for the purposes of the present settlement, been divided into the following assessment circles:—

Tahsil.	Assessment circle now adopted.	Corresponding circle of regular settlement.	Brief description of present circle.
Bhera	Chenáb	Hithár	{ Chenáb valley.
	Bár	Nakka	
	Utar	Utar	{ Upland.
	Jehlam	Nakka	
Sháhpur	Hithár	Hithár	{ Jehlam valley.
	Bár	Utar	
	Ara	Utar	{ Upland.
	Jehlam	Nakka	
Khusháb... ..	Hithár	Nakka	{ Jehlam valley.
	Jehlam	Hithár	
	Thal	Thal	{ Sandy upland.
	Danda	Danda	
	Mohár	Mohár	{ Foot of hills.
	Hill	Hill	{ Salt Range.

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39. The next step was to decide how the soils should be classed for purposes of assessment. In the flat plain of the Bhera and Shahpur tahsils the people recognize, as a rule, no differences of soil except such as are based on the existence or otherwise of irrigation, and on the capacity which each kind of soil possesses of retaining water for a longer or shorter period. At last settlement therefore Mr. Gore Ouseley fixed revenue rates for the following classes only :—

- (1) *Cháhi sailáb*, i.e., land irrigated from wells, but having also the advantage of being subject to inundation from the river.
- (2) *Cháhi khális*, i.e., land irrigated only from wells.
- (3) *Sailába*, i.e., land subject to the inundation of the river.
- (4) *Bárání*, i.e., land dependent on the fall of rain.

Some of these classes, however, he divided into two sub-classes each having a separate revenue rate. In the adjoining Jhang district separate revenue rates were fixed for (a) *cháhi sailáb*, (b) *cháhi khális*, (c) *jhalári*, but the difference between these rates was so slight that it would evidently have been quite possible to have one rate for all these three classes. With the Financial Commissioner's approval, it was decided to have in this settlement only four revenue-rates on cultivated land in each circle of the Chaj Doáb, namely :

- (1) *Cháhi*, including all land irrigated from wells or *jhalárs*, whether assisted by canals or river floods or not.
- (2) *Nahrí*, or land irrigated by canals.
- (3) *Sailáb*, or land subject to inundation from the river.
- (4) *Bárání*, or land dependent on the local rainfall only.

The more uneven surface of the Khusháb tahsíl made it necessary to classify the soils there in greater detail. In those villages which lie along the river the same remarks apply as in the similar portions of the Bhera and Shahpur tahsils and a similar classification was adopted. In the sandy Thal there is practically no distinction of soil or class and one revenue rate on cultivation was taken. In the Mohár, along the base of the Salt Range, the cultivation is chiefly dependent on the drainage of the hills, which is intercepted as it comes out on to the plain, and retained on the fields by a system of earthen embankments round the lower edges, which are high and strong near the hills, and long and low farther out. Land thus irrigated from hill torrents is known as *náládár*. Some distance out from the foot of the hills there are extensive tracts of barren soil called *rarí*, the drainage of which is guided by long low embankments on to the lower ground, and land cultivated with the aid of this means of irrigation is known as *rarídár*. Land dependent on the local rainfall alone is known as *búndí*, and poor sandy soil is called Thal. At last settlement Captain Davies had different assessment rates on these four descriptions of soil in the Mohár and Danda, and he even divided them into two or three sub-classes. Generally speaking, there was little difference between the rates for the different sub-classes, and it was thought enough for assessment purposes to divide the cultivated land of the Mohár into three classes—

- (1) *Náládár*, or land irrigated by torrents.
- (2) *Rarídár*, or land irrigated from higher ground.
- (3) *Bárání* or land dependent on the local rainfall only.

In the Hill circle, soils are divided by the people into—

- (1) *Hail*, or land directly irrigated by a torrent, the fields being situated near some mountain-gorge, and usually surrounded by high and strong embankments of earth so as to check the first rush of the hill drainage after rain.
- (2) *Maira*, or land which is situated farther from the mouth of the gorge, so as to receive only the surplus water of the torrent after the *hail* has been irrigated, or which receives only the surface drainage from a small area of higher-lying land.

The texture of the *maira* fields is looser and lighter than *hail* and the embankments surrounding them lower and weaker.

- (3) *Rakkar*, or soil which is dependent for its moisture on its own rainfall only. This is generally more sandy than *hail* or *maira*.

In this circle at last settlement Captain Davies fixed assessment rates for each of these three classes, and divided each of them into four sub-classes with different rates. It was however considered sufficient for assessment purposes to have one revenue rate for each class for the circle, and to allow in the village assessments for differences in the quality of each class. *Rakkar* was entered as in other circles as *bárání*, and in the Hill circle there are now practically only three classes of soil: (1) *hail*, (2) *maira* (3) *bárání*.

40. In this district, as already mentioned in para. 24, rents fixed in cash without regard to revenue rates are paid only on 6,360 acres, or 3 per cent. of the whole area held by tenants-at-will, and on the greater part of even this small area the rents are not true competition rents, so that little help was to be got from cash rents in estimating the half net profits of the ordinary landlord. On the other hand no less than 241,710 acres, or 35 per cent. of the total cultivated area of the district, are held by tenants-at-will paying rents in kind, so that the chief basis for assessment calculations was an estimate of the money value received by landlords on an average of years from their tenants paying rent in kind on each class of land in each assessment circle. The factors of this calculation are: (1) the price at which on the average the produce can be sold by the peasant, (2) the area actually harvested on an average of years, (3) the average outturn per acre of each kind of crop, (4) the share of the gross produce actually received by the landlord from the tenant.

41. As regards prices I have already described in para. 20 the mode in which the enquiry was made and the prices adopted as those which producers are likely to get on an average of years for their surplus produce. I have also shown by a comparison with the prices which have actually prevailed since the assessment prices were struck, that in the case of most kinds of produce I might safely have assumed higher prices than I did.

42. The average area actually harvested assumed for each assessment circle was the actual average of the areas returned by the patwáris for a series of years as having actually produced a crop. In the case of the first circle assessed, viz., the Chenáb, the figures of only three years were available, but in the case of the other circles, the average of four or five years was taken, and it was noted that these years included bad as well as good crops, and that, as cultivation was steadily expanding year by year, the average so taken was less than the true present average. As pointed out in paras. 12 and 13, the area under cultivation has gone on steadily increasing year by year from 612,659 acres in 1888 to 687,217 acres in 1893, and the average area cropped has increased from 428,793 acres to 507,954 acres, so that an average struck now on the actual returns of the past five years would be much higher than the averages assumed in my assessment reports, and on the other hand would be much lower than is likely to be the average for the next five years, as cultivation is still extending rapidly. It is to be noted that the estimate of produce is based, not on the area under cultivation, but on the area actually cropped, which is on the average less than four-fifths of the total cultivated area. This cropped area is the total of the cropped areas returned by the patwáris as having been actually seen by them on the ground, and it is so far trustworthy that it may be taken as certain that this area was actually sown for the harvest and did sprout. But the weak point about this factor in the estimate is the doubt as to whether the patwári has allowed enough off for crops which though sown have failed to come to maturity. The instructions to the patwári in making his harvest inspections are as follows:—"When a crop is sown and dries up or is destroyed by calamity it should be returned as *kharába* (failed). In the same way if a crop is much below average, a deduction from the whole area should be made: for example, a bad field of wheat, area 4 bighas,

may be returned as wheat 3 bighas, *kharāba* one bigha. But this should only be done when the field is much below average, and the *kharāba* allowed should be only as much as is necessary to raise the whole crop of the area returned as under crop to the average of an ordinary harvest." Now this being a matter of estimate is necessarily done differently by different men. What one patwārī would return as "wheat 3, failed 1" would be returned by another as "wheat 2, failed 2," and perhaps by a third as "wheat 4, failed none." And there is no doubt that the general tendency among patwārīs is to underestimate the area that has failed and return too large an area as having actually borne a crop. The following figures show the proportion returned by the patwārīs as having been actually sown but having failed to produce a crop, for each of the ten harvests ending Rabi 1893 :—

YEAR.	KHARIF HARVEST.		RABI HARVEST.	
	Percentage of area sown returned as failed.	Chief cause of failure.	Percentage of area sown returned as failed.	Chief cause of failure.
1888-89	10	Failure of latter rain	3	Partial drought.
1889-90	8	Partial drought.	9	Failure of winter rains.
1890-91	17	Failure of latter rain	3	Partial drought.
1891-92	23	Ditto.	11	Severe drought in winter.
1892-93	14	Excessive rains and floods.	3	Partial drought.

