

1 JAN 2010



G.P
336.222(5442)
P 969 pha

24/1/10

Financial Commissioner's orders on the Fhalia Assessment Report

In his very able and helpful review Colonel Popham Young has so thoroughly examined the conditions of the tahsil and focussed the points for consideration that before passing to the assessment, circle by circle, I need only make a few general remarks of a preliminary nature on the matters on which I do not find myself in accord with him or the Settlement Officer.

2. The latter has, in my opinion, while presenting a faithful picture of the tahsil, shaded it more darkly than his own description warrants.

The tahsil has progressed: not retrogressed.

Cultivation has increased in the two larger circles, the Bar and the Hithar, by 9 and 3 per cent., respectively, since last settlement, and with it the number of ploughs and bullocks. In *chahi* cultivation, which forms 63 per cent. of the whole in the Hithar, 25 per cent. in the Bar and 50 per cent. in the other circles, the figures show a decrease in all circles, but the facts that there are now more wells fit for use than at last settlement and that the area irrigated is capable of considerable expansion in a year of drought like 1904-05, as appears from statement X, seem to show that the decrease is not real, but is the consequence of the more careful classification now adopted. The decline in *kharif*, with a corresponding rise in *rabi* crops, is wrongly regarded by the Settlement Officer as a sign of weakness (paragraphs 26 and 28), for the substitution of wheat, or wheat and gram, for *bajra* is a distinct gain. The decrease in population due to colony emigration in the first and to plague in the second decade of the term of settlement has not been an unmixed evil. Plague by removing the heads of families and so leading to sub-division has had the usual effect of increasing the number of holdings and diminishing their average size (now 8 to 9 acres in the Bar and Hithar and 4 to 5 acres elsewhere), but these figures point rather to the relief of congestion than to the depletion of cultivators which the Settlement Officer argues from them on page 7. In the cattle statistics Mr. Williamson himself finds a sign of wealth and prosperity. She-buffaloes have nearly doubled in number in all circles, including the Hithar, and cows have at the same time increased by 20 to 25 per cent. From the table of exports in paragraph 22 the Settlement Officer estimates the value of the export of *ghi* at Rs. 70,000, but the table is deceptive, because only a small corner of the tahsil is served by the railway and for the same reason it affords no index whatever to the total exports from the tahsil. If the rates found by

Rs. 2½ per buffalo and Re. ½ per cow.

Mr. Leigh in his Khushab Assessment Report be applied to the figures for cows and buffaloes here, it will be found that the net income to the owners from cows and buffaloes alone can scarcely be less than Rs. 1,34,300. Mr. Williamson considers that in the Bar the population is half pastoral and half agricultural, in the Hithar mainly agricultural, but it is clear that all circles derive some income from their stock, and the rise in the price of cattle which is noted as an adverse feature in paragraph 53 is really a gain to the proprietors of a breeding district. This source of income will disappear as the Bar is developed by canal irrigation, but in framing our assessment now we must not lose sight of existing assets, for, as there has never hitherto been any separate assessment on the waste in this district such as there has been in Shahpur, the total demand includes that on account of income from the waste.

3. The statistics of land transfer do not exhibit any great degree of embarrassment. The Settlement Officer has again omitted to present them in percentages of total cultivation, but the following can be deduced from his figures :—

Percentage of cultivated area.	CIRCLE.			
	Bet Jhelum.	Bar.	Hithar.	Bet Chepab.
Sold since settlement	10	10	9	8
Now under mortgage	11	10	13	12

6/6 Mail 31/5/11

The corresponding figures for the Bet Chenab of Wazirabad, a circle to which I shall have to refer again in connection with the proposals for the Hithar and Bet Chenab, are 18 and 10 per cent. A pleasing feature of the returns is that since the introduction of the Land Alienation Act the area redeemed has risen largely and steadily and is much in excess of the area mortgaged. The rise that has occurred in the price of land, 50 per cent. in the Hithar and 100 per cent. elsewhere except in the Phalia Bet Chenab where it has remained stationary and is only 30 times the land revenue, is also satisfactory. It is noteworthy that the great rise in the Rukan Chenab Circle occurred after the substitution of the present light fluctuating assessment for the previous fixed demand. The average price of recent years in the Hithar Circle is Rs. 57 per acre, which compares favourably with Rs. 45, the price ascertained in the Wazirabad Chenab Circle in the Assessment Report of 1910.

4. In paragraph 53 Mr. Williamson remarks that the revenue has been

The present demand is unquestionably light.

collected with greater difficulty here than in Gujrat or Kharian, and that the assessment is relatively "more severe." He refers apparently to the suspensions and remissions discussed in paragraph 13, and his words seem to me to convey an exaggerated idea of the pitch of the assessment. The expression "none too lenient" in paragraph 17 of the Commissioner's review might be taken to imply concurrence in the Settlement Officer's view, if it were not that in paragraph 9 Colonel Popham Young refers to the revenue history of the tahsil as a forcible illustration of the leniency of the Punjab settlement policy. Mr. Williamson's statement that "in 18 out of 22 years" there have been suspensions and in 15 remissions is also an exaggeration, for it is true only of the small Rukan tract which was recently transferred to Phalia from Shahpur and in which Mr. Wilson's fixed assessment broke down owing to river changes and calamities of season. In Phalia itself suspensions were found necessary in 10 years in the Bar, in 8 years in the Hithar, in 5 years in the Bet Chenab, and only in one year in the Bet Jhelum, and the amounts ultimately remitted formed the equivalent of $1\frac{1}{2}$ years' demand in the Bar and $\frac{1}{8}$ ths of a year's demand in the Hithar. Considering that the suspensions were granted in years of famine like 1896-97 and 1899-1900 and of severe drought and scarcity such as 1895-96, 1904-05, 1907-08 and 1911-12—a proportion of lean years much in excess of previous experience—the figures are indicative rather of a light demand collected with elasticity and care than of severity. And the lightness of the demand is evidenced by the Settlement Officer's own calculations which show (*vide* table on page 28) that the present demand absorbs less than 25 per cent. of the net assets of the tahsil as a whole and only 27 per cent. in the Hithar where the proportion is highest. In Gujrat and Kharian undoubtedly the old demand was lighter still and we were consequently unable to raise it so as to make it absorb anything approaching the State's proper share of net assets. But that is no reason why we should not in Phalia take a moderate increase on account of the rise in prices, and the best proof that the picture is not so black as Mr. Williamson has painted it is that the enhancements he proposes are quite adequate and even, in one case high.

5. I agree in the Commissioner's remarks on the half asset estimates and have little to add to them. In order to

Half asset estimate based on rents in kind.

show why the particular cycle of four years was selected as the basis of the produce estimate, I append to this review a copy of my orders on the subject.* I accept the results obtained from the

*Junior Secretary's No. 7563, dated 5th November 1914.

produce estimates, which are collected on page 26, except that clerical errors discovered under "Total Kharif" in column 18 and under "Barley" in column 20 opposite "Chenab Rukan—Chahi" in statement XV necessitate the substitution of Rs. 38,263 for Rs. 31,207 as the value of *chahi* net assets, of Rs. 2-12-11 for Rs. 2-4-8 as the half-asset rate per acre matured of *chahi* crops, and of Rs. 32,873 for Rs. 29,345 as the half net asset estimate for the circle. I may note that the inclusion of straw among the assets accounts for 7 or 8 per cent. of the value of the gross produce, and the deductions made on account of crops fed green to the well cattle amount to 2 per cent. of the same.

6. From the sale prices expressed in multiples of the land revenue it is possible to work out a half-asset estimate in the following way. In the

Half-asset estimate drawn from sale prices.

Bet Jhelum the multiple is 120. Let R = the land revenue, and 5 per cent. be the interest expected by an investor : 5 per cent. on 120 is 6, i.e., 6 R . But the investor has to pay the revenue from his rent, so his rent must be 7 R , and half net assets will be $\frac{7}{2} R$. The revenue of the circle is Rs. 29,000 round, and the half asset estimate thus obtained is Rs. 1,01,000. In the following table the results obtained in this way are compared with those of the produce estimate. For the Rukan Bar I have taken as the multiple 124, the figure for 1904-05 to 1908-09, instead of 248, the figure for the latest quinquennium which is obviously inflated :—

		Bet Jhelum.	Bar.	Hithar.	Bet Chenab.	Rukan Chenab.	Rukan Bar.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Half asset estimates.	1. Produce ...	70,000	1,99,000	2,07,000	74,000	83,000	48,000
	2. From sales ...	1,01,000	2,88,000	2,09,000	46,800	88,400	70,200

The figures in the first line may be accepted as moderate estimates of half net assets, with the reservation that the Bet Chenab estimate is probably a full one and the Hithar one more so than the remaining four.

7. Before proceeding to assess the circles I give the following table comparing their cropping, in percentages of the area under each crop to the total area matured, with that of other similar circles :—

Crop.	Bet Jhelum.	Khushab Bet Jhelum.	Pind Dadan Khan River Bank.	Phalia Chenab Bet.	Rukan Bet Chenab.	Phalia Hithar.	Wazirabad Chenab.	Gujrat Hithar.	Phalia Far.	Kharian Gojar.
Rice ...	4	1.5	0	2	0	1	2	3	1	0
Maize ...	7	0.5	6	4	1	8	5	7	0	0
Bajra ...	6	4.5	6	8	9	4	1	6	22	14
Cotton ...	3	1.5	4	2	4	8	2	2	3	2
Jowar and fodder ...	6	2	5	6	6	9	7	5	8	18
Total Kharif ...	28	23	25	21	23	24	24	27	89	38
Wheat ...	50	50	60	58	55	52	52	49	34	31
Wheat gram ...	...	...	0	...	...	4	0	1	7	10
Gram ...	3	9.0	2	2	8	6	1	1	9	8
Oilseeds ...	1	...	3	2	2	1	1	2	3	4
Fodder ...	6	1	5	8	9	8	6	7	5	3
Total Rabi ...	72	77	75	79	77	76	76	73	61	62

The resemblance of the Wazirabad Chenab Circle to the Hithar is marked. The former circle has a cultivated area of 33,000 acres, including 15,000 *chaks*.

and 17,000 *sailab*. The differences between the Gojar and the Bar are explained by the small proportion of *chahi* land in the former, 4,500 acres out of a total cultivation of 59,000 acres.

8. The present assessment of the Bet Jhelum Circle is Rs. 29,000, and the Settlement Officer proposes to raise it to Rs. 39,000. This is more than he

Assessment of the Bet Jhelum.

meant to take in his tentative village assessments which I examined when on tour with him, and he appears to have been influenced in his present proposal by the rates framed by Mr. Leigh for the Bhera Bet. Orders, however, have not yet been passed on the latter, and a better guide is afforded by the rates recently sanctioned for the Khushab Bet Jhelum, viz., *chahi* Re. 1-14-0 and *sailab* Re. 1-14-0: and for the Kharian Bet, Rs. 2-6-0 *chahi* and Re. 1-14-0 *sailab*. I therefore agree with the Commissioner that rates of Rs. 2-10-0 *chahi*, Re. 1-14-0 *sailab*, and Re. 0-13-0 *barani* are sufficiently high, and I approve of Rs. 37,000 round as the new fixed assessment of the circle. This gives an incidence of Re. 1-13-7 per acre of matured crops, compared with Re. 1-15-8 in the Khushab Bet.

159
cc 1915 no 9
March 1915 no 53
W/52
P/19

9. Certain small areas in this circle on the left bank of the Lower

Assessment of canal-irrigated crops in the Bet Jhelum.

Jhelum Canal will receive perennial irrigation from the Upper Jhelum Canal by means of distributaries from the Bar which will tail off here. Where they will irrigate 80 per cent. of the area commanded the Commissioner and the Settlement Officer propose that on that area the fixed assessment should be replaced by a wholly fluctuating one, at the same rates as may be sanctioned for the Bar Circle. I agree to this, but the rate for *nahri* crops should approximate rather to that which the Settlement Officer appoints for adjacent villages in the Bar Circle than to the average of Rs. 2-6-0 approved for that circle, which will probably be too high for these villages. Where, as will be the case in places, the irrigation is limited to 30 per cent. of the area commanded, the Commissioner and Settlement Officer would have a fixed assessment at circle rates, with a fluctuating water-advantage rate of 12 annas per acre matured with canal water. I have no objection to this system being adopted where the bulk of the area commanded consists of well estates, but the water-advantage rate proposed is, for reasons given in paragraphs 18-19, too low and the rate I approve is Re. 1-4-0. The Settlement Officer, however, should adopt full fluctuation where the area commanded is mainly *barani* as there is no object there in maintaining a fixed assessment. And if in any estate there is both 80 per cent. and 30 per cent. irrigation, it will be better to have full fluctuation in the commanded area than to have three systems of assessment in one and the same village. Irrigation limited to the kharif is not contemplated in any part of this circle, and the reference to it in paragraph 9 of the Commissioner's review is corrected in his statement I in paragraph 16.

10. The Bar Circle is not homogeneous, portions of estates comprised

Assessments proposed by the Settlement Officer and Commissioner for the Bar Circle.

in it extending into the riverains on the north and south, but assuming it to be homogeneous and to be given a fixed assessment on present conditions, the Settlement Officer would raise the present demand of Rs. 80,000 round to Rs. 1,12,000 or 56 per cent. of the half net assets. But with perennial irrigation which must result in a complete change in present conditions it is essential that the assessment should, at any rate for a good many years to come, be wholly fluctuating, and the Settlement Officer proposes rates of Rs. 2 and Re. 1 per acre for application to matured *chahi* and *barani* crops, to bring out, on the average of the years selected for the produce estimate, the equivalent of the proposed new demand. These compare with Rs. 2-2-0 and Re. 1-2-0, the rates sanctioned for the Gojar Circle of Kharian on the north. The Commissioner considers the increase of 40 per cent. involved by this proposal to be higher than it would be right to take for the rise in prices, and he would put the crop rates at Re. 1-12-0 and Re. 1, giving a demand of Rs. 1,06,000 round, an increase of 32 per cent., 53 per cent. of half net assets and an incidence of Re. 1-3-0 per acre matured. The incidence of the new demand in the Gojar Circle is Re. 1-2-10 on matured crops, but there the area of *chahi* cultivation is insignificant, while here it is 25 per cent. of the whole. It may be observed that the new demand, if fixed, would

160
1-2-10

have to take account of the 9 per cent. increase in cultivation, as well as the rise in prices

11. But when perennial irrigation has been extended to the 80 per cent. contemplated of the total culturable area, *i.e.*, to 162,000 out of 204,000 acres, *barani* crops will, as the

A fluctuating system to be imposed in the Bar as a whole. Its rates, including the *nahri* rate.

Commissioner observes, become relatively unimportant and the really important rate is that to be applied to *nahri* crops. By the orders passed on the Kharian Report it is to be assessed for the first five years on the area matured and after that on the area sown. The Settlement Officer proposes a rate of Rs. 2-6-0, 2 annas higher than the Gojar Circle rate, while the Commissioner thinks it should be lower and would have an average rate of Rs. 2. He appears to be influenced principally by the consideration that in the first years of irrigation from a new canal, the cultivators should be treated liberally because of the difficulties and expenses they have to encounter. That consideration, however, is met more appropriately by initial remissions of both occupiers' rates and land revenue than by a low scale of rates. The key-note of our initial assessment on the canals of the Triple Project was struck by Sir James Douie when he wrote in paragraph 19 of his note on the Upper Chenab Canal Colonization Scheme that it would be a great mistake to begin with assessments as low as we adopted at first on the Lower Chenab and Jhelum Canals. "To do so would only be to lay up future embarrassment for ourselves. The bulk of the area here is in old established villages, and we should charge from the first a fair land revenue assessment on canal lands and maintain it in force for 20 years." These words are applicable to the Phalia Bar, except that a term of 20 years may be longer than is suitable. It is already cultivated to the extent of 54 per cent of its area, and irrigation will involve merely an extension of cultivation to the remainder. The soil is richer than that of the Gojar and yields excellent crops when the rainfall is sufficient, and may be expected to yield better crops than the Gojar when both receive canal water. For that reason the rate should be higher than in the Gojar, and we have for comparison on the south, adjoining the Rukan Bar, the Bar of the Bhera Tahsil which has been developed by irrigation from the Lower Jhelum Canal and in which the circle *nahri* rate sanctioned in 1912 is Rs. 2-14-0, differentiated between a maximum of Rs. 3-12-0 and a minimum of Re. 1-8-0, but in proprietary villages ordinarily between Rs. 2-8-0 and Rs. 3. The circle is described in paragraph 85 of Mr. Rudkin's report as backward in enterprise and cultivation, and these rates are not therefore full ones. The *chahi* and *barani* rates are Re. 1-4-0 and Re. 1. This comparison shows, I think, that the rate proposed by Mr. Williamson, an average of Rs. 2-6-0, differentiated between a maximum Rs. 2-10-0 and a minimum of Rs. 2-2-0 in ordinary villages and Re. 1-12-0 on the edge of the Bar, is not too high, and I approve it. His *chahi* rate of Rs. 2 also would not be too high for a fluctuating assessment, but well cultivation should be gently dealt with on the advent of the canal, and the rate of Re. 1-12-0 proposed by the Commissioner may be adopted. The *barani* rate of Re. 1 is suitable.

