

REVENUE AND AGRICULTURAL DEPARTMENT
REVENUE.

DECEMBER 1913. NOS. 54-62.

ASSESSMENT REPORT OF THE UNA TAHSIL OF THE HOSHIARPUR DISTRICT.

No. 54.

File No. 67.

No. 878.

FINANCIAL COMMISSIONER'S OFFICE:

Dated Lahore, the 5th November 1913.

FROM

J. M. DUNNETT, Esquire,

Junior Secretary to the Financial Commissioners,
Punjab.

TO

THE HON'BLE MR. J. P. THOMPSON, I.C.S.,

Revenue Secretary to Government, Punjab.

The Hon'ble Mr P. J. Fagan.

SIR,

I AM directed to forward a copy of the Assessment Report of the Una tahsil of the Hoshiarpur district by Mr. H. L. Shuttleworth, I.C.S., Settlement Officer, together with the Commissioner's review and the orders which the officiating Financial Commissioner proposes, with the approval of Government, to pass thereon.

2. I am to request the favour of very early orders in order to allow of the introduction of the new demand from *kharif* 1913.

3. A printed copy of the correspondence on the commutation prices sanctioned for adoption in this settlement is enclosed for reference.

I have, &c.,

J. M. DUNNETT,

Junior Secretary to the Financial Commissioners,

Punjab.

(47)



1 JAN 2010



Orders of the officiating Financial Commissioner, Punjab, on the Assessment Report of the Una tahsil of the Hoshiarpur district

No. 55

THE Una tahsil forming the eastern and more strictly submontane portion

Physical features and assessment circles.

of the Hoshiarpur district consists of a long valley stretching from north-west to south-east together with the slopes of the ranges which flank the valley on either side, these being on the west the Siwaliks and on the east the outlying foot-hills of the Himalayas. The river Sutlej after its entrance into the lower part of the valley through the hills on the east flows along it in a south-easterly direction. The upper part of the valley, known as the Jaswan Dun and forming the Dun assessment circle, is traversed by the Swan Nadi which joins the Sutlej in the lower part, the portion of the latter around and below the point of junction forming the Bet assessment circle. The more strictly hill portion of the tahsil is distributed between the Pahar circle on the north, the Changar flanking the Bet on the east of the Sutlej, the Ghar, more correctly Gahar or upland, which includes areas on both sides of the valley, and the Bit Manaswal which forms a table land on the Siwaliks. In a broken hill tract like Una any generally applicable description of soil is impossible. Variations are frequent and wide, ranging from a stony or gravelly light dry loam on hill-sides, which is apt to suffer from too heavy rainfall as well as to dry rapidly when it is deficient, to fertile alluvium on the edges of the Sutlej and Swan. The greatest variations are perhaps to be found in the Dun circle which includes some hill area on either side. Hill torrents known as *khads* with beds of sand or gravel or both are numerous, but owing to the comparative shortness of their courses have not caused as much injury as the *chos* in the western tahsils of the district.

2. The Settlement Officer has illustrated the subject of rainfall with a useful chart. The average annual fall

Rainfall.

at Una in the centre of the tahsil is slightly less than 40 inches, the actual fall being rarely below 30, while in the hilly tract on the north the average is probably above 50 inches and in the Sutlej riverain on the south near Rupar some 35 inches. Too heavy rainfall is often as injurious to fields on the sloping hill-sides as a deficiency.

3. Immediately after annexation a summary settlement was carried out by the Commissioner, Mr. (afterwards Lord) Lawrence, in which a demand

Fiscal history.

of Rs. 2,88,214 (including *jagirs*) was imposed on the basis of the best returns procurable of Sikh collections. This settlement worked well except in the tract known as the Jandhari *taluga* on the east of the Sutlej, where the demand imposed was excessive and broke down, large reductions having to be given. The first Regular Settlement was conducted by Mr. Barnes in 1850-52, and as in the case of the Summary Settlement, included in its scope the Kandi and Rakkar circles which are now included in the Dasuya tahsil and in the present settlement have been assessed with it. The assessment imposed by Mr. Barnes in the Una tahsil the tract now under consideration was Rs. 2,58,032 inclusive of *jagirs*, a reduction of 10 per cent. on the Summary Settlement demand. The figures given in paragraph 15 of the present report are incorrect, as they do not exclude the Kandi and Rakkar circles of Dasuya. In 1880 the first Regular Settlement was reported to have worked with ease. The Revised Settlement was carried out in 1879-1881 by Captain Montgomery. His new demand for the Una tahsil, excluding the Rakkar and Kandi circles of Dasuya, was Rs. 2,87,488, giving an enhancement of 15 per cent. on the then expiring demand for the same area under the first Regular Settlement. The demand as between estates was distributed with exceptional care and has been paid without difficulty, no suspensions nor remissions having ever been given. The present assessment of the tahsil is Rs. 2,76,147 with an incidence of Re. 1-10-4 per acre cultivated, the rate varying from Rs. 2-1-4 in the Bet to Re. 1-0-6 in the Changar circle. The reduction of over Rs. 11,000 which has taken place since settlement has been

entirely due to loss of cultivated land caused by the Swan Nadi, the *khads* and the Sutlej. It may be interesting to observe that the present assessment is less than that imposed at the summary settlement more than 60 years ago.

4. Of the total area of the tahsil only 38 per cent. is cultivated, the

Agriculture and crops.

circle proportions varying from 53 in the Bet to 27 in the Pahar and the comparative smallness of these figures being due to the presence of extensive uncultivated or unculturable hill areas. There is no scope for a general increase of cultivation. Of the total cultivated area only 2 per cent. is irrigated, partly from wells but chiefly from hill streams, the latter class of land being known locally as *kohla*. Few of the streams are perennial, so that the proportion of *kohla* land which is cropped is comparatively small. As between circles irrigation is of importance only in the Bet, where the proportion is 10 per cent., chiefly from streams. Well irrigation is a negligible agricultural factor, as might be expected in view of the local rainfall, and the area irrigated per working well is very small. The various classes of unirrigated cultivation are explained in paragraph 12 of the report. The most valuable is *dofasli* which is double cropped almost continuously with maize followed by a mixture of wheat and gram and forms 47 per cent. of the total cultivated area, the proportion rising to 67 in the Bet. *Ekfasli*, mainly of the superior kind, is about one-half of the cultivation of the tahsil. The inferior untterraced hill-side fields which are occasionally sown and are known as *bhand banjar* are confined to the Pahar circle where they comprise 20 per cent. of the cultivated area. The table given in paragraph 48 of the report shows in full detail the cropping of the tahsil. Plentiful and fairly certain summer rainfall encourages *kharif* cultivation, while the rapidity with which sloping and exposed hill-sides tend to dry out is a comparative hindrance to *rabi* cultivation, and it is therefore not surprising that of the total matured cropping of the tahsil as much as 48 per cent. belongs to the former harvest, while in three out of four hill circles the *kharif* area actually exceeds the *rabi*. The principal *kharif* crops are maize in all circles, pulses in the hill circles, sugarcane in the Bet and to some extent in the Dun, inferior cotton and fodder in all circles. In the *rabi* the chief staples throughout are wheat, gram and *berrar*, a mixture of the two. The average proportions of failed to sown areas taking the figures of the selected cycle of years, 1905-06 to 1910-11 with the exception of 1907-08, have been as follows:—

Circle.	<i>Kharif</i> per cent.	<i>Rabi</i> per cent.	Total per cent.
Bet	28	10	19
Dun	18	13	15
Bit	8	13	10
Pahar	21	30	26
Ghar	17	16	16
Changar	14	12	13
Total	19	14	16

The figures are higher than the corresponding ones in Hoshiarpur and Dasuya and bring out the usual distinction between plain and hill cropping, the comparatively greater security of *rabi* in the former and the reverse state of things in the latter. The fluctuations of sown area are not very great, though for the

rabi in some of the hill circles they are considerable. The proportions of matured crops to cultivated areas stand thus in percentages, the figures in paragraph 84 being adopted in preference to those given in paragraph 50:—

Bet	...	126	Pahar	...	84
Dun	...	118	Ghar	...	113
Bit	...	121	Changar	...	114
Total Tahsil			...	115	

The figures of the Pahar are depressed by the large proportion of *behand banjan* in that circle.

5. There has been very little alteration since settlement in the total cultivated area of the tahsil as a whole.

Changes in cultivated area and cropping since settlement.

According to the new measurements there has been a slight decrease of about 2 per cent., but it appears to be possible that this is due mainly, if not entirely, to the more accurate system of survey now adopted. As regards individual circles, there appears to have been a real decrease in the Bet circle, due to losses of cultivated area by the action of the river and of the *khads*. In the Ghar and Dun circles such injury has been partially compensated by the breaking up of inferior land on hill-sides. In the other three circles there has been some spread of cultivation and no loss from the action of torrents. A noticeable feature is that, though the total cultivated area has not altered to any substantial extent, the *dofasli* has increased at the expense of the *ekfasli* area. It would appear however that much if not most of this increase is nominal and due to more accurate classification. There have been no remarkable changes in cropping since settlement, except that here, as in many other tracts, the proportion of *rabi* has gained somewhat at the expense of *kharif*.

6. In 1911 the total population of the tahsil was 11 per cent. more

Population. than in 1831, the increase being shared by all tahsils; but the growth

has not been uniform, for between 1891 and 1901 there was a decrease in all circles except the Changar; the decrease however was generally more than made good in the next decade, the general result being that population is practically what it was 20 years ago. The pressure of population on cultivated area is heavy, as shown by the high incidence per cultivated square mile, which for the whole tahsil is no less than 885, though slightly lower than the corresponding figure for the Hoshiarpur tahsil. Proprietary holdings are also small, as the average cultivated area per owner is four and a-half acres for the whole tahsil, while in the Bet it falls to three. The population of the tahsil is predominantly Hindu, more than one-sixth of it being Brahmans, who are mainly cultivators, though not of a high order. They also not uncommonly carry on money-lending. Of the proprietary body, Rajputs are the most important element as they own one-third of the tahsil, Brahmans coming next with somewhat less than one-sixth and Jats and Gujars being scantily represented. The population of the tahsil does not include any tribes of marked agricultural efficiency, and the people generally seem to be lacking in that vigour and energy which one finds on the west of the Siwaliks.

7. Communications are in a backward condition, and there are no

Communications and markets.

metalled roads in the tahsil, while the numerous torrent beds interfere greatly with the existing unmetalled roads. There are no real markets in the tahsil, the nearest being Hoshiarpur, Phagwara and Rupar, nor is there a regular and continuous export of agricultural produce.

8. Horned cattle appear to have increased slightly since settlement,

Cattle and miscellaneous income.

and sheep and goats largely, though the number of these is less than it was some fifteen years ago. The miscellaneous income of the tahsil is comparatively large. The revenue-payers are estimated to earn five lakhs of

rupees in pay, pension and wages of labour performed outside its limits. On general grounds to be dealt with later, I am disposed to think that this is probably an under-estimate. Other heads of miscellaneous income are shown in Statement VII-B, the principal one being from the sale of *ghi*. The Settlement Officer considers that as estimates they are inadequate.

9. The all-round rise in actual prices which has taken place in this tahsil since settlement has been 35 per cent., and measures the extent to which the value of such surplus agricultural produce as is put on the market has appreciated in the interval. The smallness of the average proprietary holding, however, makes it certain that the ordinary proprietor has not been benefited to nearly this extent, a consideration with which the Commissioner has dealt at length in his review and the Settlement Officer more briefly in paragraph 73 of his report. I propose to defer my remarks on it to a later stage.

10. Of the total cultivated area of the tahsil, 8 per cent. has been sold since last settlement, of which one-fourth only has gone to non-agriculturists, though as regards individual circles the latter proportion rises to 40 and 50 per cent. in the Bet and Changar circles respectively. The proportion of cultivated area at present under mortgage for the whole tahsil is 17 per cent., of which non-agriculturists hold less than one-third, though in the Changar circle the proportion rises to one-half. From Statement V-B it appears that the cultivated area under mortgage has increased since last settlement by 30 per cent., or nearly 7,000 acres, which is 4 per cent. of the total cultivated area of the tahsil; the mortgage debt however has grown five-fold, but 71 per cent. of this is in favour of members of notified agricultural tribes, who in the case of 30 per cent. of it are Brahmans. In this tahsil as elsewhere since the introduction of the Alienation of Land Act the cultivated area redeemed has continuously exceeded the fresh area mortgaged. On the whole, the statistics of alienation do not, I think, reflect adversely on the agricultural prosperity of the tahsil as a whole, nor give grounds for apprehension. It is especially noteworthy that the agricultural community has been able to furnish so large a proportion of the money which has been raised on mortgages of land in the tahsil since settlement. The figures for sale price and mortgage value of cultivated land given in paragraph 38 of the report are in some degree vitiated by the inclusion of a considerable extent of uncultivated land in the total areas shown in Statement V-C, from which the average figures have been obtained. The value of cultivated land must therefore be higher than the figures given in the report, whether for the present or for last settlement. Taking them however as they stand, they show that the value of land has risen enormously even in this comparatively backward tahsil, and that in most circles the present land revenue bears a very small proportion to it. That proportion is apparently highest in the Pahar circle, where the figures indicate that the land-revenue is some 75 per cent. of the half net assets, and least in the Bit, where the corresponding percentage is only 28, but I am not prepared to take such figures in the case of this tahsil as being more than the roughest indications. As pointed out by the Settlement Officer, the rise in the value of land has been proportionately far higher than that in the price of produce.

11. Of the cultivated area of the tahsil only 34 per cent. is *khudkasht* in the hands of owners, the proportion being probably less than it was at settlement, while occupancy tenants hold as much as 36 per cent. In a tract of small proprietary holdings which are so extensively saddled with occupancy tenures the small proportion of *khudkasht* is surprising and suggests doubts as to whether a small proprietor does in fact make so little out of enhanced prices as is generally supposed. The proportion of *khudkasht* is much the same in all circles, except in the Bet, where it runs up to 48 per cent. and

where the average cultivated area per owner is smaller than elsewhere. Tenants-at-will occupy 30 per cent. of the cultivated area, paying *batui* rents on 21 and cash rents on 9 per cent., the last figure rising to 19 per cent. in the Bit circle. The prevailing *batui* rate for the better classes of land including *defasti* and *ekfasi* I is one-half, except in the Pahar circle where it is two-fifths, while for *ekfasi* II and *behand banjar* two-fifths or one-third or sometimes one-fourth is paid. Diversity of soil in this tahsil is thus reflected in a diversity of *batui* rates. The landlord commonly takes the same share of straw as of grain. *Zabti* rents are confined to occupancy tenants.

12. Cash rents paid by tenants-at will are common only in the Dun and Bit circles. In order to arrive at normal cash rent rates (Statement

Cash rents.

XII C) Mr. Shuttleworth has rightly excluded from consideration rents paid by mortgagors to mortgagees and also abnormal rents paid by other tenants. The latter appear to be fairly common, since a large number of the tenants-at-will are proprietors or occupancy tenants of other lands and thus in a position to pay rent at higher rates than would otherwise be possible. The average all-round rate of cash rent ranges from Rs. 9.12.5 per acre in the Dun and slightly less in the Bit (Bet?) to Rs. 3.3.5 in the Pahar circle.

13. The produce estimate has been based on the cycle of five years 1905-06 to 1910-11, excluding the abnormally bad year 1907-08. In order to test how far the average mature areas in acres of this cycle represent a true normal, these areas are compared below for each circle with the corresponding average areas of the period of 29 years 1884-85 to 1912-13 which has elapsed since settlement and with the median figures for the same period :—

CIRCLE.	AVERAGE OF SELECTED CYCLE.			AVERAGE OF 29 YEARS.			MEDIAN OF 29 YEARS.		
	Khari.	Rabi.	Total	Khari.	Rabi.	Total.	Khari.	Rabi.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Bet ...	15,295	18,889	34,184	17,803	18,998	36,801	18,410	19,561	36,999
Dun ...	35,073	45,558	80,631	37,418	43,466	80,884	38,131	45,258	83,936
Bit ...	6,456	4,840	11,296	6,366	4,500	10,866	6,462	4,949	11,246
Pahar ...	8,034	7,010	15,044	8,285	6,385	14,670	8,742	7,126	15,680
Ghar ...	16,087	17,434	33,521	16,728	17,221	33,949	17,026	18,351	34,610
Changar ...	9,513	8,376	17,889	9,756	7,997	17,753	9,919	9,055	18,532
Tahsil ...	90,458	102,105	192,563	96,355	98,568	194,923	97,371	103,938	201,057

The figures show that the average mature area of the 29-year period has throughout the tahsil been more or less below the median of the same period, and we may therefore conclude that the average is slightly below the true normal matured area of that period. Again, the average of the selected cycle is on the whole below the average of the 29-year period and therefore below the true normal for the whole of that period which again must exceed at all events slightly the present true normal matured area owing to the small decrease in cultivated area which has taken place. It may therefore, I think, be concluded that the average mature areas of the selected cycle are close to the present true normal and probably slightly below; though, as remarked by the Settlement Officer, it is difficult to select any cycle which will be equally representative of all the variously conditioned tracts of the tahsil. The quantity of experimental data available for the determination of acreage rates of yield is fairly satisfactory, comprising 71 experiments which extended over five harvests. The important crops for consideration are maize, sugarcane, pulses and

cotton for the *khari* and wheat and gram for the *rabi*. The Settlement Officer has based his estimates on the rates adopted at last settlement, modifying these however so far as the results of the recent experiments and comparison with the yields assumed in recent settlements in similar and neighbouring tracts appear to require or justify such a course. The general result is to raise the yields of the main staples in the better classes of unirrigated soil. The rates assumed are justified by the results of the experiments and are probably on the whole moderate. The rates of yield assumed for straw may be accepted, as also the cash rent values for certain miscellaneous crops specified in paragraph 74. The commutation prices sanctioned for the Una tahsil are slightly lower than those recently adopted for the remainder of the Hoshiarpur district, but their general pitch is 49 per cent. higher than those used at last settlement, and for the reasons given in paragraphs 71 and 72 of the report it must probably be considered to be full. In the case of all staples except *moth* they are lower than the average harvest village prices of the tahsil for the period of 15 years ending 1910-11, and it is therefore improbable that actual prices will fall below them during the future term of settlement.

14 The *batai* rates used for the purposes of the produce estimate and collected in the table given in paragraph 78 of the report are, I consider, appro-

The same, Landlord's share, etc.

riated as also the deductions which the Settlement Officer has allowed for menials' dues from the produce prior to division. The percentages representing the net share of grain produce claimable by Government have been correctly worked out, but in the half net assets estimate they have been applied to the value of straw as well as to that of grain, with the result that allowance for menials' dues has been made on both which in the case of straw is needless as it is not included in the dues taken by menials. The resulting difference is however not one of much consequence.

15. It has been the practice in this tahsil to record at *girdawari* all unirrigated crops indiscriminately as

Half net assets estimate based on rents in kind.
Distribution of crops and soil rates.

barani without reference to the classification of soils as adopted for assessment purposes, and this of course applied to the crops of the selected years. It has therefore been necessary for the purposes of the produce estimate to distribute the recorded *barani* crops over the different classes of soil on which they have been grown. To carry out accurately such a distribution for every estate would have required much labour and time. The Settlement Officer explains in paragraph 79 how an approximation has been obtained on the basis of correct data secured in a limited number of estates. A further complexity connected with cultivated soil areas and soil rates has been touched upon in paragraph 80 of the report. As noticed in paragraph 5 of this review, the adoption of a system of survey more accurate than that used at last settlement has resulted in an apparent decrease in area, so that the total of *barani* soils as now measured is less than the averages of the *barani* soil areas shown in the annual statistics of the last five years, and it is with these *barani* soil averages that the average crop areas on which the produce estimate is based correspond. In order therefore to obtain *barani* soil rates, the Settlement Officer has distributed the sums representing the half net assets as calculated in Statement XI for each class of soil over the above five-year *barani* soil area averages (column 3 of statement in paragraph 81). The resulting incidences he takes as his half net asset soil rates based on produce (column 4 of ditto), and in order to allow for the reduction in *barani* areas as measured, he applies those rates to the reduced areas (column 5), finally adopting the resulting sums in column 6 as his correct and reduced half net asset estimates based on produce. So far as the reduction in *barani* areas is merely due to more accurate measurement and area calculation, the process is correct, but so far as the cause of the reduction is a real decrease in cultivated area, it seems unnecessary inasmuch as the second species of reduction of itself tends to depress the average mature crop areas of the selected cycle and

so to secure allowance for itself. It seems necessary to observe that the reduction made in the half net assets as computed in Statement XI should logically involve a corresponding reduction in the total value of the gross produce which is brought out in the same statement and which the Settlement Officer uses for comparative purposes in Chapter VII. I regret having to deal with the point at such length, but it seems necessary to clear it up. On the whole, it may be said that the corrected and reduced half net assets estimates err if at all on the side of safety. The accuracy of the soil rates entered in column 4 of the statement in paragraph 81 depends largely on the correctness of the approximate distribution of crops over soils explained in paragraph 79, and is therefore somewhat problematic. To the half net assets estimates based on produce obtained in column 6 of the statement in paragraph 81, the Settlement Officer has added in the case of each circle certain sums taken from the subsequent cash rent estimate (paragraph 83) which represent the half net assets derived from gardens and plantations of *kharkana*, the totals in column 9 being the final and complete estimates of the value of the share of produce to which Government is theoretically entitled as revenue in each circle. The elaboration of the estimate has under the peculiar local conditions been a very complex operation, but has been carried out with much care.

16. In paragraph 83 the Settlement Officer has worked out a half net assets estimate based on the normal cash rents tabulated in Statement XII (C); but it is of any importance in the Dun and Bit circles only, and in the former is much in excess of the estimate based on rents in kind, the same being the case in the Ghar circle, where cash rents are paid by tenants-at-will on 10 per cent. of the cultivated area.

17. The Settlement Officer has not attempted to evaluate any "true" half net assets as distinguished from the two estimates based on kind and cash rents and in his detailed assessment proposals in chapter VII has made comparisons with both of these estimates. The incidences of the estimates based on kind rents per acre cultivated for the various circles are as follows, opposite each circle being entered the incidences of the "true" half net assets estimates for certain comparable circles in the Hoshiarpur, Dasuya and Samrala tahsils :—

Tahsil.	Circle.	Incidence.	Tahsil.	Circle.	Incidence.
		Rs. A. P.			Rs. A. P.
Una ...	Bet ...	4 14 6	{ Dasuya ...	Bet ...	5 4 1
			{ Samrala (Ludhiana) ...	" ...	3 12 11
" ...	Dun ...	3 11 8	Hoshiarpur ...	Rakkar ...	4 13 4
" ...	Bit ...	3 2 9	" ...	" ...	" ...
" ...	Palhar ...	1 14 0	Dasuya ...	Rakkar ...	1 14 10
" ...	Ghar ...	2 12 9	{ Hoshiarpur ...	Kandi ...	2 0 10
" ...	Changar ...	2 8 5	{ Dasuya ...	" ...	2 14 5

On the whole the figures suggest that the Una incidences are not unreasonable, and that therefore the half net assets estimates based on kind rents are probably not very far out. In the case of the Bit circle that estimate is fully supported by the cash rent estimate which in itself is reliable; the same holds for the Bet, though in that circle the area on which cash rents are paid is very

scanty. On the whole, I am disposed to take the "true" half net assets as follows:—

					Rs.
Bet	...	...	...	...	1,35,000
Dun	...	...	...	...	2,60,000
Bit	...	...	...	...	30,000
Pahar	...	...	...	...	33,000
Ghar	...	...	...	...	80,000
Changar	...	...	...	...	38,000
Total					5,76,000

18. The Commissioner in his review recommends a reduction of

Considerations bearing on the assessment.