Thus on the average about 15 per cent. of the kharif sowings are returned as having failed to come to maturity chiefly owing to failure of the latter monsoon rains, and only about 6 per cent. of the rabi sowings are returned as failed chiefly owing to partial drought. The rabi crop, once in the ground, is more secure than the kharif crop, as the soil retains its moisture better in the cold season, and requires less rain than in the hot season, and as a larger proportion of the rabi crop is protected by artificial irrigation than is the case with the kharif crop. It appears from the above figures that the underestimate of failed area by the patwārīs cannot be a very serious error, and is probably more than counterbalanced by the progressive increase of area cultivated and sown already noted.

43. The next factor is the average outturn per acre, and this is the weakest point in the whole calculation, for it is extremely difficult to estimate the average outturn even over a small area. In order to have a basis of fact for our estimate a series of observations was made all over the district during each harvest in the following manner. A number of fields, each not less than two acres in area, were selected in different estates by the Tahsildār or Extra Tahsildār, representing according to his judgment the average outturn of the circle for that harvest. The produce was weighed in presence of the kánúngo and the results for the circle tabulated. The work was checked from time to time by the Revenue Assistant and myself; and, although some of the observations differed widely from the average taken together, they give a fair idea of the average outturn on lands actually cropped, after deducting areas on which the crops have failed more or less entirely. For the estimated outturn was to be applied, not to the total area sown for the harvest, but to the area actually matured, and in making the estimate, the tendency of the patwārīs, already spoken of, to understate the area failed was borne in mind and the estimate kept low accordingly. Intelligent peasants were also consulted as to what they considered an average outturn, and their estimates were found useful as a check upon the results of the observations. Another most useful check was got from the accounts of estates under the Court of Wards on which rents are taken in kind. For instance, it was found from the accounts of the Kálra estate that the average outturn of wheat during six years on an area averaging 2,923 acres had varied from four to eleven

maunds per acre in different years and had averaged seven maunds per acre for the whole period of six years. I also compared my estimates of outturn with those adopted by Captain Davies at regular settlement (which seemed much too high) and with those adopted by other Settlement Officers in neighbouring districts, which generally agreed pretty closely with mine. The estimates at which I finally arrived were accepted by the Financial Commissioner with unimportant exceptions. They will be found in Appendix IV. They are, so far as I can judge, true estimates of average yield; that is, applied to the average area returned as harvested, they will give approximately the actual outturn of produce for the whole district on an average of years. But of course, the actual outturn varies greatly from the average from year to year and from field to field.

44. By way of illustration, I give here the figures for wheat, the staple crop, regarding which a large number of observations were made in all the assessment circles. The estimated outturn of wheat on lands irrigated from wells is in most circles ten maunds per acre, but in the Jehlam circle of Bhera twelve maunds, and in the Hill circle thirteen maunds; on land irrigated from canals it is almost everywhere eight maunds per acre; on land flooded by the rivers it is eight maunds on the Jehlam and seven on the Chenáb; and on land dependent on the local rainfall it varies from six maunds in the Bár to two maunds in the Thal. For the whole district the all round outturn on all classes of land is 8·6 maunds or 12 bushels per acre; and the total average annual yield of wheat for the whole district is 18,00,000 maunds, with a money value at 25 sérs per rupee of Rs. 28,80,000, or more than four times the new assessment of the district. This is for wheat alone which occupies only 42 per cent. of the total harvested area.

45. The next factor in the calculation is the share of the gross produce received by the landlord from an ordinary tenant-at-will paying rent in kind; and here the calculation is complicated by the general custom of allowing certain deductions from the common heap of grain before division between the landlord and tenant. These deductions are generally very considerable, and are usually made in the form of so many *topás* (a measure of capacity) per local maund or per plough paid to village artisans, menials, and others who perform some service or have some claim, such as the blacksmith, carpenter, and potter, the labourers who reap, thresh, winnow or carry the crop, the attendants on mosque and guest house, the barber and even the beggar who goes about the village. Liberal allowances have been made for all these deductions everywhere, generally amounting to one-sixth of the total crop on lands irrigated from wells, and one-eighth on other classes of cultivation.

46. For the district as a whole the nominal share of the gross produce received by the landlord from tenants-at-will paying rent in kind is as follows:—

Nominal share paid.						Area paying rent in kind at each rate.	
						Acres.	
Half produce or more	158,284
Two-fifths	26,751
One-third	54,426
One-fourth or less	2,249
Total area under rents in kind						...	241,710

Thus for the whole district the average share taken is 0·45 of the divisible produce, or, if it be assumed that all round one-seventh of the total produce is deducted from the common heap before division, then the average share of the gross outturn received by the landlord is for the whole district 0·38 per cent. It differs greatly, however, in different circles and for different soils. On *sailáb* land in the river valleys and on land irrigated by inundation canals the nominal share is almost everywhere one-half; so it is on lands irrigated from wells in the Jehlam valley, except those situated at a distance from the river; also on all lands in the Sun valley of the Salt Range. The rates of two-fifths and one-third are paid on lands irrigated from wells at a distance from

the river in the Jehlam and Chenáb valleys, on poorer classes of soil in the Salt Range and along the foot of the hills, and on unirrigated lands generally. The share of gross produce actually received by the landlord on each kind of soil in each assessment circle will be found in Appendix V.

47. Before applying this fraction to the estimated value of the gross produce a further deduction has to be made for fodder allowed to be fed off to the well bullocks on land irrigated from wells. It is usual for the landlord to allow the tenant to grow on the well two or three acres of turnips, *jowár*, and other green crops, of which the landlord takes only a nominal share. Again in years of drought when fodder is very scarce, the tenant is allowed to cut the wheat green and give it to his bullocks to keep them alive. In such a tract as the Ara circle of Shahpur, in a bad year as much as one-third of the wheat crop may be consumed in this way, the landlord practically getting no share of that portion of the crop; and in Rabi 1892, after an almost total failure of the winter rains, I found that nearly the whole crop on many wells in the Chenáb circle had been consumed green in this way, so that there was almost no grain produce on those wells, and I estimated that half the area of wheat in that circle had been used up as fodder before it ripened. As regards lands irrigated from wells therefore I have before applying the fraction representing the landlord's share, allowed large deductions on this account, varying from one-fourth to three-fourths of the *jowár* and vegetables, and from one-tenth to one-sixth of the wheat. No such deductions are necessary on other classes of land.

48. Having worked out these factors, I then, to get the average value of the landlord's share of the produce on each class of land in each assessment circle, applied the average outturn to the average area actually harvested, multiplied the gross outturn by the average price to get the total money value of the gross produce, deducted from this total the portion representing the deductions for fodder, and divided the remainder by the fraction representing the average share of the gross produce actually received by the landlord. In the case of some classes of land an addition had to be made to this result on account of the share of the straw taken by the landlord, which is sometimes of considerable value. For instance on *sailáb* lands the landlord generally takes half the straw as well as half the grain. In the case of wheat the weight of straw averages 12 maunds per acre and its average price two annas per maund (in bad years it sometimes fetches a rupee a maund); so that the landlord gets on *sailáb* land nearly 12 annas worth of straw on every acre under wheat. Although the landlord takes his share of straw on other crops also, I did not take into account any but the wheat straw, and did not add anything even on this account in the case of lands irrigated from wells, where the share of straw taken by the landlord is small.

49. In order next to get rates per acre which would represent the average half net profits of a landlord taking rent in kind on each acre under cultivation (not on each acre actually cropped), I divided the total value of the landlord's share of the grain and straw for each separate class of land in each assessment circle by the total area of that class of land in each circle, and divided the quotient by half. These rates derived from estimates founded on rents paid in kind, were then compared with the scanty evidence to be got from the few rents payable in cash, and in some cases slightly modified, chiefly to avoid small fractions. And the resulting half net assets soil rates on total cultivated area of each class of soil in each assessment circle were separately stated and reported for sanction. They were accepted by the Financial Commissioner as probably as correct as possible, and will be found in Appendix VI.