12. For the area which but for its being included within the boundaries of Bar villages would be in the Bet Jhelum the Settlement Officer proposes to maintain a fixed assessment, raising the existing demand from Rs. 13,000 to Rs. 18,000, and to impose a water-advantage rate of Re. 1 *per* acre on crops matured by canal irrigation, which is to be supplied to 30 per cent. of the commanded area from the tails of the Bar distributaries. The Commissioner concurs, though with some hesitation as to the amount of the enhancement. I accept the proposals, with the modifications that full fluctuation at the Bar rates may be adopted instead in any estate where the *chahi* area is not considerable, and that the water-advantage rate should be Re. 1-4-0 (see paragraph 19 below).

13. For the similar area on the edge of the Hithar the Settlement Officer would also maintain a fixed assessment, raising the demand from Rs. 16,000 to Rs. 25,000. The Commissioner agrees; but would limit the new demand to Rs. 22,500. Both

Special treatment of portions of the Bar. The Chenab block.

Special treatment of portions of the Bar. The Jhelum block.

recommend a water-advantage rate of 12 annas matured for canal-irrigated fields. These will be of two distinct kinds. The first will be on or below the high bank, and receive perennial irrigation for 30 per cent. of their commanded area from the tails of the Bar distributaries. The second will be to the south of the first and separated from them by a sandy depression and will be irrigated from the kharif distributary specially constructed for the Hithar and receive kharif irrigation only, and that for only 25 per cent. of their area. The latter will be exactly in the same position as the Hithar, and as the bulk of the land will be *chahi*, I accept the Commissioner's proposal, except that the water-advantage rate should be that framed below for the Hithar, *viz.*, Re. 1. The former, however, are similar to the Jhelum block and the water-advantage rate should as there be Re. 1-4-0, and if the well area is small, the Settlement Officer may adopt full fluctuation instead. Subject to these modifications, I accept the Commissioner's proposal.

14. The new assessment of the Bar Circle will thus (roughly) consist of Rs. 40,500 fixed and Rs. 66,000 fluctuating on the present cropped area. The income from the rates on *nahri* crops, when canal irrigation is introduced, will, to a large extent, replace the latter sum.

15. The Hithar, Bet Chenab and Rukan Chenab Circles must be considered together, for it is proposed for good and convincing reasons to reduce them to two circles separated (roughly) by the road shown in the map as proceeding from Kadirabad to Nain and Rukan, the eastern to have a fixed assessment with a water-advantage rate on canal irrigation and the western to be completely under fluctuating assessment. This re-arrangement may take effect from the date of announcing the new demand.

16. The area and revenue of the new eastern circle are given in Statement III of paragraph 16 of the Commissioner's review, but for the purpose of framing the new demand and soil rates it will be simplest to take the totals of the Hithar and Bet Chenab Circles. Their present assessments are Rs. 1,10,000 and Rs. 39,000, respectively; half net asset estimates Rs. 2,07,000 and Rs. 74,000 and the demands proposed by the Settlement Officer are Rs. 1,34,000 and Rs. 44,000, at soil rates of—

Circle.	Hithar.	Bet-Chenab.
	Rs. A. P.	Rs. A. P.
Chahi ...	1 10 0	1 14 0
Sailab ...	...	1 10 0
Barani ...	0 10 0	0 11 0

The Commissioner would reduce the demand proposed by the Settlement Officer in each circle and limit the enhancement to 14 and 9 per cent., respectively, but for the new eastern circle, which includes the better portions of each, he is prepared (see note to his statement III) to take an enhancement of

21.6 per cent. This he would obtain by the following rates which are compared with the soil rates sanctioned for the Wazirabad Chenab Circle :—

Circle.	Commissioner's rates for new eastern circle.			Wazirabad Chenab.		
	Rs. A. P.			Rs. A. P.		
Chahi	1	12	0	2	1	0
Sailab	1	10	0	1	2	0
Barani	0	10	0	1	0	0

In the Wazirabad Chenab Circle a fixed assessment was sanctioned for the villages east of the Lower Chenab Canal at the above rates. For those west of it a fluctuating assessment was sanctioned, which will be compared below with those proposed for the western circle here.

17. If the rates proposed by the Commissioner are applied to the cultivated area of the present Hithar Circle, they give the following result :—
- Assessment of the new eastern circle continued.

Soil.		Rate.	Area.	Amount.
		Rs. A. P.	Acres.	Rs.
Chahi ... ..	...	1 12 0	67,695	1,18,466
Barani ... ..	...	0 10 0	39,157	24,473
Total ... ..	...	..	106,852	1,42,939

This is 69 per cent. of the half asset estimate and an enhancement of 29 per cent., and falls at Re. 1-10-3 per acre on the normal area matured, 87,000 acres. It is not too high for the better part of the circle, to which alone these rates will be applied, and I accept it. The rates are suitable also for the better part of the Bet Chenab Circle. For the portions of the two circles which are combined into the new eastern circle the new demand will be Rs. 1,50,000.

18. In addition to a fixed assessment at the above rates, there should be in this circle a water-advantage rate per acre of crop matured with canal water. In proposing the low rate of 12 annas the Commissioner and the Settlement Officer appear to me to be under a misconception as to the effect of this rate. It is summed up in the remark of the former in paragraph 15 (c) of his review about the "inequality if not inequity" involved in the imposition of this rate on land which already pays a full *chahi* or *barani* rate of fixed assessment. To correct this misconception, I must point out that it is incorrect to regard any particular acre of any particular soil as paying a certain rate. The assessment on a landowner's holding, though it may be worked out by such rates, is paid from the crops grown on it as a whole, and is calculated from the value of those crops. To show how this statement affects the question I might take a holding of 7 acres of which $2\frac{1}{2}$ acres are *chahi*, $2\frac{1}{2}$ acres *barani*, and 2 acres waste, and examine the effect of giving kharif irrigation from the canal to $1\frac{3}{4}$ acres, but exactly the same result will be obtained by taking the area of the Hithar Circle as a whole
- The water-advantage rate for *sañri* crops in the new eastern circle.

which is (cultivated and culturable) 138,000 acres. It bears at present 48,000 acres of *chahi* and 43,000 acres of *barani* crops, and the fixed assessment would be at my rates Rs. 1,43,000. Leaving out the area to which preliminary waterings for the rabi will be given and on which under the orders on the Kharian Report the water-advantage rate will not be charged to the above crops will be added 34,500 acres of kharif *nahri* crops, making the total area of crops 125,500 acres. We may assume that the *nahri* crops can pay an assessment at the same rate as *chahi* crops. The crop rates at which the Settlement Officer's assessment of Rs. 1,34,000 falls are given on page 33 as Rs. 2 *chahi* and annas 14 *barani*, and we may raise the former by 3 annas in order to bring the assessment up to the Rs. 1,43,000 which I consider suitable. The crops then can pay an assessment of —

		Acres.		Rs. A. P.	Rs.
Chahi ...	...	48,000	at	2 3 0	= 1,05,000
Barani ...	...	43,000	„	0 14 0	= 37,625
Nahri ...	...	34,500	„	2 2 0	= 77,312
Total		1,25,500		...	2,19,937

An addition could therefore be made to the fixed assessment of Rs. 76,000 round, and if that is to be taken in the form of a water-advantage rate, the rate will be nearly Rs. 2 per acre of matured *nahri* crops. In other words, if it were certain that the introduction of kharif canal irrigation would not displace any part of the crops raised at present, the rate on *nahri* crops might be the equivalent of the *chahi* cropped rate. It might even be more, for, though we limit the *chahi* rate to 34 per cent. of net assets, there is no obligation to take less than 50 per cent. of the addition made to the landowners' net assets by irrigation carried out at the expense of the State. Stress need not, however, be laid on the latter consideration, and we have also to bear in mind that the 34,500 acres of *nahri* crops will probably not be entirely an addition to the present cropped area, but may displace a certain proportion of the *chahi* and *barani* crops. What will happen is pure assumption, but it is scarcely likely that the total cropped area will be less than 100,000 acres out of the total area of 138,000 acres, i.e., an increase of 10 per cent. only on the present area of crops. If we assume the distribution to be 34,500 *nahri*, 30,000 *barani* and 36,000 *chahi*, and apply the above crop rates, we get a total assessment of Rs. 1,80,000, or Rs. 37,000 in excess of the fixed demand. This shows, I think, that Re. 1 per acre of matured *nahri* crops will be a light water-advantage rate for the Hithar. The above calculations can be checked by actuals when irrigation commences, but it may be observed that the water-advantage rate sanctioned for the inundation canals from the Sutlej is Re. 1 per acre in Lahore and Re. 1-3-0 per acre in Ferozepore. Accordingly, I put the water-advantage rate in the new eastern circle at Re. 1 on kharif irrigation. Preliminary waterings for the rabi will be exempt.

19. It would be difficult, and highly hypothetical, to work out on similar

Water-advantage rate where perennial irrigation is given to 30 per cent. lines a water-advantage rate for the small areas in which it is intended to maintain a fixed assessment in spite of 30 per cent. receiving canal irrigation, but it may be assumed that the rate should be higher than the above and lower than the lowest *nahri* rate approved for the Bar, i.e., Re. 1-12-0. The rate sanctioned by Government for the *Nahri* and *Hithar* circles of Gujrat is Re. 1-8-0. A rate of Re. 1-4-0 will be suitable here.

20. For the purpose of framing crop rates for the new western circle, we

Crop rates approved for the new western circle. may examine those in force in the Rukan Chenab and the results they have yielded as compared with the half asset estimate. The average income is put at Rs. 15,982, but that (statement XVI) is the average of four years other than those selected for the produce estimate, and is depreciated by the inclusion of 1911-12 in which the assessment was only Rs. 12,041. The half asset estimate as corrected

in paragraph 5 above is Rs. 33,000. The Settlement Officer proposes rates calculated to yield Rs. 21,000 per annum or 63 per cent. of that, and he might possibly have proposed more if he had not been in error as to the value of net assets. The Commissioner would lower his *chahi* rate, but accepts the others. I compare the proposals below with the rates now in force with the Hafizabad Chenab rates (framed in 1904) on which they are based and the Wazirabad Chenab rates sanctioned in 1910:—

Crops.	Hafizabad Chenab.	Present rates, Rukan Chenab.	Rates proposed by Settlement Officer.	Rates proposed by Commis- sioner.	Wazirabad Chenab rates.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Chahi ...	1 8 0	1 8 0	1 14 0	1 10 0	2 4 0
Sailab I ...	1 8 0	1 8 0	1 8 0	1 8 0	1 12 0
Sailab II ...	0 14 0	1 0 0	0 12 0	0 12 0	1 0 0
Barani ...	0 12 0	1 0 0	0 14 0	0 14 0	1 0 0

The rates at present in force are certainly too low and those proposed by the Commissioner would yield only about 2 per cent. more. The Settlement Officer's *chahi* and *sailab* I rates are suitable, but I find no justification for reducing the *sailab* II and *barani* rates now in force. Accordingly the scale I approve is—

	Rs. A. P.
Chahi ...	1 14 0
Sailab I ...	1 8 0
Sailab II ...	1 0 0
Barani ...	1 0 0

In the following table these rates and those at present in force are applied to the Rukan Chenab crop areas given at the foot of page 36 of the report:—

1	2	3	4	5	6
Crops.	Area.	Rates now approved.	Result.	Rates now in force.	Result.
	Acres.	Rs. A. P.	Rs.	Rs. A. P.	Rs.
Chahi ...	6,810	1 14 0	12,768	1 8 0	10,215
Sailab I ...	1,540	1 8 0	2,310	1 8 0	2,310
Sailab II ...	529	1 0 0	529	1 0 0	529
Barani ...	6,356	1 0 0	6,356	1 0 0	6,356
Total	...	...	21,963	...	19,410

The resulting assessment, Rs. 22,000 round, is 33 per cent. of net assets, and falls at Re. 1-7-6 per acre matured. It is with the figure in column 6 that it has to be compared in order to obtain the enhancement involved, which is 13 per cent.

21. Mr. Williamson has furnished me with the average area of crops harvested in the "selected years" in the portions of the Hithar and Bet Chenab which will be transferred to the new western circle, and if the above rates be applied to them, the result is as follows:—

Crops.	Area.	Rate.	Result.
	Acres.	Rs. A. P.	Rs.
Chahi ...	8,937	1 14 0	16,757
Sailab I ...	1,347	1 8 0	2,020
Sailab II ...	450	1 0 0	450
Barani ...	10,606	1 0 0	10,606
Total	21,340	...	29,833

Compared with the present fixed demand for these estates, Rs. 25,470; this is an increase of 16 per cent.

22. The total demand of the new western circle will thus be Rs. 51,684 compared with the present demand of Rs. 41,470. In addition there will be a rate on *nahri* crops which I think should be Re. 1-14-0 as proposed by the Settlement Officer rather than the lower rate of Re. 1-12-0 proposed by the Commissioner. It should be applied to kharif crops only, the area receiving a preliminary watering for the rabi being assessed as *barani*, *sailab* or *chahi* according to the manner in which it is matured. In the small area above the *nahka* or high bank the rates of the Bar Circle should be applied, and the *nahri* rate should be the same as in the adjoining villages in the Bar and should be applied to both kharif and rabi irrigation.

23. The case of the Rukan Bar is practically disposed of by the orders on the other circles. The small corner lying north of the Lower Jhelum Canal in the riverain may have the fixed assessment proposed by the Commissioner, and the remainder will be entirely under fluctuating assessment at the rates approved for the Phalia Bar, except a small portion of one village which protruding into the Chenab riverain will be assessed at Chenab fluctuating rates. A rough estimate of the result (on present conditions) may be obtained as follows:—

Crops.				Area.	Rate.	Result.
				Acres.	Rs. A. P.	Rs.
Chahi	...	...	...	3,682	1 12 0	6,448
Sailab	...	...	...	715	1 8 0	1,072
Barani	...	...	...	17,856	1 0 0	17,856
Total				...	...	25,371

But these areas include the area cropped on the portion that will be under a fixed assessment of Rs. 2,300, and so the average income from the fluctuating assessment may be put roughly at Rs. 23,000. From the date of the announcement of the new assessment this circle should be amalgamated with the Bar.

1	2	3	4	5	6
Circle.	Demand of 1914-15 (round).	Assessment approved by Financial Commissioner.		Increase, column 3 on column 2.	Percentage of column 3 on column 2.
	Rs.	Rs.		Rs.	
Bet Jhelum ...	29,000	37,000	Bet Jhelum ...	8,000	27
Bar ...	80,000	40,500 fixed. 66,000 fluctuating.	...	26,500	33
Hithar ...	1,10,000	1,50,000 fixed.	Eastern Circle ...	...	...
Bet Chenab ...	39,000	...	...	...	...
Rukan Chenab ...	*16,000	52,000 fluctuating.	Western Circle ...	...	...
Total 3 circles	1,65,000	2,02,000	Total 2 circles	†37,000	†22
Rukan Bar ...	22,000	2,300 fixed. 23,000 fluctuating.	Rukan Bar ...	2,300	15
Total	2,96,000	3,70,800	...	74,800	25

* Properly Rs. 19,000,—see paragraph 20.

† Properly Rs. 41,000,—see paragraph 20.

‡ Properly Rs. 24,—see paragraph 20.

24. The results of re-assessment are shown in the annexed table:—

25. The fluctuating assessments shown in it are the results that would be obtained in present conditions. I agree with the Commissioner, however, that the new demand should not be introduced in the present kharif, and with monsoon conditions as they are it is unlikely that the rabi harvest will be favourable for its introduction. And although the Upper Jhelum Canal is to be opened this year, I understand that it is only the main branch that will run, and that the Gujrat Branch from which the greater part of Phalia will be irrigated will not be opened till the kharif harvest of 1916. The new demand should be announced now for introduction from that harvest, and all necessary arrangements should be made for bringing it in force then.

26. The question of the agency of assessment on this canal has not yet been considered. Following what has been arranged on the Upper Chenab Canal, it will probably be found suitable that on kharif distributaries the assessment of the water-advantage rate in the eastern circle and the nahri rate in the western circle should be by the Deputy Commissioner, and that where there is perennial irrigation and a complete fluctuating assessment the Executive Engineer should assess all crops, but as to this the Chief Engineer will be consulted. Until irrigation is actually extended to an estate, the assessment should of course be in the hands of the Deputy Commissioner. On this canal it may be feasible to amalgamate the canal and district patwari establishment, and the Superintending Engineer and Settlement Officer have a scheme to that end under consideration.

27. An initial remission of occupiers' rates and land revenue for one harvest will doubtless be allowed in the proprietary estates (with which alone the report is concerned), as on the Upper Chenab Canal.