Rs. 6,000 in the total assessment proposed by the Settlement Officer. The general considerations on which Colonel Popham Young has laid stress in reaching this conclusion open up some wide and far-reaching issues in regard to which I am fully prepared to admit the force of much that he urges. The argument, as I understand it, is that owing to the pressure of population on land and the consequently small size of the proprietary holding, the rise in the price level which has occurred since settlement has in no way rendered the ordinary small landowner capable of paying an enhanced land revenue to the State, since his diminutive holding provides no surplus produce which can be converted into cash, especially after the cost of the higher standard of living, which is I understand admitted to have been attained, has been defrayed. It is sought to prove that the whole total produce of the tahsil, together with the miscellaneous earnings of landowners from service, labour, sale of *ghi*, etc., is sufficient only to provide an annual average income per owner of Rs. 90 on which to support himself and his family. Now as to this it may be observed that if this line of argument is sound, matters are even worse than Colonel Popham Young would make out, for he has taken the value of the whole gross produce as proprietor's income, thus leaving nothing for the income of the numerous tenants, occupancy and other, of the tahsil; so that it is obvious that in so far as the tenants are not themselves proprietors as well, the average income of the proprietor must be less even than the comparatively small sum of Rs. 90 per annum which the argument assigns to him. On the other hand however we have the admitted fact that the standard of living has risen, and from paragraph 38 of the report it appears that the occupancy tenants are numerous and generally prosperous and ready when opportunity offers to purchase their holdings. I find it difficult to understand how these things can be if the average landowner is in the depressed condition to which the Commissioner's argument would reduce him. One fact I believe is that miscellaneous income from labour and other sources is far more extensive than has been estimated, and my own experience of the tahsil certainly indicates that very considerable earnings are made by the people of Una outside its limits. Again, it is I believe a fact that the small holding intensively cultivated yields more profit than is commonly supposed, though it may be freely admitted that such profit is in no sense proportionate to the full rise in price level which may occur in a given period. Though the small proprietor may not be in a position to send surplus produce to market on a large or even considerable scale, he does in one way and another dispose from time to time of small amounts of produce more or less commensurate with the small size of his holding and the correspondingly small sum of revenue which he has to pay. No doubt from a commercial point of view such transactions are petty, wasteful and comparatively unprofitable, still the income derived from them does to some extent reflect a rise in price level; otherwise the admitted rise in the standard of living and comfort becomes inexplicable. In this connection reference may be made to the discussion which is summed up in paragraph 417 of the Settlement Manual. Another phase of the Commissioner's argument, as I understand it, is that such increase of agricultural income as has taken place being swallowed up in

meeting the cost of the higher standard of living is not available for any enhanced revenue payments. As to this I am not aware that it has ever been admitted as a principle that the claims of the State to revenue or to enhanced revenue must be entirely postponed to extra expenditure involved in a higher standard of living and comfort. Hitherto it has been found possible, and for the most part with conspicuous success, to secure concurrently an improvement in the standard of living as well as a reasonable growth of land revenue. There appears to be no good reason why this process should not continue, as economic development provides for the agricultural population an increasing number of openings for adding to their incomes by miscellaneous earnings.

19. The Settlement Officer's assessment proposals are summarized for the numerous circles concerned in the following table:—

Circle.	Present Assessment.	ASSESSMENT PROPOSED BY SETTLEMENT OFFICER.					
		Amount.	Percentage of "true" half net assets.	Percentage of gross produce.	Percentage of increase, column 3 on column 2.	Incidence.	
						Per acre cultivated.	Per acre of mature crop.
1	2	3	4	5	6	7	8
	Rs.	Rs.				Rs. A. P.	Rs. A. P.
Bet	56,647	64,704	48	11	14	2 6 1	1 14 3
Dun	1,26,442	1,45,691	56	13 6	15	2 2 2	1 12 11
Bit	13,813	18,432	61	15	33	1 15 6	1 10 1
Pabar	18,712	20,935	69	14	12	1 2 9	1 6 3
Ghar	44,428	51,412	64	16	16	1 11 10	1 8 6
Changar	16,105	19,705	52	13	23	1 4 3	1 1 8
Tahsil	2,76,147	3,20,961	56	13 4	16	1 14 8	1 10 8

I may here mention that I toured through a considerable part of the tahsil last winter with Mr. Shuttleworth.

20. The Bet circle of Una may fairly be compared with the circle of the same name in the Samrala tahsil of the Ludhiana district. At the recent settlement the enhancement there taken in 1910 was one of 7 per cent., the new demand absorbing 63 per cent. of the half net assets with incidences of Rs. 2-6-4 and Rs. 2-0-11 per acre cultivated and matured, respectively. Comparative statistics do not indicate any great difference in the revenue-paying capacity of the two tracts; if anything, the superiority lies with the Una circle, though its average cultivated area per owner is somewhat smaller, and no doubt this fact constitutes an element of weakness from a revenue-paying point of view. The circle can however I think pay without difficulty a somewhat larger enhancement than that proposed. The total assessment may be fixed at Rs. 70,000, to secure which the rate on *dofasti* should be raised to Rs 3-2-0 per acre, a figure which is fully justified by the half net asset soil rate, and that on *ekfasti* I to Rs. 1-7-0. The above sum amounts to 52 per cent. of the "true" half net assets, as compared with a corresponding figure of 82 per cent. at last settlement, and to 1½ per cent. of the gross produce, and gives an enhancement of 23 per cent on the present demand with incidences of Rs. 2-9-3 per acre cultivated and Rs. 2-0-9 per acre of mature crop. The large decrease in cultivated area which has occurred since settlement owing to the action of the river and of *khads* has as regards land revenue assessment already been allowed for under the di-alluvion rules.

21. The Dun circle is the largest and most important tract in the

The Dun circle.

tahsil. With reference to general considerations the assessment proposed by Mr. Shuttleworth may, I think, be slightly raised. Rupees 1,51,000 will not, I consider, be excessive, the *dofasli* rate being raised to Rs. 3 per acre, which here again is justified by the half net asset soil rate. The increase in the rate will yield an additional sum of Rs. 5,808 or a total of Rs. 1,51,489 which is close to the sum approved above. This assessment is equivalent to 58 per cent. of the "true" half net assets and to 14 per cent. of the gross produce with an enhancement of 19 per cent. on the present demand, the all-round incidences per acre cultivated and matured being Rs 2-3-5 and Rs. 1-13-11, respectively. It may be observed that at last settlement the assessment imposed amounted to 88 per cent. of the half net assets estimate which the Financial Commissioner (Sir J. B. Lyall) regarded as a fair one.

22. The enhancement of 33 per cent. which the Settlement Officer

The Bit circle.

proposes to take in the Bit circle is a bold one, and is almost equivalent to the whole rise of 35 per cent. which has taken place in actual prices. From paragraph 16 of the orders of Sir James Lyall passed by him as Financial Commissioner on Captain Montgomery's assessment report, it will be seen that the assessment then sanctioned gave an enhancement of 25 per cent., while there had been an increase of something like 40 per cent. in cultivation, whereas on the present occasion there has been none, or possibly a slight decrease. The proposed rates for *dofasli* and *ekfasli* II are, I consider, too high, the more so as the present rates are Rs. 2 8-0 and 9 annas, respectively, and not those quoted by the Settlement Officer, the latter being the rates proposed by Captain Montgomery which were subsequently reduced by the orders of the Financial Commissioner. The rate for *dofasli* should be reduced to Rs. 2 13-0 and that for *ekfasli* II to 14 annas per acre. This will give a total reduction of Rs. 1,110 in the demand proposed, so that the sanctioned assessment of the circle may be taken as Rs. 17,000. This sum is 57 per cent. of the half net assets and 14 per cent. of the gross produce and gives an enhancement of 25 per cent., the incidences being Re. 1-13-3 and Re. 1-8-1 per acre cultivated and matured, respectively. The proportion of half net assets taken at last settlement was 74 per cent.

23. At last settlement the Pahar circle was assessed at 5 per cent.

The Pahar circle.

below the sanctioned revenue rates, the enhancement taken being 20 per cent., not 26 per cent. as originally proposed, and the assessment absorbing 85 per cent. of the half net assets. I know the circle fairly well, and I agree with the Settlement Officer's description of it. He evidently thinks that the demand proposed by him is a full one; in this also I agree, and am of opinion that in view of all the conditions some reduction is desirable. The assessment should be Rs. 19,800; this sum can be obtained by adopting the following rates in lieu of those proposed:—

				Rs	A.	P.
<i>Dofasli</i>	...	...	...	1	13	0
<i>Ekfasli I</i>	...	...	...	0	12	0
<i>Ekfasli II</i>	...	...	...	0	6	0
<i>Behand banjar</i>	...	...	...	0	3	0

The other rates proposed by the Settlement Officer are approved. The sanctioned assessment of Rs. 19,800 is 60 per cent. of the "true" half net assets and 13 per cent. of the gross produce and gives an enhancement of 6 per cent. with incidences of Re. 1 1-9 and Re. 1-5-1 per acre cultivated and cropped, respectively.

24. The assessment imposed on the Ghar circle at last settlement represented 93 per cent. of the half net

The Ghar circle.

assets and yielded an enhancement of only 4 per cent. The rates now proposed by the Settlement Officer are practically the same as those sanctioned then, but in spite of a small decrease in

cultivated area they bring out an enhancement of 16 per cent., the result being evidently due to the fact that there has been a considerable increase in the recorded *dofasli* area which is now 44 per cent. of the total cultivation. From paragraph 13 of the report it would appear that the accuracy of the classification is not above question, so that in view of this the assessment proposed is probably as high as it is safe to impose. I approve the rates proposed, and the total assessment of the circle will be Rs 51,000. In carrying out the distribution of the sanctioned assessment over estates as also in the *bachh* the classification of land as *dofasli* should be revised in cases of doubt both in this circle and in the Changar.

25. The present Changar circle differs from the circle as constituted at last settlement by the exclusion of certain estates which have been transferred to the Bet.

The assessment then imposed on the former circle was 87 per cent. of the half net assets and gave an enhancement of 21 per cent. Here again there has been a large increase of 36 per cent. in the recorded *dofasli* which now amounts to 40 per cent. of the total cultivated area, though in this circle also the accuracy of the classification is not free from doubt. Considering the large area to which it is to be applied, the proposed *dofasli* rate is perhaps a trifle high, but it is not I think necessary to definitely reduce it; the total assessment of the circle should however be limited to Rs. 19,500.

Financial results.

26. The financial results of the assessment as sanctioned in the above paragraphs are tabulated below :—

Circle.	Present assessment.	Assessment proposed by Settlement Officer.	Assessment approved by Financial Commissioner.	INCREASE OF COLUMN 4 ON COLUMN 2.	
				Amount.	Per cent.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	
Bet	55,047	64,704	70,000	13,353	23
Dun	1,26,442	1,45,981	1,51,000	24,558	19
Bit	13,813	13,432	17,000	3,187	23
Pahar	18,712	20,996	19,800	1,088	6
Ghar	44,428	51,412	51,000	6,572	15
Changar	16,106	19,706	19,500	3,395	21
Tahsil	2,76,147	3,20,981	3,28,300	52,152	19

The total new demand amounts to 14 per cent. of the value of the gross produce, the corresponding figures for the Hoshiarpur and Dasuya tahsils being 15 and 14 per cent., respectively, and to 58 per cent. of the "true" half net assets.

27. Progressive assessments where necessary should be regulated in accordance with the directions given in paragraph 15 of Appendix XX of the

Miscellaneous matters.

Settlement Manual. Cesses will continue to be paid at the rates now in force until these are altered by competent authority. The *talugdari* arrangements sanctioned at last settlement and explained in paragraph 163 of the Settlement Report will remain in force. The new assessments should be introduced with effect from *kharrif* 1913. Orders regarding the term of settlement will be passed when the assessment of the district is complete.

28. I concur in the Commissioner's commendation of the report.

Concluding remarks.

With the exception of certain minor defects it is a very satisfactory piece of work and is evidently the result of much careful and laborious inquiry and investigation. Colonel Popham Young in his suggestive and thoughtful review has emphasized in a clear and helpful form the considerations which point to the necessity for moderation in assessment.

P. J. FAGAN,

Offg. Financial Commissioner.

The 4th October 1913,

Review of the Assessment Report of the Una Tahsil of the Hoshiarpur District by the Commissioner of the Jullundur Division.

No. 56

I trust that I may be excused if in this review I make no attempt to follow the ordinary procedure and to present in condensed form the information bearing on the assessment of the Una tahsil, which may be gathered from Mr. Shuttleworth's report.

I have never visited the Una tahsil and am consequently unable to criticise the Settlement Officer's proposals in the light of my own observation. It is obvious that the problem which has confronted Mr. Shuttleworth has been one of great complexity. There are six assessment circles, and five, six or seven classes of soil in each. Each assessment circle presents within itself various characteristics. The soils have been classified with reference to the sources of irrigation and to the cropping, but it can seldom be said that any one class of soil is of the same average fertility throughout any one assessment circle.

Mr. Shuttleworth has been at a disadvantage in that there has been no consistent record of the crops grown on the different classes of soil. He has had to make many assumptions and adjustments. This he has done with great labour and ingenuity. He has, in spite of the great complexity of his subject, presented a very complete picture of the variegated tract of country which he has been called upon to assess, and has satisfied me that by no amount of critical effort could I arrive at a fairer appraisement of the relative resources of the different assessment circles and of the relative values of the different classes of soil.

2. It would be useful to discuss the information contained in the report in relation to all those matters which make for strength or weakness in revenue-paying power, if in the result the pitch of the assessment were likely to be affected by a consideration of details.

In this tahsil, however, it is clear that our assessment must be arrived at by balancing two main factors. On the one hand, since last settlement the value of agricultural produce has without any increase in the area under cultivation appreciated very greatly. On the other hand, the tahsil is densely populated having regard to the cultivated and culturable area, and the people are, when the rise in the standard of living is taken into consideration, doubtfully better off than they were 25 years ago. At the last settlement the cultivated area of the tahsil was returned at 170,837 acres. In 1911-12 it was 171,415 acres. The present settlement figures, which are based on the average of a term of years, are 167,793 acres.

It may be assumed then that there are in round figures 170,000 acres of cultivated land in this tahsil, and that any future increase by the breaking up of new land will be quite, if not more than, discounted by the erosive action of streams and rivers. There is a good deal of double cropping in the tahsil, and after allowing for a 17 per cent. crop failure, it is estimated that on the average 100 acres of land produce 115 acres of matured crop. Mr. Shuttleworth's estimate of the total value of the crops raised annually in the tahsil is Rs. 24,00,000. Having regard to the fact that this estimate is based on the returns of a series of years which perhaps understate the area which has been cultivated in the immediate past and may be cultivated in the future, and assuming for the sake of argument that Mr. Shuttleworth has erred on the side of caution, we may raise this estimate to Rs. 25,00,000, or even to Rs. 25,50,000, which will give us an all round incidence of Rs. 15 per acre.

The average area cultivated per owner throughout the tahsil is $4\frac{1}{2}$ acres. The income per owner is therefore something under Rs. 70 per annum. When it is taken into consideration that the majority of owners are married and have families, it does not require any elaborate calculation to show that there can be no true surplus of agricultural produce available for export from this tahsil. No doubt certain products of the soil are exported to a very

limited extent, but this can only be in part payment for necessities which those who are dependent on agriculture for a living have to import from elsewhere. Mr. Shuttleworth in referring to the calculations made at a previous settlement by Mr. Roe (paragraph 41 of the report) which went to show that 'Una is not normally an exporting tract and is at times scarcely self-supporting,' adds that the impossibility of obtaining at present any figures for imports or exports precludes any accuracy of calculation in this matter. The patent facts of the situation appear however to render it unnecessary to make any calculation at all to arrive at the truth. 'The incidence of the almost entirely rural population on the cultivated area is 865 to the square mile throughout the tahsil' (paragraph 31 of the report). It is not to be supposed that the produce of 640 acres of land, worth Rs. 15 per acre on the average, can supply the requirements of 865 people.

3. In statements VII A and B Mr. Shuttleworth has given details of the miscellaneous profits which accrue to the land-owning classes from various sources other than agriculture, and has recorded the aggregate sums received by them in each assessment circle as pay, wages, and pensions. In the whole tahsil the miscellaneous profits are estimated at something under Rs. 1,25,000. The income from pay, wages and pensions is stated to be about Rs. 5,00,000. Some of these miscellaneous profits are such that we should be justified in including them in our net assets estimate. It is however quite unnecessary to do this, for the application of the half net assets standard to the crop valuation, even at Mr. Shuttleworth's figure, results in an assessment obviously in excess of anything which we can propose to take.

The assessment at last settlement was Rs. 2,87,488. Owing to the fact that land then assessed has been swept away or rendered infertile by river action, whilst land newly broken up for cultivation has during the term of settlement escaped assessment, this fell to Rs. 2,76,147 in the year 1911-12. Mr. Shuttleworth's half net assets estimate based on *batai* rents justifies a demand of Rs. 5,72,398. One-sixth of the value of the gross produce as estimated by him amounts to a trifle under Rs. 4,00,000. Obviously we cannot by any process of casuistry reduce the last figure, without accentuating the difficulty of establishing the fact that, theories apart, the zamindars of Una are in a position to contribute to the State one anna more of revenue than they have paid for the past 25 years.

It is hardly necessary to repeat the truism that the revenue-paying power of a body of zamindars is not increased by the fact that the grain which they eat would, if they were in a position to sell it, fetch 50 per cent more than it did 25 years ago, or by the fact that Bombay mill-owners are prepared to pay a high price for the cotton which they require for the clothing of themselves and their families. Mere barter between those who grow wheat and cotton, and those who breed cattle, or cut *kharkana* grass from their waste lands, does not add to the wealth of either party, simply because outsiders are prepared to pay more for all these commodities than heretofore. If, in order to sow or to harvest or to market his crops a zamindar has to pay for labour the value of a maund of grain, it matters little to him whether that value is Rs. 2 or Rs. 4.

I have already for the sake of argument assumed that we might raise the total crop valuation of the tahsil to Rs. 25,50,000. Nothing is more difficult than to estimate the value of the miscellaneous profits which landowners derive from the sale of live stock and of *ghi* and of all the miscellaneous items included in, or per chance omitted from, Mr. Shuttleworth's statement VII B. He himself considers that his is an underestimate. If we double it and assume, again for the sake of argument, that the cash value of these by-products of agriculture is not less than Rs. 2,50,000, we shall, after adding the Rs. 5,00,000 earned by service of one kind or another, arrive at a total of Rs. 33,00,000 as representing the aggregate income of the proprietary body in this tahsil. This means for each owner of $4\frac{1}{2}$ acres, the average holding, an annual income of about Rs. 90 per annum, or Rs. 7-8-0 per mensem, the bare wage of a daily labourer. By way of

explanation of the fact that the people live and thrive, it may be added that the fuel, the meat and the milk products which they consume do not ordinarily involve any direct expenditure of cash on the part of the landowning classes.

Possibly the result of these broad and loose calculations (since they seem to be inconsistent with the fact that the people have money to spend on litigation, on marriages, on railway travel, on ornaments and on drink), will be held to establish nothing but the fact that there must be a fallacy somewhere. I think however that it at least establishes the fact that there is a fallacy in arguing from the few cases of the larger landowners, whose surplus for expenditure rises with the appreciation of the value of their kind rents, to the cases of the great majority who play the double rôle of landlord and tenant, of owner and of cultivator.

4. We may return to the point at issue. Our standard of assessment justifies a demand 100 per cent. greater than that which this tahsil is now paying. At the same time the actual outturn of agricultural produce is not greater than it was five and twenty years ago. If the average landowner has any surplus, after using and consuming that which is necessary for the subsistence of himself and his family, the fact that that (dubiously extant) surplus is now in terms of rupees twice as much as it was when the tahsil was last settled, seems to be fully discounted by the rise in the standard of living, by virtue of which the luxuries of the last have become the necessities of the present generation.

I do not wish to advance any revolutionary theories of assessment as a sequence to these reflections. I wish however to emphasise what appears to me to be the real truth of the matter, namely that every anna of enhanced revenue which we may now exact, can only be paid by some effort of self-denial on the part of the people. It is not necessarily so in all districts and in all tahsils of the Province. It appears to me to be demonstrably true of the Una tahsil.

5. It will be readily gathered from the foregoing that I am not prepared to recommend that the enhancement on the present demand of Rs. 45,000 (round), or 16 per cent. proposed by Mr. Shuttleworth, should be raised in deference to the fact that his assessment represents only 56 per cent. of the half net assets estimate of the Government dues. I am in fact disposed to recommend that Government should content itself with a somewhat smaller increase.

Although I have not criticised Mr. Shuttleworth's report in detail, I have read it carefully and with much interest. Impressed as I have been with the feeling that a tahsil in which there has been no actual increase in production for the past quarter of a century, whilst there has been an increase in the population and in the cost of living, cannot pay any substantial increment to the land revenue demand, merely because prices have risen, I have sought for grounds on which I might argue that Mr. Shuttleworth's proposals are in some particular not logically justifiable. I cannot however find any reasons for reducing the assessment proposed by him in any one assessment circle, other than that based on the general considerations discussed above, which have application to the whole tahsil.

His proposals may be summarised as follows :—

Assessment circle.					Present demand.	Proposed demand.	Increase per cent	Percentage of half net assets demand.
					Rs.	Rs.		
Net ..	...	...	...	...	56,647	64,704	14	47
Dun...	...	...	...	...	1,26,442	1,46,681	15	57
Bit ...	...	...	...	...	13,813	18,432	33	63
Pahm...	...	...	...	...	18,712	20,938	12	63
Jhar...	...	...	...	...	44,428	51,412	16	62
Changar	...	...	...	...	16,105	19,795	23	51
Tahsil					2,76,147	3,20,961	16	56

• Mr. Shuttleworth has, as it seems to me, adjusted his rates and his consequent

demand in each circle, with great discrimination, and with the nice appreciation of the factors (density of population, rates in adjoining circles, proximity of markets, percentage of increase, proportion of theoretical demand, etc., etc.) which require consideration in each case.

My recommendation is that for the whole tahsil a demand of Rs. 3,15,000 be taken, and that it may be left to Mr. Shuttleworth (subject to the informed and expert advice of Mr. Fagan) to decide in what circles he will reduce the assessments proposed by him. It may seem that in making this recommendation I have adhered to no principle, and that having regard to what I have written above I should, had I the courage of my convictions, propose that the assessment should stand at the present figure.