50. Reversing the process, these rates were then applied to the total areas returned as under cultivation for each class of soil in order to find for each assessment circle the value of half the landlord's profits on an average of years on the cultivated land. To this had to be added in some circles a sum representing half the profits of landowners on the uncultivated land. I have shown in para. 22 that the total income from sale of surplus stock, *ghi*, hides, wool, and hair of cattle and sheep and goats

cannot be much less than four lakhs of rupees per annum. So much of this as is due to the produce of cultivated land has already been taken into account, but much of it is derived from the grass grown on uncultivated land. The best basis, however, for an estimate of the profits from uncultivated land is to be got from the accounts of the large areas of waste land owned and managed by the State. On the average of past years it is found that the net income derived by the State by the sale of wood and grass on these waste lands is 3 annas per acre in the Bhera Bár, $1\frac{1}{2}$ anna per acre in the Shabpur Bár, and $\frac{1}{2}$ anna per acre in the Khusháb Thal. Less than half these rates was assumed as the half net profits of owners on the waste lands owned by them, and a round sum added on this account to the estimate of half net profits on the cultivated land; and the resulting total, rounded off into even thousands, represents the estimate of the total half net profits of the owners of the land in each circle. These estimates will be found in Appendix VII. They total for the district Rs. 8,31,000 or a fourth above the final assessment as actually imposed. It will be observed that all through care has been taken to make them *safe* estimates. The prices assumed were distinctly lower than would have been justified by recent prices; the areas taken as annually cropped were lower than the average areas of recent years; the estimates of yield per acre were kept low; liberal deductions were made for the dues of village menials and for fodder for well cattle; nothing was added for the landlord's share of the straw other than wheat straw; and the final estimates were taken in almost all cases at something lower than the figures worked out. It may be asserted with as much confidence as is possible in the nature of the case that they do not over-estimate the average half net profits of the landowners of the district.

51. As a check on the half net assets estimate, an entirely different Estimate founded on regular settlement. estimate was worked out, founded on the revenue rates of regular settlement, corrected for rise of prices since. First it was necessary to find out what were the actual rates used by the former Settlement Officer, for an application of the revenue rates stated in the report of regular settlement to the total cultivated areas of that date gave a much higher result than the actual assessment, so that it is clear the Settlement Officer had used them more as maximum than as average rates and they had to be proportionately reduced to rates which, applied to the cultivated areas of regular settlement, would give the assessment actually fixed. In making the reduction I was much assisted by a calculation founded on the rates employed by the landowners in distributing the assessment of each estate over the different classes of land in the estate. Having thus arrived at rates on cultivated area showing the actual pitch of the assessment at regular settlement, I applied them to the cultivated area of each class as it now stands and the result was an estimate of what the assessment of the circle would be were it assessed at the rates actually followed at regular settlement. But obviously, in a district like this, where the landlord's profits are taken chiefly as a share of the actual produce, the comparison is not complete unless we make allowance also for the rise in the money prices of produce since last settlement. There is nothing in the reports of regular settlement to show what were assumed as average prices by the Settlement Officers of that time except general statements which show that both Mr. Ouseley and Captain Davies considered one maund per rupee as an ordinary price for wheat. I have shown in para. 20 that the average harvest price for wheat for the fifteen years ending 1864 was 41 sérs per rupee, so that a maund per rupee was a fair price to assume for wheat when the assessments of regular settlement were made between 1856 and 1864. The corresponding price for the average of the past fifteen years is 20 sérs per rupee, so that I think I was justified in saying that the price of wheat has doubled since last settlement and that the prices of all the principal food-grains have increased more than 80 per cent. It has, however, been pointed out that in making an estimate founded on the revenue rates of last settlement, the comparison of prices should be made, not with the average of prices prevalent before the Settlement was made but with the average of prices prevalent during the early part of the settlement period. This no doubt is true if the argument be that because a settlement at certain revenue rates worked well when prices were so-and-so, it is to be presumed that, now that prices are so much per cent. higher, an assessment calculated at

those rates raised by the same percentage would work equally well. Now the average price for wheat given by grain dealers' books for the ten years following 1856, when the assessment of regular settlement began to come into force is 38 sérs per rupee, and the average price for the last six years is 19 sérs per rupee, so that even looked at in this way the rise of prices may be said to be something like 80 per cent., and seeing that the regular settlement assessment was practically the same as that of the last summary settlement made in 1853, it may be said with truth that the assessment of regular settlement was paid with regularity during a period of ten years when the average market price of wheat was only half what it now is. However, I found it impossible to raise the revenue rates of last settlement by anything like 80 per cent., and partly on the ground that we have perhaps in our present measurements included in the cultivated area a larger proportion of fallow land than was so included at last settlement, partly because the new cultivation is not always equal in quality to the old, I have in making the comparison increased the revenue rates of last Settlement by only 40 per cent. Even on this moderate computation the estimate founded on those revenue rates in several circles exceeds the present half net assets estimate, and *so far as it goes* it shows that we can safely assess up to something like the half net assets estimate without danger of interrupting the progress of the district.

52. The half net assets estimate being the maximum beyond which the new demand should not go, the question was how near that maximum it was advisable to pitch it, and the question of real importance in this connection was the amount of enhancement which could fairly and safely be taken, for in all cases the half net assets estimate, as well as that founded on the rates of regular settlement, gave a very large increase on the existing demand. The pitch to be aimed at in this district was practically fixed in the discussions regarding the Chenáb circle, which was the first to be assessed. In submitting my proposals regarding that circle, I stated the half net assets estimate at Rs. 1,20,000 or Rs. 1,25,000 against an existing assessment of Rs. 58,835, and pointed out that it was impossible suddenly to double the assessment of the circle, as the figures, taken by themselves, would justify us in doing. I pointed out that in similar circumstances Mr. Steedman had increased the assessment of the adjoining circles in the Jhang district by 65 and 50 per cent, without retarding their prosperity, and that on the other hand it was possible that, when the great Bár tracts on either side are made available for cultivation by the Chenáb and Jehlam Canals, some of the tenants in the Chenáb circle may leave their wells for the easier and more profitable canal cultivation, and the owners may find it difficult to maintain the present area of cultivation and the present rates of rent. Making allowance for all considerations, I proposed to raise the assessment from Rs. 58,835 to Rs. 90,000, an increase of 53 per cent. At the same time I recommended that the settlement should be made for ten years only so that the State might be able to secure a further enhancement without any long delay. It was, however decided that the period of assessment should be not less than twenty years and that the demand should be raised to a lakh of rupees. But I was allowed to defer a portion of the enhancement in estates in which it would otherwise be very large for a period of five years, on condition that the initial assessment should not be less than Rs. 90,000. The same principles were followed in the other assessment circles in which the enhancement by half net assets estimate would have been similarly great, *i.e.*, the final assessment was fixed at something like four-fifths of the half net assets assessment and a portion of the enhanced demand was allowed to be deferred for a period of five years or less, so as to break the suddenness of the enhancement.

53. The total assessment of the circle having been fixed it was necessary to fix revenue-rates to be applied to the areas of different classes of soil as a guide to the distribution of this assessment over the individual estates that composed the circle. The basis of these revenue rates was naturally the half net assets soil rates which had been worked out from the produce estimates, but these had to be reduced in proportion to the amount by which the assessment sanctioned fell short of the half net assets

estimate. The rates so reduced were compared with the revenue rates of regular settlement, with the rates used in typical villages for the distribution of their revenue over holdings at regular settlement, and with the rates employed by Settlement Officers in neighbouring districts, and after comparison of these different rates, revenue rates were sanctioned for the circle so calculated that, when applied to the areas under cultivation of the different classes of soil, they should bring out approximately the total assessment which had been determined for the circle. These sanctioned revenue rates will be found in Appendix VIII.

54. In distributing the total assessment sanctioned over the various estates composing the assessment circle, I worked out the assessment that would be given for each estate by applying the sanctioned revenue rates to the areas under cultivation of the different classes of soil in the estate, and took this as my main guide to the new assessment of the estate. Other matters had, however, to be taken into account, such as the quality of the soil and water as compared with the average of the circle, the depth of wells, character of the produce, proximity to markets, prevalent rate of rent, agricultural character and condition of the people, and the amount and incidence of the existing assessment. One point in particular was of great importance in a district such as this, where the area actually harvested differs so much from the area returned as under cultivation, *viz.*, the proportion of crops harvested on an average of years to the total cultivated area. All through I paid great attention to this point assessing above average circle rates those villages which had a large average percentage of crops to total cultivated area and below rates those having a low percentage. In the Sháhpur and Khusháb tahsils I reduced this to a system and worked out a separate set of revenue rates on *average area harvested* for the circle, quite distinct from the sanctioned revenue rates which are calculated to bring out the total sanctioned assessment when multiplied by the areas *under cultivation*. The produce estimate calculations made it easy to work out the average value of the landlord's profits *per acre harvested* for each class of soil, and these rates proportionately reduced so as to give when applied to the average area harvested for the circle the total sanctioned assessment formed a most useful guide, for, although for the circle as a whole they gave the same total assessment as did the sanctioned rates applied to the total cultivated area, they often gave a very different result when applied to the average harvested area of individual estates in the circle; and, seeing that the average area harvested in an estate is of much more importance than the total area under cultivation, this guide to assessment was much more trustworthy than the sanctioned revenue rates on cultivated area. So useful did I find it, that I have recommended, on the draft assessment Circular, that it should be prescribed for general use, at all events in all districts in which the area harvested varies much from year to year. Before fixing the assessment of the different estates I made the Tahsildár and Revenue Assistant work out separately the assessment they would impose, and discussed the circumstances of each estate with them before finally fixing its assessment. Their proposals and the reasons I had for departing from the assessment given by sanctioned rates will be found in the village note-book of each estate. The circumstances of the various estates in most of the circles differ so widely that in many cases I assessed much above or much below the assessment given by sanctioned rates. It may be noted here that in making the assessments of the Bhera tahsíl which were announced before remeasurements were completed, I in the case of many estates calculated the assessment on the areas given by the annual returns before measurements; but in all these cases I recalculated the assessment after the estate had been remeasured and in no case found it necessary to alter the assessment announced. I had far fuller and more trustworthy statistics to guide me, especially as regards area actually harvested, than had the Settlement Officer at regular settlement, and I think it may be taken as certain that the total assessment has been much more equitably distributed over the different estates than it was at regular settlement or previous to revision.