28. No immediate change is proposed in the percentage of cesses.

29. Progressive assessments may be allowed if necessary in the manner proposed in paragraph 67.

30. The rules quoted in paragraph 68 govern all districts for which local rules are not sanctioned, and rule I (b) prescribes the remission of the fixed assessment on a well when irrigation from it is superseded by canal irrigation and canal-advantage revenue has been imposed. But under the system of fixed assessment devised for the eastern Hithar Circle it is intended that the water-advantage rate shall be collected in addition to the fixed demand on *chahi* or *barani* cultivation. If the well assessments were remitted, we might in time find all the wells out of use and the demand reduced to the fixed assessment on *barani* land plus the light water-advantage rate on *nahri* crops, a total which would be a wholly inadequate portion of the net assets. It will be necessary therefore for the Settlement Officer to draft local rules for approval.

31. Orders regarding the term of the new settlement need not be passed until the final settlement report is under the consideration of Government. but I may record my opinion as to this tahsil that while the canal assessment may require revision after 10 years, the other assessments might remain unaltered for 20 or even 30 years, and the maps and records, which have been prepared by remeasurement and killabandi, may be left for the same period.

32. Mr. Williamson's report—the last he has to submit—well deserves the Commissioner's commendation. It shows a clear conception of the problems offered by this tahsil, and his proposed solutions are worked out with his usual care and thoroughness.

A. H. DIACK,

The 4th October 1915.

Financial Commissioner, Punjab.

No. 7563, dated Lahore, 5th November 1914.

From—J. M. DUNNETT, Esquire, Junior Secretary to the Financial Commissioners, Punjab,

To—The Commissioner, Rawalpindi Division.

IN reply to your letter No. 3966, dated the 11th September 1914, forwarding proposals by the Settlement

The Hon'ble Mr. A. H. DIACK, C.V.O.

Officer, Gujrat, on the selection of years

to be used in framing a produce estimate for the Phalia Tahsil, I am directed to say that in selecting a normal the proper course to take, the Financial Commissioner considers, is to neglect years of scarcity, such as 1895-96, 1896-97, 1899-1900 and 1907-08, which ordinarily occur only once or twice in a century, though there happen to have been four of them, causing two great famines and one local famine, during the twenty-two for which statistics are given. Similarly, bumper years similar to 1900-01, which are equally uncommon, should be neglected, and years like 1911-12 in which the proportions grown in the two harvests were abnormal. The mean of the areas of the remaining years will give a true normal, provided that there has not been any great change in agricultural conditions between the earlier and the later years, in which case the earlier years should be excluded from the calculation. The Bet Chenab is a case to which this proviso applies, for the figures show that, whatever the cause may be, there has been steady deterioration, marked in Phalia and still more marked in Rukan. The Rukan Bar is another instance, for there the irrigated area has increased very greatly and the total area harvested has shrunk considerably, though the Settlement Officer does not say what the causes are. (Another peculiarity of that circle is that the year 1899-1900 does not appear to have been exceptional.)

2. Following the above process and making only a rough calculation the Financial Commissioner gets the following figures as suitable normals:—

Circle.				Irrigated.	Unirrigated.	Total.
				Acres.	Acres.	Acres.
Phalia	{	Bet Jhelum	...	9,000	12,000	21,000
		Bar	...	24,000	66,000	90,000
		Hithar	...	51,000	36,000	87,000
		Bet Chenab	...	13,000	13,000	26,000
Rukan	{	Bet Chenab	...	6,000	9,000	15,000
		Bar	Now	12,000	15,000	27,000
			1896-1907...	8,000	16,000	24,000
			To 1895-96	7,000	33,000	40,000
		Bet Jhelum	...	1,000	4,000	5,000

3. The cycle proposed by the Settlement Officer certainly approaches these figures, but the Financial Commissioner thinks that 1911-12 must be omitted, and that the four years 1909-10, 1910-11, 1912-13 and 1913-14 give a truer proportion between kharif and rabi, irrigated and unirrigated, than the Settlement Officer's, while the totals are sufficiently near the normal, the only adjustment necessary being in the Hithar. In that circle an adjustment can be made in the resulting produce estimate by reducing it in the proportion of 91 to 87, and accordingly the four years 1909-11 and 1912-14 are prescribed.

Commissioner's Review of the Assessment Report, Phalia Tahsil.

A glance at the map will show that the Phalia Tahsil comprises two General circumstances of the tahsil and riverains and a Bar. This suggests clear-cut divisions into tracts of country sufficiently described by their mere appellations, and a simple division into three assessment circles.

The river Chenab has, however, in withdrawing to its present bed, delimiting the southern extremity of the tahsil, left a stretch of country below the Bar, which is no longer subject to the action, beneficent or maleficent, of the river. This has necessitated the constitution of the "Hithar" assessment circle lying between the Bar and the Chenab Bet. Further complications have been introduced by the past history, fiscal and administrative, of the western portion of the tahsil, which has recently been transferred from the Shahpur to the Gujrat District. In order that comparison may be instituted between present conditions of this tract, which includes upland and lowland, and those which obtained at the last settlement, two additional assessment circles have been approved by the Financial Commissioner. We thus have to deal with the six assessment circles described in paragraph 9 of Mr. Williamson's report:—

- (1) The Jhelum Bet, which is deprived of the virtue of homogeneity by differences of level circumscribing the direct action of the river, and by the varying qualities of past silt deposits in the areas now beyond the reach of the river floods.
- (2) The Bar, which at last settlement included, and now includes, the erstwhile Nakka assessment circle, and thus comprises estates, rising as it were in the Bar, and *sloping* down into the Jhelum Bet, or *falling* into the Chenab Hithar.
- (3) The Hithar, where inferior soil conditions are mitigated by silt deposits from river creeks which have ceased, or are gradually ceasing, to flow, and where a meagre rainfall is supplemented by irrigation from shallow wells.
- (4) The Chenab Bet, which, generally speaking, benefits from river floods, and suffers from the sandy deposits, and the erosive action, of the Chenab.
- (5) The Bar Rukan, which is Bar proper but for the fragments of certain villages which run down into the Jhelum and Chenab riverains.
- (6) The Chenab Rukan, which is a prolongation of the Hithar circle, *plus* the upland portion of the ancient Nakka circle.

It will thus be seen that the physical attributes of the tahsil are somewhat complex. Two rivers have been operating, as Punjab rivers are wont to operate, to the destruction of those helpful generalisations which enable Settlement Officers to apply formulæ to large stretches of country. Rates appropriate to one village are wholly inappropriate to the village next adjoining. Adjacent fields cannot carry the same assessment. To determine proper average rates applicable to each assessment circle is no easy matter. To spread the assessment equitably over the estates is a task which can only be successfully accomplished by dint of the most careful village inspections. Not only has the revenue history of the component parts of the tahsil been various in the past: changing circumstances, more particularly in the riverain circles, have operated to dissociate present from past conditions.

Moreover, the impending extension of canal irrigation to practically the whole tahsil has thrown everything into the melting pot. To argue from the past to the present, and from the present to the future, is more than ordinarily difficult.

2. A consideration of the general circumstances, which are usually dealt with in the first chapter of an assessment report, does not as a rule help the reviewer to arrive at any very definite conclusions.

In this case the supremely important fact of the construction of the Upper Jhelum Canal, our knowledge—from experience elsewhere—that the growth of many townships in the next 20 years will alter the purely rural conditions referred to by Mr Williamson, the fact that the rough communications which have served well enough in the past will be wholly inappropriate to the circumstances of the near future, and the realisation that the rainfall, averaging from 21 to 25 inches along the riverain and from 18 to 20 inches in the Bar (the diminution being from east to west) will no longer be the prime factor in determining the agricultural prosperity of the tahsil; all these considerations and circumstances, combined with an appreciation of the disturbing and disintegrating effects on rents and tenancies of a shifting from the valleys to the uplands of the main centres of production, enable one to arrive *per saltum* at the conclusions that we must deal very tenderly with the riverain circles, that a large part of our assessment must be fluctuating, and that our whole settlement will, perforce, be largely tentative and experimental.

3. The fiscal history of the tahsil, at a time when we are going to sever connection with a somewhat depressing past, has, I think, this bearing only on the question immediately before us: that we are dealing with a people who, perhaps because they were at one time over assessed; because, owing to adverse natural conditions and several bad years, they have stored little wealth and found small incentive to industry, the studious moderation of recent assessments notwithstanding; and because developments in neighbouring irrigation colonies have attracted from amongst them youth and enterprise, are in a somewhat weak condition and not in a position to make the best use of the opportunities which will now be vouchsafed to them.

It is, however, noteworthy, as Mr. Williamson has pointed out, that the incidence of our present revenue demand on cultivation is actually less in the Bar circles, and but little more in the rest of the tahsil, than it was when the first regular settlement was revised in 1868. Moreover, the demand of 1855 was per acre considerably higher than that of 1868. The great leniency which has characterised Punjab settlement policy since annexation could not be more forcibly illustrated, seeing that the handful of grain of to-day represents in money value the head-load of half a century ago, and having regard to the fact that we have actually remitted during the currency of the expiring settlement a total of Rs. 2,82,844 or 4·2 of the demand.

4. Mr. Williamson sums up in paragraph 24 of his report his conclusions as to the general prosperity of the tahsil, after a review of the statistics relating to the cultivated area, well irrigation, population, the proprietary body, cattle and ploughs, alienations of land, and miscellaneous sources of income. These conclusions are that the Hithar, Bet Chenab and Chenab Rukan circles, more especially the first of these, are depressed, and that the Bet Jhelum is prosperous. As to the Bar he dwells on the precarious conditions of the past, and points out that the advent of canal water will revolutionise these.

The cultivated area with which we have to deal is 324,010 acres as compared with 313,766 acres at last settlement. More correct measurements and an extension of boundaries account for a part of the increase. The fact that only 51 per cent. of the total area is now under the plough is, of course, important as it indicates the large reserves of the tahsil. But since it is the Bar in which expansion will take place, and since a fluctuating assessment will raise the demand with the increase of cultivation, this is an aspect of the situation which requires no special emphasis.

In the matter of well irrigation there has been a strengthening of the position. The population has declined since last settlement, and the proprietary body must, *quâ* tribal or racial characteristics, be considered to be somewhat weak. Holdings are noticeably small only in the Bet Jhelum circle. The head of cattle has materially increased. The poorer circles share in this accession of wealth. Sale and mortgage values have risen largely everywhere, though, relatively to the Gujrat and Kharian Tahsils, they are still low. It is not necessary to repeat the figures given in paragraph 21 of the assessment report. It may be roughly stated that land values have quadrupled, or that a rupee has now the purchasing power of the four-anna bit of last settlement. I will not attempt to thread my way through the economic labyrinth into which a proposition, capable of being thus variously stated, is calculated to lead one. We are on firmer ground when we deduce the relative prosperity of the different circles from the figures presented by Mr. Williamson. The Bar Rukan sale figures must, it seems, be discredited for special reasons. We conclude that land is good and money plentiful in the Jhelum Bet; that the Bar land is good and rapidly appreciating in value; and that in the Hithar and Chenab riverain soil is poor, cultivation precarious, and money scarce. The export figures discussed in paragraph 22 of the report suggest that there has in the past been little surplus of agricultural produce in the tahsil.

On the whole, Mr. Williamson's general conclusions have warrant. We must be tender with the Hithar and Chenab riverain circles, although the extension of canal irrigation to the areas above flood limits in these circles should suffice to arrest further deterioration. A fluctuating assessment in the Bar will adjust our demand to actualities. In the Jhelum Bet it seems that reasons for going below a fair proportion of the half net assets will be supplied by a consideration of the increments involved, and of the smallness of the holdings.

5. I can derive small assistance myself from crop statistics presented in statement X and discussed in chapter IV of Mr. Williamson's report, or, for the matter of that, from the figures relating to tenancies and rents, tabulated in statement XIII and dealt with in chapter V. The reason is that, as I have noted above, conditions are about to undergo so radical a change in this tahsil that existing circumstances have little relation towards those to which our assessments will require adjustment. It has been an insecure tahsil, and will be a secure one. The tendency to grow rabi rather than kharif crops will persist, I have no doubt, if the supply of water will enable zamindars to follow their inclinations. Nature in a capricious mood has hitherto governed all the conditions of agriculture, directed or sapped the energies of the farmers, and moulded the character of the people. Henceforth a regulated control of the forces of nature will ensure to the farmers the fruits of their labours, will determine the character of the harvests, and perhaps, eventually, though not within such period as we are now considering, change the character of the people of the tahsil.

Tenants have been attracted from the Phalia Tahsil of recent years. The attraction should be inwards in future, and it is hoped that the 30 per cent., or 25 per cent., of irrigation which will be given to certain tracts below the Bar will enable the zamindars of the Hithar and riverain circles to keep sufficient labour on their lands. As to rents we can accept Mr. Williamson's calculations, not only because they have been carefully made, but because almost before his last jamabandis will have been filed, they will have commenced to adjust themselves to entirely new conditions.

6. The same general considerations apply to the produce estimate and to the calculations on which this is based.

Since, however, we cannot dispense with this estimate Mr. Williamson has rightly examined each successive stage with minute care. In determining his crop outturns he has considered those assumed in the neighbouring Kharian

Tahsil and the estimates of Captain Davies, of Mr. Wilson, and of Mr. Rudkin in past settlements of areas comprised in this tahsil and of adjoining tracts. These he has compared with the results of his crop experiments, and with the outturns admitted by the farmers, or estimated by his Assistants.

I consider that Mr. Williamson has justification for all his assumptions. I cannot pretend that even on the same data I should independently arrive at exactly the same conclusions. The whole argument is in truth to a certain extent stultified by the fact that there is, and can be, no standardisation of the crop which is supposed to yield 4, 5, or 6 maunds as the case may be. Mr. Williamson has noted that in his opinion the recorded crop failures have not in the past correctly represented the facts. If we assume 5 maunds as a fair average outturn and the patwari records a three-maund crop as matured, the results are misleading, though our assumption may have been correct enough. I subject therefore Mr. Williamson's crop outturn estimates to no detailed criticism. I do not think I could better them. He has lowered rather than raised Captain Davies' outturns. The years selected for the purpose of the produce estimate are quite fairly representative so far as the whole tahsil is concerned. The allowances made for payments from the undivided grain to menials are reasonable. The same may be said of the straw valuation and deductions on account of fodder.

The conclusion is that Mr. Williamson's estimate of the net assets, and of the theoretical Government share thereof, amounting to Rs. 6,27,746 for the tahsil, may be accepted as it stands. The proviso must be made that, in a tract of country dependent on a rainfall, about which nothing can be predicted with certainty except that it will very frequently be insufficient and often, when sufficient, ill-distributed, averages will be continually falsified, and even if applicable to the tract as a whole, seldom apply to the units of which it is composed. Mr. Williamson's is a fair and cautious estimate of the value of the produce which might accrue in this tahsil, were agricultural conditions to remain as in the past and economic conditions as in the present.

7. No check on the produce estimate can be applied by a consideration of the insignificant cash rents in this tahsil.
- Cash rents and sale and mortgage prices.

The inferences drawn by Mr. Williamson in paragraph 52 of his report from the sale and mortgage prices are hardly correct. He has allowed the purchaser or mortgagee 5 per cent. on his money without deducting from his profits the existing revenue demand which he has, of course, to pay. The argument as to rates is, therefore, fallacious. To take one instance Mr. Williamson deduces a rate of Re. 1-6-0 from the mortgage price of Rs. 64 in the Bet Jhelum. The interest at 5 per cent. which the mortgagor should clear would be about Rs. 3-4-0. He has to pay about Rs. 1-8-0 as revenue. His net-assets must therefore be Rs. 4-12-0, and a full half net assets rate would be Rs. 2-6-0 and not Re. 1-6-0. If, however, Mr. Williamson has sought to prove too much by these figures, the fact remains that sale and mortgage prices are, relatively to those maintaining in neighbouring tahsils, very low, except, perhaps, as regards sale prices, in the Bet Jhelum.

8. My review so far reflects, I imagine, the attitude of uncertainty in which I approach the practical question of assessment dealt with in chapter VIII of the report.
- General conclusions from the foregoing regarding the pitch of the assessment.

The situation is somewhat difficult to grasp. Relatively this tahsil has been highly assessed in the past. Population has diminished, the people are not well off, considerable remissions have been necessitated, and our demand has not been very easily collected.

At the same time the rise in prices would alone justify a large enhancement, and the great reserve of culturable land, coupled with the prospective extension of canal irrigation to the tahsil, suggests that caution may only

mean timidity, and that the interests of the general tax-payer demand a fairly full assessment.