To make such a proposal would be tantamount to suggesting that the land-owning classes have a right to ask that the cost of administration should remain stationary, though the cost of every other necessary has doubled, and that we are in response to such a request prepared to perform a miracle in economics. If a zamindar has to pay 8 annas for the labour which used to cost him 4, the same applies to the officers who are expending public funds for the benefit of the people; and if people find that life would become intolerable if they had not a cheap lamp and a little kerosine oil with which to light the darkness in which they were content to sit a few years ago, and that some clothes must be provided for the school children of the present, who used to play naked on the village manure heaps, it is also the case that Government has to provide money to meet demands of a kind which were never contemplated when the Una tahsil was last assessed. The assessment which I propose is therefore of the nature of a compromise. I feel that though Mr. Shuttleworth will be able when announcing his assessments to demonstrate that in any particular estate he might on the figures have taken more, he will not always be able to convince either himself or the people whom he is assessing, that he is taxing an available surplus of income. The small sum, about Rs. 6,000, by which I have suggested that Mr. Shuttleworth's assessment for the tahsil might be reduced, may seem to be hardly worth while deducting from a total demand of over three lakhs of rupees. But I think that every one who has had practical experience of assessment work will appreciate the amount of relief which can be afforded to assessor and to assessed by ability to ease off a demand even by a few thousand rupees. The suggestion I make is put forward in the belief that in estates where no logic can prove to our satisfaction that the assessment is heavy, and no argument convince the people who have to pay that it is otherwise, Mr. Shuttleworth may with this small sum in hand be able to make adjustments which should go far to remove any legitimate sense of grievance.

6. I have no special recommendations to make with regard to the other matters detailed in Chapter VII C of the report.

I have pointed out in connection with other assessment reports that if we make settlements for so long a period as thirty years we must inevitably continue to lower our standard of assessment. If owing to any unforeseen circumstances the agricultural wealth of the Una tahsil largely increases in years to come, it is certain that the people will soon learn to spend the extra money accruing to them on amenities which will become part and parcel of their lives. If we wish to divert a portion of this hypothetical increase for purposes of State, we must annex it as soon as we can, and before the people have grown accustomed to spend it on themselves. Otherwise we shall, as the memory of pre-British methods of revenue assessments and collection fade, appear at successive settlements to be more and more rapacious.

7. I consider that Mr. Shuttleworth has written a quite excellent report. He has acquired a most intimate acquaintance of the tahsil, and has made an admirable presentation of the facts bearing upon its assessment:

F. POPHAM YOUNG, LIEUT.-COL.,

Commissioner, Jullundur division.

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ASSESSMENT REPORT OF THE UNA TAHSIL OF THE HOSHIARPUR DISTRICT.

CHAPTER I.—DESCRIPTIVE.

A.—Physical features.

1. The Una Tahsil comprises most of the eastern and submontane part of the Hoshiarpur District, of which it, with an area of 717 square miles, is the largest tahsil. Its greatest length north-west to south-east from Sikri on the borders of Dera and Dasuya Tahsils, in the north, to Garbhaga, nearly opposite Rupar on the Sutlej, in the south, is almost 70 miles. Its greatest breadth is a little under 16 miles and its narrowest, by Churru, barely 6½. It lies between Long. 76° and 76° 43" and Lat. 31° 52" and 31°. The western boundary follows the watershed of the Siwaliks, except in the Bit, to the south-west of Una town, where it also includes the slopes of the Siwaliks towards the plains. To the north-west, a small tongue of Dasuya enters Una. On the east it is bounded by the Dera and Hamirpur Tahsils of Kangra, as far south as the Sutlej, and then by Kahlur or Bilaspur State. The south-east corner abuts on Nalagarh State. Thence to near Rupar, the Ambala district is separated from it, first by the Luhund *Khad* and then the Sutlej.

2. A somewhat detailed description of the extremely varied physical features of this large tract seems desirable, both as only a very brief one was given in last Assessment Report and in order to make this report more complete and easily intelligible. It has been described by Mr. Melvill in 1852 in his Settlement Report of the Hoshiarpur District, but in his time the Una Tahsil had not taken its present shape, since it was subsequently formed out of the eastern portions of the Hariana, Hoshiarpur and Garhshankar parganas, as well as of the old Una pargana. In 1872 Mr. C. A. Roe gave an excellent description of the tract he measured, which, however, comprised all the hill portions of Dasuya and Garhshankar as well as Una proper.

His references to the old taluqa sub-divisions also necessitate a knowledge of conditions, that finally ceased to exist at last settlement, when for assessment purposes they were supplanted by circles after the plains' model.

3. The Una valley, or Jaswan Dun, is a long regular trough, lying between two parallel ranges, or hill systems, and receiving the drainage of their inner slopes. The three parts into which this valley naturally falls are (1) the small north part of Una, north of Dungoh and Daulatpur, which drains into the Beas by the north Swan Naddi; (2) the Jaswan Dun proper, from the watershed of the two Swans, along the south Swan Naddi as far south as Bhalan, near where the Naddi joins the Sutlej; and (3) the Sutlej Bet and its adjacent tracts. The south Swan Naddi is the most characteristic feature of the tahsil. It has a length of some 50 miles and a breadth in places of over a mile. Normally its huge sandy bed contains two or three shallow trickles of water on the surface, though there must always be a considerable subterranean flow. After heavy rain in the Bharwain hills, in the Siwaliks and neighbouring Kotlehr ranges, it becomes a rushing sea of yellow waves, impassable for some hours, during which it often cuts away much of its banks. After the torrent has subsided its ever-shifting quicksands render its passage hazardous. Its fall is 778 feet in its straight 50 miles' course. A few water-mills are

worked by it, but its chief use is in keeping moist the adjoining alluvial lands, which are of excellent quality. Its northern namesake, with only 5 miles of course in this tahsil, but with a fall of almost 300 feet in that distance, does little harm or good, as its stony channel is deep and well defined. The short and water-chute-like khads from the dry and poorly afforested Siwaliks, largely composed of very friable sandstone beds, and in places covered with hard round stones, bring down large quantities of sand and rounded boulders, but little soil. They do considerable harm and little benefit to the land they pass through. The *khads* from the eastern, or Sola Singhi system of hills, have longer courses, a less violent slope, and, starting from better-wooded hills, with more retentive soil, on a hardish sandstone base, often bring down valuable deposits and generally contain perennial streams, used for irrigation, as well as for numerous mills. As regards the Sutlej, it is enough to say that, after issuing from its fine gorge between the Ramgarh and Naina Devi hills, just outside this tahsil, it has fairly high banks and a pebbly course, or rather courses, with frequent rapids, to a little south of Kiratpur, whence, till it is narrowed in by the Siwaliks, it has all the vagrant and sluggish characteristics of a normal plains' river.

4 The general features of the arid and sandy Siwaliks are too well known to require much remark. To a little south of Gagret, their upper slopes contain some forests of poorish *chil* (*pinus longifolia*). Behind Daulatpur their summits are rounded, slopes gentle and cultivation extends to the watershed, as is the case in the adjacent part of Dasuya. South of Gagret to the Sutlej, with the singular exception of the Bit Manswal plateau, in the Una and Garhshankar Tahsils, and its vicinity, the summits are usually sharp and serrated, the upper slopes steep, with little vegetation but occasional *garna*, *mendar* and other bushes and stunted trees and producing *chil* in only a few spots. Any cultivation on the upper slopes is in extremely poor, stony fields, tilled by Gujars, who really live on their large flocks of goats and other animals.

About 2,200 feet is the greatest elevation of the Siwaliks in this tahsil. This is at Pandu near Bankhandi. As the elevation of Una town is 1,314 feet and that of Daulatpur, on the watershed of the two Swans, 1,768 feet, the Siwaliks, of which the mean height is somewhere between 1,700 and 1,900 feet, are but a low range, crossed by easy foot tracks and even mule paths at many points.

5. The Sola Singhi system of hills runs parallel to the Siwaliks to the east of Una. The watershed of its northernmost range, which may be called the Chintpurni or Jaswan Dhar, forms its boundary with Dera. The western slopes form the Una Hill circle, which is divided into two sharply contrasting portions by the Gagret-Bharwain road. The north section, in Panjal Tappa and part of Lohara, consists of very stony, rounded hills, with a fairly regular slope towards the Dun, except just as they reach it, where they terminate in abrupt cliffs. The rounded summits of the main ridge and spurs are generally cultivated, but contain no *chil* trees. The whole of the lower slopes is covered by the dense *chil* forest of Panjal, or Ban Sirkar, and its adjacent *shamilat* forests. The *khads* are stony, with sandy beds lower down, and generally bearing some water. The south portion, containing all Dharui Tappa and most of Lohara, has a very different formation. From the watershed to a distance of about two miles there is a steep and, in places, sheer drop. Here there is little cultivation but good *chil* forests. The *Sal*, which is not, I believe, found in the Punjab much to the north of this, also thrives in several localities under this descent. From here to the top of the cliffs, that overlook the Dun, the slope is slight and the ground usually level or gently undulating, often cultivated and well wooded. The layer of soil on the sandstone is, however, very thin. This region is, as has been well described by Mr. Roe in his Una Forest Report, cut up into numerous blocks by very deep *khads*, with vertical rock sides, which the water has cut straight down after the fashion of American canyons. They make travelling from north-west to south-east arduous for man and in most places impossible for laden animals. Some of the villages on the Dera border,

with such gorges on either side, are among the most difficult of access in the tahsil. The depth of some of these *khads* in their upper courses must be over 450 or even 500 feet.

South of this the main portion of the steep Ramgarh-Tilai range is within Kotlehr, in Hamirpur Tahsil, though the water from their western slopes and also from the Deonisa hills behind the Chauki Miniar valley joins the Swan. The bare and ravined foot hills form the east Una Ghar; of this tract the small Bangarh range, reaching from just south of the Una-Pir Nagahah road to the Sutlej, is a prominent feature. The Jandbari ilaqa to the south of the Sutlej in the same way includes only the foot hills of the bold Naina Devi range, except in the case of the two villages of Shamla and Paharpur, which extend to the watershed. The lower slopes of these hills are dry, stony and bare in the extreme, even more so than the Ghar tract. This area, as far as the old high river bank, which towards Kiratpur becomes a steep gravel cliff, is known as the Changar. The *khads* are deep, and few of them contain perennial streams of any size.

These three ranges average well over 3,000 feet. Their highest points, Tipri near Chintpurni, Kila Ramgarh, behind Una, and Naina Devi, behind Anandpur Makkhowal, respectively 3,311, 3,398, and 3,895 feet in elevation, are all just outside Una Tahsil. The little hill station of Bharwain, on the Dera border, is 3,202 feet high, and not 3,896, as is wrongly given in the Gazetteer and Mr. Rice's report.

6. The vegetation of the hills has been touched on above. In them, where there is water near, the plantain and at least two species of bamboo

Vegetation.

flourish, but they are planted and not spontaneous. The mango, of which the local varieties are numerous and the fruit generally poor, not only forms the roadside avenues in the Dun, but is found at considerable elevations, springing out of very stony ground by the *khads* near Bharwain and more especially all over the Una Bit plateau. The medicinal *harar* is plentiful in the north of Una, where also lac-producing *ber* trees abound. The *drek* grows in poor ground at the mouth of *khads*. Most of the ordinary trees of the Punjab plains are represented here, while in the Bet the date palm is common. The *kharkana* or *sarkanda* grass flourishes in the Dun valley and is as useful for thatching and such purposes as it is for protection against water action, for which purpose *shisham* trees are also planted. Pages 8 to 12 of the Gazetteer give a full account of the vegetation.

7. The fauna resembles that of the adjacent parts of Kangra. Panther, hill pig and the monkey are the worst enemies of the *zamindar* in the

Fauna, etc.

hills. Antelope, jackal, hyena and a few wolves are found here, with the ubiquitous hare and fox. The large mongoose is numerous, more so than his enemy, the snake, though the large Goh lizard, smaller varieties of lizard and in places scorpions abound. Below Kiratpur in the Sutlej is to be found the long-nosed fish-eating crocodile. The otter also flourishes. Mahseer are common in the higher reaches, while the pools of the perennial hill streams abound with small fish. Of birds the main inhabitants are pea-fowl, hill pheasants, kolsa, chikor, as well as the common small birds and the larger predatory kinds. The demoiselle crane and the usual varieties of geese and duck are annual visitors. The species of butterflies in the hills are very numerous and some extremely fine.

B.—Rainfall.

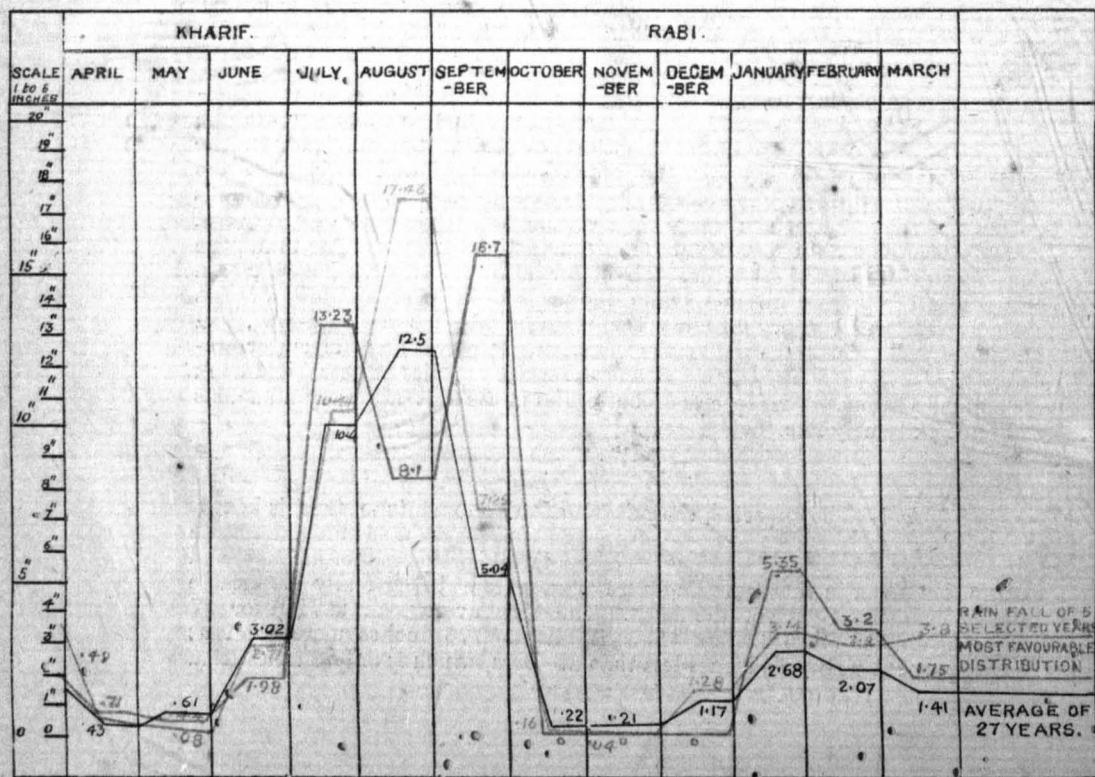
8. As is to be expected, the rainfall of this submontane tract is heavy though the length and broken nature of the tahsil prevents the amount and

Variation and distribution of rainfall.

distribution given in the Una rain-gauge figures from being really applicable to more than the centre of the tahsil. The Una average annual fall for 27 years amounts to 39.40 inches. This is almost 2.75 inches more than at Hoshiarpur, but nearly 14 inches less than at Dera, which is only 8 miles from

the border of the Una Pahar circle, where the fall is some 3 or 4 inches more than at Dera. I have also given figures from the Sirhind Canal headworks gauge at Rupar, which, being hardly a mile from the south of Una, gives the approximate rainfall of the adjacent Una Bet and south Ghar as about 14 inches less than at Una. The new district board gauges at Nurpur, Bharwain, Gagret and Bankhandi have been erected too recently to assist much at present. The rainfall recorded at Una varies from the minimum figure of 17.8 inches in 1887-88 to the maximum of 74.38 inches in 1906-07. The annual average has in 27 years only exceeded the arithmetical average of the whole period 11 times, so this arithmetical average seems a little high. Captain Montgomery gave 36.4 as the average in 1880, apparently on a 19 or 20 years' series. In a largely hill tract, entirely dependent on rainfall, the distribution is, perhaps to a greater extent than elsewhere, more important than the gross amount. In fact, heavy rainfall may be positively injurious by rushing down the slopes, and carrying the thin surface soil along with it, instead of soaking slowly in. A prolonged, gentle drizzle is preferable to a shorter but heavier downpour, but in this respect the tables do not help much. A comparison of the rainfall figures with those for harvested crops shows that the best results at Rabi are obtained by about 26.1 inches of rain in the months of September-March, with some 16 inches of it in September, little or none from October to December, then 5½ inches in January, 3½ in February and 1¾ in March. This is more than twice the usual average total for these months. The large fluctuations of the Rabi sown and harvested areas are directly traceable to the variations in the Rabi rainfall, which has varied from 3.09 inches to 29.45. Similarly at Kharif the best crop follows on a rainfall of about 24½ inches from April to August, the average being 26.6 inches. The most favourable distribution seems to be ¾ of an inch in April, ½ in May, 2 in June, 13½ in July and about 8 in August, followed by a fairly dry September and drier October. The total of this period has varied from 12.6 inches to 44.28, but the average variation is not as great as is that of the other period. The curve chart is intended to show the average and the best distribution of rainfall at Una in pictorial form, as well as that of the five selected years.

Curve chart showing (1) 27 years' average rainfall at Una Tahsil; (2) most favourable distribution; and (3) average rainfall during five selected years.



C.—Assessment Circles and Soil Classification.

9. At the outset it may be premised that in Una nothing like the internal homogeneity of plain circles and nothing like the usual uniformity

Old Assessment Circles. of classes of soil can be obtained. In 1850-51, Mr. Barnes simply adopted the old political *talukas* as he found them and for assessment made no soil classification at all, as he considered it an useless and even dangerous refinement in a hill country. The 13 *talukas* he assessed were often too small to serve as circles, but their small size at least secured for many of them some degree of internal uniformity. The 14th *taluka*, the cis-Sutlej Jandbari tract, was divided by Mr. Melvill, who assessed it, into three circles, the Bet, Changar and Dhaka, inside which he classified the soils roughly.

It was not till 1879-80 that more or less normal circles were adopted, i.e., five in place of Mr. Barnes' 13 *talukas* and two in place of Mr. Melvill's three circles. Mr. Roe, who did not assess, in 1874 proposed 8 circles on somewhat different, but, in some respects, better, lines, perhaps, than were finally adopted in 1879-80. A very few villages were, at last settlement, not placed in the circles they were best suited to, but, practically, the extreme care of Captain Montgomery's distribution of his revenue and his readiness to go freely above or below rates remedied any defects in grouping.

10. It has not been thought necessary to correct minor defects, but, as Present Assessment Circles. I found in the Jandbari ilaqa six almost entirely Changar villages, with no or practically no real Bet, in the old Bet No. 2 circle, I applied for and sanction was given to placing (1) these 6 estates in the Changar and (2) the remaining 28 real Bet estates of the Bet No. 2 circle along with those of the opposite Bet No. 1, so as to form one Bet circle, practically on Mr. Roe's lines, thereby reducing the circles to 6.

The circles, as now constituted, are as follows :—

(a) The three, for Una, generally level circles of (1) the Bet on both sides of the Sutlej, which can be sub-divided into the usual *pakka* and *kachcha*; (2) the Dun, or Jaswan Dun valley circle, on both sides of the south Swan Naddi, which, north of the Una town, comprises all the eastern slopes of the Siwaliks up to Marwari and south-east of Una a small detached block behind Bangarh; and (3) the small Una Bit Manswal circle, a gently sloping plateau on the Siwaliks between Una and Garhshankar, with plain characteristics to a large extent, despite its elevation.

(b) The three hill circles of (1) the well-afforested Pahar on the west side of the Chintpurni or Jaswan Dhar in north Una, also including three Siwalik estates by Dasuya; (2) the dry and broken up Ghar circle, in three detached blocks, one to the east of the Dun under the Kotlehr hills, the other two to the west on the east slopes of the Siwaliks; and (3) the Jandbari Changar, under the Naina Devi range, including both Melvill's Changar and Dhaka circles.

11. Soil classification was not made by Mr. Barnes, as has been mentioned. Indeed, no detailed records or maps were made till Mr. Roe's time,

Soil classification previous to settlement. when a division was made of irrigated and unirrigated, the last being sub-divided into *dofasli* and *ekfasli*, as to the details of which Mr. Roe's report is silent. Paragraph 5 of Captain Montgomery's Una Assessment Report gives the soils recorded by him on the results of a somewhat brief local inquiry made by subordinates, without the assistance of any crop returns other than of two harvests (see paragraph 25 *ib.*).

The kinds of soils then recorded were—

(a) Irrigated—(1) *Chahi* and *dhingli*, (2) *Nahrt-abi*, or irrigated by streams; (b) unirrigated—(1) *Dofasli* 1, (2) *Dofasli* 2, (3) *Ekfasli* 1, *Ekfasli* 2, (4) *Ekfasli* 3 or *behand banjar*. *Bagh*, or garden, was recorded as a sub-heading of *dofasli*. *Khar-kana belas* were also separately recorded.

12. This classification has been followed in this settlement. *Behand banjar* is entered by that name, not as *ekfasli* 3.
 Present soil classification.

No remarks seem necessary as to the irrigated classes, which are relatively unimportant in Una. The differentiation between the *dofasli* and *ekfasli* needs no explanation, but that between their sub-divisions does. *Dofasli* 1 is well manured and usually near a homestead. It produces the best crops, such as maize, wheat, *berar*, and cane. *Dofasli* 2 is further from habitations, and its yield is less. This distinction is for *bachh* purposes, not for assessment.

Ekfasli 2 is the inferior *ekfasli* that produces pulses, such as *kulth*, *mash*, gram and poor wheat and maize, while *ekfasli* 1 produces mainly good wheat or *berar* crops. This distinction is for assessment purposes. It must be noted that in the Bet and Bit Manswal there is not much difference between the two *ekfaslis*, while in the other circles they can be easily distinguished.

Behand banjar is a peculiar feature of the Una Pahar, Kangra and the Pathankot hills. It is very inferior soil on the outskirts of cultivation, often not properly terraced or cleared, which in times of favourable rainfall and after the other land has been sown is hastily ploughed and given a sprinkling, usually of *kulth* or some other Kharif pulse seed. Sometimes gram and occasionally very poor cotton is grown on it. Such land is cultivated perhaps once in three years, or perhaps only once in five or six. It can never be considered abandoned till for some cause cultivation has become impossible. Its name means—*pace* Captain Montgomery—land sometimes ploughed or cultivated, and sometimes left fallow. It was recorded at last settlement, but the Settlement Commissioner seemed to disapprove of the Settlement Officer's applying a separate rate to it. There can, however, be no doubt that in the Pahar it should be treated in the same way as in Kangra, as it is far inferior to every other cultivated soil in respect of cropping, yields and situation.

Sailab is not recorded separately, though there is of course some in the Bet. The limits of the annual inundation are being shown roughly on the village maps to aid in diluvion work.

Kharetar, or hay-field, is to be found in places, but not in sufficient quantity to be recorded separately, as in Kangra.