55. One point of general importance which came up for discussion was the mode of assessment to be adopted in assessing land irrigated by canals. As regards land irrigated by

Distribution of assessment over estates.
Assessment of lands irrigated from canals.

State canals the assessment instructions directed me to assess them as nearly as may be at the same rates as land of similar quality and advantages in the same tract which is not irrigated, leaving the advantage derived by the land-owner from canal irrigation to be realized by canal owner's rates. As regards land irrigated by private canals I pointed out that there was even more reason than in the case of State canals for adopting a similar rule, because they are generally not so well managed as State canals and where, as is often the case, they irrigate lands belonging both to the owner of the canal and to other persons, the canal owner irrigates his own land first and gives only surplus water to the land of others, so that the area irrigated fluctuates greatly from year to year. It would thus be very difficult to fix a fair irrigated assessment on such lands, and if the attempt were made it would probably be necessary to give frequent remissions. It was accordingly decided that all lands irrigated by canals, whether owned by the State or by private persons, should be assessed at the same rates as similar unirrigated land in the circle, and that a canal owner's rate, here called water-advantage rate, should be realised separately from the fixed land revenue on all land actually irrigated by canals from year to year. This water-advantage rate has been fixed at eight annas per acre irrigated throughout the district, except on the small canals from the Chenáb river where it is four annas per acre irrigated.

56. The Chenáb circle of the Bhera tahsíl was the first to be brought under re-assessment. It had been regularly settled in 1858 by Mr. Gore Ouseley, who left the demand practically the same as that of the last summary settlement of 1853, so that when I reported on it in 1888 it had been paying its then assessment for 35 years. Since regular settlement the area under cultivation had increased by 70 per cent.; the number of masonry wells in use by 29 per cent.; and the prices of the chief food grains by 80 per cent.; cattle had greatly increased; population had increased by 63 per cent. Sales of land were unimportant, and the land held on mortgage by new agriculturists amounted only to 5 per cent. of the cultivated area, paying 7 per cent. of the total land revenue assessment. The assessment which at regular settlement was Rs. 59,145 was Rs. 58,835 in 1887-88. The half net assets estimate amounted to Rs. 1,25,000, and I proposed to raise the assessment to Rs. 90,000, an increase of 53 per cent., and to announce it as for a period of ten years only. It was however decided to make the period of settlement not less than twenty years, and, in order that the State might not lose such a large amount of revenue for so long a period, I was instructed to make the final fixed assessment Rs. 1,00,000, but allowed to defer not more than Rs. 10,000 of this sum for a period of five years, so as to break the sudden increase in those estates in which the enhancement was great. The rates proposed and sanctioned were as follows:—

S O I L .	REVENUE RATES PER ACRE.	
	Proposed by Settlement Officer.	Sanctioned.
	Rs. a. p.	Rs. a. p.
Cháhi	1 5 0	1 8 0
Sailáb	0 15 0	1 2 0
Báráni	0 9 0	0 9 0

The distribution of the total assessment over villages was made on the areas of 1888-89 which gave an increase on the areas of 1887-88 entered in the assessment report. Applied to the areas of 1888-89 the sanctioned rates gave a total assessment of Rs. 1,04,064, but as my instructions were to make the total assessment Rs. 1,00,000, I kept to that figure, that is, I assessed 4 per cent. below rates. The belt of villages lying immediately along the river and benefiting from the river floods has been assessed on the whole 6 per cent. above rates, as the water level in the wells is comparatively near, the expenses of

irrigation less serious, and the share of the produce taken by the landlord somewhat higher than it is farther from the river; the villages lying along the Nakka bank which separates this circle from the Bár upland have good soil and a large extent of grazing ground but deep wells, and have been assessed on the whole two per cent. below rates; while the strip of villages between (known as the Ara) where the soil is generally of poor quality and the waste land inferior and of no great extent has been assessed on the whole 15 per cent. below rates. A number of estates on the Jhang border at a little distance from the river have been assessed much below circle rates, because much of their land now returned as *sailáb*, benefits from river floods only in good years and cannot bear the full *sailáb* rates. Villages of average or more than average advantages in which the increase of assessment was not very great, were assessed above the sanctioned rates: and on the other hand where the increase was very large I kept below the sanctioned rates. Allowance was also made for the profits of the culturable waste where that was of good quality and more than double the area of cultivation. The villages assessed at the highest rates are those on the river east of Midh, where there is a block of excellent soil, sure of floods from the river, and for that reason highly assessed at regular settlement; and those assessed at the lowest rates are the villages already mentioned in the intermediate tract and near the Jhang border.

The assessment was announced with effect from the kharíf harvest of 1889 at Rs. 1,00,000, an increase of 71 per cent. on Rs. 58,642, the total assessment of that year (including assigned revenue), as it would have been had no revision taken place, Rs. 500 were reduced on appeal and Rs. 858 have since been reduced for diluvion, so that the final fixed assessment now (1893-94) stands at Rs. 98,642. Of this sum, however, Rs. 2,439 have been deferred on protective leases for wells and Rs. 5,655 in estates in which the enhancement was great, so that the present total assessment is Rs. 90,548, an increase of 53 per cent. on the assessment of regular settlement, and of 54 per cent. on that of the year before revision.

The Commissioner (Mr. Thorburn) having on several occasions expressed the opinion that the Chenáb circle, and especially the villages situated at a distance from the river had been over-assessed, I submitted an additional report on this circle in 1892, pointing out that the area under cultivation, the area harvested, the population, the number of cattle, and the harvest prices were all better than had been assumed for assessment purposes, and that I had, as above stated, been careful to assess the estates of the intermediate tract well below the sanctioned revenue rates for the circle and at a pitch not appreciably higher (for the present) than the assessment then recently sanctioned for the adjoining and similar circles in the Phália tahsíl of the Gujrát district. The Commissioner adhered to his opinion that the assessment on wells in the villages away from the river was too high and recommended a reduction of Rs. 6,994. The Financial Commissioner (Mr. Mackworth Young) again went fully through the statistics, and the further study he gave to the subject amply confirmed him in the view that the assessments are reasonable, and if properly worked will be easily paid.

As the question is one of great importance for the welfare of the people of this circle, I may be permitted to bring the statistics up to date. The total cultivated area of 1888 on which the assessment sanctioned by Government was based was 89,978 acres—in 1893 it was 95,791 acres; the area ordinarily irrigated from wells was in 1888 47,860 acres and in 1893 48,337 acres, the number of wells in use was 1,140 in 1888 and 1,129 in 1893; the average area actually harvested for the three years ending 1888 was 72,049 acres; and for the five years ending 1893 it was 73,708 acres; the prices prevalent during the last six years average much higher than those assumed for assessment purposes. There is obviously nothing in these figures to indicate that the assessment calculations were based on an over-estimate of the resources of the tract, or that the enhanced assessment has in any way impeded its development. It has now been in force for 4½ years and has been realised in full to date, except Rs. 2,415 remitted on account of damage done to four estates by a most destructive hailstorm, and Rs. 5,231 at present under suspension but likely to be realised in full without

difficulty along with the present rabi instalment. In 1891-92 the circle came through one of the worst seasons of drought within the memory of the present generation and in that year Rs. 29,661 or nearly a third of the year's demand, was suspended. But the arrears have been practically all paid up and the tract is now in a most prosperous condition. The assessment, light when it was imposed, is still lighter now, and there seems no reason for special anxiety regarding the future of this circle.