In this connection I would, however, invite consideration of the fact that the expedient of a fluctuating assessment, which we must necessarily adopt where there is to be perennial irrigation on a large scale, operates to deprive the land-owning class of a great part of the profit which would accrue to them under the fixed or contract system. Hitherto a land revenue settlement in the Punjab has generally been followed by a development in untaxed cultivation, as well as by a rise in prices. Extra profits, unassessed at settlement, have consequently soon reduced the actual pitch of the demand on harvested crops. In this case the strength of the position of the zamindars is discounted by the fact that new cultivation will pay its quota forthwith, and not some 20 years hence. There is not likely to be any extension of *barani* or of *chahi* cultivation. In fact the development of canal irrigation will check any tendency of this kind that might otherwise have manifested itself, and may even lead to a falling-off in cultivation dependent upon the caprice of the weather, or on unremitting toil at lifting water. There is, indeed, a concealed severity in the introduction of a fluctuating assessment in a developing tract. Zamindars are deprived of prospective profits, to which it may be said that they have no inherent and prescriptive rights, but which are generally secured to them by settlement practice.

I arrive at the conclusion that moderation (which has, indeed, characterised all recent Punjab settlements) must be the key-note of this particular assessment.

9. In the Bet Jhelum there are really circles within circles. There is the Bet proper which must depend, as in the past, on rain and flood water; and there are the areas to which 80 per cent. and 30 per cent. perennial canal irrigation will be extended. Mr. Williamson's device has been to propose rates for the whole circle which would be generally applicable under existing circumstances. Areas to which no fixed rates will apply, by reason of the extension of canal irrigation, will be excluded from the distribution of revenue made by him with these rates as a guide.

I follow his method which is, I think, the best one. I consider that the inevitably disturbing effects on cultivation in the Bet of a large development of cultivation in the Bar, the smallness of the Bet holdings (7 acres of cultivated land per owner), and the low average rainfall (some 20 inches compared with about 30 in the Kharian Bet) justify a slight reduction of the rates proposed by Mr. Williamson in paragraph 54 of his report.

Mr. Williamson has proposed rates of Rs. 2-12-0 (*chahi*), Rs. 2 (*sailab*), and Re. 0-14-0 (*barani*). The increase would be 34 per cent., and the proportion of the half net assets absorbed 55.5. Rates of Rs. 2-10-0, Re. 1-14-0, and Re. 0-13-0 would reduce his proposed assessment by Rs. 2,157. The total demand would be Rs. 36,773 amounting to 53 per cent. of the half net assets and giving a rise of 26 per cent. I would not take more than this. The Bet Jhelum has no bright future before it. At the best its prosperity will be maintained at the present level. Relatively to the Kharian Bet this will not be a low assessment, where 42 per cent. of the net assets was taken.

10. The Phalia Bar circle comprises on either side estates portions of which are totally dissimilar from the stretch of upland, whose existence has mainly justified the construction of the Upper Jhelum Canal. These Mr. Williamson proposes to assess at rates of their own as if they were separate assessment circles. No other treatment is, indeed, possible. Even when they have thus been disposed of the extension of these areas of 30 per cent. perennial, or 25 per cent. kharif, irrigation on lines not yet determined introduces a further element of complexity. Mr. Williamson's fixed assessment proposals are in paragraph 55 of his report.

These areas I will refer to as the Chenab block and the Jhelum block.

In the former there are roughly 22,000 acres of cultivation (of which Rs. 6-11-0 is chahi) paying an assessment of Rs. 16,000.

Mr. Williamson, applying his Hithar rates, would take Rs. 25,000 or an increase of 57 per cent.

I consider this a heavy increase for a poor tract of country in which there is little prospect of any material development, though canal irrigation (the maximum limit of which is 30 per cent.) may arrest decay. In any case the advantage due to the canal will be separately taxed, and the fixed rates will either be abrogated in favour of a fluctuating assessment, or else will form part only of a land revenue assessment in which a *khush-kaisiati* will be included. I would not raise the assessment here by more than 40 per cent. or, say, from Rs. 16,000 to Rs. 22,500.

In the Jhelum block there are some 14,000 acres of cultivation paying Rs. 13,000. Mr. Williamson proposes an increase of 43 per cent. I have already suggested the lowering of the Jhelum Bet sailab rate, which Mr. Williamson would here apply, from Rs. 2 to Re. 1-14-0. But the sailab is quite insignificant. The treatment accorded to this area in the *bachh* is an indication of the low esteem in which the zamindars hold it. It is hardly possible to argue that chahi and barani rates of Rs. 2 and annas 12 are too high. But whilst accepting these rates I would instruct Mr. Williamson to assess somewhat below them and to limit the enhancement to 40 per cent. at the outside. Eventually in this block, as elsewhere, the fixed rates will either be superseded by fluctuating rates, or supplemented by a *khush-haisiati* in certain areas to which partial canal irrigation will be extended.

There remains the central block of Bar proper. Mr. Williamson's half net assets estimate approximates for the whole circle to two lakhs of rupees. An assessment of Rs. 1,12,000, giving a rise of 40 per cent., would, he thinks, be justified by present circumstances. I should hesitate to recommend so large an increase if present conditions were to be maintained in the Bar. Forty per cent. is a big increase in consideration of the rise in prices only. We are, however, concerned only with the fixing of fluctuating rates for the main division of the Bar, which will receive 80 per cent. perennial canal irrigation. Chahi cultivation will have a struggle for existence in competition with canal irrigation. Mr. Williamson suggests a chahi rate of Re. 1-11-0 corresponding with a crop rate of Rs. 2. I would lower the chahi crop rate, the only one with which we are concerned, to Re. 1-12-0. A barani crop rate of Re. 1 is not, I think, too high: for I anticipate that barani crops will only be raised in years of good rainfall, and if matured areas only are to be assessed, an acre of crop will pay a rupee very easily.

The *nahri* rate will be discussed later.

11. Mr. Williamson makes alternative proposals for the Hithar circle. His fixed assessment would be Rs. 1,34,000, absorbing 65 per cent. of

the half net assets and giving a rise of 21 per cent.

I would be content with a smaller percentage of the theoretical maximum demand in this poor and depressed circle, in which land values are so low and suspensions of revenue have been so frequently necessitated. It think a *chahi* rate of Re. 1-8-0 high enough, and would reduce the fixed assessment proposal from Rs. 1,34,000 to Rs. 1,26,000. The rise would be 14 per cent. only, but judged by the half net assets standard the assessment would still be relatively high.

I think, however, that the best plan will be to introduce a fluctuating assessment as recommended in paragraph 56 of the report in the western portions of this circle and of the Bet Chenab, amalgamating these with the adjoining Rukan Chenab circle in which the fluctuating system is now in force, and should be continued. We are in any case committed deeply to the fluctuating system of assessment in this tahsil, and we need not hesitate to extend it, where the fixed system is really inappropriate. A system by which the revenue is nominally fixed, and yet is constantly suspended and often remitted, is not one to recommend. This, however, would be the alternative

to a *bond fide* fluctuating assessment in the western portions of the Hithar and Bet Chenab circles. Mr. Williamson would, in the amalgamated western circles, apply the *chahi* and *barani* rates proposed by him for the Chenab circle, namely, *chahi* Re. 1-14-0, *barani* Re. 0-14-0.

I would again, as in the Bar, lower the *chahi* crop rate. Re. 1-10-0 would, I think, be appropriate. The *barani* rate is obviously moderate, but not, I think, too low having regard to the quality of the soil, the sparse rainfall, and the fact that *khiraba* will not get itself recorded, but only appear in our statements at the instance of a *patwari* working in a very remote corner of the district. If the western, and inferior, portion of the Hithar circle is thus eliminated, the rates of the eastern portion require reconsideration. For the whole circle Mr. Williamson proposes (though he does not recommend) fixed rates of *chahi* Re. 1-10-0 and *barani* Rs. 0-10-0; and I have said that I would lower the *chahi* rate to Re. 1-8-0. For the Chenab Bet circle Mr. Williamson has proposed a *chahi* rate, Re. 1-14-0, and it is suggested that the eastern, and better, portion of this circle be amalgamated with the eastern portion of the Hithar. For the eastern amalgamated circle I would recommend a *chahi* rate of Re. 1-12-0, a *sailab* rate of Re. 1-10-0 (that proposed for the Bet by the Settlement Officer), and a *barani* rate Re. 0-10-0.

12. The Chenab Bet is a poor circle (cultivated land being worth considerably less than Rs. 50 per acre), which is likely, so far as one can judge, to continue on the down grade. Only a small area in this circle will receive 25 per cent. *kharif* irrigation. The Chenab silt is sandy and not as fertilising as the Jhelum silt.

Mr. Williamson proposes to raise the present assessment of Rs. 39,035 by 13 per cent. to Rs. 44,000. This is moderate I admit. But I am much impressed by the feebleness of the wells and the feeling that they will probably become more and more difficult to keep in working order. I would reduce the *chahi* rate to Re. 1-12-0 and the assessment by about Rs. 1,700. *Sailab* and *barani* rates of Re. 1-10-0 and annas 11 are, I think, appropriate. My assessment would be Rs. 42,500, (Mr. Williamson's rates give Rs. 44,311), being 57 per cent. of the half net assets, and involving a rise of 9 per cent. only. Mr. Williamson has not, however, recommended a fixed assessment for this circle. He thinks, and I agree with him, that the eastern portion of the circle can carry a fixed assessment, and that the western portion, combined with the western portion of the Hithar circle and with the Chenab circle, should be assessed at fluctuating crop rates. He has not stated definitely what the fixed rates for the eastern portion should be. His intention evidently is that the *chahi* rate should be at least that tentatively proposed for the fixed assessment (not recommended) for the whole circle: that is, Re. 1-14-0, which compares with his *chahi* rate of Re. 1-10-0 in the Hithar. The justification is that the percentage of matured *chahi* crops is higher in the Bet than in the Hithar. I would not attach importance to the dubious *kharaba* figures. They may reflect the fact that the rain follows the river bed. But Bet wells are poor, struggling things. I would adopt the rate of Re. 1-12-0, which I have recommended for the eastern portion of the Hithar. I would maintain the *barani* rate of Re. 0-10-0 for the whole of the new proposed circle. Mr. Williamson can differentiate in favour of the Hithar when spreading his assessment over the villages, if so advised. The *sailab* rate of Re. 1-10-0 (comparing with the Jhelum Bet rate *proposed* of Rs. 2) is, I think, appropriate.

The western portion of this circle, amalgamated with the western portion of the Hithar and with the Chenab circle, should, in my opinion, be under a fluctuating assessment. The present *chahi* rate is Re. 1-8-0 in this circle, the circumstances of which do not suggest that we can expect any material increase. I would fix a *chahi* rate of Rs. 1-10-0, and *sailab* rates of Re. 1-8-0 and Re. 0-12-0, and a *barani* rate of Re. 0-14-0.

13. The proposals already made by me practically dispose of the Chenab circle, of which the past and present circumstances have been most elaborately set forth and discussed in paragraph 53 of the report. I will

not go over the ground covered by Mr. Williamson. I think that the fluctuating system of assessment is the only one appropriate, and would adopt Mr. Williamson's rates except that for *chahi* which I would lower from Re. 1-14-0 to Re. 1-12-0. I may in justification of this make passing reference to the *chahi crop* rate of Re. 1-4-0, considered appropriate to the same circle lower down the river in the Shahpur District. This is Mr. Rudkin's rate of some years back. I would, with Mr. Williamson, adopt two *sailab* rates only.

14. The Bar Rukan circle has one small block of land below the *Nakka*. This must carry the Chenab circle rates. Fragments of a few vil-

The Bar Rukan.

lages lie in the Jhelum Bet. These will be assessed at something less than the rates of the Bet Jhelum. Mr. Williamson suggests an assessment of Rs. 2,500 for this block, being an increase of 34 per cent. or at the same rate as proposed by him for the Jhelum Bet. I have suggested for that circle a 26 per cent. rise only. I would take a similar increase here or a total of Rs. 2,300, and assess at rates slightly below those proposed by me for the Jhelum Bet. The rest of the circle is Bar proper and will be assessed at the same fluctuating rates as the Phalia Bar, though the Settlement Officer may in consideration of the diminishing rainfall, as we travel west, differentiate slightly in the favour of this circle.

15. It remains to discuss the *nahri* rates to be imposed in each circle, and for irrigation which may be 80 per cent. perennial, 30 per cent.

The canal assessment.

perennial, or 25 per cent. *kharif* with first waterings for the *rabi* :—

(a) There seems to me to be some confusion in Mr. Williamson's argument that we can have a higher *nahri* rate in the Bar than has been

80 per cent. perennial irrigation.

approved for the Gojar circle of the Kharian tahsil, because the *barani* rate is lower in the former. The Gojar *barani* rate is Re. 1-2-0, and the *nahri* rate, which is really the *barani* rate plus a water-advantage rate Rs. 2-4-0. The fluctuating *barani* crop rate which the Settlement Officer and I have thought appropriate to the Bar is Re. 1. By reference to the Gojar rates it seems to me that the Bar *nahri* rate should be Rs. 2-2-0 and not Rs. 2-6-0 as proposed by Mr. Williamson.

The Bhera Bar rates of Rs. 2-4-0 to Rs. 2-12-0 imposed after the Lower Jhelum Canal had been running for 10 or 12 years hardly afford a criterion. But they do not suggest to me a higher *nahri* rate than Rs. 2 for the first 10 years of the working of the Upper Jhelum Canal, even though we must couple with the imposition of this rate a condition that only matured crops will be assessed—that *kharaba* remissions on the usual sliding scale will be allowed.

My proposal then for the Bar proper, which includes the upland portion of the Bar Rukan circle, is that the *nahri* rate should be Rs. 2 with differentiation of 4 annas either way on account of the quality of the soil. Mr. Williamson suggests a lower rate of Re. 1-12-0 on the broken edges of the Phalia Bar plateau. I would drop this rate to Re. 1-8-0.

I know well how extremely difficult it is to adapt canal irrigation to such land in the first few years of the working of a new canal. Expenses will be heavy, and disappointments and failures frequent.

Indeed, I feel that it is of the greatest importance that we should give to the Upper Jhelum Canal, as we have given to other new irrigation schemes, the opportunity of establishing itself thoroughly before we commence to adapt our assessments to those theories regarding the profits of irrigated agriculture which so often fail to fit the facts, when the system is as raw as the zamindars who have to work it.

(b) I pass to the 25 per cent. *kharif* irrigation zones for the reason that the problem here is, I take it, a 'non-contentious' one. The *khush-haisiati* expedient for assessing the water-advantage rate has been elsewhere approved when the irrigation is to be thus limited. Mr. Williamson suggests a rate of Re. 0-12-0 per acre, and I consider this appropriate.

25 per cent. *kharif* irrigation.

(c) In the nahri circle of Gujrat Government has decided on the recommendation of the Financial Commissioner to adopt a fluctuating assessment in the 80 per cent. irrigation zone. I think that it is a pity to disturb the fixed assessment system on account of canal irrigation limited to this extent, and would recommend that fixed assessment be sanctioned in the eastern portions of the Hithar and Bet Chenab with a *khush-haisiati* on canal irrigation, whether of the 30 per cent. perennial, or the 25 per cent. *kharif*, variety. The inequality, if not inequity, involved in the imposition of a *khush-haisiati* which is paid by a nahri crop grown on chahi land carrying an assessment of Re 1-12-0 and by a similar crop grown on barani land carrying a fixed assessment of 10 annas, is obvious.

So also is the inconvenience and hardship to the zamindar involved in depriving him of the right to make a contract for the revenue assessed on his existing assets, with the privilege of increasing those assets for the term of settlement without incurring any further liability. I think the *khush-haisiati* method is preferable in the 30 per cent. perennial irrigation zones, where, for other considerations, a fluctuating assessment has not been recommended. The rates I would suggest are Re 1 in the Jhelum block of the Phalia Bar, and annas 12 elsewhere. I cannot think that the *khush-haisiati* rate of Re. 1-8-0 which has been sanctioned for the 25 per cent. *kharif* irrigation zone in the Nahri circle of Gujrat is appropriate. This would raise the combined rate on chahi soil and nahri irrigation to a figure far higher than we ought, in my opinion, to take on this canal as a nahri rate for at least 10 years to come.

(d) The nahri rate in circles other than the Bar in which a fluctuating assessment may be imposed remains to be determined. I have recommended such an assessment in the projected amalgamated western circle, combining the western portions of the Hithar and of the Chenab Bet, and the Chenab circle. The nahri rate I would recommend is Re. 1-12-0. This would compare with a chahi rate of Re. 1-10-0 in the same circle.

16. I am conscious myself of a sense of considerable confusion as I complete my recommendations for the exceedingly complex assessment of this tract. Complexity is, I think, inevitable. Mr. Williamson has most carefully elaborated most of his proposals. But he has thrown out a new suggestion for the treatment of the Hithar, the Bet Chenab, and the Chenab circles without following it up in detail. That suggestion I consider an eminently sound one. For the history of the Chenab circle shows that a fixed system of assessment is most unsuitable in that corner of the tahsil, and I believe the same to be true of the western, and weaker, portions of the Hithar and Bet Chenab.

I have accordingly made recommendations on the lines of Mr. Williamson's suggestions, and since alternative proposals had to be presented also, I fear that I may have made confusion worse confounded.

I trust, however, that the following statements may make both the Settlement Officer's proposals and mine clear and intelligible :—

STATEMENT No. I.