13. The difficulty of the classification is that its correctness mainly depends on the reliability of the crop records, which is not great in the more remote parts. In fact, in the Pahar and much of the Ghar and Changar, the degree of reliability approaches *nil*. Between settlements no sub-divisions of *barani* were recorded in crop registers. The present soil classification is the first to be made on the basis of recorded croppings, whatever the value of that record may be, and it has probably attained to a somewhat greater degree of accuracy than was possible either in the peculiar circumstances of Mr. Roe's pioneer mapping and record work, without a view to assessment, or of Captain Montgomery's somewhat hurried revision of the admittedly unsatisfactory previous classification, carried out as described by him in paragraph 25 of his Una Report.

The new measurements show a large increase of *dofasli*, some of it undoubtedly real, but a part of it due to the inclusion at last settlement in *ekfasli* of much land that was then *dofasli*. To take only one instance, in Bet No 1 at last settlement 5,022 acres of *ekfasli* 1 gave 5,770 acres of harvested crops in one year. Either the crops were faultily distributed or, more likely, the classification under-estimated the superior kinds of land.

CHAPTER II.—POLITICAL AND FISCAL HISTORY.

14. Pages 19 to 25 of Mr. Melvill's Hoshiarpur Report and pages 10 to 19 of Mr. Roe's Una Report should be referred to for a full description of the political and fiscal arrangements of these parts previous to the first detailed

settlement in 1850-52. It is unnecessary here to go into the histories of the various Rajput Rajas, Ranas and Rais, nearly all of whom have survived Mogul and Sikh rule. Under the former they were treated with special consideration, but under the latter the intruding and unwelcome Sikh *jagirdar*, especially in the south, exercised the real power, while the Rajput chieftains, though provided for by revenue or *talugdari* assignments, were reduced to impotence. The Sodhis of Anandpur, the Khattri Sikh Sirdars of Santokhgarh and the Una Bedis are the main surviving representatives of Sikh influence.

15. The organised depredation and oppression by the Sheikhs on Maharaja

Summary and Regular Settlements.

Ranjit Singh's death wrecked the well-adjusted and administered revenue system of Misr Rup Lal, whose assessment was to a large extent restored at the summary settlement of 1846 and later, and which largely served for the basis of Mr. Barnes' settlement operations in 1850-52. Mr. Barnes' regular settlement of Una, as of Kangra, was really a careful village-to-village assessment, without the help of any rates except a very rough general *taluga* rate. No maps were made and no soils were classified. Mr. Melvill's more regular treatment of the Jandbari ilaqa, east of the Sutlej, which had been successively in Ludhiana and Ambala before its transfer to Hoshiarpur, resulted in a large decrease of 34 per cent. on the summary demand, which on the top of Sikh, and possibly even Mogul exactions, and the rapacity of the revenue assignees, accompanied by constant warfare, had broken down the proprietors of several estates and weighted with debt those of the rest. The changes in the proprietary bodies of many villages, that then occurred, instance this.

The Regular Settlement gave a total demand of Rs. 2,93,239--a reduction of 10 per cent. on the summary jama of Rs. 3,24,398.

16. Between 1869 and 1873 Mr. C. A. Roe and his predecessor,

Mr. Roe's mapping and record work, 1869-73.

Mr. W. M. Young, prepared the first maps and the first detailed records for Una and its adjacent hill tracts in Hoshiarpur, but did no assessment, except in the villages of the Kotlehr Raja's old *jagir*, near Santokhgarh, after its transfer to Kangra in 1867.

17. Captain Montgomery commenced his revision of the assessment of

Revised Settlement of 1879-82.

the Hoshiarpur district by taking up Una in 1879. His new demand, introduced in Kharif 1881, amounted to Rs. 2,87,488, an increase of 7.6 per cent. on the regular settlement jama as imposed, but of 15 per cent. on it as it stood at the expiry of its term. The greatest increase was taken from the Jandbari Changar and Bet No. 2 circles. Page 143 of the Final Report shows the increase taken circle by circle. Greater enhancement was taken in Una than in any of the more prosperous plain tahsils of the district, but even after this the average rate on cultivation of Re. 1-11-7 per acre was lower than the district average.

18. Captain Montgomery's assessment work was conducted under the

Character and working of the revised settlement.

immediate and close supervision of Major Wace as Settlement Commissioner. As noted before, the careful nature of Captain Montgomery's distribution of his demand among the estates and inside them more than covered any faulty grouping of estates in assessment circles or incorrect record of cultivation or classification of soils. In fact, it is safe to say that the assessment has proved itself to be exceptionally sound, though this can certainly not be said of the revised records and maps.

The absence of suspensions and remissions may be taken as showing that the demand was not heavy, but it must be remembered that so many of the Una people take employment outside the district as sepoys, other Government servants, labourers, etc., that their home remittances in many cases enable estates to meet with tolerable ease the demand of Government after even a succession of bad harvests.

For the same reason there is little difficulty in collecting the revenue in normal years. The totals for coercive processes for the four years 1908-09 to 1911-12 are as follows :—

Issued for	Writs or Dastaks;	Attachment warrants.	Warrants of arrest.	Sales of move- ables or crops.
Lambardars	... 148	16	...	...
Government	... 128	2	...	...

Only Rs. 347-8-0 have been given out as *takkari* in three cases under Act XIX of 1883.

19. The land revenue for 1911-12 amounted to a total of Rs. 2,76,147,

Changes since last settlement,

a reduction of Rs. 11,341 on the original demand, entirely on account of diluvion losses caused by the Swans, *khads* and the Sutlej. That for 1912-13 will probably be a little less. However, the Milan Rakba cultivated area of 1911-12 is 171,415 against 170,501 acres at last settlement. The explanation is that the loss of good low-lying lands by diluvion or the spread of sand has led to the breaking up of rather larger and far inferior areas high up on the hill slopes. Such extension of cultivation automatically accelerates the rate of diluvion by clearing away trees and shrubs from places where they are needed to prevent the surface water from draining off too rapidly. The description of the physical configuration of the tahsil may, perhaps, serve to elucidate the reason of the normal excess of diluvion over alluvion. A similar result was observed at last settlement. In passing, it may be as well to note that the circumstances of Una in respect to torrent action are different from those of the plain portion of the district, traversed by the western Siwalik chos. On the Una side no organised action has been taken to arrest further denudation of the hill slopes. Probably, the recent measures taken to close the scrub areas to the west of the watershed will lead to the increase of the flocks of goats and other animals in the Una Siwalik villages on the eastern side. The recorded decrease of cattle since 1898-99 is, I think, only temporary and due to losses by disease, as well as to large sales on account of recent poor harvests and insufficiency of grass and shrubs, both the result of insufficient or untimely rain. A further consideration of these matters can be more conveniently left for discussion in connection with the revision of the di-alluvion rules, which will form the subject of a separate report.

CHAPTER III.—GENERAL STATISTICS,

20. In the statements, where possible, the new measurement figures

Statistics how obtained.

have been given ; but, as measurements were only completed in June, the statistics for ownership, sales, mortgages, cultivating occupancy and rents are mainly based on the last available *jamabandi* figures before my village inspections. As inter-settlement *jamabandis* grouped all non-irrigated cultivated land and the cropping on it, under the heading *barani*, so, though laborious excerpts were made to distribute the rents and crops over their appropriate soils, the fact that this was done in some cases before all changes of soils had been attested by the Naib Tahsildars on the spot, makes their accuracy only approximate. Consequently some discrepancies between soil totals in the above-named statements and the new area statement are inevitable. The same also occurred at last settlement, when the revision of records was finished subsequent to the submission of re-assessment proposals. The "last settlement figures" given now do not, therefore, always tally with those of Captain Montgomery's assessment statistics, in that they are taken, sometimes from the final settlement report, sometimes from the circle Lal Kitab revised settlement figures, or even obtained by a village-to-village totalling of last settlement *jamabandis*, when the details are not otherwise available.

21. The following statement compares the various circle total and cultivated areas of last settlement and this:—

Comparison of areas.

Comparison of areas of 1881, 1911-12 and 1912-13.

1	2	3	4	5	6
Circle.	Year.	Total area in acres.	Cultivated area in acres.	Percentage of 4 on 3	Change in cultivated area.
BET ...	1881	53,316	29,634	55	...
	1911-12	52,635	28,526	54	- 3.74
	1912-13	51,246	27,163	53	- 8.34
DUN ...	1881	177,469	70,301	39	...
	1911-12	177,966	71,440	40	+ 1.6
	1912-13	167,996	68,170	41	- 3.3
DIT ...	1881	22,950	9,517	41	...
	1911-12	22,986	9,784	43	+ 2.8
	1912-13	21,736	9,371	43	- 1.62
PAHAR ...	1881	69,185	13,758	20	...
	1911-12	66,267	14,725	21	+ 7.3
	1912-13	67,092	17,875	27	+ 29.9
GHAR ...	1881	102,400	31,542	31	...
	1911-12	101,456	30,990	31	- 1.12
	1912-13	97,566	29,588	30	- 6.2
CHANGAR ...	1881	32,648	15,749	48	...
	1911-12	32,686	15,950	49	+ 1.3
	1912-13	32,261	15,626	48	- .78
TAHSIL ...	1881	457,968	170,501	37	...
	1911-12	456,996	171,415	37	+ .53
	1912-13	437,897	167,793	38	- 1.58

22. Captain Montgomery's areas are practically those of Mr. Roe's

Inaccuracy of figures for waste areas at last settlement.

measurements. In a tahsil containing large waste and forest areas and so intersected by torrent beds the old figures for the divisions of 'uncultivated' are naturally at times much out. In fact, in some cases, where the boundary is in hill waste, as it is in a very large number of estates, the village boundary and consequently the numbers adjoining it are largely fictitious and unreliable. This especially applies to the Siwalik Ghar and Dun villages, some of the boundaries of which had evidently never been compared with those of the adjoining Garhshankar, Hoshiarpur and Dasuya villages. The *chak* system of measurement followed by Mr. Roe was fairly accurate as regards close blocks of cultivation, but far from reliable for the waste.

The present extraction of areas by diagonal also gives a slight decrease up to about 4% as compared with those obtained by multiplying the means of opposite sides.

23. Generally, it may be said that, except where alluvion is possible, no general increase of cultivation can now be expected. Here and there *zamindars* are deliberately waiting till the new assessment to cultivate newly formed or recently abandoned land. This will be dealt with adequately by suitable di-alluvion rules and by account of it being taken at time of the village assessment.

24. The question involved by the large increase of *dofasli* already touched on in paragraph 13 can more properly be discussed later. In spite of my short acquaintance with this tract, I have little doubt that this extension of double cropping, as far as it is real, is by no means a sign of strength. It has only been made possible by the increased manure supply. I would put the actual increase of *dofasli* since last settlement at about 60 to 70 per cent. of the recorded increase at most.

25. The total cultivated area of 1911-12, based on the old measurements is only .53 more than that of last settlement, while the total given by the new measurements is 1.58 less. This difference of nearly 3 per cent is chiefly due to the two diverse methods of area extraction employed at last measurement and this. The difference would have been greater but for the inclusion of 3,661 acres of *behand banjar* in the new "cultivated" area of the Pahar, most of which was incorrectly classed as "uncultivated" prior to the new measurements. The new areas have been obtained by totalling the field books in the majority of cases, since, by June, new *jamabandis* had only been completed for a small number of estates. They are, I think, substantially accurate, though no doubt, when all the *jamabandis* are completed, some small corrections may have to be made in the figures now given.

The real decrease of cultivation in the Bet is chiefly due to losses by river action and the spreading of sand by Siwalik *khads*. Both the Ghar and Dun have had a considerable amount of cultivation spoilt by *khads*, but in both, though to a larger extent in the Dun, this is, perhaps, not self evident from the table in paragraph 21 as the new and last *jamabandi* areas include much high-lying land which has been brought under the plough from time to time as old cultivated lands were lost.

The Bit, Changar and Pahar have increased their cultivation, and have suffered to a very insignificant extent from torrent action. In the Pahar at least 3,000 acres should be added to the last settlement and last *jamabandi* areas, so as to take into account the *behand banjar*, then classed as uncultivated *banjar*, before comparing them with the new results. This correction, of course, should also be made in the tahsil totals.

26. Well irrigation is an unimportant feature in the agricultural economy of this tahsil of a normally large rainfall. Except in the Dun and Bet, it scarcely deserves consideration. The *chahi* area attached to each well is small, being only a little above an acre, where *charsa* or *hart* are employed, and about $\frac{1}{3}$ rd of an acre, where the *dhingli* is used. In the Dun the cropped area only slightly exceeds the actual *chahi* area, while in the Bet it is a shade less. The masonry wells, when not in gardens, are often primarily used for drinking and domestic purposes and only used for irrigation in times of scanty rainfall. Hence the small areas of crops grown with their assistance. The total number of wells in use has also increased of late. The average number of masonry wells at work in the five selected years from which the cropped areas have been taken is 443 as against 530 now. From 1905-06 to now the number of wells in use has varied as follows: 470, 464, 585, 490, 423, 367, 408 and now 530. In the same way the average number of *dhinglis*, *kacha* or half *pakka*, by which I mean that their walls are supported with loose and unhewn stones, is 1,540, though the present number is 1,090. Their variations in number since 1905-06 have been—1,819, 1,525, 1,891, 1,628,

1,441, 1,289, 1,290 and now 1,090. A reference to the rainfall statistics shows that the number of wells, both masonry and others, in use varies according to the rainfall. In statement No. II.—A I have obtained the average irrigated cropped area to a well and *dhingli* by applying the average number of each, respectively, at work in the five selected years to the average irrigated cropped areas, separated into *chahi* and *dhingli-chahi*, as explained below, but I have given the average cultivated *chahi* area to a well or *dhingli* by dividing the number of wells and *dhinglis*, given by the new measurements, into the new *chahi* areas, separated into *chahi* and *dhingli-chahi*. The Milan Rakba *chahi* cultivated areas of the Lal Kitabs are quite useless and unreliable, while the Lal Kitab figures for wells and *dhinglis* in use are not above suspicion.

The total cultivated and irrigated cropped areas attached to *dhinglis* have been obtained by taking the average of each to a *dhingli* from the villages where there hitherto have been no masonry wells at work and applying the results to the whole number of *dhinglis* in the circle. Then it was possible to find the total areas attached to masonry wells alone, by subtracting the results from the total *chahi* cultivated and cropped areas. The converse method gave similar results.

27. Except in the Dun, there has been a falling off in the area irrigated by *kuhls*. The small proportion of matured crops to the cultivated area, recorded as *nahri-abi*, is worthy of note. Few of the streams are perennial, and only in years of good rainfall is anything like the whole *nahri-abi* area sown at any one harvest.

23. Statement No. III shows that there has been an all-round increase in the case of sheep and goats since settlement, but a sharp decline since 1898-99. The Bet, which is closely cultivated, has not increased its cattle to any extent. The Changar is reducing its goats and sheep, as grazing facilities in Bilaspur have recently been stopped. In the Pahar and in the Siwalik villages of the Dun and Ghar, where grazing is extensive, the increase in goats and sheep is greatest. Gaddis also bring their flocks to Pahar villages, the *shamilat* forests of which are almost certainly being overgrazed. Animals belonging to Gaddis have not been included in the new enumeration.

The increase in the number of carts is large, but the last settlement figures must be wrong. The number of ploughs has, as is natural, increased with the growth of population, except in the Bet, where the falling off of the population since 1891 is accompanied by a corresponding decline in the ploughs.

29. The total population has increased 11.4 per cent. since 1881, but the difference would have been much greater but for the set-back, especially in the Bet and Dun between 1891 and 1901. Plague mortality has been light and almost entirely confined to the south of the tahsil. It has only on four occasions exceeded 1,000 in a year.

Provincial Table No. I of the last census gives the following figures for Una :—

Area in square miles, 716 (717).	Percentage of variation—
Towns, 1.	1901 to 1911, plus 3 %.
Villages, 526 (530).	1891 to 1901, minus 1.8 %.
Occupied houses, 55,000 (54,892).	Number of persons to a square mile—
Population, { Males, 123,044.	1911, 324.
1911, 231,857 { Females, 108,813.	1901, 315.
Total population, 1901, 225,198.	

The figures in brackets are correct, while those given in the census tables in those three cases are wrong. Though the above table gives one town, the

detailed figures for the two towns of Una and Anandpur are available and are as follows :—

				1881.	1891.	1901.	1911.
Una	Males	...	...	2,325	2,406	2,647	2,210
	Females	...	...	2,064	2,077	2,258	1,968
Total				4,389	4,483	4,905	4,178
Anandpur	Males	...	...	3,216	2,725	2,864	2,335
	Females	...	...	2,662	2,395	2,164	1,706
Total				5,878	5,120	5,028	4,041

The small proportion of females in Anandpur is remarkable. It is 42 per cent. of the whole population, against a tahsil percentage of 48 per cent. The steady decay of Anandpur is as apparent from its figures as from the dilapidated state of its buildings. Una has experienced a slight decline of late, which is perhaps due to temporary causes.

The increase in the population of the tahsil has been chiefly in the north and entirely among the inhabitants of purely rural tracts.

30. The decline in the plain portion of south Una is shown by the Bet figures. Here the collection of the population of each village in a very cramped *abadi* is conducive to the spread of disease, while all riverain tracts tend to be less healthy than the uplands. The little plague that has attacked Una has always first assailed these parts, and small-pox epidemics are frequent and severe, while in Anandpur venereal disease is said to be hereditary among almost all its residents. Here, too, infectious diseases of all kinds are brought by the mixed multitudes of Sikh pilgrims that swarm to the Anandpur Holi from all parts.

In some hill villages with bad water, goitre is prevalent. In at least one village on the Hamirpur border hardly an owner is free from it. Malaria is not usually severe and, on the whole, the climate of the tahsil is healthy, while the Bit plateau, apart from guinea-worm, due to the use of tainted tanks for drinking purposes in dry seasons, is remarkably so.

31. The incidence of the almost entirely rural population on the cultivated area is very high, being 865 to the square mile throughout the tahsil and as much as 1,053 in the Pahar. This is, to some degree, eased off by the large waste areas, apart from the demarcated forests of Lohara, Panjal and Dharti. The density of the population compels thousands of the inhabitants to seek employment elsewhere. Owners alone receive nearly five lakhs a year as pay, pension, wages, etc. The figures for miscellaneous income, other than the above, which is, of course, not income derived from land, will be found in Statement III—B. These statistics were collected village by village, and were checked by me in many cases. However, I am of opinion that the actual income is higher than that given in the statement.

32. Statement IV gives the tribal distribution of the owners, while maps 2 and 3 depict the distribution of owners and occupancy tenants, respectively. To supplement them I also give a tahsil table, based on the

recent census, showing the tribes of the tahsil, irrespective of distinctions of owner, tenant, etc. 76 per cent. of all the inhabitants is Hindu, while Sikh and Muhammadan only supply 12 per cent. each. Of the whole population, only 4.6 per cent. is literate. In the last column of the following tables I have indicated roughly the religions to which the main tribes belong :—

Tribal distribution.

No.	Tribes or caste.	Number.	Religion.
	Brahman	40,835	Hindu ; a few Sikh.
2	Bahti (including Chhang and Ghirth).	29,366	Hindu ; few Sikh.
3	Rajput	27,409	Mostly Hindu.
4	Jat	23,821	Hindu ; a few Sikh.
5	Gujar	22,395	Mussalman ; some Hindu.
6	Khatri	8,140	Hindu, and Sikh.
7	Saini	6,180	Hindu ; few Sikh.
8	Kanait	1,833	Hindu and Sikh.
9	Chuhra and other kamins	53,316	Miscellaneous.
10	Others	18,430	Ditto.
	Total	231,805	Hindu, Sikh, Muhammadan, etc.

Thus, more than one-sixth of the population is composed of Brahmans at best indifferent cultivators. All that can be said in their favour is that they are slightly better than the majority of Rajputs. Many Rajputs of the higher classes still deem it beneath them to put their hands to the plough. The women of neither tribe help their husbands in the field, while the Rajputni often does not even fetch the household water.

The importance of the Rajputs is out of all proportion to their numbers. They are not only the owners of almost twice as much land as any other tribe, but often, even when in a minority in a village or tract, hold the position of superior owner or *taluqdar*. Almost all the *saidaris* and the bulk of the *lambardaris* are held by them. The tradition of their tribe makes them readily enlist in the Army, where, in spite of their independent spirit and pride of race, they prove remarkably amenable to discipline.

The Kanait, Raawat and other Rajput derived tribes are usually rather better cultivators than the pure Rajputs, though they are similarly handicapped by their caste rules as to their women.

The Bahti, with whom the Pahari Ghirth and north Una and Dasuya Chhang are closely allied and in reality form one tribe, is usually an occupancy tenant in possession of much of the best level land in the Dun valley. He supplies the strongest agricultural element of the tahsil. He is industrious, economical and a born cultivator, though he lacks the fine physique of the plains' Jat. His position is midway between Jat and Saini, whose laborious *dhingli* cultivation of vegetables and tobacco he at times imitates. Prosperity and a not unnatural democratic feeling against his high born, but less industrious and often poor Rajput master, who is ready to patronise him, but not to meet him as an equal, have led to increasing quarrels and litigation between the two, which on the part of the tenants has assumed an organised form. The conversion of kind rents into cash is loudly demanded by such of them as pay *batai* as a result of their ancestors' refusal to accept conversion in the fifties. In a few cases they have been able to buy out their owners with their profits from their lands or more often by savings from day labour in the plains.

The Jat is chiefly found in the Bet, but in Una is vastly inferior in industry and ability, as well as in physique, to his brother of the plains.

The Gujar is generally to be found in the hills in occupation of the worst land. Though buffaloes are his speciality, he is rather more successful a cultivator here than elsewhere. In the corner by Kahlur and Nalagarh, and in some of the Siwalik villages, these Gujar are Hindu, though the main body of them is Mussalman, at least in name.

The Sainis are as good cultivators here as elsewhere, but are not numerous.

The Chumar, often an occupancy tenant with a small holding and sometimes an owner, is a very hardworking and fairly successful cultivator, who makes a satisfactory tenant.

Khatris, especially the Anandpur Sodhis, own a good deal of land, but seldom cultivate.

The enterprising Sud, "despite the small number of his tribe, is usually a most shrewd and successful business man, whose trading activities have taken him as far afield as Leh, Kulu and Simla.

33. The principal money-lenders are from among the Khatris,

Money-lenders.

Brahmans and Suds. The difficulty of distinguishing between agricultural and non-agricultural Brahmans has been met by notifying them as a separate group for the purposes of the Land Alienation Act. These tribes also furnish the bulk of the mortgagees. However, many Rajputs now hold mortgages of their poorer tribesmen's lands. Chief among them is the jagirdar Jaswal Raja of Amb, whose hold over the north of the Dun is extending by means of mortgage and purchase. Retired Rajput native officers also invest their savings in land.

In the south of Una in Jandbari the Anandpur Sodhis have year by year increased their lands and mortgages and in some cases have entirely dispossessed the Rajputs. The Una and Nurpur Khatris are also large mortgagees.

The Land Alienation Act has proved the salvation of many old families of Rajput owners, whose ever-growing debt and mortgage had put them in the power of the money-lenders. While Rajputs are, perhaps, somewhat less extravagant than formerly, Bahtis and other non-Rajput tribes are certainly more so. When once in debt, the agricultural Brahman is extremely helpless until some enterprising member of his family restores its fortunes by service in a Government office or by other clerical employment.