57. The Bhera Bár was regularly settled by Mr. Gore Ouseley in 1856-58, and my assessment report was based on the figures of 1889. Assessment of the Bhera Bár. Since settlement the cultivated area had increased from 8,363 to 45,435 acres; the area irrigated by wells from 3,555 to 8,495 acres; the number of wells in use from 175 to 264; the number of cattle from 22,835 to 45,419; and the population from 13,842 to 34,821. The assessment which at regular settlement was Rs. 11,619 had increased in 1889 to Rs. 16,231, chiefly owing to the grant of State waste lands for cultivation. The half net assets estimate amounted to Rs. 50,000. I proposed to raise the assessment to Rs. 40,000 but defer Rs. 10,000 for the present, making the initial increase 85 per cent. The revenue rates proposed and sanctioned were as follows:—

SOIL.	REVENUE RATE PER ACRE.	
	Proposed by Settlement Officer.	Sanctioned by Government.
	Rs. a. p.	Rs. a. p.
Cháhi	1 0 0	1 0 0
Nahri	0 10 0	0 8 0
Báráni	0 10 0	0 8 0
Waste land	0 1 0	0 1 0

The rate on waste land to be applied after deducting an area equal to the area under cultivation. These sanctioned rates applied to the area of 1889 gave an assessment of Rs. 36,040, but applied to the areas of 1890, on which I distributed the assessment over villages, they gave Rs. 36,871. The total of the assessments announced by me was Rs. 36,923 of which Rs. 490 are *málikána* charged on estates still owned by Government leaving Rs. 36,433 as the total final land revenue proper; and this is still the final demand (1894). In making the distribution over villages, I varied the *cháhi* rate a good deal, going higher in villages where the wells are not deep and the water is sweet, *i.e.*, chiefly along the edges of the circle; while in villages where the wells are deep or water brackish I assessed the *cháhi* area little, if at all, above the unirrigated rate. Allowance was also made for differences in quality of soil or for the proportion of increase given by the rates over the existing assessment. The orders of Government were that the initial assessment should be Rs. 30,000 and that the remainder should be imposed during the next five years as the Settlement Officer might arrange. I accordingly in estates in which the increase was large and especially where the new assessment was more than double the old, deferred part of the increase for the present informing the people that the assessment deferred would be imposed when the character of the harvests rendered it expedient. Rupees 5,170 was the amount so deferred, besides which Rs. 879 are deferred on wells under protective certificate, so that the present assessment (1894), including assigned revenue, is Rs. 30,874 (including Rs. 479 *málikána*), an increase of 82 per cent. on Rs. 16,970, the total assessment of the last year before revision, and nearly treble that of regular settlement. Cultivation has already increased from 45,435 acres in 1889 to 50,822 acres in 1893, and I consider that the final assessment of Rs. 36,923 will be a very light assessment. None of the deferred revenue has yet been imposed. The new assessment came into force from Rabi 1891, and the following year 1891-92 was one of exceptional drought when about a fourth of the cattle in the Bár died from starvation; Rs. 15,083, or half the year's demand

of the circle was suspended in that year, and Rs. 1,049 of this amount is still in arrear. But this rabi is an excellent crop and the cattle are in splendid condition and rapidly recovering their former numbers. The arrear will all be collected this harvest, and should the coming kharif be a good one, I think that the sums deferred may safely be imposed without further delay.

58. The Jehlam circle of the Bhera tahsil was regularly settled by Assessment of the Bhera Mr. Gore Ouseley in 1856-58, and my assessment report Jehlam circle. was based on the figures of 1889. During these thirty years the area under cultivation had increased from 37,469 acres to 79,061; the area irrigated by wells from 26,934 to 34,141 acres; and the wells in use from 1,003 to 1,345. Canal irrigation, practically unknown at settlement, now amounted to 20,952 acres or a fourth of the total cultivation; the number of cattle had increased from 30,115 to 50,107; and the population from 53,074 to 72,245. The only unfavourable features were that $7\frac{1}{2}$ per cent. of the total cultivated area had changed hands by sale, nearly 4 per cent. having been purchased by money-lenders and that 16 per cent. was under mortgage, almost the whole of it held by money-lenders; the Musalmán landowners being very improvident, though fairly industrious. The total assessment which at regular settlement was Rs. 60,547 had risen to Rs. 69,199 in 1890, chiefly owing to di-alluvion changes and grants of State waste land. The half net assets estimate amounted to Rs. 1,60,000. I proposed an assessment of Rs. 1,10,000 rising to Rs. 1,22,000 besides water-advantage rate on lands irrigated by canals. The revenue rates proposed and sanctioned were as follows :--

SOIL.	REVENUE RATES PER ACRE.	
	Proposed by Settlement Officer.	^a Sanctioned by Government.
	Rs. a. p.	Rs. a. p.
Cháhi	2 6 0	2 6 0
Nahri	0 8 0	0 8 0
Sailáb	2 0 0	2 0 0
Baráni	0 8 0	0 6 0

These sanctioned rates applied to the areas of 1889 gave an assessment of Rs. 1,21,407, but on the more accurate figures of 1890 on which I distributed the assessment over villages, they gave Rs. 1,22,548. The village assessments announced by me aggregated Rs. 1,21,615, including Rs. 270 as *málikána* on land owned by the State. This sum was reduced by Rs. 1,048 on appeal, and other reductions aggregating Rs. 1,013 have since taken place owing chiefly to diluvion, so that the final assessment as at present fixed (1894) is Rs. 1,19,554. In making the distribution over villages I assessed above rates villages having a large area of poppy, sugarcane, and other valuable crops, and those situated near the railway and the good markets of Miáni, Bhera, and Chak Rám Dás. In assessing lands irrigated by canals I went above the circle rate where the canal irrigation is most certain, and below the circle rate near the tail where it is not so secure; and in the case of unirrigated lands I kept well below the circle rate in the villages above Miáni, which have large areas of sandy unirrigated cultivation, the crops on which are unusually precarious.

The orders of Government were that the immediate increase should be limited to Rs. 35,000, which, added to the existing assessment of Rs. 69,048, gave Rs. 1,04,048 as the maximum initial demand—the remainder to be postponed for five years. In granting these temporary reductions I allowed chiefly for great increases and especially for those over 50 per cent., and also took into account the additional increase of water-advantage rate in canal-irrigated estates. Altogether Rs. 14,934 have been deferred on this account, besides Rs. 3,432 deferred on wells under protective certificate, leaving the total assessment of the present

year (1894), including assigned revenue and *málikána*, Rs. 1,01,192, an increase of 67 per cent. over the assessment of regular settlement and of 47 per cent. over the assessment of the last year before revision. The new assessment came into force from Rabi 1891, and was realised without arrear until Kharif 1893, when a small remission and suspensions amounting to Rs. 10,538 were granted on account of damage done by the destructive flood of the Jehlam in July 1893; but as the present rabi harvest is a bumper throughout the tract, these arrears should all be cleared off with this instalment.

Summary for Bhera tahsil.

59. For the whole Bhera tahsil the figures are, as follows:—

Assessment circle.	TOTAL ASSESSMENT IN RUPEES.						
	Of regular settle- ment.	Of last year before revision.	Proposed by Settle- ment Officer.	Sanctioned by Govern- ment.	Announ- ced.	Final assessment now.	Assess- ment of 1893-94.
Ghenáb	59,145	58,642	90,000	1,00,000	1,00,000	98,642	90,548
Bár	11,619	16,970	40,000	36,040	36,923	36,923	30,874
Jehlam	60,547	69,048	1,22,000	1,21,407	1,21,615	1,19,554	1,01,192
Total Tahsil	1,31,311	1,44,660	2,52,000	2,57,447	2,58,538	2,55,119	2,22,614

The assessment I announced was half per cent. above that sanctioned by Government, but has been since reduced partly owing to appeals and partly owing to dilution to one per cent. below the sanctioned assessment. The final assessment as it now stands will give an increase of 94 per cent. over the assessment of regular settlement, and the demand of the present year gives an increase of 54 per cent. over the demand of the last year of the expired settlement. Besides this there is a new income from water-advantage rates on land irrigated from canals, which I estimated for this tahsil at Rs. 11,700; in 1892-93 the actual collections under this head were Rs. 11,018.

60. The regular settlement of the Shahpur Bár was made in 1856, and my assessment report was based on the areas of 1890. During these 34 years cultivation had increased to $7\frac{1}{2}$ times its former figure; population had doubled and cattle greatly increased. The assessment had increased from Rs. 2,475 to Rs. 2,770. The half net assets assessment was Rs. 8,000. I proposed to make the new assessment Rs. 5,500. The revenue rates proposed and sanctioned are as follows:—

SOIL.	REVENUE RATE PER ACRE.	
	Proposed by Settle- ment officer.	Sanctioned by Government.
Cháhi	Rs. a. p. 0 12 0	Rs. a. p. 0 10 0
Nahri and báriáni	0 8 0	0 7 0
Waste land	0 0 6	0 0 6

These rates applied to the areas of 1890 gave an assessment of Rs. 5,131. I distributed the assessment over villages on the areas of 1892, on which these rates gave Rs. 5,407, and announced the assessment at Rs. 5,090, including *málikána* and acting on the Financial Commissioner's permission to defer one-sixth of the new demand for a period not exceeding five years I deferred Rs. 800 in one large estate in which the new assessment is nearly treble the old. Rupees 104 have been deferred on protective certificates so that the present total assessment (1894) is Rs. 4,186, or nearly double the former assessment. The assessment of this circle is decidedly light.