Settlement Officer.				Commissioner.			
Bet Jhelum—				(a) Rs. 37,000.			
(a) Fixed assessment for whole circle... Rs. 39,000				Rs. A. P.			
Rates ... {	Chahi	...	2 12 0	Rates ... {	Chahi	...	2 10 0
	Sailab	...	2 0 0		Sailab	...	1 14 0
	Barani	...	0 14 0		Barani	...	0 13 0
Increase	...	...	34 per cent.	Increase	...	...	26 per cent.
Proportion of half net assets	...	...	55 $\frac{1}{2}$ per cent.	Proportion of half net assets	...	...	51 per cent.
(b) The assessment to be cancelled in the area to which 80 per cent. canal irrigation will be extended, the Bar fluctuating crop rates being applied.				(b) Agrees with Settlement Officer.			
(c) In the areas to which 30 per cent. perennial irrigation will be extended, a <i>khush haisiati</i> (rate unspecified) to be added.				(c) Agrees with Settlement Officer. A <i>khush-haisiati</i> rate of 12 annas proposed.			

STATEMENT No. II.

Phalia Bar—
Settlement Officer.

- (a) Central upland tract (receiving 80 per cent. perennial canal irrigation).

Fluctuating crop rates.

Rs. A. P.

Nahri ... 2 6 0 with a differentiation of 4 annas either way, and a special low rate, down to Re. 1-12-0, on the broken edges of the plateau.

Chahi ... 2 0 0

Barani ... 1 0 0

- (b) Chenab block—

Fixed assessment ... Rs. 25,000.

Rs. A. P.

Chahi 1 10 0 { plus a *khush-haisiati* of 12 annas in areas receiving 30 per cent. perennial or 25 per cent. kharif irrigation.

Barani 0 10 0

Increase ... 57 per cent.

- (c) Jhelum block—

Fixed assessment ... Rs. 18,000.

Rs. A. P.

Chahi ... 2 0 0

Sailab ... 2 0 0

Barani ... 0 12 0 plus a *khush-haisiati* of Re. 1 per acre.

Increase ... 43 per cent.

Commissioner.

- (a) Agrees with Settlement Officer as to system of assessment:—

Rs. A. P.

Rates { Nahri 2 0 0 } Differentiated as suggested by Settlement Officer and an 'outside edge' rate of Re. 1-8-0.

Chahi 1 12 0

Barani 1 0 0

- (b)—

Fixed assessment ... Rs. 22,500, plus a *khush-haisiati* of 12 annas.

Increase ... 40 per cent.

- (c) Jhelum block:—

Fixed assessment ... Rs. 18,000, plus a *khush-haisiati* of Re. 1 per acre.

Increase ... 43 per cent.

STATEMENT No. III.

Hithar—
Settlement Officer.

- (a) If a fixed assessment for whole circle, Rs. 1,34,000.

Rs. A. P.

Rates { Chahi ... 1 10 0

Barani ... 0 10 0

Proportion of half net assets ... 65 per cent.

Increase ... 21 per cent.

- (b) Recommended—amalgamation of Hithar and Bet Chenab—

- (1) Eastern portion of the two circles.—Rates and assessment not proposed. A *khush-haisiati* of 12 annas where 30 per cent. perennial or 25 per cent. kharif canal irrigation extended

- (2) Western portions of the two circles added to the Chenab circle.

Fluctuating rates—

Rs. A. P.

Chahi ... 1 14 0

Sailab ... 1 8 0

Barani ... 0 12 0

Barani ... 0 14 0

Note.—Area of eastern portion and resultant proposed assessment not specified.

Commissioner.

- (a) Rs. 1,26,000.

Rs. A. P.

Rates { Chahi ... 1 8 0

Barani ... 0 10 0

Proportion of half net assets 59 per cent.

Increase ... 14 per cent.

- (b) Recommended—amalgamation of Hithar and Bet Chenab:—

- (1) Eastern portion of the two circles—

Fixed assessment.

Rs. A. P.

Rates { Chahi ... 1 12 0 } with a *khush-haisiati* of 12 annas.

Barani ... 0 10 0

- (2) Western portions plus the Chenab circle:—

Fluctuating rates—

Rs. A. P.

Chahi ... 1 10 0

Sailab ... 1 8 0

Barani ... 0 12 0

Barani ... 0 14 0

Note.—I have ascertained from Mr. Williamson that the area and revenue figures of the proposed new Eastern circle are—

	Chahi.	Sailab.	Barani.	Total.	Present revenue.
	Acres.	Acres.	Acres.	Acres.	Rs.
Bet Chenab	11,741	7,855	1,723	21,429	31,016
Hithar	55,131	4	30,043	85,178	92,237
Total	66,872	7,859	31,776	1,06,607	1,23,253

The rates proposed by me would yield Rs. 1,49,819. I suggest a demand of Rs. 1,50,000, giving an increase of 21.6 per cent.

STATEMENT No. IV.

Settlement Officer.

Bet Chenab—

(a) Fixed assessment	Rs. 44,000
	Rs. A. P.
Rates ... { Chahi	... 1 14 0
{ Sailab	... 1 10 0
{ Barani	... 0 11 0
Rise ...	... 13 per cent.
Proportion of half net assets	... 59 per cent.

(b) Recommended—amalgamation of eastern portion with eastern portion of Hithar:—

Rates and assessment not proposed.

Khusk-haisiati of 12 annas per acre.

(c) Western portion—amalgamated with western portion of Hithar circle and with the Chenab circle:—

Fluctuating assessment—	Rs. A. P.
Rates ... { Chahi	... 1 14 0
{ Sailab	... 1 8 0
{ Barani	... 0 12 0
{ Nahri	... 0 14 0
{ Nahri	... 1 14 0

Commissioner.

(a) Fixed assessment	Rs. 42,500
	Rs. A. P.
Rates ... { Chahi	... 1 12 0
{ Sailab	... 1 10 0
{ Barani	... 0 11 0
Rise ...	... 9 per cent.
Proportion of half net assets	... 57 per cent.

(b) Recommended—

Fixed assessment of amalgamated eastern circle (Hithar and Bet Chenab)—

	Rs. A. P.
Rates ... { Chahi	... 1 12 0
{ Sailab	... 1 10 0
{ Barani	... 0 10 0
	with a khusk-haisiati of 12 annas,

(c) Western amalgamated circle—

Fluctuating rates—

	Rs. A. P.
Chahi ...	... 1 10 0
Sailab ...	... 1 8 0
Barani ...	... 0 12 0
Nahri ...	... 0 14 0
	... 1 12 0

STATEMENT No. V.

Settlement Officer.

Chenab—

Fluctuating assessment—

(a) Part above Nakka	Bar rates.
	Rs. A. P.
(b) Part below Nakka Bar.	{ Chahi ... 1 14 0
	{ Nahri ... 1 14 0
	{ Sailab ... 1 8 0
	{ Barani ... 0 12 0
	{ Barani ... 0 14 0

Commissioner.

(a) Agrees with the Settlement Officer.

(b) Fluctuating crop rates.

	Rs. A. P.
Chahi ...	... 1 10 0
Nahri ...	... 1 12 0
Sailab ...	... 1 8 0
Barani ...	... 0 12 0
	... 0 14 0

STATEMENT No. VI.

Settlement Officer.

Bar Rukan—

(a) Chenab block—

Fluctuating assessment at Chenab Circle rates.

(b) Central upland block—

Fluctuating assessment at Phalia Bar rate.

(c) Jhelum block—

Fixed assessment ... Rs. 2,500

Rates slightly below Bet Jhelum Circle rates.

Increase ... 34 per cent.

Commissioner.

(a) Fluctuating at Chenab Circle rates.

(b) Fluctuating at Phalia Bar rates.

(c) Fixed assessment ... Rs. 2,800

Increase ... 26 per cent.

Rates slightly below those proposed by Commissioner for Jhelum Bet circle.

17. I have, it will be observed, suggested a lowering of Mr. Williamson's proposed assessments all round.

General justification of Commissioner's proposals.

I feel that if the conditions of this tahsil were going to remain as we now find them, there are ample grounds for holding that we could not attempt to raise the assessment by more than some 20 per cent. Prices alone justify an increase. The circumstances of the tahsil, the conditions of the people, and

the revenue history of the past 20 years all suggest that the revenue at present assessed is none too lenient.

I think that for the next 10 years we should be content to share in the growing prosperity of the people, which will indubitably follow the opening of the canal, and that, seeing that to our partners in the whole concern, the zamindars, will fall the cost and labour of making our canal water productive, we should make our share a moderate one. So far as fixed assessments are concerned, and judged by the proportion of the half net assets taken, the tahsil will not, relatively to its neighbours, be lightly assessed if my proposals are accepted. In the matter of fluctuating assessments the pioneers of irrigation on the Upper Jhelum Canal will not have been more leniently treated than those who, in the old established villages, began to break up their waste lands with the aid of water from the Lower Chenab and Lower Jhelum systems.

18. With regard to cesses, my recommendation is that they should remain as at present for the next five years or so. By that time the local rate should be increased to meet the ever-growing requirements of the District Board.

Miscellaneous.

Protective leases for new wells will cover a period of 20 years.

As to the term of settlement, it will be clear from all that I have said above that this should be in my opinion for a period of 10 years only throughout the tahsil, or rather throughout the tract dealt with in this report. For, as pointed out by Mr. Williamson in paragraph 1 of his report, that tract excludes 10 villages to the west of the Lower Jhelum Canal, recently transferred to the Gujrat District, which have been assessed by Settlement Officers in Shahpur.

I am afraid that the marked failure of the monsoon this year makes it inadvisable to introduce the new demand with the kharif harvest.

19. It is unnecessary for me to dwell on the difficulty of the task of framing assessment proposals for a tract of country of which the varying physical characteristics have been complicated by diverse fiscal histories and made more intricate by projected differences of treatment in the matter of canal irrigation. If it has been difficult to frame proposals, it has been still more so to present these in such manner that they may be readily intelligible. To this task Mr. Williamson has devoted the greatest care and industry. His report displays a most intimate knowledge of the tahsil, which inspires confidence in the soundness of his proposals.

Mr. Williamson's task and its accomplishment

F. POPHAM YOUNG, LIEUT.-COL.,

Commissioner, Rawalpindi Division.

The 25th August 1915.

27
ASSESSMENT REPORT

OF THE

PHALIA TAHSIL

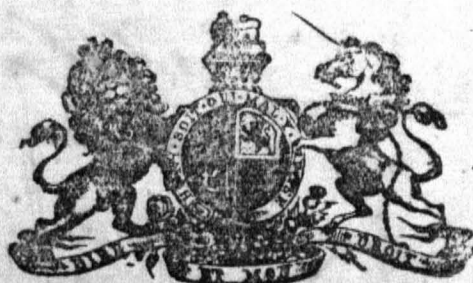
OF THE

GUJRAT DISTRICT.

BY

H. S. WILLIAMSON, I. C. S.,

SETTLEMENT OFFICER.



Lahore:

PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRINTING, PUNJAB.

1915.

TABLE OF CONTENTS.

Para.	SUBJECT.	Page.
CHAPTER I.—PHYSICAL DESCRIPTION, &c.		
1	Area under report	1
2	Physical features	<i>ib.</i>
3	Tahsil limits	2
4	Irrigation	<i>ib.</i>
5	Towns	<i>ib.</i>
6	Communications and markets	<i>ib.</i>
7	Rainfall	<i>ib.</i>
8	Assessment circles	3
9	Characteristics of each circle	<i>ib.</i>
10	Soils	4
CHAPTER II.—FISCAL HISTORY.		
11	Early history	4
12	Figures of previous settlements	5
13	Suspensions and remissions	6
CHAPTER III.—GENERAL STATISTICS.		
14	Area	7
15	Well irrigation	8
16	Population	<i>ib.</i>
17	Principal tribes	9
18	Ownership	<i>ib.</i>
19	Tenures	<i>ib.</i>
20	Cattle and ploughs	<i>ib.</i>
21	Sales and mortgages	10
22	Exports	11
23	Miscellaneous income	12
24	General condition	<i>ib.</i>
[CHAPTER IV.—CROPS.		
25	Sown and matured areas	12
26	Selected years	13
27	Comparative fertility	14
28	Crops	15
CHAPTER V.—TENANCIES AND RENTS.		
29	Cultivating possession	16
30	<i>Batai</i>	<i>ib.</i>
31	Cash rents	17
32	Lump grain rents	<i>ib.</i>
CHAPTER VI.—HALF NET ASSETS BASED ON KIND RENTS.		
33	Prices	18
34	Yields	<i>ib.</i>
35	Wheat	19

Para.	Subject.	Page.
CHAPTER VI.—HALF NET ASSETS BASED ON KIND RENTS— <i>concluded.</i>		
36	Barley ...	21
37	Gram ...	<i>ib.</i>
38	Wheat gram ...	<i>ib.</i>
39	Rice ...	<i>ib.</i>
40	Maize ...	22
41	<i>Bajra</i> ...	<i>ib.</i>
42	<i>Jowar</i> ...	<i>ib.</i>
43	Cotton ...	<i>ib.</i>
44	Other crops ...	<i>ib.</i>
45	Menials' dues ...	23
46	Landlord's share of grain ...	24
47	Landlord's share of straw ...	<i>ib.</i>
48	Further deductions for fodder ...	25
49	Half net assets ...	<i>ib.</i>
50	Results ...	26
CHAPTER VII.—CASH RENTS AND OTHER ASSESSMENT GUIDES.		
51	Cash and contract rents ...	27
52	Rates of sales and mortgages ...	<i>ib.</i>
CHAPTER VIII.—ASSESSMENT.		
53	General ...	27
54	Bet Jhelum ...	29
55	Bar ...	30
56	Hitbar ...	32
57	Bet Chenab ...	33
58	Chenab ...	34
59	Bar Rukan ...	37
CHAPTER IX.—CANAL ASSESSMENT.		
60	Canal assessment ...	37
61	Perennial irrigation ...	38
62	<i>Kharif</i> irrigation ...	<i>ib.</i>
63	Perennial irrigation, 30 per cent. ...	39
64	Chenab circle ...	<i>ib.</i>
CHAPTER X.—FINANCIAL RESULTS AND MISCELLANEOUS.		
65	Financial results ...	39
66	Cesses ...	40
67	Progressive assessments ...	<i>ib.</i>
68	Protective leases ...	<i>ib.</i>
69	Fluctuating assessments ...	<i>ib.</i>
70	Payment of revenue... ..	<i>ib.</i>
71	Term of settlement ...	<i>ib.</i>
72	Introduction of new demand ...	<i>ib.</i>
73	Orders required ...	<i>ib.</i>

ASSESSMENT REPORT
OF THE
PHALIA TAHSIL
OF THE
GUJRAT DISTRICT.

CHAPTER I.—PHYSICAL DESCRIPTION, &c.

1. The Phalia tahsil forms the western sub-division of the Gujrat district. It occupies the upper portion of the Chaj Doab, and extends from the Jhelum river on the north to the Chenab river on the south. Its western boundary, which was the Bhera tahsil of the Shahpur district at last settlement, has been moved further west to include 79 villages of that tahsil, so that roughly the main line of the Lower Jhelum Canal is now the boundary, though 8 villages irrigated by that canal and 2 more riverain villages have been included in this district. These villages were assessed by Settlement Officers in Shahpur and are not included in the present report. But all the land to be irrigated from the Upper Jhelum Canal is in Gujrat. The greatest distance across the tahsil from one river to the other is 30 miles. The greatest length is along the Chenab riverain which is 40 miles, while on the Jhelum from Malakwal to Rasul is 24 miles. A fixed boundary was laid along the Jhelum in 1901 by Mr. W. S. Talbot, Settlement Officer of Jhelum, and on the Chenab in 1904-05 by Mr. Townsend for part of the distance and in 1906-07 by Mr. Chandu Lal, Settlement Officer of Gujranwala, for the rest. The total area therefore is now fixed, and the area under report which excludes the villages to the west of the Lower Jhelum Canal is 635,675 acres or 993 square miles, of which 324,010 acres or 506 square miles are cultivated. The number of estates is 409, of which 44 are without houses. The population by the census of 1891 was 243,940 and has fallen in 1911 to 213,965, a decrease of 12·3 per cent.

The comparison of previous statistics is more complicated, because, in addition to Captain Davies' report of 1891, reference is made to two assessment reports by Mr. Wilson, one on the Chenab Circle of the Bhera tahsil in 1888, and one on the Bar and Jhelum Circles in 1890. These have been revised in a report by Mr. Rudkin in 1911 on the area within the limits of the Lower Jhelum Canal in the Shahpur District, and a report by Mr. M. S. Leigh in 1913 on those portions of the Bhera, Shahpur and Sargodha tahsils of the Shahpur district still under fixed assessment.