34. As a whole, the population may be characterised as sober, free from

Character of the people.

serious crime and law-abiding, though increasingly litigious and quarrelsome over trifles.

35. The following table gives the constitution of the estates in the different circles :—

Constitution of estates.

Constitution of estates.

CIRCLE.	ZAMINDARI.		PATTIDARI.		BHAIACHARA		OTHERS.	TOTAL.
	Landlord.	Communal.	Perfect.	Imperfect.	Perfect.	Imperfect.	Mixed.	
BET ...	3	...	2	16	11	57	1	90
DUN ...	2	6	...	42	19	91	3	163
BIT ...	...	...	...	2	1	6	...	9
PAHAR ...	6	25	1	11	8	84	...	115
GHAR ...	5	2	2	27	3	45	2	86
CHANGAR ...	...	12	3	28	6	17	2	68
TOTAL ...	16	45	8	126	48	280	8	531

The above table requires little comment. It is sufficient to remark that with the growth of population and increase of partitions more and more estates tend to become *bhaiachara*.

36. The next table, the figures of which are taken from the Lal Kitabs,

Cultivation per owner, plough, &c.

gives some idea of the pressure of the population on the soil, as well as the average cultivated area to an owner. However, the amount of land over which each proprietor has absolute control is the average area in column 4, minus the percentage under occupancy tenants given in column 5. It will be seen that in the Bet, where the land is the richest and the population is non-Rajput and truly agricultural, the average amount of land to an owner is smallest. Here, too, occupancy tenants are fewest :—

Average area per owner &c.

1	2	3	4	5	6	6	7	8
Circle.	Year.	Number of owners.	Cultivated area per owner.	PERCENTAGE OF CULTIVATION WITH		Cultivated to a plough.	INCIDENCE OF TOTAL POPULATION TO A SQUARE MILE.	
				Owners.	Occupancy tenants.		Total.	Cultivated.
BET ...	1850-81 ...	...	4 and 6	{ 84 26 }	{ 5 54 }	7.3	256	462
BET ...	1911-12 ...	8,509	3.35	48	23	7.7	388	723
DUN ...	1850-81 ...	...	3	38	41	6.8	277	935
DUN ...	1911-12 ...	14,026	5.9	29	39	5.9	372	924
BIT ...	1850-81 ...	...	5	36	42	8	322	772
BIT ...	1911-12 ...	1,211	8.07	32	39	7.3	366	878
PAHAR ...	1850-81 ...	...	4	42	45	5	108	903
PAHAR ...	1911-12 ...	3,426	4.29	30	45	4.3	224	1,053
GHAR ...	1850-81 ...	...	5	52	32	8.7	160	710
GHAR ...	1911-12 ...	6,585	5.17	39	32	7.6	244	809
CHANGAR ...	1850-81 ...	...	4	37	41	8	366	747
CHANGAR ...	1911-12 ...	3,083	5.17	31	35	7.7	384	787
TAHSIL ...	1850-81 ...	...	4	45	36	7.3	291	782
TAHSIL ...	1911-12 ...	36,840	4.65	34	35	8.5	325	865

37. Statements V—A, B, C and D give figures for sales and mortgages.

Mortgage and Sale.

It seems necessary to note that no comparison of the present amount of land under mortgage can be made with the figures of mortgage given in *Captain Montgomery's* appendix No. III, which do not show the mortgaged area of any one year, but the sum of mortgages since the previous settlement, without, apparently, allowing for redemptions. The figures for the areas under mortgage at last settlement, now given in statement V-B, were obtained by excerpting from the last settlement *jamabandis* of areas actually under mortgage in the year in which they were drawn up. In most of the new statements alienations of occupancy rights have been shown separately, as they are important as showing the prosperity or depression of an important body of agriculturists.

Mortgage of cultivated land in the tahsil as a whole cannot be considered very heavy, as it only affects a little more than 16 per cent. of the cultivated area. Some 7 per cent. is held by non-Brahman agriculturists and nearly 5 per cent. by Brahmans, leaving only 5 per cent. to 'others', mostly money-lenders. However, mortgage has increased considerably since last settlement. While the 'others' now hold less cultivated land on mortgage, Brahmans hold more than before, and other agriculturists have nearly doubled the cultivated areas pledged to them.

The case of the Bet is different. Here, mortgage has more than doubled, and the money-lender has strengthened his hold, having got large parts of several estates entirely into his clutches.

The total of the floating debt, Rs. 1,102,849, is large, and only refers to the debts of owners. About half this debt belongs to the Dun.

Sales.—Statement No. V-A shows that only 8 per cent. of the cultivated area has been sold since settlement. The percentage is largest in the Bet and Pahar, but it is in the Bet and Changar that money-lenders have made most ground. The percentages of sale are very uniform in the various circles, but, as is natural, the variations in the sale price an acre are large. Thus in the Pahar Rs. 51 is the average price of a cultivated acre, while in the Bet it is Rs. 140.

Statement V-D gives periodical totals of mortgage, redemption and sale. The figures for mortgage certainly seem to show a progressive decrease of new mortgage. The same is evident in the case of sales. To some degree the enhanced mortgage and sale prices obtainable may be set off against the smaller area now being mortgaged or sold.

A point worth notice in the mortgage and sale statistics is that occupancy holdings seem to be more valuable than proprietary rights. This may be accounted for by the considerations that both naturally and by reason of superior industry the land under occupancy tenants is better generally than that cultivated by the proprietors or their tenants-at-will, and that much of the proprietary land sold or mortgaged has been alienated encumbered by occupancy rights.

Little or none of the alienation or debt can be attributed to any severity of the Government demand. It is due to extravagance, failure of harvests, losses of good land by torrent action and to the very heavy pressure of the population on cultivation, where there is a reluctance to emigrate.

38. The two tables given below in the text show the average mortgage and sale prices of land at last settle-

Value of land.

ment and now, as well as the latter as multiples of the land revenue. I have only taken proprietary land into account in them and have omitted from consideration the cases of superior ownership and occupancy rights. In the first statement, that of mortgage, columns Nos. 1 and 3 give the average mortgage price of land under mortgage in the years of settlement, while columns Nos. 2 and 4 give the average prices of nine and five years' respectively, before each settlement. In this and the statement

of sales I have taken five years' averages only, as they give a more accurate approximation of the prices of to-day, than those based on longer periods:—

• *Statement showing variations in the average Mortgage Price in rupees of cultivated land per acre at last settlement and this.*
(Only proprietary land is taken account.)

1	2	3	4	5	6	7
CIRCLE.	LAST SETTLEMENT.		THIS SETTLEMENT.		Land revenue per acre cultivated, mortgaged column 5.	Price as multiple of land revenue, columns 5 and 6.
	1880-81.	Average of nine years, 1871-1879.	1912.	Average of five years 1907-08 to 1911-12.		
BET { (1) ...	48	55	132	209	23	92.5
BET { (2) ...		29		135	1.6	110.6
DUN ...	27	80	111	188	1.8	106.8
BIT ...	28	42	82	114	1.6	73.8
PAHAR ...	18	16	53	65	1.3	49.5
GHAR ...	19	25	82	116	1.7	70.3
CHANGAR ...	18	28	102	104	.9	114.4
TOTAL TAHSIL ...	27	32	103	155	1.6	95.7

• *Statement showing variations in the average Sale Price of cultivated land an acre at last settlement and this.*

(Only proprietary land is taken account.)

1	2	3	4	5	6	7
CIRCLE.	LAST SETTLEMENT.		THIS SETTLEMENT.		Land revenue per acre cultivated sold, column 5.	Price as multiple of land revenue; columns 5 and 6.
	Average of 29 years, 1851-1879.	Average of nine years, 1871-1879.	Average of 1881 to 1912-13.	Average of 1907-08 to 1911-12.		
BET { (1) ...	80	81	140	229	1.98	115.5
BET { (2) ...	33	20	...	148	1.9	78.4
DUN ...	34	51	136	242	1.7	138.6
BIT ...	38	44	90	155	1.	154.7
PAHAR ...	20	23	51	59	1.4	43.1
GHAR ...	19	24	101	122	1.6	76.6
CHANGAR ...	18	24	65	271	.9	290.4
TOTAL TAHSIL ...	35	38	113	181	1.6	111.2

The first statement shows that the mortgage price has risen almost five-fold in the tahsil as a whole and as much as six-fold in the Dun. While in the Pahar the land revenue is almost one-fiftieth of the mortgage price, in the Bet (old No. 2), Dun and Changar it is less than one-hundredth part of the average price.

Similarly, the second statement indicates that the sale price in the tahsil generally has increased, almost five-fold, while it is one hundred and eleven times the revenue. Leaving aside the Changar, where the present price is unduly inflated by the sales of some land near Anandpur for building,

in the Bit the land revenue is the smallest fraction of the sale price, being only an one hundred and fiftieth part of it. It will be observed that the value of land has gone up considerably more in the Dun than in the old Bet No. 1, once easily the most prosperous tract. Probably the large size of the average area to each owner in the Bit has kept the prices down there. On the other hand, the present Ghar price, which is derived from sales of the low-lying and better lands of this broken-up circle, is somewhat too high to be representative.

Apart from the all-round rise in the price of land which is a feature everywhere, the very heavy and increasing pressure of the population on the cultivated area and the existence of a large and prosperous class of occupancy tenants, always ready to buy their holdings outright, tend to enhance the price of land. Investment in land, either by way of mortgage or purchase, attracts the savings of the numerous persons, who have returned home from Government or other employment with money in their pockets.

In any case, the price of land has risen far higher than that of agricultural produce, which in the Una Prices' Report was calculated to be about 35 per cent., or that of cattle, which has not much more than doubled. Similarly, cash rents in the circles, where they are most numerous, have only about doubled.

The poorness of communications and distance of markets, in which there has been no improvement since last settlement, tend to keep down the price of agricultural produce to the prejudice of the producer, and at the same time to enhance that of commodities that have to be imported.

In fine, the price of land has advanced out of all proportion to the prices of other commodities or to rents. A consideration to be remembered in connection with sale and mortgage prices in Una, as well as with rents, is that as a rule little or none of the inferior hill land, such as *ekfalsi* or *behand banjar*, can be disposed of to an outsider, as he would be unable to derive any profit out of it.

39. Incidentally the question of communications has been touched on

Communications.

above. There is no *pakka* road in this tahsil or outside it, nearer than Rupar and Hoshiarpur, which will soon be served by rail. *Kachcha* roads, with a total mileage of about 315 miles, 297 of which are maintained by the District Board, often fair in quality between the frequent *khads*, run on both sides of the Swan and Sūtlej from Daulatpur. The eastern road runs south through Amb, Una and Anandpur to Kiratpur, while the western passes through Gagret, Santokhgarh and Nurpur to Nangal Abiana. Both of the above continue to Rupar. Northwards a road, following the North Swan, connects Daulatpur with the Beas at Talwara. The cart road from Jullundur to Dharmasala cuts through the north of the Dun and the Pahar circle in a north-easterly direction, while the much inferior Mandi road, which starts from Phagwara, provides the sole easy ingress into Hamirpur. East of Una it is only generally used for mule transport, but to the west it is practicable for camels and carts. From Una, a very fair cart road runs *viâ* Pandogha and Bankhandi to Hoshiarpur. The Central Asiatic charas trade, *viâ* Leh, passes from Mandi into Una and thence to Hoshiarpur along the two roads described above. Were the road improved in the hills, its directness to the rail-head at Hoshiarpur would make it the most frequent trade route between the regions beyond Mandi and Kulu and the Punjab plains.

There are several minor roads running west over the Siwaliks to the plains. That from Jowala Mukhi to Hoshiarpur *viâ* Jowar and Amb is much used by the thousands of pilgrims, who, if on foot or riding, prefer this direct road to the route by Bharwain and Dera.

The absence of any real market towns in Una has been touched on. Till this year Una was not connected with the outer world by the telegraph.

40. Such exports as there are mainly consist of sugarcane products from the Swan and Sutlej valleys, which go to the hills to the east, and of some maize, which goes to the plains, after a good Kharif. Normally not much maize leaves the tahsil till the Rabi prospects are good. After a good Rabi in the rich alluvial Dun tracts, which do not require much rain, there is undoubtedly a surplus of wheat and gram to dispose of, after supplying the needs of the hilly and poorer Una tracts, that often do badly, when the low lands do well. The speculative nature of the Rabi is so marked that there can be no regularity in the export of wheat and gram. From the hill tracts there is a constant stream of exports of spontaneous products, such as lac, *harar*, *ber* fruit, *amla*, *bahera*, *kamila* and timber, as well as of charcoal and goats. In exchange salt and often grain are imported. Cloth is generally imported from the plains, while much rice comes from Palampur.

41. As recent orders have abolished the surplus produce estimate, it will be sufficient to refer in passing to the somewhat startling minus result, arrived at by Mr. Roe on pages 31-2 of his report at a time when the pressure of population on the cultivated area was lighter than now and the gross produce probably little less, if at all. Mr. Roe's calculations, though his factors are not reliable, at least bring out the undoubted fact that Una is not normally an exporting tract and at times is scarcely self-supporting. The impossibility of obtaining at present any figures for imports or exports precludes any accuracy of calculation on this matter.

CHAPTER IV.—CROPS.

42. Statements Nos. VIII and IX give the available crop statistics. These statements commence from 1884-85, before when no crop entries were made in the circle Lal Kitabs. Appendix VII of Captain Montgomery's statistics gives the cropping of two harvests (Kharif and Rabi, 1878-79) only. The Settlement Commissioner in paragraph 16 of his review expressed the opinion that the crop areas of those two harvests were above the average. The statistics now given show only the circles of Una proper, while Captain Montgomery's, besides including the extra-Una, Kandi and Rakar, combine the Una and Garhshankar Bits into one circle and also do not admit of separation for the present Bet and Changar circles. Consequently comparison can only be made in case of the Dun, Ghar, Pahar and of the Bets and Changar combined.

CIRCLE.	1		2		3		4	
	CROPS CULTIVATED, 1879-80 (S. 1287), TOTAL.		TWENTY-NINE YEARS' AVERAGE, 1884-85 TO 1912-13.		FIVE YEARS' AVERAGE 1906-06 to 1910-11, EXCLUDING 1907-08.			
	Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.		
Dun	41,498	44,035	Sown ... 41,894	50,505	42,907	52,423		
			Matured... 37,418	43,466	35,073	45,558		
Pahar	9,916	6,829	Sown ... 9,765	7,945	10,162	10,062		
			Matured... 8,285	6,385	8,035	7,008		
Ghar	17,425	19,460	Sown ... 18,931	20,490	19,426	20,650		
			Matured... 16,728	17,221	16,087	17,441		
Both Bets and Changar combined.	30,351	23,488	Sown ... 31,862	30,230	32,184	30,519		
			Matured .. 27,559	26,965	24,808	27,263		
Total of above—Una tahsil, minus Una Bit.	99,190	96,812	Sown ... 102,482	109,170	104,769	113,674		
			Matured... 89,990	94,067	84,003	97,270		

The above table shows that the matured areas, which were used for Captain Montgomery's produce estimate, were better than those of the 29 years preceding this settlement. His Kharif area was considerably better than that of the five selected years, but his Rabi area a little below that of the five years. His matured Kharif area is also too high for the first ten years, starting from 1884-85, especially in the case of the Dun and Pahar, but his Rabi area is below the normal area of the same ten years. For the Ghar, however, the ten years' Rabi area gave better results than Captain Montgomery's one Rabi. In the 29 years, the Bets and Changar did slightly better at Rabi than at last settlement.

43. As has been noted in Chapter I, the accuracy of the Una crop statistics is open to suspicion, especially in the hill circles. In some villages in the Pahar I have found the statistics for fairly recent harvests very much out. As the worst patwaris are often exiled to the most remote and unpopular circles, by way of punishment and there seldom have their work examined by the kanungo, who avoids difficult ground, no reasonable degree of accuracy can be expected. In one of two adjacent circles I found that the patwari gave next to no *kharaba*, while in the other the second patwari seemed to consider it his duty to enter at least half the crops as failed, irrespective of the real condition of the crops. The unwieldy size of the average patwari's circle (see page 149 of last Settlement Report) is some excuse for the crop inspections being scamped in certain parts.

44. The proportions of matured Kharif and Rabi to the annual matured area at last settlement were 51 per cent. and 49 per cent. respectively. Proportions of Kharif and Rabi. The five selected years give 47 per cent. and 53 per cent., while the 29 years' period gives 49 per cent. and 51 per cent. These proportions vary in the different circles. It may, however, be safely said that the Rabi seems to be gaining at the expense of the Kharif, so the proportions given by the selected years are fairly representative.

45. It will, however, be observed that the sown and matured Rabi areas fluctuate violently from year to year on account of the uncertainty in the rainfall of the autumn and winter months. Fluctuations of sown and matured areas. The Rabi sown area, with an average of 115,546 acres, has varied between 88,915 in 1900 and 129,579 in 1912; the matured Rabi area, with an average of 98,588, has been as low as 49,621 acres in 1900 and up to 124,732 in 1894.

The more constant Kharif sown area, with an average of 109,253, has only twice fallen below 100,000, once in 1902 being to 97,974, while its highest, i.e., in 1902 was 118,852. The matured Kharif area (average 89,990) has never exceeded 109,122 acres (1898) or fallen under 78,809 (1907).

The Pahar Kharif matured area is far less uniform than is the case in the other circles. The same circle also shows the most violent range of fluctuations at Rabi. The Dun and Bet are naturally somewhat more uniform in the matter of matured crops than the hill circles, with their lighter and drier soils.

46. *Kharaba*, which has not been recorded with any accuracy, has been as high as 30 per cent. on the Kharif and 46 per cent. on the Rabi sown areas. In the Pahar Rabi *kharaba* is normally very high. In 1902 it reached 91.26 per cent., and has never been below 6 per cent. *Rabi kharaba* is rather high in the Changar and Ghar, but low in the Bet. Kharaba.

47. The selection of a representative series of years for a broken tahsil such as Una, with a large number of differently situated circles, must always be a matter of considerable difficulty. That sanctioned Five selected years.

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consists of the years 1905-06, 1906-07, 1908-09, 1909-10 and 1910-11. This has the advantage of being a recent series, but has the defect of slightly exaggerating the Rabi, as indeed any recent series does. Any rather longer recent series would give a lower matured area than the Financial Commissioner deemed appropriate, unless bad harvests were to be eliminated here and there in such a manner that the result would be an arbitrary collection rather than a true normal series of years. The slight exaggeration of the Rabi is, as has been remarked, a good thing, in that it only accentuates a modern tendency to larger Rabi sowings and matured areas. The total annual matured area of 193,000 given by the series agrees fairly closely with the 29 years' average of 194,900. On the other hand, it is decidedly higher than the averages of the 20, 15 and 10 years immediately before and including 1910-11. So it cannot be considered low, especially as the tahsil's loss by torrent action of rich lands, paying a revenue of Rs. 11,000, mainly in the early part of the currency of the expired settlement, has not been compensated by the increase of double cropping and the breaking up of poor hill waste, which has only increased the total cultivated area to a little less than 1 per cent. more than what it was at last settlement. The richest circle, the Bet, has lost nearly 4 per cent. of its cultivated area, while the only large increase is in the poor Pahar, where, despite this increase in cultivated area, in the last 10 years the matured area eight times fell below 16,000 acres, while in the first recorded ten after 1884-85, it only fell below it thrice. The following statement compares the averages of the selected years with those of other series for the tahsil :—

Comparative statement of averages of crops based on various series of years.

YEARS.	KHARIF.			RABI.		
	Sown area.	Matured area.	Percentage of kharaba on sown area.	Sown area.	Matured area.	Percentage of kharaba on sown area.
	Acres.	Acres.		Acres.	Acres.	
29 years, 1884-85 to 1912-13.	109,253 49%	96,355 49%	12%	115,546 61%	98,568 51%	15%
25 years, 1886-87 to 1910-11.	110,289 48%	96,826 50%	12%	118,012 62%	98,713 50%	16%
20 years, 1891-92 to 1910-11.	111,028 49%	95,242 50%	14%	118,648 51%	95,317 50%	20%
15 years, 1896-97 to 1910-11.	113,398 49%	95,393 50%	16%	117,973 51%	92,148 50%	21%
Selected years, 1905-06 to 1910-11, minus 1907-08.	113,331 49%	90,458 47%	20%	119,217 51%	102,108 53%	

Character of harvests included in series selected.

1905 *Kharif*.—Sown area normal, but inadequate rainfall, less than half the average, resulted in 26 per cent. *kharaba*. Dun did very badly, with 30 per cent. *kharaba*.

1906 *Rabi*.—Normal sowings, but lateness of winter rains caused 20 per cent. *kharaba*. Pahar had 44 per cent., Changar 28 per cent., *kharaba*.

1906 *Kharif*.—Sown area above normal. *Kharaba* 29 per cent., owing to extraordinarily heavy rain in August and September. Bet did very badly, with 48 per cent. *kharaba*. Pahar and Dun also suffered.

1907 *Rabi*.—Owing to exceptional monsoon rains very extensive sowings took place which, favoured by timely and sufficient winter rains, gave a bumper crop, the best in the last 19 years. All circles did very well.

1908 *Kharif*.—Favourable rainfall throughout produced more than average sowings and matured crops.

1909 *Rabi*.—Sowings and matured areas a little below average; winter rains rather inadequate.

1909 *Kharif*.—Sowings extended. Matured area about normal. Pahar, Dun and Ghar did well, but Bet fared badly on account of excess of rain.

1910 *Rabi*.—Sown and matured areas above normal. Dun, Bet and Changar did very well.

1910 *Kharif*.—Sowings and matured areas about normal. Only Bet was somewhat below average, again on account of excess of rain.

1911 *Rabi*.—A very good harvest, much above average. Pahar, Bet and Changar did very well. Winter rainfall double normal and timely.

The inclusion of the two bumper Rabis of 1907 and 1911 in the five selected years accounts for the rather high Rabi average for matured crops. Only one Rabi, that of 1906, was really poor, while of the five Kharif harvests, two were distinctly bad and three about average, or only slightly above the normal. The Bit Manswal circle has done consistently well, so has not been mentioned above. Rain, if heavy in the summer, is usually unfavourable to the Bet, which then wants little moisture. On the other hand, a heavy winter rainfall produces good crops both in the Bet and hill circles, but is detrimental to the level Har lands along the Swan and its tributary *khads*. This explains why no tahsil series cannot be selected, which will give equally representative results for each circle.

48. *Main crops*.—The table below shows the percentages of the chief crops in the various circles. For comparison I give the crop percentages, derived from two harvests of 1879-80, by Captain Montgomery, which are as follows :—

Main varieties of crops with percentages.

Kharif—51 per cent.—

Cane 3, cotton 5, maize 23, rice 3, *mung*, *mash* and *moth* 8, *chari* 4, others 5 per cent.

Rabi—49 per cent.—

Wheat 31, wheat-gram 10, gram 2, barley 3, tobacco, vegetables 1, others 2 per cent.