61. Between the regular settlement of the Ara circle in the Shahpur tahsil and 1890 when my assessment report was submitted cultivation had nominally much more than doubled. In this circle cultivation is almost entirely dependent on wells and 96 per cent. of the cultivated area is returned as *cháhi*. The number of wells in use

had increased from 526 to 793, or by 50 per cent. The average area attached to a well is 54 acres, but of this area only 24 acres are annually cropped on an average of years. Population was practically the same as at settlement, the natural increase being counterbalanced by emigration to canal-irrigated tracts. Of the whole cultivated area 10 per cent. had been sold since settlement, and 20 per cent. was under mortgage. The resources of the circle had developed considerably since settlement, but the increase of prosperity was not nearly so great as in most other parts of the district. The assessment of regular settlement was Rs. 13,505, and had increased in 1891 to Rs. 15,433. The half-net assets estimate was Rs. 28,000. My proposed assessment of Rs. 22,000 was sanctioned by the Financial Commissioner, as were my proposed revenue rates of eight annas on *cháhí* and six annas on *bárání* per acre. The assessments actually announced aggregated Rs. 22,180, including Rs. 70 *malikána*, an increase of 44 per cent. on the previous assessment. In distributing the assessment over villages, I found in this circle the usual revenue rate on cultivation a very unsafe guide, as less than half the total area returned as cultivated is actually harvested on an average of years, and as much land cultivated one year is then left uncultivated for a number of years, but is often returned by the patwári as still under cultivation. I therefore derived much more assistance from (1) a rate on wells in use of Rs. 27 per well, and (2) rates on average harvested area so calculated as to bring out on the average area harvested within the last four years the total assessment of Rs. 22,000. These rates were *cháhí* Re. 1-2-0, and *bárání* 12 annas per acre. I generally assessed below rates the estates along the west side of the circle where the wells are deep and the soil hard and barren and affected by *kallar*, and assessed slightly above rates the estates along the east side near the Bár, which have some Bár pasture land to fall back upon, and especially those in the north of the circle where the soil is sweeter and water nearer the surface, and where the uncultivated land produces some grass and wood. None of the assessment of this circle was deferred, except Rs. 2,402 deferred on wells under protective certificate, so that the present total assessment (1894) is Rs. 19,777, an increase of 28 per cent. on the assessment of the last year before revision. There is no arrear in this circle. I consider the assessment a light one.

62. Between the regular settlement of the Jehlam Circle in the Shah-pur tahsíl in 1856 and the year 1890 on the figures of which the Assessment Report was based, the area under cultivation had more than doubled, the increase being chiefly in land irrigated from canals and wells. The number of wells in use had increased by more than 50 per cent. Canal irrigation, almost unknown at regular settlement had developed to such an extent that a third of the cultivated area was irrigated by canals. Of the total cultivated area 6 per cent. had been sold since settlement and 14 per cent. was under mortgage, almost all to new agriculturists. The total assessment had risen from Rs. 97,200 at settlement to Rs. 1,16,385, the increase being chiefly due to grants of State waste land, and to the favourable operation of the di-alluvion rules. The circle was very much more prosperous than at regular settlement, and its resources had been greatly developed. The half-net assets assessment, treating canal irrigated land in its irrigated aspect, was Rs. 2,30,000. I proposed to make the new assessment Rs. 1,65,000, rising to Rs. 1,80,000 besides about Rs. 20,000 water-advantage revenue. The Financial Commissioner sanctioned a final fixed assessment of Rs. 1,69,000. The rates are as follows :—

Soil.	REVENUE RATE PER ACRE.	
	Proposed by Settlement Officer.	Sanctioned by Financial Commissioner.
	Rs. a.	Rs. a.
Cháhí	1 8	1 7
Sailáb	1 12	1 9
Nahri and Bárání	0 8	0 8

The assessments announced by me aggregated Rs. 1,68,876 (including Rs. 791 *malikána*), but of this amount Rs. 1,075 were reduced on appeal, and

Rs. 567 have since been reduced for diluvion; so that the present final assessment (1894) is Rs. 1,67,234, an increase of 72 per cent. on the assessment of regular settlement. In making the distribution of assessment over villages, I had to depart considerably from the estimates given by the sanctioned rates as the circumstances of the villages differ greatly. Here, as in the Ara Circle, I used as a second guide, the estimate given by applying average rates to the area actually cropped on an average of the last few years and found this guide a very useful supplement to the ordinary revenue rates on total cultivation, the rates here being per acre, *chāhī* Re. 1-14-0; *nahrī* 8 annas; *sailāb* Rs. 2-0-0; *bārānī* 12 annas. I assessed well below rates the estates in the south of the tahsíl lying at some distance from the river which get less rainfall than those to the north and have much of their land, and especially that lying east of the Shahpur-Jhang road, of poor quality similar to that of the Ara Circle and paying only one-third of the produce as rent, while the common rate of rent in the circle is one-half. The estates along the river south of Shahpur were assessed at about circle rates; and those extending from near Shahpur north-east to the Bhera boundary I assessed above circle rates, as here both soil and rainfall are better, water is near, much poppy is grown, and altogether the estates are not much inferior to the adjoining estates of the Bhera tahsíl, where the sanctioned rates are much higher than for this circle. The orders of Government permitted me to defer one-twelfth of the assessment of this circle in estates in which the increase is very large. The amount deferred on wells under protective lease is now Rs. 5,247, besides which Rs. 8,945 have been deferred on the ground of the great increase, especially when allowance is made for the water-advantage rate demand. No time has been fixed for the realisation of these deferred assessments which will be leviable at any time not later than five years after the settlement came into force, i.e., after kharíf 1892. The present total assessment (1894) including assigned revenue and *málikána* is Rs. 1,53,062, an increase of 31 per cent. on the assessment of the last year before revision, besides water-advantage rate. The assessment was realised in full for the first year, but a suspension of Rs. 13,640 was granted in Kharíf 1893 on account of the damage done by the destructive flood in the Jehlam. This will probably be all realised with this rabi instalment as the harvest is a bumper. The circle is likely to be rapidly developed farther, and I consider the assessment a light one.

Summary for Shahpur
tahsíl.

63. For the whole Shahpur tahsíl the figures are as follows :—

Assessment Circle.	TOTAL ASSESSMENT IN RUPEES.						
	Of regular settlement.	Of last year before revision.	Proposed by Settlement Officer.	Sanctioned by Govern- ment.	Announced.	Final assess- ment now.	Assessment of 1893-94.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bár	2,475	2,770	5,500	5,131	5,090	5,090	4,186
Ara	13,505	15,357	22,000	22,000	22,180	22,179	19,777
Jehlam	97,200	1,16,861	1,80,000	1,69,000	1,68,876	1,67,234	1,53,062
Total Tahsíl ...	1,13,180	1,34,988	2,07,500	1,96,131	1,96,146	1,94,503	1,77,025

The assessment I announced was almost exactly that sanctioned by Government but has been since reduced by appeal and diluvion to nearly 1 per cent. below the sanctioned amount. The final assessment, as it now stands, will give an increase of 72 per cent. over the assessment of regular settlement, and the demand of the present year gives an increase of 31 per cent. over the demand of the last year of the expired settlement. Besides this there is a new income from water-advantage rate on land irrigated from canals, estimated at Rs. 20,500; in 1892-93 the actual collections under this head were Rs. 27,979.

64. In Mr. Gore Ouseley's time only the riverain portion of the Khusháb tahsíl was included in the Shahpur district and was assessed by him in 1856 as part of the Sáhiwál tahsíl. My Assessment Report was founded on the statistics of 1891 and showed that in the 35 years since settlement, the area returned as under cultivation had increased by 83 per cent., the area cropped by 79 per cent., the number of wells from

Assessment of Khusháb-
Jehlam Circle.