2. The tahsil is of a different character from Gujrat or Kharian. The submontane appearance now ceases and the land from a drainage line just within the border of the Kharian tahsil is now the uninterrupted plateau which forms the watershed between the two rivers. The central part or Bar is good firm soil of a reddish colour mostly of uniform quality, but with patches of sand or clay. On either side of the central plateau is a lower part which obviously shows an old river bed below a high bank. Towards the Jhelum the old bank is a gradual slope, rather sandy, and the curve of the bank, which is seen in the map accompanying this report, shows that at one time the river cut a wide bay into the high land. The land under the old high bank is in a depression and has a lot of *kallar* in it. The rest of this bay, which is mostly included in the Bet Jhelum Circle, is of good quality. The old high bank or

nakka, which is found towards the Chenab, is more strongly marked. It is in many places almost perpendicular. The edge of it is naturally cut up by the small channels caused by rain and along the whole course of the *nakka* there is a depression, which receives the drainage of the higher land. The Hithar towards the Chenab is a wide strip, 8 to 10 miles wide, and is much cut up by old channels of the river which once flowed here. As Captain Davies noted in paragraph 1 of his Assessment Report of 1891, the fertility of the land depends on the amount of alluvial deposit left when the river withdrew. But the drainage of the uplands through the Budhi *nullah* has in some places improved the soil by depositing silt.

3. The limits of the tahsil were increased in 1856, by the inclusion of some villages from Shahpur and 77 villages from Shahpur were added in 1911 and 2 more in 1914. The present westward limit is therefore now roughly the main line of the Lower Jhelum Canal, but there are 8 villages to the west of it, irrigated from that canal.

4. The Lower Jhelum Canal runs through the northern part of the tahsil from Rasul to Mona, but does no irrigation. The Upper Jhelum Canal is now under construction and will irrigate practically the whole of the tahsil: the Bar will get 80 per cent. perennial irrigation, and the Hithar 25 per cent. *kharij*, and at some intermediate parts there will be 25 per cent. and 30 per cent. perennial. Existing irrigation is effected from Persian wheels: and is of varying quality. In the Bar the wells are deep, but irrigate fairly large areas. In the Hithar water is near the surface, the area irrigated per well is very large, and shows that the rainfall is not enough to give regular cropping.

5. There are no towns in the tahsil, and no village of over 5,000 inhabitants.

6. Communications have scarcely changed since last settlement. The railway line from Lala Musa to Malakwal passes through the northern part of the tahsil, and a narrow gauge railway has been surveyed from Gujrat to Sargodha which will pass through the Hithar Circle, but I understand that during the war nothing is likely to be done. There are no metalled roads, but numerous unmetalled ones which are in a moderately good state of repair. The traffic is chiefly on camels and other pack animals: there are very few carts except in the villages of the Bet Jhelum. Some tum-tums ply for hire along the road to Kadirabad and from Dinga to Helan; one carries the post from Phalia to Pindi Baha-ud-din.

Communication by post is not easy. There are 31 post offices in the tahsil, but in the 20 miles west of Kadirabad there is no post office at all till Bhabra which is in the Shahpur District. There are Government telegraph offices at Rasul and Mona.

Telegraphic communication would be a great help in the development of the southern half of the tahsil. There are at present no markets though Government has acquired land for markets near Ala and Baha-ud-din stations.

7. Rainfall is observed only at Phalia by the district authorities, but the Irrigation Department have kindly furnished me with figures recorded at various stations. I therefore compare with Phalia the records at Dinga which is on the extreme eastern border of the tahsil, Head Fakirian on the extreme west, and Rasul which is on the Jhelum riverain.

The average of 22 years given by Captain Davies was 21 inches. An average of 25 years is now 20.94, though the 44 years' average of the Director of Land Records is 19.49. The figures are in statement No. I. The figure for Dinga in paragraph 7 of my Kharian report was 19.74 and as 2 years' more figures can now be added, an average of 7 years there is 19.43.

The average at Heal Fakirian is 18.16 inches. The rainfall at Rasul 25.50 inches is no doubt greater, because rain follows the line of the river,—see statement No. II. In Mr. Rudkin's Assessment Report on the Lower Jhelum Canal area the rainfall for two places just beyond the border of the district is given as Jhalpur 17.39 and Midh 16.72. So it may be taken that the rainfall along the rivers averages from 21 up to 25 inches, and in the Bar from 18 to 20 inches.

8. In letter No. 2754, dated 9th April 1915, the Financial Commissioner sanctioned the retention for the purposes of the report of six assessment circles. It is probable that several changes will be needed when irrigation begins. It is possible that the tahsil will be divided into two: that the Bar circles of Phalia and Rukan can be combined and that the contiguous circles on the Chenab will have a different division from the present one. But for the present it is more convenient to retain the previous four circles in the old Phalia tahsil, and in the sub-tahsil Rukan the villages of the old Chenab circle have been retained, because they have had a separate revenue history. The villages cut off from the Bar and Jhelum circles of Shahpur have temporarily been combined into one, as the land is mostly Bar with a very little riverain.

9. *Bet Jhelum*.—This is, as its name implies, the riverain circle along the Jhelum. There are 38 estates, lying parallel to the river for about 16 miles. The eastern part towards Rasul is in the old bay of the river: here the soil is of good quality, but not as good as that of the Bar and its southern part: in the depression, which runs under the high bank, is *kallarathi*. The western part is higher and is on the sandy slope from the Bar directly down to the river, and the eastern part is on a similar slope, but only down to the lowlying ground. The whole circle is divided longitudinally by the main line of the Lower Jhelum Canal which in some villages to the west, where it goes very near the bank of the river, has caused much damage by percolation. The *sailab* of this circle is good, as the Jhelum carries a good deal of red silt.

Bar.—The Bar circle, containing 113 estates, is the central plateau between the two rivers. The land is mostly of good quality a red loam, but in depressions and drainages there is stiffer soil. There are patches of sand too, and there is a long strip of sand north of the railway, where the high land begins to slope down to the river. As Captain Davies said in paragraph 4 of his assessment report, the special features of the agriculture of the Bar are a precarious rainfall, expensive irrigation, and a fertile soil. Wells are deep, and irrigate an average of 28 acres each, though the sown area averages only 23 acres each well. Irrigation, whether from wells, or the river, or a canal, depends much on rain for its success.

This circle was formed in 1891 by amalgamating the old Bar and Nakka circles. So on both the northern and southern slopes are villages with land partly high, partly low. In those to the north the actual slope is gradual but sandy, and the low part is of but indifferent soil. In those to the south the slope is more abrupt and is mostly uncultivated as it has *karkar* in it: below the slope is a depression which seems to have been left by the river as it receded. Such a depression is often found in the present river bed. The depression gets much benefit from drainage water and has good crops, but beyond it the land rises on to the sandy uneven ground of the Hithar.

Hithar.—The Hithar circle is the old Chenab valley and has all the characteristics of the river *bela*. The surface is uneven and has traces of old creeks of the river. The soil to the east is mostly sandy as far as Phalia, and west of that is a stiff clay, with an admixture of river sand. The depression below the *nakka* is bounded along almost its whole length by a sandy ridge. The eastern part gets surface drainage of the Kharian and Gujrat tahsils in the Budhi *nullah* which joins the river at Kadirabad, and where this *nullah* can overflow its banks, it has deposited silt and there is a firm clay soil. At Kadirabad is another old *nullah* which takes out of the river, but it does not

irrigate any part, and its bed is now mostly cultivated. Wells are numerous, and water is near the surface, only 15 to 30 feet. But rainfall is uncertain: *barani* crops are poor except in the lighter sandy soil to the east. Well water is required for all crops and is taken to great distances. Thus wells are continually at work and cultivation is expensive. The area per well is 26 acres on the average sown area, but the *chahi* cultivated area per well is 35 acres. The circle is the poorest in the old district and is to be compared with the Chenab circle of those which have recently been added to the district. The quality of the soil is inferior and very variable, the rainfall is precarious and in a year of short rainfall even the *chahi* crops do not mature.

Bet Chenab.—The Bet Chenab circle includes 55 villages, mostly bordering on the Chenab, and getting flood water in part of their area. The *sailab* is much inferior to that of the Jhelum, as the Chenab carries sand. At present the *sailab* to the east is better than to the west. The land above the present high bank is mostly of about the same quality as the Hithar, but in many villages, especially to the east, are large areas of *kallar* which seem to have spread since last settlement. A few villages which are near the border of the Gujrat tahsil are better than the average of the circle.

Bar Rukan.—The Bar of sub-tahsil Rukan is of the same character as the Bar of Phalia, and if anything the average quality of the soil is rather better. In this circle, which is a temporary one, the riverain villages of the Jhelum circle of the Bhera tahsil have been added. They are mostly of the Bar character and the *sailab* is only a small part. The circle will later be joined to the Bar and Bet Jhelum of Phalia.

Chenab Rukan.—The *Chenab* of sub-tahsil Rukan consists of 25 villages which belonged to the circle of that name while in the Bhera tahsil. The villages are a continuation of the Hithar of Phalia, but the circle also includes some Bar land, because in Shahpur the Nakka villages were amalgamated with the Hithar and not with the Bar villages,—see paragraph 2 of Mr. Wilson's assessment report of the Chenab circle. This circle has had a fluctuating assessment since 1910. The villages have practically all paid less by the fluctuating assessment than they did by the fixed assessment. It will probably be necessary to amalgamate this circle with the Hithar in some way, or to make a fresh division. It is like the western villages of the Hithar and must be considered poor. The land in the Bar is good, and will get perennial irrigation. The depression under the Nakka is fairly good and it is the part between that and the flood level which is precarious. Here the soil is inferior and very uneven. It is cut up by two branches of the Budhi *nullah* which starts at Kadirabad. The rainfall is small and precarious, and the effects of short rainfall have an immediate bad effect on *chahi* as well as *barani*. Without well water few crops mature, the area per well averages 32 acres for sown area and 42 for cultivated area classed as *chahi*.

10. The classification of soils, sanctioned in Financial Commissioner's letter No. 2752, dated 9th April 1915, is the same as in the other tahsils of the district. The distinction is that of irrigation not of quality of soil. Land has been classified as (1) *chahi*, irrigated by wells; (2) *sailab*, land which receives regular flood; and (3) *barani*, dependent on rain. As a large part of the record had been completed before the beginning of settlement operations and no new classification has been suggested, this old classification had to be adhered to. But in the Bar, where *killabandi* has been done, a soil survey has also been done and land is now recorded as (1) *rohi* or stiff clay; (2) *missi* or firm loam, this is the greater part of the Bar; (3) *maira*, rather lighter; (4) *kallarathi*, or affected by saltpetre.

CHAPTER II.—FISCAL HISTORY.

11. The revenue history of the district has been summarised in paragraphs 11 to 15 of my report on the Gujrat tahsil. Briefly the settlements of the district have been as follows:—The first summary settlement in 1849 was

too unequal and high. The second summary settlement in 1852 proved to be good. In that year a regular settlement was begun and completed in 1859 by Captain Hector Mackenzie: it gave a reduction of 8 per cent. and was sanctioned for 10 years, to expire in 1867-68. A revised settlement was made by Captain Waterfield between 1865—1868, giving a final increase of 12·79 per cent. This was considered too low by the Lieutenant-Governor, but under the instructions of the Government of India the assessment as announced by the Settlement Officer was confirmed. A second revised settlement was made by Captain Davies from 1889—1893, giving an increase of 36 per cent. It was sanctioned for 20 years—a period which has been slightly exceeded.

12. The foregoing relates to the old Gujrat district as a whole. The figures relating to the tahsil are shown in Chapter II of Captain Davies' report to be rather complicated, as part of the tahsil had originally been assessed in Shahpur. However in paragraph 12, Captain Davies compiled a useful statement which is given below and amplified. As shown by Captain Davies in paragraph 10, the *jama* up to the final figure of the 1868 settlement did not include petty *muafis* or *zaildari* and *sarpanchi* inams. I gave as the final figure of 1868 the figure of the *kistbandi* of 1890-91. I have added where possible a third line showing the incidence per cultivated acre. The figures for the villages transferred from Shahpur have had to be compiled from village totals, as the figures given in Mr. Wilson's report of 1890 apply to the whole circles:—

Circle.	1st Summary settlement, 1849.	2nd Summary settlement, 1852.	REGULAR SETTLE- MENT, 1855.		REVISED SETTLEMENT, 1868.		2ND REVISED SETTLE- MENT, 1892.	
			Initial.	Final.	Initial.	Final.	Initial.	Final.
Bet Jhelum	Rs. 18,604	Rs. 17,840 -4·1	Rs. 18,325 +3·3 Re. 1-8-1	Rs. 19,192 ... Re. 1-3-11	Rs. 20,507 +6·8 Re. 1-5-3	Rs. 22,212 ... Re. 1-0-7	Rs. 32,801 +47·7 Re. 1-8-5	Rs. 29,071 ... Re. 1-7-10
Bar	Rs. 25,012	Rs. 42,366 +21·0	Rs. 40,976 -3·3 Re. 1-4-3	Rs. 41,492 ... Re. 0-14-0	Rs. 48,879 +17·3 Re. 1-0-5	Rs. 55,716 ... Re. 0-8-5	Rs. 80,847 +45·1 Re. 0-12-3	Rs. 80,199 ... Re. 0-11-3
Hithar	Rs. 69,241	Rs. 60,605 -11·0	Rs. 57,729 -4·7 Re. 1-3-1	Rs. 59,420 ... Re. 0-13-6	Rs. 66,320 +11·4 Re. 0-15-1	Rs. 77,735 ... Re. 0-12-0	Rs. 1,11,275 +43·1 Re. 1-1-3	Rs. 1,10,450 ... Re. 1-0-7
Bet Chenab	Rs. 33,703	Rs. 26,912 -20·4	Rs. 22,576 -15·7 Re. 1-4-8	Rs. 22,949 ... Re. 1 2-3	Rs. 23,949 +4·3 Re. 1-3-0	Rs. 29,508 ... Re. 1-0-3	Rs. 37,214 +26·1 Re. 1-4-3	Rs. 39,035 ... Re. 1-7-2
Phalia	Rs. 1,56,560	Rs. 1,47,723 -5·6	Rs. 1,39,606 -5·5 Re. 1-4-3	Rs. 1,43,053 ... Re. 0-14-11	Rs. 1,59,515 +11·5 Re. 1-0-8	Rs. 1,85,171 ... Re. 0-11-5	Rs. 2,62,137 +41·6 Re. 1-0-2	Rs. 2,58,745 ... Re. 0-15-6
			1858.				1888 on 1890.	
			1852.	1853.			Initial.	Final.
Chenab	Rs. 19,679	Rs. 16,165 -17·9	Rs. 14,305 -11·5 Re. 1 0-8	...	...	Rs. 13,936 ... Re. 0-9-8	Rs. 25,360 +82·0 Re. 1-1-7	Rs. 15,982 ... Re. 0-11-6
Bar	Rs. 14,035	Rs. 11,380 -18·9	Rs. 9,954 -12·5 Re. 1-6-10	...	...	Rs. 11,795 ... Re. 0-6-1	Rs. 26,052 +120·9 Re. 0-13-6	Rs. 21,983 ... Re. 0-10 4
Rukan	Rs. 33,714	Rs. 27,545 -18·3	Rs. 24,259 -11·9 Re. 1-2-9	...	...	Rs. 25,731 ... Re. 0-7-7	Rs. 51,412 +99·8 Re. 0 15-3	Rs. 37,965 ... Re. 0-10-7
Total Phalia and Rukan.	Rs. 190,274	Rs. 1,75,268 -7·9	Rs. 1,63,865 -6·5 Re. 1-4-0	...	...	Rs. 2,10,902 ... Re. 0-10-9	Rs. 3,13,549 +48·7 Re. 1-0-0	Rs. 2,96,700 ... Re. 0-14-8

From this it is seen that both in Phalia and in Bhera the original assessments had been too high. In 1852 and again in 1855 reductions had to be made

on a somewhat large scale. It was only in 1868 that a general increase was taken and it was held by Government to be too lenient. But it was probably a fuller one in Phalia than in the other tahsils. Since then the extension of cultivation has kept pace with the increase of revenue, so that in the Bar the incidence is now less and in the other circles not a great deal more than in 1868.

In the circles transferred from Shahpur there was a summary settlement in 1852, another in 1853, and a regular settlement by Mr. Ouseley in 1858. This lasted for 30 years till revised by Mr. James Wilson in 1888 and 1890.

13. In paragraph 12 Captain Davies said the revenue of the previous settlement had been collected with ease: he pointed out that progressive instalments had lightened the incidence, and, as in paragraph 13 of my Kharian report, it may be noted that in 1872 the Lieutenant-Governor, in passing orders on the settlement of 1868, had expressed the opinion that the settlement was much too low and had "given to Government no fair share of the increase in the general prosperity and wealth of this district". With regard to the sub-tahsil Rukan, we may take the opinion of Mr. Wilson in paragraph 6 of his report on the Bar and Jhelum circles, but the previous settlement had worked easily, and there had been no remissions or suspensions for many years, and in paragraph 12 of his report on the Chenab circle he came to the same conclusion.

The period of the last settlement has been marked by many years of scarcity which would be a severe test of any assessment. In a dry tract like the Phalia tahsil the effect is great, and in consequence there have been suspensions in 18 years out of 22, and remissions in 15 years. The sum suspended is 8.9 per cent. and the sum remitted 4.2 per cent. of the average annual demand for the period of settlement. The details are given below:—

Amount of revenue suspended.