These percentages are presumably based on the crop returns of Una

From the above it appears that maize and wheat-gram are the preponderating staples. In the hill tracts maize is cultivated year after year in the *lahris*, often with the sprinkling of *mash* or other secondary crop. It is the main and favourite food staple. Wheat with gram (*berar*) is now generally sown in preference to wheat alone, wherever possible. It does splendidly in the light, alluvial flats by the Swan and *khads*, in the so-called 'Har' lands. Here, as elsewhere, it is considered a safer crop under all circumstances than either staple, grown separately; barley has declined considerably in popularity and, when grown, is hardly ever used by any one who can get maize, wheat or gram. In the best *dofastli* maize is planted every year and is followed by *berar*, when the rain permits. Heavy manuring alone makes it possible to keep up this sequence. However, it may be safely asserted that the yield of *berar* on such *dofastli* land after maize is hardly half that of the same crop in the best 'Har' *ekfastli* 1. In the latter, little ploughing or weeding need be done. Rice is grown on *kohlas* (i.e., *nahri-abi* land) in the hill circles and also in low-lying moist places by the Swan. It is also grown as a *barani* crop in the hills, where rain is plentiful and where the soil is heavy and retentive of moisture. Very fine small grained rice is produced on *barani*. Cane is grown both as an irrigated crop and on the best *barani*. Along the Sutlej, in the true Bet, little else is grown at Kharif. Una cotton is poor and only grown in small quantities. Kulth is extensively grown in the poor *behand banjar* of the Pahar. The grain is liked, and, though yields are low, it involves hardly any time or labour to cultivate. There are no other peculiarities of cropping worth mention.

49. Kharif 'others' include *bajra*, *massar*, *kangni*, *raung*, *mandal*, *sawank*, *arhar*, *china*, *koda*, *haldi*, *sil*, and *jowar* in addition to *kulth*, which bulks large among the Pahar pulses.

Rabi 'others' comprise melons, *mattar*, mustard, *keo*, *halon* and some barley, often grown with *mattar* or wheat.

Finally, it may be said that while the Rabi tends to be slightly more important than formerly in the plains, the Kharif is still the larger in the hill tracts.

50. The following table gives the sown and cropped areas in percentages, so as to show to what extent double-cropping is carried on in the various circles. It is not possible to do this with any accuracy for each class of soil separately, as the *khassra girdawaris* give no sub-divisions of *barani*. However it appears that *kharaba* is normally heavier in *dofastli* than in *ekfastli* land:—

Circle.					Cultivated area.	Sown area.	Matured area.
						Per cent.	Per cent.
BET	...	...	...	...	100	148	129
DUN	...	...	...	...	100	129	113
BIT	...	...	...	...	100	125	111
PAHAR	...	...	...	...	100	127	100
GHAR	...	...	...	...	100	127	109
CHANGAR	...	...	...	...	100	124	111
TOTAL					100	131	114

This statement shows that the Bet is by far the most heavily cropped and the Pahar the most lightly, as might be expected from a comparison of

their soils. *Kharaba* is lowest in the Bit and Changar and highest in the Pahar.

CHAPTER V.—TENANCIES AND RENTS.

51. Statement No. VI gives the cultivating occupancy of the various circles and of the tahsil, as it is now. The figures given in it are partly derived from the new records and partly from the last detailed *jamabandi* figures. The following table compares cultivating occupancy in 1881 and in 1912. The figures are in percentages on the total cultivated areas. In the first circle, the Bet, I have given the old figures for the Bet No 1 and Bet No. 2, as they were before this settlement, separately, with the Bet No 1 figures first :—

Circle.	Years.	PERCENTAGES OF LAND CULTIVATED BY			
		Owners.	Occupancy tenants.	Tenants-at-will.	
				On cash.	On kind.
BET	1881	84 and 26	5 and 54	5 and 7	10.5 and 13
	1912	48	23	4	25
DUN	1881	38	41	5	16
	1912	29	39	12	20
BIT	1881	36	42	14	8
	1912	32	39	19	10
PAHAR	1881	42	45	4	9
	1912	30	45	9	16
GHAR	1881	52	32	5	11
	1912	39	32	10	19
CHANGAR	1881	37	41	3	19
	1912	31	36	5	28
TAHSIL	1881	45	56	5	15
	1912	34	36	9	21

If the old figures are correct, it appears that owners cultivate considerably less than formerly, occupancy tenants the same, and tenants-at-will more.

Possibly at last settlement all the land cultivated by an owner in the estate in which he resided was entered as *khudkasht*, whether he owned it or not. Probably, however, the decrease is to some extent real, as some land has passed from self-cultivating owners to non-agriculturist owners. The increase of mortgage with possession would also lessen the amount of land cultivated by owners in that capacity, as, if they continue to cultivate after mortgage, they are shown as tenants-at-will. Owners cultivate most in the Bet and least in the Dun. This is because in the first Jats, Sainis and other self-cultivating tribes, with small holdings, and in the latter Rajputs, with large holdings, preponderate. Captain Montgomery's Appendix II and pages 11 and 12 of his Assessment Report give the figures for cultivating occupancy for his time in a somewhat different shape from the table now given.

52. The occupancy tenants hold more than one-third of all the cultivation and in the Pahar as much as 44 per cent. Almost one-quarter of the occupancy land is held on kind rents, usually $\frac{1}{10}$ th, but sometimes $\frac{1}{3}$ rd and

rarely $\frac{1}{2}$ batai. The majority pay the revenue, *plus* various rates of *malikana*, in kind or in cash. In some villages the occupancy tenants pay merely the revenue and cesses without any *malikana*. The extent of this, which does not come out from the table, is remarkable in the Pahar and North Dun. In some such cases the proprietors were glad to have the land cultivated so as to help them to pay the revenue, without deriving any other advantage from the occupancy tenants: in other cases the tenants are *kamins* who perform other services for their landlords: and in others the occupancy tenants are men who might with a little more luck have been recorded as owners instead of tenants in the fifties. The loudly expressed dissatisfaction of *batai* paying occupancy tenants with their lot has been mentioned earlier. It is interesting to note that in Melvill's time (see his 175-76th sections) the cry was against conversion into cash.

53. The perplexing variety of proprietary and tenancy status in Una

Reasons for varieties of tenures.

is due to two causes—one being that no careful or detailed records were drawn up by Mr. Barnes, whose proceedings were most summary and did not clear up, or in fact touch, many difficult cases, and the second being that the only careful record work that has been done in Una was done by Mr. Roe before the present Tenancy Act was in existence. In fact, it was enacted subsequently to Captain Montgomery's settlement. The result has been that each officer or court has in earlier days settled any question that came up as was thought fit on each occasion, as Mr. Roe has noted, and that after 1887 cases had to be decided under Acts which were not in force in 1869—73.

The origin of the present tenures, not only of the various classes of tenants, but also of *talugdars* and superior and inferior owners, is very complex. They generally arose out of the co-existence of the Rajput overlords and the real agricultural population, some of whom were the Rajputs' dependents, and others of whom had been settled on land claimed, but not cultivated by the Rajputs or their men, by the Sikh *jagirdars* in the time of Sikh domination. Roe, in pages 46 *et seq.*, has dealt with this matter, so I only propose to refer to the subject later, in so far as it has a direct bearing on assessment. In some cases occupancy tenants have had a separate portion of *shamilat* allocated to them.

54. The following table shows the common proportions of produce taken

Batai rents, paid by tenants-at-will.

by the owners. As a rule the same share of straw as of grain is taken now-a-days:—

Rates of batai rents paid by tenants at-will.

Circle.						$\frac{1}{2}$	2 th	$\frac{1}{3}$ rd	Others.
BET	...	...	...	...	...	97	1·3	·3	14
DUN	...	...	...	...	...	89·6	2·3	4	41
BIT	...	...	...	...	...	100	...	...	...
PAHAR	...	...	...	...	...	45·8	15·5	24·1	14·6
GHAH	...	...	...	...	...	88·4	·9	·1	·6
CHANGAR	...	...	...	...	...	89·5	8·5	·4	16
Tahsil						89·7	3·5	3·5	3·3

55. Custom as to the payment of menials varies considerably in the different estates of a circle. The tenant-at-will usually pays half *batai*

Menials' dues.

to his landlord after the Lohar and Tarkhan, the only agricultural menials universally employed, have received their dues from the common heap, but in some cases, probably more now than at last settlement, the tenant pays all expenses after division. Only rarely is an Urawa, or winnower, paid, as the agriculturist will usually winnow himself. The dues of the Lohar and Tarkhan vary from $\frac{1}{2}$ to 4 seers each in a maund. Sometimes they are paid so much a plough and sometimes so much in the maund of produce. For menials' dues I have deducted 5 per cent. in five and 4 per cent. in one circle, which is ample. The 10 per cent. deduction made at last settlement was too much and perhaps not based on any accurate calculation.

56. From the last table it will be seen that, except in the Pahar, half *batai* is the most common rate. In the large Panjal Tappa, which contains the

Rates of batai rents.

north one-third part of the Pahar, two-fifths *batai* is the usual rent for the better land. The lower *batai* rents are current, either in poor tracts for all soils or for the inferior *ekfasli* land in the same villages, as those in which half or two-fifths *batai* is taken for the better soils. However, for a tenancy, containing *dofasli* as well as *ekfasli* and *behtund banjar*, the customary higher rate is taken. The 'other' *batai* rents include $\frac{1}{10}$ th, $\frac{1}{4}$ th and other low rates of rent. In a few cases, some cash *malikana* is paid in addition to the *batai*, or even a *malikana* of one or half a seer in the maund is added. This is not very general. It may be remarked that much of the worst Dun, Ghar, Pahar and Changar *ekfasli* II is hardly ever taken on *batai* separately, but when so taken, pays only the lowest rates of $\frac{1}{4}$ th or $\frac{1}{8}$ rd *batai*. This will be allowed for in taking rates of *batai* rents for the produce estimate.

57. Except in a few villages in the Central Dun and adjoining Ghar, tenants-at-will hardly ever pay *zabti* rates for cane, cotton, rice, hemp,

Rents for cane, etc.

etc., as do occupancy tenants. The entry as regards the rent of these crops is generally *batai*, but usually the standing crop is appraised and the landlord takes his rent in cash, often with the addition in the case of cane of a jar of *ras* or a little *gur*. The current *batai* rates, however, apply to these crops. Occupancy tenants' *zabti* rents, being customary, are low. Apparently it was these which were taken in the produce estimate of last settlement.

58. A number of the tenants paying no rent, except the revenue, are *bandobastidars*, *muqarraridars* or *thekidars*, as persons with whom settle-

Tenants paying no rents.

ment has been made on the resumption of a *m'afi* are described in the records.

59. Only about 8 per cent. of the cultivated area is held by tenants-at-will on fixed cash rents, which are more or less competitive (Statement

Area under cash rents.

VI). They are only at all common in the Dun and Bit, where they exceed 10 per cent. The rents paid by mortgagors to mortgagees, which are given in Statements XII—A and B often include interest charges and cannot be described as true competition rents. They are highest in the circles, where the largest area is mortgaged, because there the best land or some of it has been mortgaged, while, where mortgage is small, the proprietors have usually kept the best land unencumbered.

60. At village inspections I excluded cash rents paid to 'others' which were wildly abnormal. Had I excluded more strictly, few cash rents

Exclusion of abnormal rents.

would have remained in some circles, where the bulk of the tenants-at-will are really proprietors or occupancy tenants, who year after year take on cash rents pieces of land adjoining their holdings without competition. I eliminated about 1,000 acres of land on account of abnormal rents. These are not included in statements A and B, because I struck them off the original rent lists, before

entering up the rents in the village assessment statements, from which the appended statements were compiled. Statement XII-C only contains rents paid by 'other' tenants to mortgagees and by 'other' tenants, as shown in statements A and B. The exclusions have only lowered the rent rates slightly.

61. The resolution of lump soil rents in statement C presented the difficulty that they often included

Resolution of lump soil rents.

consideration for areas under *kharkana* or *banjar*, useful for grazing or wood supplies. I have excluded these by taking the ascertained single rent for *kharkana* or *banjar* given in statement A. In cases where there was no such single rent rate available in the circle, I took the rate from a neighbouring and similar circle. In the case of irrigated land in the Bet and Ghar, I had to borrow rent rates from similar circles. For 'Garden' there was only a mortgagor's rent at Rs. 4-8-0 an acre in the Dun, so that was taken for garden land, where it came in a lump holding in the same circle. For *behand banjar* in the Pahar, 8 annas an acre was assumed. Captain Montgomery did not resolve his lump rents. His average cash rent rate for the tahsil, plus 22 Garshankar Bit estates, came to Rs. 3-14-0 an acre cultivated. The statement No. XII (C) gives Rs. 8-3-7 as the average normal rent now.

CHAPTER VI.—HALF NET ASSETS ESTIMATES.

A.—Estimate based on rents in kind.

62. No crop experiments were conducted by the Mahal staff before settlement. Only 4 or 5 cuttings were

Number and nature of crop experiments.

made at Kharif 1910. The bulk of the experiments, 90 in all, out of which 57 were in the Dun and Bet, have been made from Rabi 1911 to Rabi 1913. Of these 90, 71 were accepted. In addition to these, about 45 experiments have to be given up on account of the failure of crops in selected fields. I think that, as a rule, rather too good fields were selected. In some localities it was impossible to find fields of anything like an acre for cuttings on account of their smallness in the hills. At last settlement Captain Montgomery only made cuttings at two Rabis and one Kharif. He placed no reliance on his own experiments or those of Mr. Roe, in which, however, Mr. Roe himself had considerable confidence. Major Wace's remarks in paragraph 16 of his review of last assessment report show that he admitted that the experiments made by Captain Montgomery had to be accepted with considerable reserve, though he accepted the yields proposed as he had no means of checking them. However, I have considerable hesitation in varying last settlement yields, unless the result of the recent experiments, when they are reliable and sufficient in number, and the yields assumed in neighbouring tracts seem to necessitate it.

Character of harvests, when cuttings were made.

63. The character of the harvests, during which the cuttings were made, is briefly as follows:—

Kharif, 1910.—Unirrigated crops below; *barani* about average.

Rabi, 1911.—Everywhere far above the normal.

Kharif, 1911.—Irrigated crops excellent; *barani* considerably below average on account of defect of rain.

Rabi, 1912.—Very good indeed.

Kharif, 1912.—Below average.

Rabi, 1913.—Very much below the mark.

On the whole, the three Rabis were better than any normal three and two of the Kharifs worse than the average.

64. Where practicable, I shall compare yields assumed in the Pathankot Pahar and Kandi, the Hoshiarpur Kandi, in Kangra and elsewhere with those of somewhat similar tracts in Una. I may mention that, as I have

Old yields when altered.

seen only two standing harvests, both poor, in Una, I cannot pretend to have any reliable knowledge as to yields, as a result of personal observation, and am, therefore, necessarily diffident in my criticisms of last settlement yields. Yields will only be discussed below in cases where the last settlement yields, which were based on less reliable data than are now available, seem to be much out.

65. *Rice (2 per cent.)*.—The experiments in rice on *ekfasli* I in the Dun give a higher yield than that assumed at last settlement for *nahri-abi*. The best *ekfasli* undoubtedly gives rather better results than the last settlement yield, but the old *ekfasli* II yield is a little high and should be somewhat less than half that on *ekfasli* I. Compared with the Pathankot yields, those for *dofasli* in all circles seem rather high, but I have left them unaltered. While increasing the Dun *ekfasli* I yield to 300 seers, I have reduced that for *ekfasli* II in the Dun and hill circles to 140 seers, which is still higher than that taken in the Hoshiarpur Kandi for similar land.

Maize (22 per cent.).—This crop is grown in the best manured land and great attention is given to its cultivation. The produce experiments indicate that last settlement yields for *dofasli* in the five circles, where they have been made, are somewhat below the mark. I have raised the *dofasli* yields by 20 seers in the Dun, Bit, Pahar and Changar.

Moth (4 per cent.).—The few experiments made on *ekfasli* I in the Bit and Ghar show that the old yields of from 120 to 160 seers for *ekfasli* I were rather high; so I have reduced them into 120 seers for the Dun and Bet, and to 100 seers elsewhere. One hundred seers is the Hoshiarpur Kandi rate.

Mash and mung (2 per cent.).—These were lumped with moth at last settlement. No experimental data are available, but the Pathankot yields show the old Una yields to be somewhat high. For *ekfasli* I 100 seers, which is a maund above the Pathankot, but half a maund below the all-round Hoshiarpur Kandi yield, is suitable. The other yields I leave, though they seem a little high.

Sugarcane (3 per cent.).—Gur alone will be considered. As *zabti* rents cannot be used, since the produce is generally appraised, yields must be settled on the basis of the experiments of last settlement and this. The crop does best in the Sutlej riverain, but is also found along the Swan and in kohlas in the hills. Except in the Bet, cane is often planted, rather to collect silt or prevent erosion, than for its produce. This consideration has necessitated the assumption of somewhat low yields for the worst barani soils of several circles.

In the Bet, for *dofasli*, often in reality *sailab*, I have taken the high yield of 1,000 seers. Two of the accepted experiments for cane in this circle, giving over 2,000 seers, are almost certainly exaggerated. Excluding them, the average given by the experiments would be about a third less. The yield assumed is higher than any taken for the Hoshiarpur Sirwal. For the Dun and Bit 560 seers has been assumed for *dofasli* and 320 for the three hill circles, where the yield is low, both owing to the poorness of the soil and to over-cropping of the *lahris*, where it is grown. For *ekfasli* I have taken 520 seers in the Bet, 280 in the Dun and Bit, and 200 for the three hill circles. For any poor cane there may be on *ekfasli* II, half the *ekfasli* I yields will be enough.

Irrigated cane has been put at 850 seers in the Bet, 640 in the Dun and Bit, and 480 for the hill circles. In the Bet there can be no doubt that *sailab* produces better yields than *chahi* or *abi-nahri*.

Cotton (5 per cent.).—Here again there is little to go upon, as the experiments for *ekfasli* I in the Bet and for *dofasli* in the Ghar give an unaccountably low average. Following the three other lots of experiments closely, I take for all circles 200 seers for irrigated, 160 for *dofasli*, 120 for

ekfasli I, and 60 for *ekfasli* II. The first two are a little below the Hoshiarpur Kandi yields and the last two the same. Una cotton is very poor in yield and quality.

Wheat (15 per cent.).—The last settlement yields are, except in a few cases, justified by the recent experiments made, it should be remembered, at favourable Rabis which makes the old yields seem more moderate than they really are. I have no hesitation in giving at least the same yields in the Dun for *dofasli* and *ekfasli* I. The experiments recently made there show that the yield of *dofasli* is actually slightly less. I have myself little doubt but that the yield of the best 'Har' land is from 20 per cent to 50 per cent. in excess of that of average *dofasli*, which has generally grown a maize crop just before and has also possibly been sown late, in addition to being by situation drier land than the lighter and lower situated *ekfasli* I. As, however, *ekfasli* I includes some land other than and inferior to the 'Har,' it will be safe enough to give them the same yield of 280 seers, somewhat higher than the mean of the combined last settlement yields for *dofasli* and *ekfasli* I. The experiments in the Bit, as well as the crops I have seen, justify my raising the *dofasli* yield there up to 200 seers. Here, too, the *ekfasli* I yield has been slightly raised, but the *ekfasli* II yield lowered to the same as for the three hill circles.

Gram (6 per cent.).—The Dun and Bit experiments in *ekfasli* I point to the old yields being too high for the Dun and Bit and low for the Ghar. Despite the unfavourable Kharifs of the crop experiments, I have little hesitation in putting the yields for the Dun, Bit and Ghar as low as 160 seers, as the crop is grown in the poorest lands of this class in both circles. The *ekfasli* yield for the Changar and Ghar should at least be as low as, if not lower than, those of the Bit, Dun and Pahar.

Barar (wheat-gram) (28 per cent.).—Though the old yields for *ekfasli* II seem rather low throughout, those for the superior *baranis*, especially in the Dun and Bit for *dofasli*, seem quite full in view of the recent experiments. I am, however, reluctant to alter the old yields, except in the Bit, where those for *dofasli* and *ekfasli* have been raised by 20 seers each. Even now, perhaps, they are rather below the mark for this circle. The experiments were on too small areas to be quite safe to follow. I also distrust the Ghar and Changar experiments, though their areas were larger, but at least they show the moderation of the old yields.

Rabi oil-seeds (1 per cent.).—There are no experiments for these. All-round yields of 160 seers, 100 seers and 60 seers for the three *baranis* and 200 for irrigated will be found spitable.

Had it been possible to take *behand banjar* separately for the produce estimate, yields somewhat lower than those taken for *ekfasli* II in the Pahar would have been necessary. For 'kulth' in Pahar *ekfasli* II, which was probably grown on *behand banjar*, I have assumed the Kangra yield of 100 seers, as well as the Kangra price.

66. The general effect of the changes, now made in last settlement

Effect of changing last settlement yields.

yields, is slightly to increase the all-round yields of the principal staples, such as maize and wheat, on the better *baranis* in some of the circles, so that, though I have made a few slight reductions, mostly in the cases of minor crops, my produce estimate will be materially higher than had I used the old yields throughout.

67. At last settlement straw was excluded from the produce estimate.

Straw.

There is still practically no market demand for it, as then, but the landlord is now generally recorded as entitled to the same share of it as of the grain, so that it ought to be taken into account. Landlords do not, however, always insist on their right to the straw. The only kinds of straw worth considering are the *turi* of wheat, the *katia* of gram, the *missa* of *berar* (wheat-gram) and the *tanda* of maize. I give below the yields,

based on experiments and inquiry, as well as the prices I propose to assume—

<i>Crop.</i>	<i>Outturn of straw.</i>	<i>Value in annas a maund.</i>
Wheat	... 1½ of grain	4
Gram	... ½rds of grain	3
Wheat-gram	... Same as of grain	3½
Maize	... Same as of grain	2½

68. While I have made much smaller deductions for menials' dues than did Captain Montgomery (paragraph 55), it must be remembered that the Rajputs and, to a less extent, the Brahmans as proprietors have more unproductive persons to feed than the Jat, Saini or Bahti, so that whatever the theoretical Government share of the net assets may be, they cannot have as much surplus produce available for sale as agriculturists proper. In the same way as tenants, such tribes feel as severe a rent which inferior tribes can pay with ease. The Rajput, who will not plough himself, has to bear the cost of the wages of a ploughman.

69. The percentages of the various crops for the five years ending with Rabi 1910, for which prices have been sanctioned at this settlement, and the sanctioned prices in annas per maund compared with the similar figures of last settlement, are as follows :—

	Kharif.						Rabi.			Straw, etc.	Others.
	Maize.	Rice unhusked.	Gur.	Cotton cleaned.	Moth.	Mash and mung.	Wheat.	Gram.	Wheat and gram.		
<i>Last settlement.</i>											
Crop percentage	23	3	8	5	8	9	31	2	10	6	...
Price	18	20	...	...	23	...	19	17	17	32	...
<i>Now.</i>											
Crop percentage	23	2	8	5	4	3	17	5	26	1	2
Price	26	28	58	72	28	35	30	24	26	48	...

70. The prices, given above, are sanctioned, not actual prices, so their comparison does not show the actual rise in prices, which I have calculated roughly below for the main staples. All these figures will also be found in my report on prices :—

	Maize.	Wheat.	Gram.	Wheat-gram.
(a) Average prices for 15 years from 1865-66 to 1879-80.	22	24	21	22
(b) Average prices for 15 years from 1896-97 to 1910-11.	29	35	27	31
(c) Percentage of increase	32 per cent.	43 per cent.	29 per cent.	41 per cent.