456 to 582, population by 48 per cent., and that cattle had very largely increased in number. The owners are chiefly Bilochis, Tiwánas, Sayads, and other Musalmán tribes, neither thrifty nor industrious. Of the whole cultivated area $3\frac{1}{2}$ per cent. had been sold since settlement and 22 per cent. were under mortgage, 15 per cent. being held by new agriculturists. The total assessment had risen from Rs. 36,136 at settlement to Rs. 40,299, the increase being chiefly due to the assessment of new land rendered culturable by the action of the river. The resources of the circle had greatly improved in every way since settlement, the only unsatisfactory features being the large area alienated to money-lenders and the indebtedness of the peasantry, which is chiefly due to their own want of thrift. The half net-assets estimate was Rs. 70,000. I proposed an assessment of Rs. 55,000, besides about Rs. 1,200 water-advantage revenue, and this was accepted by the Financial Commissioner, except that he reduced the estimate of water-advantage revenue to Rs. 1,000. The orders of Government however were that the total assessment should be taken at about Rs. 60,000, on the ground that it was impossible in face of the rise of prices to justify lower rates than those imposed at regular settlement. The revenue rates proposed and sanctioned are:—

SOIL.	REVENUE RATES PER ACRE.	
	Proposed by Settlement Officer.	Sanctioned by Government.
	Rs. a. p.	Rs. a. p.
Cháhi	1 10 0	1 14 0
Nahri	0 4 0	0 6 0
Sailáb	1 12 0	1 12 0
Baráni	0 4 0	0 6 0

The assessment as announced amounted to Rs. 59,971, but this sum has since been reduced by Rs. 275 on appeal and Rs. 622 for diluvion, so that the present final assessment (1894) is Rs. 59,074, an increase of 63 per cent. on the assessment of regular settlement. In distributing the assessment on the villages, I employed as a second guide the following rates on the average area harvested for the last four years, viz., *cháhi* Rs. 2, *sailáb* Re. 1-14-0, *nahri* and *baráni* 10 annas. I assessed the estates above Khusháb, which get more rainfall than these lower down but have a good deal of *kallar* soil, at about sanctioned rates; Khusháb itself and some estates near it, as well as some near the Jhang border which have excellent *sailáb* soil I assessed somewhat above rates; and a few estates which have little *sailáb* but much inferior *cháhi* I assessed below rates. I made allowance for the inferior quality of the *jhalári* cultivation in some villages, for the superiority of the unirrigated cultivation above Khusháb to that below it, and for the large area of Thal grazing ground owned by some villages. The only amount deferred in this circle is Rs. 587 on wells under protective certificate, so that the present assessment (1894) is Rs. 58,487, an increase of 36 per cent. on Rs. 42,887, the assessment of the last year before revision. The assessment was introduced from Rabi 1893, and has been realised without difficulty in full, except that Rs. 1,095 are under suspension for damage done by the great flood in the Jehlam last year. This will all be realised with the present rabi instalment. Owing to the enhancement of 9 per cent., made by the orders of Government, the pitch of the assessment here is appreciably higher than in the similar circles across the river, but it is still well below half net assets and will be paid without difficulty.

65. The Thal circle was assessed by Captain Davies in 1865. It consists chiefly of sandy prairie and the people are mainly dependent on the produce of their flocks and herds. Although cultivation has quadrupled since settlement, only 3 per cent. of the total area is yet under cultivation, and the produce is very scanty and precarious. Population has increased

Assessment of Thal Circle.

21 per cent. and although the number of horned cattle has fallen off, the number of sheep and goats has greatly increased. The circumstances of this circle have not greatly changed since regular settlement, but on the whole there has been a slight improvement, and the prices of *ghi*, hides, and other produce of cattle and sheep have risen considerably. The assessment had risen from Rs. 9,928 at settlement to Rs. 10,171. The half net-assets estimate, founded chiefly on an estimate of the profits of cattle and sheep breeding, amounted to Rs. 15,000, but with regard to the very precarious nature of the produce of the tract I recommended that the new assessment should not exceed Rs. 12,000. This was accepted, as were my revenue rates of four annas per acre on all cultivation, except melons, which are largely grown on the sandy hillocks but bring in little income, and Rs. 2 per hundred acres on waste land, after deducting an area equal to the cultivation. The assessment announced was exactly Rs. 12,000, besides Rs. 20 *málikána*, but Rs. 50 of this were reduced on appeal, so that the present assessment is Rs. 11,970, nothing having been deferred in this circle. This gives an increase of 20 per cent. over the demand of regular settlement and of 18 per cent. over that of the year before revision. In distributing the assessment over the villages I made great use of the subsidiary guides afforded by applying a rate of 6 annas per acre to the area cropped on the average of the last four years and the following rates per head of tax-paying cattle, which are traditional rates in the Thal, viz., camel Re. 1, cow or bullock 4 annas, sheep or goat 1 anna. I assessed most lightly the estates in the south-west corner where the soil is inferior, the rainfall less, and suspensions had been found most frequently necessary, and I assessed generally up to or above circle rates the estates in the northern portion of the tract, which in those respects are better than those in the south. The assessment is a very light one in the present circumstances of the tract which is now in an exceptionally prosperous condition and has no arrear against it, but from 1885 to 1891 it suffered from a succession of dry years and frequent suspensions were necessary, and from the precarious nature of the rainfall on which the crops and grass entirely depend, it is probable that suspensions will still from time to time prove necessary.

66. Between the year 1865 when the greater part of the Mohár Circle was settled by Captain Davies, and the year 1891, on the figures of which the Assessment Report was based, the area returned as under cultivation had increased by 80 per cent., but the area annually sown only by 44 per cent., the area annually harvested averaging only 61 per cent. of the total area under cultivation. Many new embankments had been made to improve the distribution of the water from the hill torrents of the Salt Range on which the produce of this circle largely depends. The number of cattle had only slightly risen since settlement. Population had increased by 47 per cent. One-third of the area, including all the best estates, is owned by industrious and fairly thrifty Awáns. Of the whole cultivated area 5 per cent. had been sold since settlement, but only 1 per cent. had been purchased by non-agriculturists. The area under mortgage was 12 per cent. of the total cultivated area, 7 per cent. being held by non-agriculturists. There has been a great development of resources since regular settlement, and the peasants, though subject to violent vicissitudes of fortune, are much more prosperous than they were 30 years ago. The total assessment was at settlement Rs. 53,090 and Rs. 53,232 in 1891. The half-net assets estimate was Rs. 75,000, but the rates of last settlement gave an estimate of Rs. 90,000 without allowing for rise of prices since, which had not been so great as in the case of other circles assessed in 1856. I pointed out that it would not be safe to apply Captain Davies' rates to the new cultivation, as it is generally inferior to the old, and, the supply of water being limited, the proportion of total area annually harvested and the average outturn of the area sown are probably both less than they were at regular settlement, when the same amount of water was spread over a smaller area; that the produce here is exceptionally precarious, the total yield for the circle having been five times as much in 1890-91 as it was in the following year, and that the increase of cultivation and improvement in its character are almost entirely due to the construction of embankments, which require great labour not only to construct them originally but to maintain them from year to year; it is impossible to grant special reductions of assessment for numerous

petty works of this description, and the only way to make allowance for this exceptional expenditure of labour, and in some cases of capital, is to pitch the assessment low. I proposed an assessment of Rs. 70,000, and this was sanctioned by Government, as were my proposed revenue rate on total cultivated area, which were *náládár* Re. 1, *rarádár* 9 annas, *bárání* 5 annas, besides about Rs. 4,000 on the waste. The assessments as announced totalled exactly Rs. 70,000, but of this sum Rs. 1,035 have since been reduced on appeal and Rs. 10 have been added for alluvion, so that the total assessment is now (1894) Re. 68,975, an increase of 30 per cent. on the assessment both of regular settlement and of the last year before revision. In distributing the assessment on villages I had to depart widely from the result given by the rates, as the circumstances of the different estates vary greatly. I found very useful the estimate given by applying to the average area actually harvested in the last four years the following rates per acre:—*Náládár* Re. 1-10-0, *rarádár* Re. 1-1-0, *bárání* Re. 8 annas. I also estimated out for each village the assessment that would be given by applying to the present cultivated areas the rates used by Captain Davies at last settlement. I assessed much below rates the estates in the east end of the circle which have no large torrent to irrigate them and whose produce is therefore exceptionally precarious, and I assessed much above rates such fine estates as the two Kathás, Jabbi, and Kiri Golewáli, much of whose irrigation is dependent on torrents having a large catchment area, and is therefore more than usually good and secure. The assessment came into force from Rabi 1893, and there is at present no arrear against the circle. The assessment is a comparatively full one, and it will be necessary to suspend freely in years of drought to which this circle is particularly subject.*

67. The Hill circle of tahsíl Khusháb was regularly settled by Captain

Assessment of Hill Circle.