Year.	Bet Jhelum.	Bar.	Hithar.	Bet Chenab.	Phalia.	Chenab.	Bar.	Rukan.	Total.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1891-92	998	1,049	2,047	2,047
1895-96	...	70,628	...	...	70,628	8,489	3,596	12,085	82,713
1896-97	...	106,197	...	...	1,06,197	15,326	14,214	29,540	1,35,737
1897-98	...	3,780	...	...	3,780	3,167	901	4,068	7,848
1898-99	...	895	147	...	1,042	10,699	4,668	15,367	16,409
1899-00	...	54,063	34,723	419	89,210	21,666	11,263	32,929	1,22,139
1900-01	691	...	691	8,872	4,844	13,716	14,407
1901-02	...	2,619	4,297	...	6,916	10,035	4,879	14,914	21,831
1902-03	75	531	606	606
1903-04	2,205	2,205	2,256	1,322	3,578	5,738
1904-05	...	14,920	22,558	61	37,539	7,751	3,227	10,978	48,517
1905-06	3,755	1,088	4,843	4,843
1906-07	3,602	75	3,677	3,677
1907-08	...	18,241	18,446	1,841	38,528	9,957	5,134	15,091	53,619
1908-09	2,914	52	2,966	2,966
1909-10	4,322	629	4,951	4,951
1911-12	1,687	37,189	15,865	1,943	56,684	...	10,679	10,679	67,363
1912-13	...	2,469	1,097	...	3,566	...	...	...	3,566
Total	1,687	1,30,396	97,829	6,469	4,16,986	1,13,884	68,151	1,82,035	5,99,021
		1,80,605							

Amount of revenue remitted.

Year.	Bet Jhelum.	Bar.	Hithar.	Bet Chenab.	Phalia.	Chenab.	Bar.	Rukan.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1895-96	157	24,087	24,853	1,196	50,293	...	...	...	50,293
1896-97	602	53,921	29,298	2,543	96,364	...	...	...	96,364
1897-98	...	1,963	1,034	...	2,997	...	...	...	2,997
1898-99	...	895	...	...	895	...	...	...	895
1899-00	...	41,603	15,069	419	57,091	...	40	40	57,131
1900-01	691	...	691	26,447	12,239	38,686	39,377
1902-03	5,310	1,649	6,959	6,959
1904-05	1,536	1,322	2,858	2,858
1905-06	1,019	...	1,019	1,019
1906-07	19	...	19	19
1907-08	1,545	119	1,664	1,664
1908-09	2,190	...	2,190	2,190
1909-10	5,372	23	5,395	5,395
1910-11	15,530	70	15,600	15,600
1911-12	83	83	83
Total	779	1,22,469	80,945	4,158	2,08,381	58,968	15,545	74,513	2,82,844

In 1891 when reviewing Captain Davies' report the Commissioner said that the moderation of Captain Waterfield in 1868 enabled the assessing authorities of 1891 to very largely enhance the assessment with a fair prospect that the new demand would neither precipitate extortion nor check agricultural prosperity, provided always the mode of realization be adapted to local circumstances. He had favoured a fluctuating assessment in the tahsil, but it was not accepted by the Financial Commissioner or Lieutenant-Governor. The conditions which then seemed favourable to the new demand soon changed and from 1896-97 began a series of years of scarcity which, helped by the attraction of men to the Lower Jhelum and Lower Chenab Canal colonies, followed in the latter half of the period of settlement by several visitations of plague, have depleted the villages of their cultivators and left the survivors badly off. The prosperity of the tract will be restored by irrigation from the Upper Jhelum Canal.

CHAPTER III.—GENERAL STATISTICS.

14. Statement No. III compares the area of last settlement taken from the settlement *jamabandi* with the present area. In the case of present

Area. the figures for the Bar are those of the new measurement by *killa bandi*, which is more accurate and often gives an excess over the more rough-and-ready methods previously employed. In the Bet Jhelum they are taken from the new riverain measurements. The total area in this circle is changed by the fixing of a boundary in 1901 by Mr. W. S. Talbot, Settlement Officer of Jhelum. In the Hithar and part of Chenab they are from the *jamabandis* prepared by Rai Sahib Hira Singh, before my arrival. In the Bet-Chenab and the riverain villages of the Chenab they are taken from the latest *jamabandis*, as new measurements have only recently begun. On the riverain the total area is greater owing to the fixing of a boundary on the Chenab partly in 1904-05 by Mr. Townsend, partly in 1906-07 by Mr. Chandu Lal, Settlement Officer of Gujranwala. In the Bar circle the increase of cultivation is of no importance for the assessment, as the revenue here will be fluctuating. In the Bet Jhelum the variation is in *sailab*, which varies with the river. In the Hithar, Bet Chenab and Chenab, which are of one kind apart from the *sailab* in the last two, it is remarkable that the *chahi* area has declined though these are circles where rain is precarious, and well water is usually taken to great distances to grow a crop at all. The Hithar shows an increase in cultivated area, and the other two a decrease.

The cultivated area of the tahsil (excluding the ten villages not under assessment) is now 324,010 acres instead of 313,766 at last settlement, and represents 51 per cent. of the total area instead of 49 per cent.

15. Statement No. IV shows the state of well irrigation by the figures of the last seven years. The extent of irrigation varies with the dryness of the years, but less so than in the Kharian and Gujrat tahsils, as the wells are used nearer to their full capacity in a normal year. The area per well is much higher too. In Gujrat tahsil it was 13 acres, in Kharian 8, but in Phalia it varies from 20 in Bet Jhelum to 26 in the Hithar, and 32 in the Chenab as the sown area on each well. The recorded *chahi* is much higher and is seen in a statement below. On individual wells as much as 100 acres are found. The average sown per well at last settlement and now is —

	Bet Jhelum.	Bar.	Hithar.	Bet Chenab.	Chenab.	Bar Rukan.	Total.
1891 ...	22	32	39	33	39	22	34
Present average ...	20	23	26	21	32	17	24

The depth to water varies considerably. In the Bar it averages about 45 feet and in the other circles from 15 to 20 feet. The water-supply is mostly good. The cost of making a well is roughly Rs. 15 per foot, so the cost ranges from Rs. 250 to Rs. 700.

Statement No. V shows that of the wells in use at last settlement 664 have fallen out of use, and 953 new ones have been built, out of which 43 are now out of use. The increase in wells now in use or fit for use is 287. The following statement shows how much of the recorded *chahi* area is sown :—

Circle.	Wells at work.	<i>Chahi</i> per well.	Recorded <i>chahi</i> area.	Average of selected years sown area <i>chahi</i> .
Bet Jhelum ...	419	19	7,817	8,619
Bar ...	1,006	23	23,276	23,015
Hithar ...	1,947	35	67,695	49,717
Bet Chenab ...	571	24	13,555	12,474
Tahsil ...	3,943	30	117,343	93,825
Chenab ...	256	42	10,713	7,304
Bar ...	210	23	5,523	3,753
Sub-Tahsil ...	466	35	16,236	11,062
Total ...	4409	30	133,579	104,837

16. The census figures for the various circles and the whole area under report at the census of different dates are as follows :—

Assessment Circles.	1881.	1891.	1901.	1911.
Bet Jhelum ...	20,499	23,184	35,942	21,086
Bar ...	64,392	78,966	70,418	63,424
Hithar ...	65,251	75,891	64,535	64,414
Bet Chenab ...	23,862	25,716	27,029	23,664
Phalia ...	174,704	203,757	197,974	175,583
Chenab ...	...	16,431	13,137	11,810
Bar ...	...	23,752	20,294	26,567
Rukkan ...	...	40,183	33,431	33,377
Total ...	...	243,940	231,405	213,965
Persons per square mile of total area ...	...	245	233	215
Persons per square mile of cultivated area ...	...	498	472	423

Captain Davies noted in paragraph 16 of his assessment report a steady increase in every circle from 1868 to 1891, but since then has there been a marked decrease, and the population of the tahsil has fallen by 12.3 per cent. The

reasons are partly emigration to the canal colonies, and partly plague. But the variations are considerable. The rise in Bet Jhelum in 1901 is no doubt due to the construction of the Lower Jhelum Canal. The rise in Bar Rukan in 1911 is not explained.

17. The population of the tahsil is chiefly Musalman. The number of the inhabitants of the various religions and their percentage to the total population are as follows:—

Principal tribes.	Phalia.	Rukan.	Total.	Per cent.
Musalman ...	147,854	82,768	180,622	84.4
Hindu ...	8,520	2,931	11,451	5.4
Sikh ...	18,641	2,581	21,222	9.9
Others ...	573	97	670	.3
Total ...	175,588	88,377	213,965	100

Statement No. VI gives the ownership by tribes. The Jats preponderate, and of these the Gondal tribe hold the main part of the Bar, or roughly the northern half of the tahsil, the Tarar and Ranja tribes hold the Hithar or roughly the southern half of the tahsil. The Waraich tribe, which is so strong in the Gujrat tahsil, hold some villages in the Hithar towards Gujrat. There are some Gujars in the part bordering on the Kharian tahsil. Saiads, Khatris and Moghals have scattered villages.

18. The number of owners was recorded in 1891 as 28,855 (Statement V of Preliminary Report for Phalia gives 23,484, and the sub-tahsil had 5,371 according to the *jamabandis*). Now it is 43,724, of whom 36,966 are in Phalia. For the various circles each share-holder has—

Bet Jhelum ...	7	acres of which	4	are cultivated.
Bar ...	15	ditto	8	ditto.
Hithar ...	11	ditto	8	ditto.
Bet Chenab ...	13	ditto	5	ditto.
Chenab ...	23	ditto	9	ditto.
Bar ...	23	ditto	8	ditto.
Whole tahsil ...	15	ditto	7	ditto.

19. The 403 estates are shown as Bhaiachara 347, Pattidari 16, Zamindari 46.

Tenures.

20. In Statement No. VII are given the figures for cattle and ploughs at last settlement and now. The figures for last settlement are those for 1893-94, as that was the first year in which the present classification was used showing bullocks, cows and young stock separately, but for the sub-tahsil of Rukan this advantage is not available. The present figures are of the census of cattle taken in February 1914. There is a large increase in bulls and bullocks, cows, male and female buffaloes and young stock. In fact cattle of all kinds show a remarkable increase, possibly due to the restriction of grazing and breeding grounds in neighbouring tracts now canal irrigated. However the number of cattle is a sign of prosperity and wealth, in which the three poorer circles join. The cattle in the Bar circles are usually of good quality, but in the southern circles they are poor. The number of cows and cow buffaloes works out one for $2\frac{1}{2}$ head of the population, which can be compared with the proportion in Gujrat, one animal for rather more than 5 persons and in Kharian one animal for rather less than 5 persons. If cattle, cows, buffaloes and young stock be added together, the total in 1893-94 was 147,715 and is now 218,837, an increase of 48 per cent. The number of ploughs now shown is more than at last settlement and is one for 11.2 acres of the cultivated area.

Cattle and ploughs.

rather more than in Kharian or Gujrat. The price of a bullock fit to plough or work on a well is now about Rs. 50 to Rs. 100. A milch cow costs from Rs. 80 to Rs. 70.

21. Statement No. VIII gives the figures for sales, mortgages and redemptions since last settlement compiled from the tahsil records without editing. The years before the Land Alienation Act have been distinguished from those subsequent to it, hence the periods are not in even five years. The average sale price per cultivated acre for the tahsil is Rs. 53, ranging from Rs. 40 in the first period to Rs. 79 in the latest. So even on the average figures, many of which are untrustworthy, the sale price has doubled. It is more useful to take the price of the latest five years for each circle and it is seen that the averages are—Bet Jhelum Rs. 173, Bar Rs. 86, Hithar Rs. 57, Bet Chenab Rs. 40, Chenab Rukan Rs. 52, Bar Rukan Rs. 179. The Bet Jhelum shows consistently higher prices than in the other circles and they bear out other statistics in showing it to be the most prosperous circle in the tahsil. The figure for Bar Rukan is misleading and is due to some abnormal sales. But the figures for the three southern circles show the poverty of the land in the small price available. In the famine years from 1897 to 1902 land in some villages was sold for only ten to twenty rupees an acre, and though the value of land has increased considerably since last settlement it is still small compared with the rates in Gujrat and Kharian.

In comparing recent prices with those of the period preceding last settlement no figures are available for the Rukan circles, but for the Phalia circles comparison can be made with those in Statement No. II attached to Captain Davies' assessment report. In this the distinction was made between sales to agriculturists and money-lenders: and though this distinction has now lost its force, it is still of importance in this report, because in half the period of settlement and especially in the famine years, sales to non-agriculturists were still possible. Statement No. IX shows the sales to owners with some attempt at elimination of abnormal sales. In paragraph 9 of his orders on my Kharian report the Financial Commissioner directed that the area of occupancy right should be shown separately from proprietary right. But as occupancy tenants cultivate only one per cent. of the land of this tahsil I venture to think the distinction is not necessary. The prices now shown in Statement No. IX are of cultivated area. Captain Davies does not specify in paragraphs 25 to 29 of his report whether he is dealing with total area or cultivated area, and whether he has excluded occupancy tenancies. As I have said the latter distinction does not matter. But taking Captain Davies' figures as they are I compare them with the present figures as follows and the figures for the Rukan Circles are given for comparison:—

				To agricul- turists.	To non-agri- culturists.
Bet Jhelum	{ Last settlement	...	...	78	70
	{ Now	...	...	111	135
Bar	{ Last settlement	...	...	12	17
	{ Now	...	...	53	60
Hithar	{ Last settlement	...	...	11	17
	{ Now	...	...	40	46
Bet-Chenab	{ Last settlement	...	...	15	20
	{ Now	...	...	50	44
Tahsil ...	{ Last settlement	...	...	14	20
	{ Now	...	...	54	57
Chenab Rukan	{ Last settlement	...	...	...	...
	{ Now	...	...	80	47
Bar Rukan	{ Last settlement	...	...	...	...
	{ Now	...	...	112	76
Whole tahsil	Now	...	...	57	58

Figures for Rukan at last settlement were seen to be for the Bar, in Bar circle Rs. 11 per acre, and in Jhelum Circle from Rs. 20 to Rs. 60, and for the Chenab circle Rs. 21 per acre of cultivated land, with uncultivated land attached. The rise in all circles is considerable, and apart from the Bet Jhelum values may be put at 3 to 4 times their previous rate.

The figures for mortgages in statement VIII show the effect of the Land Alienation Act. Before the passing of the Act in the nine years from 1892-93 to 1900-01 the cultivated area mortgaged was 39,527 acres: in the 13 years subsequent the area is 19,128 acres. The consideration money has risen from Rs. 23 to Rs. 43 and the multiple of land revenue from 26 to 46. The prices obtained at mortgage are little more than half the sale prices: and compared with Gujrat and Kharian tahsils the mortgage prices are very low, even in the best of the circles—the Bet Jhelum—the mortgage price in the last quinquennium is only Rs. 82. The latest prices in the Bar Rs. 41, Hithar Rs. 38, are low, and the Bar and Chenab Rukan approximate these. The price of Rs. 74 in Bet Chenab is rather surprising when compared with the other circles. Redemptions during the period of settlement have lagged far behind fresh mortgages, but there have been many bad years, and, as the statistics show, the resources of men in this tahsil, who depend on the land for their living, are less than in Kharian and Gujrat: so land has had to be mortgaged, and it is satisfactory that, as in the other tahsils, the redemptions since 1901 have exceeded fresh mortgages, except in the Bet Chenab, where there is a slight deficiency. In paragraph 118 of Captain Davies' final settlement report the area of mortgages existing at the time of measurement in settlement 1890—1893 was shown to be 5,982 acres to agriculturists and 20,525 to non agriculturists. The area now under mortgage shown in the latest *jamabandis* (which are not the settlement *jamabandis* except in the Bet Jhelum) is seen in Statement No. IX to be for Phalia only 8,177 cultivated acres to agriculturists and 23,652 to non-agriculturists, and for the whole area under report 9,193 acres to agriculturists and 28,875 to non-agriculturists, so there is a large increase in the mortgaged area though the proportion in the hands of non-agriculturists has been diminished. No doubt more mortgages will be redeemed when canal irrigation has helped to bring prosperity to the tract and it is the one hopeful sign in the low mortgage-money that it will be the more easily repaid. The consideration money for the area recorded by Captain Davies was Rs. 19 for agriculturists, and Rs. 23 for non-agriculturists. He did not specify whether the area was the total area or cultivated. The present figures for cultivated area only are Rs. 35 both to agriculturists and non-agriculturists. In paragraph 2 of his review of the report of 1891 the Commissioner Mr. Thorburn considered that the peasant proprietary of the Phalia tahsil was still little involved, but he went on to say "the present percentage of cultivated land alienated to money-lenders will probably increase year by year in an advancing ratio until it reaches the alarming figures already attained in less sophisticated tracts." I think that considering the circumstances of this settlement, that is, bad years, emigration to the Canal Colonies and plague, the increase to the area alienated is not alarming: it represents now 11·7 per cent. of the cultivated area compared with 13 per cent. in Kharian and 15·9 in Gujrat.