The general rise worked out at 37 per cent., but was reduced to 35 per cent. when allowances for differences in area were made. These estimates were accepted by the Financial Commissioner.

71. It is, however, necessary to note that in my calculations of prices I did not exclude the prices of the poor years, 1896-97, 1899-1900, and the very bad year 1907-08 (see paragraph 3 of my report). I, however, submitted that they were bad years, even in Una, and wished to show that the effect of their inclusion, in deference to the Settlement Commissioner's remarks in his review of the Forecast Report, would be to raise the average of the prices, though the *Una zamindars* had not benefited by the high prices of those bad years. The fact that I considered it inadmissible to exclude them from my calculations, resulted in my proposing a slightly higher scale of prices than the average prices of a series, not including those of the three bad years, would have warranted, with the result that the prices, as now sanctioned, are certainly not low.

72. Six of the years of the fifteen, over which the inquiry into prices extended, have been characterized by the Financial Commissioner in dealing with the question of "Selected Years" as poor here and as years of scarcity elsewhere, so, while considerably reducing the average matured area of any series that includes them, they have also inflated average prices. Yet, while the prices we have to work on are based on the average prices of a 15 years' series, including those poor years, the sanctioned 'selected years' for matured crops for the produce estimate give a matured area over 3 per cent. higher than the average given by that same 15 years' series.

73. It is extremely difficult to say how much of the rise has been effective in a country of small holdings, many held by indifferent agriculturists, with no real markets and no regular export trade. Any article imported from the outside has its price greatly enhanced by the cost of carriage. It is also apparent that the growth of the agricultural population must have materially decreased the amount of surplus produce available for export or sale. The general rise in the standard of comfort and consequent increased cost of living is another factor not to be ignored. Plough cattle cost at least twice as much as at last settlement. I should doubt whether the *Una zamindar* has derived as much as half the advantage of the 35 per cent. rise in the price of agricultural produce, if that.

74. It is necessary to fix prices for the "other" crops at Kharif and Rabi, which are detailed in paragraph 49. Of course such prices can only be approximate, as they deal with mixed crops. The most convenient plan will be to assume cash rents, as crop experiments for such crops are not available and, if available, would be useless. In Pathankot, in some respects similar to parts of this tahsil, but with far better communications, Rs. 4 an acre was assumed for Kharif and Rabi "other" crops on the best soil, *barani* I (here *dofastli*), Rs. 3 for *barani* II (here *ekfastli* I), and Rs. 2 for *barani* III (here *ekfastli* II). I have adopted these prices. Hemp is grown in so small quantities, and only for domestic use, that it has been included in "others." Kharif fodder occupies 7 per cent. of the cropped area, but, on account of the large waste grazing and grass areas, has only a small value, especially as there are hardly any well cattle to feed. Rupees 3 an acre will be sufficient to assume as a cash rent for it. Vegetables and fruit are valuable, but naturally command lower prices here than near large towns. For the adjoining Hoshiarpur Kandi circle Rs. 10 an acre has been assumed. This will be fully adequate for the Kharif vegetables and fruit, but I prefer to take Rs. 15 an acre for Rabi vegetables and fruit, as the valuable, if small, tobacco crop has been placed with them in the produce estimate.

75. With the exception of the revenue free garden at Amb, belonging to the Jaswan Raja, the Government garden at Una, and a few other groves near Una and Nurpur, most of the land, recorded as under gardens, contains only rather indifferent mango groves. Since last settlement few new orchards have been planted. At village inspections I saw only three or four young

plantations. The apparent increase in land recorded as *bagh*, is due to the fact that at last settlement, many of the groves were then young, so the land under them was not recorded as *bagh*. In 1852 Melvill wrote that in Una mango trees were very seldom seen. Though this is not so now, there is practically no export of Una mangoes, and there are no large towns to create a local market. At fairs, when their celebration happens to coincide with the ripening of the mango, the neighbouring *zamindars* make a little money by selling the fruit, but not much, as it only fetches from one to six annas per hundred. As an owner of a mango grove can seldom find a contractor to buy his fruit, he often makes no profit out of it. The case must be kept distinct from that of the rest of Hoshiarpur, where the mango is better and finds a far readier sale. The only cash rent is one of Rs. 4-8-0 per acre in the Dun; so I have taken it for the half net assets calculations, though it may be a little high for the hill circles and rather too moderate for the other three circles. In addition, I have had an estimate made, village by village, of profits derived from the sale of fruit, which gives Rs. 10,809 for the whole tahsil. This also includes profits from the sale of the produce of wild fruit trees, such as the *ber*, not grown on "garden land". Following Captain Montgomery, I shall apply to it the rate of the best *barani*

76. The question of *kharkana* is of some importance. While its value for thatching, ropes, fodder and a number of other purposes is undoubted, as can be seen from the rent rates, which are Rs 3 an acre in the Dun and Bet and Rs. 5-3-0 in the Ghar, as well from the average receipts from its sale, which average Rs. 17,137 for the tahsil, its planting should be encouraged to arrest torrent action and denudation. The value of the gross produce is sometimes as much as Rs. 2 a *kanal*. I have used the recorded cash rents for the half net assets calculations.

The area under *kharkana* has fallen off since last settlement, when the rate on *kharkana* was four annas. I only propose to put up this rate to six annas, so as not to hinder its planting for protective purposes. The fact that river and torrent action has since last settlement reduced the annual demand by over Rs. 11,000 is in support of leniency of treatment.

In the case of both "garden" land and *kharkana belas*, I have applied the cash rent rate to three-quarters and two-thirds, respectively, of the areas now recorded as under *bagh* or *kharkana*, to allow for the areas which bring in no profit on account of their either having been newly planted or bearing trees or grass that have ceased to bring in any return.

77. It seems unnecessary to add to the produce estimate the Government share of the other miscellaneous income derived from land. It will be sufficient to bear it in mind in determining the gross assessment of the various circles.

78. Below is given a table, which shows how the percentage, representing the Government half net assets share, has been obtained in each case. Paragraphs 54 to 57 have dealt with rates of rents in kind and menials' dues, which form the basis of the figures given in the table. In the percentages I have taken the nearest round figure:—

Table showing the Government half net assets share in percentages.

Circle.	Deduction for menials' dues.	PREVALENT RATES OF KIND RENTS, ACCORDING TO SOILS.		Resultant Government half net assets share.
		Soils.	Rent-rates.	
BET ...	5 per cent. ...	Irrigated, dofalsi and ekfalsi I ...	$\frac{1}{2}$	24 per cent.
		Ekfalsi II ...	$\frac{1}{3}$	19 "
DUN ...	5 " ...	Irrigated, dofalsi and ekfalsi I ...	$\frac{1}{2}$	24 "
		Ekfalsi II ...	$\frac{1}{3}$	16 "

Circle.	Deduction for menials' dues.	PREVALENT RATES OF KIND RENTS, ACCORDING TO SOILS.		Resultant Government half net assets share.
		Soils.	Rent-rates.	
BIT ...	5 per cent. ...	All soils	$\frac{1}{2}$	24 "
PAHAR ...	4 " ...	Irrigated and dofalsi ($\frac{1}{2}$ and $\frac{1}{2}$ batai).	$\frac{1}{2}$	22 "
		Ekfasli I and ekfasli II (including behand banjar).	$\frac{1}{2}$	16 "
GHAR ...	5 " ...	Irrigated, dofalsi and ekfasli I ...	$\frac{1}{2}$	24 "
		Ekfasli II ...	$\frac{1}{2}$	16 "
CHANGAR ...	5 " ...	Irrigated, dofalsi and ekfasli I ...	$\frac{1}{2}$	24 "
		Ekfasli II ...	$\frac{1}{2}$	19 "

79. It should be remembered that it was not possible to obtain direct from the *khassra girdawaris* the actual crops grown on each sub-division of *barani* in the selected years. The total *barani* crops have been distributed over the sub-divisions of *barani* on the basis of the new soils. The approximately correct proportion of matured crops to an acre of *dofalsi*, *ekfasli* I or II, was obtained by distributing the actual matured crops over the new soils in a number of remeasured villages. In these estates all fields, now shown as *dofalsi*, had the actual matured crops grown on them in the five selected years, totalled: this gave the area of *dofalsi* matured crops for those villages. Similarly, the process was repeated for the other soils. The results, when applied to the circles, while only approximate, are probably not much out for matured crops.

On account of the previous incorrect recording of *behand banjar* in the Pahar, I have been unable to get out a separate produce estimate for that soil. Though a little of the *behand banjar*, now recorded as such, may have carried some crops in the selected years, it is quite impossible to say how much, as at *girdawari* patwaris have rarely visited the outlying parts, where the *behand banjar* is; so, as often as not, any crop it produced was not recorded. Little *behand banjar* was sown in the five Kharifs of the selected years.

80. For obtaining average soil rates on cultivated areas, I have used the new recorded irrigated soils, as it is impossible to make anything out of the recorded irrigated soils of the five years, except that, they are quite wrong: for *barani*, I have used the average of the five years' recorded *barani* areas, divided up into *dofalsi*, *ekfasli* I and II, according to the proportions of the new soils. It was impossible to use the new soils as they stand, as, except in the Pahar, the total of *barani* soils is now materially lower than that of the average areas of the five years. In addition to the decrease of about 4 per cent. owing to the changed method of area extraction, diluvion and the spread of sand have recently put some land out of cultivation. I had no alternative to using the new irrigated areas, except that of attempting to correct the five years' areas with their help, which seemed an unnecessary elaboration for these comparatively small areas.

81. The accompanying table gives the results of the half net assets estimate, based on rents in kind. It gives the average rates on an acre of cultivation during the selected years, and the results, obtained by applying them to the new soils, as well as showing the details of the calculations. The rates per acre of matured crops are given in the detailed statements.

Summary of the results of the half net assets estimate based on batai rents.

It should not be forgotten that the same prices were taken for the whole tahsil, whereas they really vary from circle to circle as well as within each of the larger circles. For instance, the Pahar prices should probably be lower and the Ghar higher than the average tahsil prices on account of the distance of many parts of the first from the plains and the proximity of most of the latter to them.

Summary of half net assets estimate based on rents in kind.

Name of circle.	Soil.	Government share in total cultivated area.	Rate per acre cultivated.	New areas.	Value of Government share on new soil.	Garden.	Kharana.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
B.T.	Chahi	1,431	8 5 11	171	1,431			
	Nahri-abi	171	1 8 9	42	65			
	Dofasli	42	6 7 9	17,740	1,15,033			
	Ekfasi I	1,24,862	1 13 8	6,885	12,766			
	Ekfasi II	10,246	0 11 5	3,004	1,430			
	Total	13,866				542	1,062	1,33,219
DUN.	Chahi	7,470	6 6 7	824	5,284			
	Nahri-abi	1,548	8 1 3	1,559	4,790			
	Dofasli	2,174	5 7 7	30,403	1,69,748			
	Ekfasi I	5,284	2 6 0	25,524	61,816			
	Ekfasi II	824	0 14 1	9,290	8,177			
	Total	4,790				802	6,799	2,64,464
B.T.	Chahi	15	15 0 0	1	15			
	Dofasli	1	5 10 1	3,840	21,071			
	Ekfasi I	22,708	1 14 10	2,430	4,700			
	Ekfasi II	4,038	1 0 9	3,023	3,105			
	Total	4,923				90	50	29,700
PAHAR.	Chahi	3,554	15 0 0	1	15			
	Nahri-abi	3,318	3 14 11	408	1,038			
	Dofasli	3,167	3 10 2	7,417	30,964			
	Ekfasi I	7,599	0 14 3	3,468	3,987			
	Ekfasi II	3,167	0 5 2	4,272	1,360			
	Total	2,901				75	77	33,536
GHAB.	Chahi	401	7 3 6	68	491			
	Dofasli	68	4 1 6	12,808	52,433			
	Ekfasi I	55,448	1 13 8	9,442	17,507			
	Ekfasi II	13,543	0 13 5	7,085	5,949			
	Total	18,524				295	6,067	82,743
CHANGAR.	Chahi	9,084	6 8 5	40	261			
	Nahri-abi	6,308	3 14 2	96	373			
	Dofasli	7,503	4 1 5	6,163	25,279			
	Ekfasi I	201	1 8 10	5,351	8,306			
	Ekfasi II	40	0 13 11	3,944	3,343			
	Total	373				189	957	38,708
GRAND TOTAL OF TAHILL		3,900			5,54,435	2,062	15,911	5,72,396

B.—Half net assets estimate based on cash rents.

82. In paragraphs 59 to 61 the question of cash rents has been dealt with. They can only serve at all as a guide in the Bet and Bit. In the Dun

Cash rents.
and the hill circles they are not representative, as was also the case in some of the Pathankot circles. As all soils are heavily cropped, I have not allowed for fallows in applying the cash rent rates, given in statement No. XII (C), to the new areas, but I have applied the garden and *kharkana* rent rates to the new areas, with the deductions given in paragraph 76.

In view of the comparative unimportance of the subject, any detailed analysis of the rents seems unnecessary. The lowness of the Pahar and Changar rents is due to the fact that most of the rents are concession rents to other residents of the village. The comparative highness of the Dun and Ghar rents may be attributed to the fact that, as a rule, it is only the best lands, near Una, that are on cash rents, while the far inferior hill land is rarely let on cash or indeed on kind rents.

The only other point worth noting is that the Dun *ekfasli* rent would be much higher, if it included, as it does not, much of the excellent 'Har' land by the Swan, which is almost entirely with self-cultivating occupancy tenants

83 The attached statement gives the total rental of all the soils, based on cash rents and the theoretical Government share :—

Table giving the half net assets share, based on cash rents.

Half net assets estimate based on cash rents.

1	2	3	4	5	6
Circles.	Soils.	New areas, in acres.	Cash rent per acre.	Total rent.	Government share.
			Rs.	Rs.	Rs.
BET.	Chahi	171	22 8 0	3,848	1,924
	Nahri-Abi	42	16 0 0	672	336
	Dofasli	17,740	11 11 8	2,08,075	1,04,038
	Ekfasli I	6,885	7 0 8	48,482	24,241
	Ekfasli II	2,004	3 9 10	7,244	3,622
	Garden	$\frac{1}{2} \times 821$	4 8 0	1,085	542
	Kharkana	$\frac{1}{2} \times 1,952$	3 0 0	3,904	1,952
	Total	...	...	2,78,310	1,36,655
DUN.	Chahi	824	18 3 6	15,012	7,506
	Nahri-Abi	1,559	8 14 11	13,925	6,962
	Dofasli	30,462	14 3 7	4,33,290	2,16,645
	Ekfasli I	26,524	7 0 10	1,79,997	89,998
	Ekfasli II	9,290	3 9 10	33,579	16,790
	Garden	$\frac{1}{2} \times 511$	4 8 0	1,724	862
	Kharkana	$\frac{1}{2} \times 6,799$	3 0 0	13,598	6,799
	Total	...	...	6,91,125	3,45,562

1	2				3	4	5	6
Circles.	Soils.				New area, in acres.	Cash rent per acre.	Total rent.	Government share.
						Rs.	Rs.	Rs.
Brt.	Chahi	...	...	...	1	19 12 0	20	10
	Dofasli	...	...	...	3,849	9 11 11	37,508	18,754
	Ekfasli I	...	...	...	2,439	3 9 2	19,515	9,758
	Ekfasli II	...	...	...	3,023			
	Garden	...	...	...	$\frac{1}{2} \times 59$	4 8 0	198	99
	Kharkana	...	...	...	$\frac{1}{2} \times 59$	3 0 0	118	59
	Total	...	...	...	...	...	57,350	28,679
PAHAR.	Chahi	...	...	...	1	18 3 0	18	9
	Nahri-Abi	...	...	...	493	7 11 4	3,800	1,900
	Dofasli	...	...	...	7,417	3 11 10	27,737	13,868
	Ekfasli I	...	...	...	3,466	2 12 1	9,550	4,775
	Ekfasli II	...	...	...	2,798	1 5 3	3,710	1,855
	Behand Banjar	...	...	...	3,661	0 8 0	1,831	916
	Garden	...	...	...	$\frac{1}{2} \times 44$	4 8 0	149	75
	Kharkana	...	...	...	$\frac{1}{2} \times 688$	0 5 4	153	77
	Total	...	...	...	...	...	46,948	23,475
GHAR.	Chahi	...	...	...	68	19 12 0	1,343	671
	Dofasli	...	...	...	12,808	12 1 11	1,55,230	77,615
	Ekfasli I	...	...	...	9,442	4 5 7	41,063	20,532
	Ekfasli II	...	...	...	7,095	1 8 3	10,754	5,377
	Garden	...	...	...	$\frac{1}{2} \times 175$	4 8 0	590	295
	Kharkana	...	...	...	$\frac{1}{2} \times 3,495$	5 3 4	12,135	6,067
	Total	...	...	...	...	...	2,21,115	1,10,557
CHANGAR.	Chahi	...	...	...	40	22 8 0	900	450
	Nahri-Abi	...	...	...	96	16 0 0	1,536	768
	Dofasli	...	...	...	6,183	10 14 5	67,401	33,701
	Ekfasli I	...	...	...	5,351	4 7 3	23,829	11,915
	Ekfasli II	...	...	...	3,844	4 5 5	16,677	8,338
	Garden	...	...	...	$\frac{1}{2} \times 112$	4 8 0	378	189
	Kharkana	...	...	...	$\frac{1}{2} \times 850$	3 0 0	1,700	850
	Total	...	...	...	...	...	1,12,421	56,211
TOTAL.	Chahi	...	...	...	...	...	21,141	10,570
	Nahri-Abi	...	...	...	...	...	19,933	9,966
	Dofasli	...	...	...	...	...	9,29,241	4,64,621
	Ekfasli I	...	...	...	...	...	3,11,635	1,55,818
	Ekfasli II	...	...	...	...	...	82,765	41,382
	Behand Banjar	...	...	...	...	...	1,831	916
	Garden	...	...	...	...	...	4,124	2,062
	Kharkana	...	...	...	...	...	31,608	15,804
	Total	...	...	...	...	...	14,02,278	7,01,139

CHAPTER VII.—ASSESSMENT.

A.—Statistics.

84. Summary of Statistics bearing on assessment—

Detail.	Bet.	Dun.	Bit.	Pahar.	Ghar.	Changar.	Tahsil.
1. Percentage of cultivated to total area.	53	41	43	27	30	43	38
2. Percentage of cultivated under irrigation.	8	3.5	.01	2.8	.2	.9	2
3. Changes in cultivated area since 1880-81.	- 8.34	- 3	- 1.52	+ 20.9	- 6.2	- .78	- 1.58
4. Increase of wells (masonry).	125	353	...	1	19	54	552
5. Chahi area a well ...	1.31	1.32	...	1	1.78	1.06	1.32
6. Cropped area a well ...	.95	1.19	...	1	1.58	1.06	1.13
7. Average crops matured per cent. of cultivated area.	126	118	121	84	113	114	115
8. Percentage of crops failed.	19	16	14	27	18	13	17
9. Population to square mile cultivated on new areas.	757	967	940	865	844	817	885
10. Average cultivated land an owner, new areas	2.19	4.8	5.62	5.25	4.46	6.75	4.56
11. Percentage of khudkasht.	48	29	32	30	39	31	34
12. Percentage with occupancy tenants.	23	39	39	45	32	35	35
13. Percentage with tenants-at-will.	29	32	29	25	29	34	31
14. Percentage of cultivated land sold since 1880-81.	10	7	7	10	7	8	8
15. Average price of last 5 years.	188	242	155	59	122	271	181
16. Percentage of cultivated area now mortgaged.	16	18	15	14	17	16	16
17. Percentage of mortgage to non-agriculturists.	5	4	6	2	7	8	5
18. Mortgage consideration.	Rs. 132	Rs. 111	Rs. 82	Rs. 53	Rs. 82	Rs. 102	Rs. 108
19. Assessment at last settlement.	60,207	1,31,058	13,880	18,726	47,378	16,239	2,87,488
20. Assessment, 1911-12	56,647	1,26,442	13,813	18,712	44,428	16,105	2,76,147
21. Half net assets of last settlement.	...	1,50,257	...	22,143	50,934	...	...
22. Half net assets now based on batai rents.	1,33,219	2,54,484	29,709	33,536	82,742	38,708	5,72,398
23. Value ½th gross produce.	95,644	1,78,345	20,502	25,457	53,803	25,939	3,99,690
24. Incidence of 1911-12 revenue per acre cultivated. (New measurements).	Rs. A. P. 2 1 4	Rs. A. P. 1 13 8	Rs. A. P. 1 7 7	Rs. A. P. 1 0 9	Rs. A. A. 1 8 0	Rs. A. P. 1 0 6	Rs. A. P. 1 10 4
25. Ditto per acre of matured crops. (Five years' average).	1 10 6	1 9 7	1 3 1	1 3 11	1 5 2	0 14 5	1 6 1½

The above table gives a summary of the statistics that bear on the question of re-assessment. Below I shall deal with each circle separately.

B.—Proposed Circle Assessments.

85. This circle contains 62, that is, all of the old Bet No. 1 estates and the 28 best estates of the old Bet No. 2. The land between the Bhalan-Nurpur-Nangal Abiana and Nangal Guzar-Anandpur-Kiratpur roads is, generally speaking, excellent, but the land to the west and east of these roads respectively is poorer and assimilates to that of the adjoining Ghar and Changar. Near Nurpur the population is industrious, but is indebted and suffers from the smallness of holdings, and the circle steadily loses cultivation from diluvion and the spread of sand. The eastern Bet has a less industrious population, but larger holdings. On the whole, this may be described as a fertile tract, which was fully developed at last settlement and has made little or no progress since. The incidence of the old demand on an acre of crops is Re. 1-10-6 and on an acre of cultivation Re. 2-15-10, which are both higher than in any other circle. Against the slight decrease in the cultivated area may be set the extra security due to the increase in the number of masonry wells. The half net assets share, given by *batai* and cash rents, corroborate each other, but it is out of the question, I consider, to take even up to half of either of them. An increase of from 10 per cent. to 15 per cent. on the present demand, which is slightly more than was taken in the Ludhiana and Samrala Bets, seems ample in view of the already full development of the tract.

The following statement compares the rates now proposed with those of last settlement and those recently sanctioned in the Samrala and Ludhiana eastern and western Bets:—

BET.	Last Settlement soil rates (averages of rates of Bets 1 and 2).	Soil rates now proposed.	Demand on new soils.	Sanctioned soil rates in Samrala and 2 Ludhiana Bets.
	Rs. A. P.	Rs. A. P.	Rs.	Rs. A. P.
Chahi ...	5 0 0	5 8 0	941	4 0 0 3 12 0
Nahri-abi ...	3 0 0	3 4 0	136	...
Dofasli ...	2 11 6	2 14 0	51,925	2 6 0
Ekfasli I ...	1 3 0	1 6 0	91,467	1 15 0
Ekfasli II ...	0 9 6	0 12 0	1,503	1 4 6
Kharkana ...	0 4 0	0 6 0	732	...
Total ...	...	...	64,704	...