Davies in 1864, and my Assessment Report was based on the statistics of 1889. In the interval the total area under cultivation had increased by 20 per cent. and the character of the cultivation had been greatly improved by the construction of stronger embankments to control the drainage from the hills on which the cultivation here largely depends. Of the total cultivated area, 3 per cent. had changed hands by sale, and 13 per cent. was under mortgage, 8 per cent. being held by non-agriculturists. The owners are mostly thrifty and industrious Awáns and are in a much more prosperous condition than they were 25 years ago. The total assessment had increased from Rs. 45,800 at settlement to Rs. 45,977 in 1889. The half-net assets estimate was Rs. 75,000. Here too I pointed out that the assessment should be kept low because of the large amount of labour and capital expended in constructing and maintaining the banks and terraces necessary for the cultivation and irrigation of the hill sides, and proposed to make the new assessment Rs. 60,000; but the Financial Commissioner decided that with regard to the above fact and to the density of the agricultural population the assessment should be limited to an increase of 20 per cent., making altogether about Rs. 55,000, and this was sanctioned by Government. My rates however were to be adopted as a guide to distribution. They were calculated to produce an assessment of Rs. 60,000, and applied to the reclassified soils of 1890 on which I distributed the assessment they gave a total of Rs. 61,355. The actual assessment announced was only Rs. 55,267, including Rs. 242 *málikána* or about 10 per cent. below the assessment given by the rates, so that their actual pitch may be taken as follows:—

Soil.	REVENUE RATES PER ACRE.					
	Sanctioned rates.			Reduced by 10 per cent.		
	Rs.	a.	p.	Rs.	a.	p.
Cháhi and Nahri	4	0	0	3	10	0
Hail	1	12	0	1	9	0
Maira	1	2	0	1	0	0
Bárání	0	10	0	0	9	0

Rupees 44 were reduced on appeal, so that the present final assessment (1894) is Rs. 55,223, or 21 per cent. above the assessment of regular settle-

ment. Rupees 242 have been deferred on protective leases, so that the present assessment is Rs. 54,981, an increase of 19 per cent. on the assessment of the last year before revision which was Rs. 46,052. I found useful as guides an estimate of the assessment given by applying to the present cultivated area (1) the rates used at last settlement for the distribution over holdings, and (2) the rates used by Captain Davies at last settlement. I also noted the proportion of area harvested to total cultivated area in each village. The circumstances of the estates differ so greatly that I had often to depart widely from the sanctioned rates estimate (reduced by 10 per cent.) The estates along the south of the Sun valley which have generally good soil and a large catchment area were assessed well above circle rates, while others, especially those in the Pail valley, where the soil is comparatively poor and the catchment area small, were assessed well below rates. In a circle such as this each village has to be assessed on its own merits. The new assessment came into force from Kharif 1891, and has been realised in full since, with the exception of Rs. 317 remitted on account of damage done by locusts in 1891, Rs. 2,418 remitted on account of damage done by excessive rainfall and floods in 1893, and Rs. 840, the present balance of suspensions granted for drought in the Pail valley. The assessment is a light one, but a few villages are liable to drought and will at times require suspensions.

Summary for the Khusháb
Tahsil.

68. For the whole Khusháb tahsil the figures are as follows:—

ASSESSMENT CIRCLE.	TOTAL ASSESSMENT IN RUPEES.						Assessment of 1893-94.
	Of regular settle- ment.	Of last year be- fore revision.	Proposed by Set- tlement Officer.	Sanctioned Government.	Announced.	Final assessment (now).	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Jehlam	36,136	42,887	55,000	60,000	59,971	59,074	58,487
Thal	9,928	10,171	12,000	12,000	12,020	11,970	11,970
Mohár	53,090	53,205	70,000	70,000	70,000	68,975	68,975
Hill	45,800	46,052	60,000	55,000	55,267	55,223	54,981
Total	1,44,954	1,52,315	1,97,000	1,97,000	1,97,258	1,95,242	1,94,413

The assessment announced was almost exactly that sanctioned by Government, but owing to reductions since on appeal and for diluvion the final assessment is now one per cent. below the amount sanctioned. It will give an increase of 35 per cent. over the assessment of regular settlement, while the assessment of the present year gives an increase of 28 per cent. over the demand of the last year of the expired settlement. Besides this there is an income from water-advantage rate estimated at Rs. 1,000 in 1892-93; the actual income under this head was Rs. 612 for one harvest only.

Summary for the district.

69. For the whole district the comparison is as follows:—

TAHSIL.	TOTAL ASSESSMENT IN RUPEES INCLUDING ASSIGNED REVENUE.			Actual assessment of 1893-94.
	Of regular settlement.	Of last year be- fore revision.	Final fixed assess- ment as it now stands.	
	Rs.	Rs.	Rs.	Rs.
Bhera	1,31,311	1,44,660	2,55,119	2,22,614
Shahpur	1,13,180	1,34,988	1,94,503	1,77,025
Khusháb	1,44,954	1,52,315	1,95,242	1,94,413
Total	3,89,445	4,31,963	6,44,864	5,94,052

As compared with the assessment of regular settlement the final assessment as now fixed will give an increase of 65 per cent. over the assessment of regular settlement ; and the present actual assessment (1893-94) gives an increase of 38 per cent. over that of the last year before revision. Besides which there is an income from water-advantage rates, which is really fluctuating land revenue, estimated for the present at Rs. 33,200 but likely to increase as canal-irrigation extends. This means an additional increase of 8 per cent. more. In their forecast of the prospects of re-assessment made in 1886, the Financial Commissioners estimated the new assessment, including water-advantage revenue, at Rs. 5,85,000, or six lakhs of rupees, so that their anticipations have been much more than realised, and the initial increase including water-advantage revenue is Rs. 1,95,289 or almost two lakhs of rupees per annum.

70. At regular settlement the assessment was fixed at Rs. 3,89,445, and the final demand as at present fixed including water-advantage revenue, is Rs. 6,78,064, an increase of 74 per cent. This at first sight seems an enormous increase, but when compared with the improvement in the resources of the district summed up in paragraph 29, it will appear to be much less than might have been expected. At regular settlement the incidence of the total assessment on total cultivated area was Re. 1-4-5, and it is now only Re. 0-15-9, so that, even if prices had remained the same, the pitch of the assessment would have been lower now than then. But prices have increased at least 80 per cent. since the assessment of regular settlement was first imposed ; for it must be remembered that the assessment of regular settlement was 3 per cent. below that of the second summary settlement, and that again was below that of the previous summary settlement, so that for the fifteen years previous to 1864, when the average market price of wheat was less than a rupee a maund, the cultivated land of the district paid an average incidence of over Re. 1-4-0 per acre, and now when the average price is not less than Rs. 2 per maund, each cultivated acre pays on the average less than one rupee. The comparison may be made in another way. During the fifteen years previous to 1864, when the cultivated area of the district hardly exceeded 300,000 acres, the land-owners of the district would have had to sell at one rupee per maund, 3,89,445 maunds of wheat, their staple produce, in order to pay their revenue : while now, when the cultivated area of the district is over 6,50,000 acres, they can pay their whole enhanced land revenue by selling 4,23,790 maunds of wheat even at 25 sers per rupee, while the average market price is 20 sers per rupee, in other words, while the land revenue 35 years ago averaged $1\frac{1}{3}$ maund of wheat per acre under cultivation it now averages little more than $\frac{2}{3}$ of a maund of wheat—its incidence, measured in wheat, is only half what it was. If again we make the comparison in gold we find that at regular settlement the value of the total land revenue of the district at two shillings to the rupee was £38,944, now the value of the enhanced land revenue at one shilling and three pence to the rupee is £42,379, or very little more, although cultivation has much more than doubled : that is the incidence per cultivated acre which measured in gold averaged for the district at regular settlement £0-2-7, now averages only £0-1-3, that is it is just half what it was. It is clear then that at all events the present enhanced assessment absorbs a very much smaller share of the total produce of the district and of the profits of cultivation than did the assessment of regular settlement. By the irony of fate, having been required to defend the assessment of the Chenáb Circle, the first circle I assessed, from the charge of over-assessment, I found myself called on to defend the assessments of the last circles I assessed, viz., the plain portion of the Khusháb tahsíl, from the charge of undue leniency, a much more difficult task. The truth seems to be that previous to annexation the Sikh kárdárs realised from the peasantry of the district the full net profits of cultivation and indeed often more than this. Our early officers, although they reduced the amount of the Sikh collections by 20 per cent. fixed the assessment in cash, and owing to the sudden fall of prices which occurred soon after, their assessments at the first summary settlement were also approximately full net assets assessments, and it was not until, at the second summary settlement in 1852, their assessments were reduced by 22 per cent. that any profit was left to the cultivators of the land. When soon after the regular settlement was made and the previous demand practically maintained, prices were still low and the assessment still absorbed almost the whole of the