The rates proposed have been adjusted with considerable care in each circle, to a large extent in accordance with local opinion, both as expressed now and at the *bachh* of last settlement. I have not hesitated to vary the proportions between the rates brought out in the half net assets estimates. In some few instances I have altered the proportions of Captain Montgomery's rates, but these are usually a safe guide.

The proposed new demand of Rs. 64,704 is an increase of 14 per cent. on that of 1911-12, and is about as much as this stationary tract of small struggling agriculturists can stand. The incidence of the proposed revenue on the cultivated and cropped areas is Rs. 2-6-1 and Re. 1-14-3 per acre. Though the proposed demand is only 48 per cent. and 47 per cent. of the half net assets estimates, based on kind and cash rents, respectively, both the actual enhancement is greater and the incidence of the proposed demand heavier than in the Ludhiana Bets.

86. This is a large circle,* some 50 miles long and containing in its 163 villages such varying features that every general remark made about it will be untrue of a considerable number of its estates. Its 'Har' lands by the Swan are as excellent as its *ekfasli* II in the Siwaliks is poor. Many of its estates contain the characteristics of two if not three circles. Its inhabitants vary from the industrious Bahti to the ineffective Brahman and Rajput, who, in some cases, will not plough himself. Though it has lost a good deal of its low-lying and good lands, the 1911-12 *jamabandi* figures show a 1-6 increase of cultivation. The increase in the number of wells, 353, is a good sign, as it adds to the security of the tract. The percentage of failed crops is a little lower than in the Bet, though it is so not uniformly fertile as that circle. The large number of occupancy tenants, who cultivate 39 per cent. of the cultivated land, must be set against the otherwise fairly adequate cultivated area to an owner. I propose a 15 per cent. increase on the 1911-12 demand, which gives Rs. 1,45,651, which is 57 per cent. of the half net assets, based on *batai*, of this settlement, but only Rs. 4,500 less than those of last settlement. The very heavy incidence of the population on cultivated area, i.e., 967 to the square mile, necessitates caution, in spite of the income derived from miscellaneous sources. Also, slightly more cultivated land is mortgaged than elsewhere. The *dofasli* rate, now proposed, is one anna less than that proposed for the Bet, while the rates for *nahri-abi* and *ekfasli* are somewhat higher, as the land of these two classes is rather better. The cash rent half net assets estimate is far too high, for reasons already given. Most of the rents are from a few estates in the best part of the Dun near Una. Much the same may be said to account for the high average sale price. There is no similar tract that has been recently re-assessed, with the rates of which comparison can fairly be made. I have, however, given the sanctioned rates of the adjoining, but inferior, Hoshiarpur Kandi, and the more distant but far more accessible and to the west, superior, Hoshiarpur Bakar. The proposed assessment gives an incidence of Rs. 2-2-2 and Re. 1-12-11 an acre on cultivated and cropped :—

DUN.	Last Settlement soil rates.		Soil rates, now proposed.	Demand on new soils.	Hoshiarpur Bakar and Kandi sanctioned soil rates.
	Rs.	A. P.	Rs. A. P.	Rs.	Rs. A. P.
Chahi ...	5	0 0	5 8 0	4,532	6 0 0
Nahri-abi ...	4	0 0	4 0 0	6,236	2 14 0
Dofasli ...	2	12 0	2 13 0	87,111	4 4 0 2 2 0
Ekfasli I ...	1	6 0	1 8 0	38,286	3 1 0 1 4 0
Ekfasli II ...	0	12 0	0 12 0	6,967	1 3 0 0 10 0
Kharkana ...	0	4 0	0 6 0	2,549	0 1 0
Total ...	...	...	...	1,45,651	...

87. The Una Bit, consisting of 9 large estates and occupying a

The Bit Manual.

plateau on the Siwaliks, midway between Una and Garshankar, is in area only half of the whole Bit, the other half of which, containing 22 small villages, is in Garshankar tahsil. The latter half is said to contain somewhat better soil than the Una villages. The average amount of land to an owner is ample, being 56 acres of cultivated land, but 39 per cent. of the cultivation is with occupancy tenants. The population presses rather less heavily on the cultivated area than in the Dun, being 940 to a square mile. The land is uniformly good and the percentage of failed crops very low, though there is more double cropping than in the Dun. There has been an actual extension of cultivation of nearly 3 per cent., if we take the last detailed *jamabandi* figures, while there has been no loss of good land, as in the Dun and Ghar. The yield for maize, on the best land, is shown by the produce experiments to be practically equal to that of the Bit, while the yield of *berar*, given by the experiments, is the best in the tahsil. The Rajputs, who own almost all the land, and are *talugdars* of what they do not actually own, are capable and, owing to their proximity to the plains, more practical than elsewhere. The Raawat occupancy tenants are industrious. The proposed railway to Garshankar will be within 12 miles of much of this tract. I think that Captain Montgomery, who took an increase of 33 per cent on the totally inadequate previous demand, failed to realise how secure the tract normally is. The crop statistics, as well as general opinion, support my view as to the strength of this circle:—

Bit Circle.					Last Settlement soil rates.	Soil rates now proposed.	Demand on new soils.
					Rs. A. P.	Rs. A. P.	Rs.
Chahi	...	...	...	...	...	5 8 0	5
Dofasli	...	...	...	...	2 11 0	3 0 0	11,724
Ekfasi I	...	...	...	...	1 4 0	1 8 0	3,658
Ekfasi II	...	...	...	...	0 10 0	1 0 0	3,023
Kharkana	...	...	...	...	0 4 0	0 6 0	22
Total					...	...	18,432

The above assessment, which I propose, is 62 per cent of the half-net assets estimate, based on *batai* rents, and 64 per cent. of that based on cash rents. The proposed rates on *dofasli* and *ekfasli* II have been pitched higher than in any other circle, while that for *ekfasli* I is the same as the Dun rate. The incidence of the proposed assessment is Re. 1-15-6 and Re. 1-10-1 an acre on cultivated and matured areas, which is slightly lighter than in the Dun. The considerations that have prevented my proposing higher rates are (1) that my proposed *jama* is within Rs. 2,000 of the value of one-sixth of the gross produce; (2) that the bulk of the increase will have to be taken from four or five of the nine villages; and (3) that there is practically no irrigation. The percentage of the proposed enhancement is almost as much as that sanctioned for the far richer Hoshiarpur Sirwal (35.5 per cent.) and almost equals the estimated rise in prices (35 per cent.), nothing like the whole of which has benefited the *zamindar*. The heavy incidence of the population and the lower price of land than in the Dun and Bet, are also factors to be considered.

88. This is a large, but compact circle of 115 estates in which circle rates will be of as much or as little

The Pahr.

use as in Kangra. Rajputs and Brahmins own most of the land, while there are few Bahti, here called Ghirth, or Saini tenants. The large Government reserved forests of Panjal, Lohara

and Dharui preclude the possibility of much more extension of cultivation. The real increase in cultivation since last settlement is only about 7 per cent.; it is only the proper recording of *behand banjar* that gives the apparent increase of nearly 30 per cent. All the new cultivation has been on poor, outlying ground in a few large villages in Lohara Tappa: most of the small estates, really *tikas*, in the Dharui Tappa show an actual decrease in cultivation. 100 acres of cultivation only produce 84 of matured crops, the percentage of failure being 27 per cent. The incidence of the population on cultivation, omitting the *behand banjar*, is over 1,000 to the square mile. The average sale price is only one quarter of that of the Dun, being Rs. 59. It is only with considerable hesitation that I have proposed a demand of Rs. 20,938, an increase of 12 per cent. on that of 1911-12, giving an incidence of Re. 1-6 3 and Re. 1-2-9 on a matured and cultivated acre. To obtain this demand I have had to lower Captain Montgomery's *dofasli* rate to Re. 1-14 0, which is still two annas above the Pathankot Pahar rate for *barani* I, and to maintain his other rates, including that for *kharkana*, the cash rent rate for which is very low, being Re. 0-5-4 an acre. The proposed soil rates and demand are given in the table below:—

PAHAR.	Last Settlement soil rates.	Soil rates now proposed.	Demand on new soils.	Sanctioned rates in Pathankot Pahar.
	Rs. A. P.	Rs. A. P.	Rs.	Rs. A. P.
Chahi ...	...	5 8 0	5	} 3 0 0
Nahri-abi ...	2 4 0	3 4 0	1,602	
Dofasli ...	2 0 0	1 14 0	13,989	1 12 0
Ekfasli I ...	0 14 0	0 14 0	3,033	1 0 0
Ekfasli II ...	0 7 0	0 7 0	1,222	0 8 0
Behand banjar ...	0 4 0	0 4 0	915	...
Kharkana ...	0 4 0	0 4 0	172	...
Total ..	...	...	20,938	...

The proposed demand takes up 63 per cent. of the half net assets, based on kind rents, and 89 per cent. of the unduly low estimate, based on cash rents, which are not really competitive. It is within Rs. 4,500 of the value of one-sixth of the gross produce. Captain Montgomery took an increase of 26 per cent, which gave a fairly full demand, even allowing for the large miscellaneous income from the waste, which has now probably been considerably underestimated. Less than 3 per cent. of the cultivated area is irrigated by *kults*, few of which are really perennial, while the uncertainty of the rainfall proving suitable and the extreme thinness of the soil make *barani* cultivation less productive than elsewhere. Wild animals cause an enormous amount of damage to both crops and cattle. The increase will mainly fall on a few large villages.

89. This broken tract of 86 estates occupies the eastern slopes of the south half of the Una Siwaliks and the lower slopes of the Kotlehr hills, almost from the Pahar circle to the Sutlej. While some of the low lands by *khads* are almost as good as Dun 'Har' lands, the bulk of the cultivation is on dry, stony, or sandy slopes, called Rakkar. The well manured *lahris*, usually situated just where the hills come down to the flat, are well manured and fairly good, given suitable rain. *Khads* have done far more damage than the actual decrease in cultivation, about 1-12 per cent, might suggest, as the good land they have carried away has had its place taken by far inferior

cultivation, high up on the slopes. Most of the landowners are Rajputs, but Gujars own a fair amount of the poorer land. At last settlement only an enhancement of 4 per cent. was taken. I now propose a demand of Rs. 51,412, which gives an enhancement of 16 per cent., which is rather more than in the Dun, but not too much, if it be remembered that the whole of the western Ghar is easily accessible from the plains, which makes the carriage of produce, for sale or purchase, less here than elsewhere in the tahsil. This circle may fairly be compared to the not dissimilar Hoshiarpur Kandi circle, for which Captain Montgomery's *barani* rates were somewhat higher than for the Ghar. My proposed *barani* rates are, however, all higher than those sanctioned for the Hoshiarpur circle. They could not be lowered, without bringing out a demand, far below what I consider this tract can legitimately be asked to pay. The proposed demand will take up 62 per cent. of the rather low half net assets, based on *batai* rents and only 46 per cent. of the over high estimate, derived from cash rents. It comes to within Rs. 2,400 of the value of one-sixth of the total produce.

GHAR.	Last settlement soil rate.	Soil rates now proposed.	Demand on new soils.	Sanctioned soil rates in Hoshiar- pur Kandi and Pathankot Kandi.
	Rs. A. P.	Rs. A. P.	Rs.	Rs. A. P.
Chahi	5 0 0	5 8 0	374	...
Dofasli	2 8 0	2 8 0	32,457	...
Ekfasi I	1 4 0	1 5 0	12,393	...
Ekfasi II	0 11 0	0 11 0	4,878	...
Kharkana	0 4 0	0 6 0	1,310	...
Total	...	...	51,412	...

The large income that the circle derives from the sale of *ghi*, estimated at Rs. 13,545, and from cattle, estimated at Rs. 3,093, must be taken into account, when considering the pitch of the proposed demand, which falls at Re. 1-11-10 and Re. 1-8-6 on an acre of cultivation and crops.

90. The Changar contains 68 of the worst villages of the Jandbari

The Changar.

ilaga, and adjoins the Bilaspur State. Kanait, Rajputs and Gujars are the chief landowners. The land close under the Naina Devi range is of the poorest description, and is covered with stones, but north of Anandpur the land, from just below the foot of the hills to the high bank of the river, is level and good, though in places a little too sandy and, here and there, containing too many stones, and south of Anandpur the villages, midway between the river and hills, have some good thick clay soil. With the rest of Jandbari it was most leniently assessed by Melvill. Captain Montgomery's enhancement of 21 per cent. still left it the most lightly assessed circle in Una, though the figures now show that it is somewhat better than the formerly more heavily-assessed Pahar. The cash rent rates and sale prices are far too high, in that they are taken from villages in the immediate proximity of Anandpur. The Sodhi and other Anandpur non-agricultural proprietors are in the habit of taking high rents out of their tenants, who are often owners, whom they have dispossessed of their proprietary rights, while it is the local custom to exaggerate sale prices to defeat pre-emption. There is not much miscellaneous income in this circle, which is suffering from the exclusion of

its goats and sheep from their old grazing grounds in Bilaspur. There has been a slight extension of cultivation since settlement, of about 1 per cent., and an increase of wells by 54. The incidence of the population on the cultivated area is lighter than in the Dun or Ghar, being 817 to a square mile. My proposed assessment of Rs. 19,794, though an increase of 23 per cent. on the 1911-12 demand, will still leave the incidence on cropping lighter than elsewhere, as it will be only Re 1-1-8 an acre. However, little confidence can be put in the crop statistics of this circle. The incidence on cultivated comes to Re. 1-4-8, which is $1\frac{1}{2}$ annas more than in the Pahar. The new demand takes up 51 per cent. of the half net assets, based on *batai* rents, and is Rs 6,200 below the value of one-sixth of the gross produce. The proposed soil rates, given in the table below, may be compared with those now proposed for the Pahar. The *dofasli* rate is two annas more, but the *nahri-abi* and *ekfasli* rates are the same as in the Pahar. The *chahi* rate has been put lower than elsewhere, as the distance to the water is generally very great:—

CHANGAR.				Last settlement rates.	Rates now proposed.	Demand on new soils.
				Rs. A. P.	Rs. A. P.	Rs.
Chahi	...	...	...	5 4 0	5 4 0	210
Nahri abi	...	...	...	3 0 0	3 4 0	312
Dofasli	...	...	...	1 14 0	2 0 0	12,590
Ekfasli I	...	...	...	0 13 0	0 14 0	4,682
Ekfasli II	...	...	...	0 6 0	0 7 0	1,681
Kharkana	...	...	...	0 4 0	0 6 0	319
Total				...	...	19,794

91. Statement, showing old and proposed demands, with incidence—

1	2	3	4	5	6	7	8
Circle.	Demand of 1911-12.	Cultivated area, 1911-12, and incidence of demand (column 2)	Cropped area of 5 selected years and incidence of demand (column 2)	Proposed new demand.	New cultivated area and incidence of proposed demand (column 5).	Incidence of proposed demand (column 5) on cropped area.	Increase of proposed demand on old, actual and per cent.
	Rs.			Rs.		Rs. A. P.	
BET ...	56,647 {	28,526 Rs. A. P. 1 15 10	34,181 Rs. A. P. 1 10 6	64,704 {	27,163 Rs. A. P. 2 6 1	1 14 3 {	Rs. 8,057 14 per cent.
DUN ...	1,26,442 {	71,440 Rs. A. P. 1 12 4	80,631 Rs. A. P. 1 9 1	1,45,681 {	68,170 Rs. A. P. 2 2 2	1 12 11 {	Rs. 19,239 16 per cent.
BIT ...	13,813 {	9,784 Rs. A. P. 1 6 7	11,296 Rs. A. P. 1 3 7	18,432 {	9,371 Rs. A. P. 1 15 6	1 10 1 {	Rs. 4,619 33 per cent.
PAHAR ...	18,712 {	14,725 Rs. A. P. 1 4 4	15,043 Rs. A. P. 1 3 11	20,938 {	17,875 Rs. A. P. 1 2 9	1 6 3 {	Rs. 2,226 12 per cent.
GHAR ...	44,428 {	30,990 Rs. A. P. 1 6 11	33,528 Rs. A. P. 1 5 2	51,412 {	29,588 Rs. A. P. 1 11 10	1 8 6 {	Rs. 6,984 16 per cent.
CHANGAR ...	16,105 {	15,950 Rs. A. P. 1 0 1	17,890 Rs. A. P. 0 14 4	19,795 {	15,626 Rs. A. P. 1 4 3	1 1 8 {	Rs. 3,845 23 per cent.
TOTAL TAHSIL	276,147 {	171,415 Rs. A. P. 1 9 9	192,569 Rs. A. P. 1 6 11	3,20,961 {	167,793 Rs. A. P. 1 14 8	1 10 8 {	Rs. 44,815 16 per cent.

C.—Other Matters.

92. There is not likely to be any need of progressive assessments, but should it be necessary to enhance the demand in any estate by over 40 per cent, I propose to defer one-quarter of the increase for five years. It will be necessary for me to depart freely from whatever rates may be sanctioned, owing to the varying strength of the various estates, and whatever increase may be taken will mainly have to be taken from less than half the villages of any one circle. This may make the increase in individual estates more than double the all round increase ordered for any circle.

93. As wells are so cheaply sunk in most circles, and are rarely fully worked, no special proposals are required.

94. As recently as Kharif, 1912, the local rate was enhanced from Rs 8-5-4 to Rs 10-6-8 per cent. by Punjab Government notification No 37 of March 23rd, 1912. The lambardari cess is 5 per cent. Zaildari and Sufaidposhi *inams*, as well as the share of *talugdari*, which, in some cases, Government pays to the *talugdars*, are charges out of the revenue. No orders are needed on these matters.

95. The old demand expired after Rabi 1912, so the new demand should be introduced as early as possible to avoid further loss to the Government and *jagirdars*. The term of the settlement should not be less than thirty years, but this will, presumably, be settled for the district, as a whole, on the conclusion of settlement operations.

HAMIRPUR :

27th July 1913.

H. L. SHUTTLEWORTH,

Settlement Officer.

GLOSSARY OF VERNACULAR TERMS OCCURRING IN THE REPORT.

<i>Vernacular words.</i>			<i>Meaning.</i>
Abadi ...	...	...	... Village site.
Abi-nahri ...	...	...	... Land irrigated by streams.
Bagh ...	...	...	... Garden or orchard, or land under fruit trees.
Banjar ...	...	...	... Waste land, now uncultivated.
Barari ...	...	...	... Land dependent on rain.
Batai ...	...	...	... Rent paid in kind.
Behand banjar ...	...	...	... Hill land, usually inferior and stony, only occasionally cultivated.
Berar ...	...	...	... A mixed crop of wheat and grain.
Bet ...	...	...	... Riverain land, usually liable to inundation.
Bhaiachara ...	...	...	... A village tenure, in which possession is the measure of right.
Chahi ...	...	...	... Land or crops irrigated from wells.
Changar ...	...	...	... Dry, ravined sub-montane land.
Charas ...	...	...	... An intoxicating hemp drug.
Chari ...	...	...	... A fodder crop (<i>Sorghum vulgare</i>).
Chil ...	...	...	... A pine tree (<i>Pinus longifolia</i>).
Cho ...	...	...	... A torrent bed, starting from the Siwaliks.
Dhar ...	...	...	... A hill range or ridge.
Dhingli ...	...	...	... A small well, often temporary, worked by hand; or land irrigated therefrom.
Dofasli ...	...	...	... Unirrigated land that normally bears two crops a year.
Drek ...	...	...	... <i>Melia Sempervirens</i> .
Dun ...	...	...	... A valley in the hills.
Ekfasli ...	...	...	... Land, which usually produces one crop a year.
Garna ...	...	...	... A small bush (<i>Cassia diffusa</i>).
Ghar ...	...	...	... Dry, cut up land at foot of hills, similar to Changar.
Gbi ...	...	...	... Clarified butter.
Girdawari ...	...	...	... Crop inspection.
Gur ...	...	...	... Crude, uncrystallised sugar.
Har ...	...	...	... Good, level light land by the Swan.
Harar ...	...	...	... A tree (<i>terminalia chebula</i>) with medicinal fruit.
Hart ...	...	...	... A Persian wheel on a well.
Ilaqa ...	...	...	... A tract of country.
Inam ...	...	...	... Honorarium: grant of money.
Jagir ...	...	...	... An assignment of land revenue.
Jagirdar ...	...	...	... The person enjoying the assignment.
Jama ...	...	...	... Land revenue.
Jamabandi ...	...	...	... A detailed village record of rights in land.
Juswar ...	...	...	... A crop return.
Kachcha ...	...	...	... Land exposed to inundation. Unmetalled: built of sun baked mud.

Vernacular words.

Meaning.

Kamin ...	...	...	... A menial or village servant.
Kanal ...	...	...	... About 1-2th of an acre.
Kangni ...	...	...	... A small cereal (<i>Sitaria Italica</i>).
Kanungo ...	...	...	... A revenue official, superior to a patwar.
Kankut ...	...	...	... Appraisalment of produce.
Khad ...	...	...	... A hill torrent bed.
Kharaba ...	...	...	... Failed crops.
Kharif ...	...	...	... Autumn crop.
Kharotar ...	...	...	... Hay fields.
Khasra girdawari ...	...	...	... Crop register.
Kharkana ...	...	...	... A tall grass (<i>Sacchgrum sawa</i>).
Khud-kasht ...	...	...	... Land cultivated by its owner.
Kohla ...	...	...	... Land, irrigated by a hill-stream.
Kuhl ...	...	...	... An irrigation channel, from a stream.
Kulth ...	...	...	... A pulse, grown in the hills (<i>Dolichos hirs florus</i>).
Lahri ...	...	...	... Manured land by a homestead, elsewhere called nial.
Lal Kitab ...	...	...	... A register of summarised revenue statistics.
Lambardar ...	...	...	... A village headman.
Lao ...	...	...	... Leather bucket and rope used for working wells.
Lohar ...	...	...	... Blacksmith.
M'afi ...	...	...	... Remission of land revenue.
Malikana ...	...	...	... A proprietary due in cash or kind.
Mash ...	...	...	... A pulse (<i>Phaseolus radiatus</i>).
Massar ...	...	...	... A lentil (<i>Ervum lchis</i>).
Maund ...	...	...	... A weight of 40 seers, or 80 lbs.
Mendar ...	...	...	... A hill shrub (<i>Dedonea burmanniana</i>).
Moth ...	...	...	... A pulse (<i>Phaseolus aconitifolius</i>).
Mung ...	...	...	... A pulse (<i>Phaseolus mungo</i>).
Naddi ...	...	...	... A large khad or torrent, such as the Swans
Naib Tahsildar ...	...	...	... A revenue officer, superior to a kanungo.
Pabar ...	...	...	... Hill.
Pakka ...	...	...	... Land not exposed to inundation. Metalled; built of stone or brick.
Pargana ...	...	...	... An old revenue division.
Pattidari ...	...	...	... A village tenure according to ancestral shares.
Patwari ...	...	...	... A village revenue accountant.
Rabi ...	...	...	... The spring harvest.
Ras ...	...	...	... Sugarcane juice.
Sailab ...	...	...	... Cultivated land, moist from river action.
Sal ...	...	...	... A tree (<i>Shorea robusta</i>).
Sardar ...	...	...	... A Sikh Chief.
Seer ...	...	...	... 1-40th of a maund : about 2 lbs.
Shamilat ...	...	...	... Common village land, held jointly.
Shisham ...	...	...	... A tree (<i>Dalbergia sisso</i>).

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