22. By the courtesy of the management of the North-Western Railway

I have obtained a statement showing the export of selected articles of agricultural produce from stations in the tahsil. It is given below in maunds:—

Railway station.	Year.	Wheat.	Barley.	Gram and other pulses.	Jowar and bajra.	Other grains.	Cotton.	Cotton seeds.	Gar.	Tobacco.	Ghi.	Oilseeds.	Hay straw.	Total.
Chilianwala	1913	390	0	8,704	...	64	85	161	140	8	418	238	15	11,082
	1914	416	80	5,784	...	8	350	3	...	23	49	641	84	7,860
	1915	2,048	354	4,061	198	158	1	...	48	17	532	191	1,088	10,166
Baba-ud-din	1913	2,048	...	1,891	1,190	481	40	523	500	158	598	817	684	7,897
	1914	5,482	1,098	5,482	391	98	87	78	48	60	333	765	161	18,928
	1915	28,080	850	3,295	488	885	892	8	48	...	1,914	1,551	80	30,546
Aia	1913	576	...	235	...	47	28	...	28	7	65	877	...	1,316
	1914	1,167	28	1,487	...	47	84	...	...	...	98	213	...	3,069
	1915	5,094	393	1,798	38	264	38	...	...	...	155	467	...	8,308
Bariab	1913	114	0	48	...	487	...	...	85	88	364	112	2,568	3,711
	1914	1,720	160	7,504	222	267	68	78	...	30	465	1,196	260	12,145
	1915	8,485	101	3,138	1,480	400	45	...	37	268	173	1,231	...	17,948
Malahwal	1913	222	...	3,274	...	10	18	22	202	4	14	830	13	4,104
	1914	738	18	2,944	318	100	19	...	103	7	15	218	856	5,415
	1915	4,420	...	4,520	107	107	1	4	13	24	428	1,393	302	11,349
Total 3 years ...	...	58,064	2,411	57,549	4,441	2,651	1,021	894	1,303	697	5,385	8,187	5,951	143,046
Average 3 years ...	...	19,688	804	19,183	1,480	881	340	298	434	232	1,795	2,729	1,984	47,682

The figures for Dinga, which were given in my Kharian report, include export from the Phalia tahsil, but as the figures for Malakwal include much traffic from villages of the Shahpur district, they redress the balance. A little may go from Phulerwan and Mona. From such a statement only broad deductions can be made. The average yearly export has been only 49,349 maunds from 324,010 acres, or a sixth of a maund per acre. This shows a very small surplus. Out of the total, 1,795 maunds is the yearly average for *ghi*. This seems very little compared with 9,000 maunds in Kharian tahsil. However, if we take this amount of *ghi* at Rs. 40 per maund and 48,000 maunds of other produce at the sanctioned price of wheat, Rs. 2-4-0, we get only Rs. 1,80,000, which is much less than the present revenue of the tahsil.

23. It is not practicable to give any accurate estimate of the miscellaneous income of the people. There are no large towns where milk, *ghi* and vegetables can be sold. The *ghi* is exported by railway and its value can be estimated at about Rs. 70,000.

The wide stretches of waste land afford grazing for a large number of cattle and among a people who often prefer to keep their land for grazing rather than for cultivation, it would be fair to impose a higher assessment on this account. If all the *banjar* in the two Bar Circles were assessed at an anna per acre it would add Rs. 10,843 to the revenue. Military service does not attract many men: the Gondals have recently given about a score of recruits, but they have so far shown no liking for military service and in view of the prospective development of the Bar it is not likely that men will leave their homes. A good many men from the Hithar have left to go to the Canal Colonies as tenants, but there is no evidence that their savings have been of any benefit to the men left.

24. The interval since last settlement has been marked by several events which have a bearing on the prosperity of the tahsil. As noted in paragraph 24 of my Kharian report these have been (1) the number of years of famine or scarcity and plague, (2) the passing of the Land Alienation Act, (3) the Co-operative Societies movement. There are now 29 banks in the tahsil, a small number but gradually increasing. The general condition of the Bet Jhelum is prosperous. The Bar is a tract of good soil but poor rainfall, so its agricultural condition is precarious, yet when it has had a crop it has been a good one, and with perennial canal water it should be prosperous. The Hithar has mostly poor soil and also poor rainfall, and it is a poor circle: the population has declined and agricultural conditions are discouraging. The men would go off in even greater numbers to the Bar, if this circle were not to have irrigation for itself to the extent of 25 per cent. It remains to be seen what will be the effect of this irrigation, but in any case the Hithar and its continuation, the Bet Chenab and Chenab circle of Rukan, are not prosperous.

CHAPTER IV.—CROPS.

25. Statement No. X shows the sown and matured areas of the harvests since last settlement. The fluctuations are considerable, as might be expected in a tahsil of small rainfall, but are chiefly in the unirrigated area. The percentage of failure is high in the years of scarcity—1896-97 to 1901-02 and 1907-08 and 1911-12. The average of 22 years for Phalia is 17.1 against 13.3 at last settlement. But as the failure in Rukan is 23.4, the average for the whole area under report is 18.8. The Bet Jhelum, though the most secure circle, has a percentage of failure of 12.0, but the variations above and below the average are not very violent. In the two Bar circles the irrigated area has been fairly constant, but the unirrigated area shows great variations, e.g., in Phalia Bar it was only 4,520 acres in 1899-1900, but went up to 85,663 acres in 1903-04, and the year 1899-1900 was bad in the Hithar also. Though the quality of soil in the Hithar is inferior, the large extent of *chahi* cultivation has kept down its failure to 14.9. The Chenab circle, which is worse, has 19.8 of failure. Taking the figures generally I think, as I noted in the case of

Kharian, that the failed area is under-estimated. It is difficult to believe that the failure in the Bar of Phalia could be as low as 2.7 in 1903-04 or 3.4 in 1910-11. Probably the difference in standard of failure is responsible, and in an uncertain tract crops are recorded as matured which would certainly be recorded as partial failures in a more secure tahsil.

26. The years approved by the Financial Commissioner as the basis for a produce estimate are four—
 Selected years. 1909-10, 1910-11, 1912-13 and 1913-14.
 In the Hithar Circle an adjustment was prescribed by reducing the resulting produce estimate in the proportion of 91 to 87. I proposed a period of ten years, but it was not approved. I give below a statement showing the harvested area of the whole year for an average of 22 years, and for the median of 22 years, the median being the average of the 11th and 12th years in numerical not serial order:—

Circle.	Harvest or year.			Average of 22 years.	Median of 22 years.	Average of 4 selected years.
				Acres.	Acres.	Acres.
Bet Jhelum	{	Kharif	...	6,240	6,022	5,591
		Rabi	...	14,284	14,616	14,509
		Total	...	20,524	20,638	20,100
Bar	{	Kharif	...	26,225	41,338	34,701
		Rabi	...	45,654	48,299	54,747
		Total	...	81,879	89,637	89,448
Hithar	{	Kharif	...	22,996	21,656	22,002
		Rabi	...	60,577	64,310	69,073
		Total	...	83,573	85,966	91,075
Bet Chenab...	{	Kharif	...	6,255	6,040	5,843
		Rabi	...	19,416	19,303	20,569
		Total	...	25,721	25,343	25,912
Phalia	{	Kharif	...	71,716	75,056	67,637
		Rabi	...	139,981	146,528	158,898
		Total	...	2,11,697	221,584	226,535
Chenab	{	Kharif	...	6,008	4,518	3,455
		Rabi	...	14,134	12,338	11,780
		Total	...	20,142	16,856	15,235
Bar	{	Kharif	...	16,594	14,552	11,052
		Rabi	...	15,796	15,250	11,201
		Total	...	32,390	29,802	22,253
Rukan	{	Kharif	...	22,602	19,070	14,507
		Rabi	...	29,930	27,583	22,981
		Total	...	52,532	46,653	37,488
Total	{	Kharif	...	94,318	94,126	82,144
		Rabi	...	169,911	174,116	181,879
		Total	...	264,229	268,242	264,023

The average of the selected years corresponds exactly with that of the whole period, but shows variations in the different circles. The difference in the case of the Hithar will be adjusted. The Chenab circle is apparently better than the average taken. The Bar circles are uneven, as the average now taken is greater in one case and less in another than the average of 22 years.

The character of the harvests of the selected years as shown in the season and crop report is as follows:—

1909-10	{	<i>Kharif</i> ...	Harvest good but damaged in places : final result about average.
		<i>Rabi</i> ...	Season favourable : harvest good.
1910-11	{	<i>Kharif</i> ...	Moderately good.
		<i>Rabi</i> ...	Rains began very late, but were good in March : harvest average.
1912-13	{	<i>Kharif</i> ...	Rainfall poor : harvest poor.
		<i>Rabi</i> ...	Very little rainfall till February : unirrigated crops withered : harvest poor.
1913-14	{	<i>Kharif</i> ...	Harvest moderately good.
		<i>Rabi</i> ...	Rain received late : crops suffered in consequence, especially gram : heavy rain in May damaged grain while on threshing floors.

The figures for the selected years for each circle and the tahsil are given below, and the figures for the selected years of last settlement are also given. The figures for last settlement are taken from columns 17 and 19 of statements II A and III A of Captain Davies' preliminary report:—

CIRCLE.	KHARIF.		RABI.		WHOLE YEAR.		Cultivated area of new measurement.
	Sown.	Harvested.	Sown.	Harvested.	Sown.	Harvested.	
Bet Jhelum ...	6,638	5,591	14,994	14,509	21,632	20,100	19,496
Bar ...	42,823	34,701	59,933	54,747	102,756	89,448	114,310
Hithar ...	25,913	22,002	73,827	69,073	99,740	91,076	106,852
Bet Chenab ...	6,225	5,343	21,397	20,569	27,622	25,912	26,957
Tahsil ...	81,599	67,637	170,151	1,58,898	251,750	226,535	267,615
Chenab ...	5,016	3,455	13,455	11,780	18,471	15,235	22,292
Far ...	14,756	11,052	12,568	11,201	27,324	22,253	34,103
Rukan ...	19,772	14,507	26,023	22,981	45,795	37,488	56,395
Total ...	101,371	82,144	196,174	181,879	297,545	264,023	324,010
Last settlement...	129,442	111,703	156,435	139,304	285,877	251,007	313,766

The cultivated area has increased by 3.3 per cent. and the harvested area by 5.2 per cent. So there has been some improvement in the maturing of crops, but it will be seen that the *kharif* crops have declined, while the increase in *rabi* crops is considerable.

27. The comparative fertility and security of the circles are illustrated by the extent of double cropping and failure on the figures for the selected years, which give a lower percentage than the average for the whole period of settlement in Statement No. X:—

CIRCLE.	PERCENTAGE OF TOTAL CULTIVATED AREA HARVESTED.			PERCENTAGE OF SOWN AREA WAILED.		
	<i>Kharif.</i>	<i>Rabi.</i>	Total.	<i>Kharif.</i>	<i>Rabi.</i>	Total.
Bet Jhelum ...	29	74	103	15.8	3.2	7.1
Bar ...	30	48	78	19.0	8.7	13.0
Hithar ...	20	65	85	15.1	6.4	8.7
Bet Chenab ...	20	76	96	14.2	3.9	6.2
Tahsil ...	25	60	85	17.1	6.6	10.0
Chenab ...	15	53	68	31.1	12.4	17.5
Bar ...	32	33	65	25.1	10.9	18.6
Rukan ...	26	41	67	26.6	11.7	18.1
Total ...	25	56	81	19.0	7.3	11.3
Last settlement ...	30	44	80	13.7	11.0	12.2

This statement shows the Bet Jhelum to be most fertile circle, and the two circles of Rukan to be the least. The Chenab of Rukan is shown as much worse than the Hithar and Bet Chenab of Phalia. The two latter circles are rather surprisingly low in percentage of failure and in the Bet Chenab the high percentage of area harvested must be due to the *sailab*. However the final result shows 11.3 of failure and I think this is under-estimated. In Kharian tahsil the percentage was 10.7 and in the more secure tahsil of Gujrat was 11.3. All statistics and records show the crops to be more precarious in Phalia. The percentage failed in the *kharif* is rather high, but it is on a small area: the *rabi* is much the larger harvest, and the failure in this is shown as very little. The figures are those of the revenue papers, and I can only record an opinion that they are understated.

28. Statement No XI shows for *kharif* and No. 12 for *rabi* the average area under each crop for the selected years 1909-10, 1910-11, 1912-13 and 1913-14 by circles, and the following table gives the percentages of the main crop on the total matured areas for the year, with figures for last settlement. 'Others' in the *kharif* harvest includes *moth*, which is little grown in this tahsil, and in the *rabi* includes barley. The percentages for last settlement taken from Statements II A and III A of Captain Davies' preliminary report are shown in small type. The percentages for last settlement in the case of the Rukan circles are not available and could only be got by laborious compilation of figures from village note-books which scarcely seems necessary:—

Crops.	Bet Jhelum.	Bar.	Hithar.	Bet Chenab.	Phalia.	Chenab.	Bar.	Rukan.	Total.
Rice	2.2 4	1.0 1	1.3 1	2.6 2	1.4 1	...	...	...	1
Maize	5.5 7	0.7 ...	2.7 3	4.4 4	2.5 3	1	1	1	2
Jowar	5.7 2	9.6 5	9.4 4	5.6 3	8.6 4	3	5	4	4
Bajra	13.3 6	31.6 22	7.0 4	7.3 3	16.5 11	9	30	21	13
Cotton	6.8 3	7.8 3	6.8 3	4.2 2	6.7 3	4	7	6	3
Others	2.5 2	5.4 5	8.5 4	7.4 4	6.7 5	3	4	4	4
Fodder	...	1.6 3	0.8 5	0.6 3	1.0 4	3	3	3	4
Total <i>kharif</i>	38 28	57.7 39	36.5 24	32.1 21	43.4 30	23	50	39	31
Wheat	4.6 50	28.1 34	4.4 52	48.4 58	89.1 45	55	32	42	44
Wheat-gram	...	7	4	...	4	...	...	...	4
Gram	1.2 3	8.4 9	4.2 6	1.7 2	3.2 7	8	11	10	7
Oilseeds	1.0 1	1.3 3	1.2 1	0.8 2	1.2 2	2	2	2	2
Vegetables	1.0 2	0.5 ...	1.3 1	1.4 1	1.0 1	...	...	...	1
Tobacco	1.0 1	0.5 ...	0.3 ...	0.5 1	0.5...	...	...	...	...
Others	7.8 7	4.5 3	6.5 4	9.6 7	6.4 4	3	2	2	4
Fodder	6.0 8	4 5	6 8	5.5 8	5.2 7	9	3	5	7
Total <i>rabi</i>	64 72	42.3 61	63.5 76	67.9 79	56.6 70	77	50	61	69

The most striking change is the substitution of *rabi* for *kharif* crops, the percentage thus transferred being 13 per cent. The *kharif* shows much less *bajra* and *jowar*, but more fodder, but the whole *kharif* crop occupies only 30 per cent. in Phalia and 31 in the whole area under report, while in the

Hithar circle it is only 24 and in the Bet Chenab only 21 per cent. This is an indication of the weakness of these circles. The increase in the *rabi* is considerable in the case of wheat as might be expected, but gram and mixed wheat and gram show a large increase also and one which in the circumstances of this tahsil is to be welcomed.

More than half the cropping of the year is represented by wheat and gram, and apart from these the only crop of any importance is *bajra*, which again is grown to any considerable extent in the Bar circles only.

CHAPTER V.—TENANCIES AND RENTS.

29. Statement No. XIII shows in detail and the following statement shows in the form of percentage on cultivated area the cultivating possession of land in each circle:—

Cultivation by	Bet Jhelum	Bar.	Hithar.	Bet Chenab.	Phalia.	Chenab.	Bar.	Rukan.	Total.
Owners ...	71	73	68	66	70				
Tenants free of rent ...	59	64	58	57	61	57	62	60	60
Occupancy tenants—	1	2	1	0	1				
Paying cash ...	1	1	1	2	1	2	2	2	2
Paying kind ...	1	1	1	1	1	2	1	1	1
Total ...	1	1	1	2	1	2	1	1	1
Tenants-at-will—									
Paying revenue rate ...	6	7	7	9	7				
Paying cash ...	2	4	4	6	4	6	8	7	5
Paying <i>batai</i> by half ...	4	9	7	6	8				
Ditto two-fifths ...	1	2	2	2	2	4	1	3	2
Ditto one-third ...	10	...	...	3	1				
Paying by other rates ...	19	1	1	4	3	2	2	2	2
Paying in kind by fixed rates ...	2	3	1	2	1	4	2	3	3
Total ...	6	6	15	12	10				
	10	22	28	21	24	21	20	20	23
	1	2	3	1	2	2	2	2	2
	...	...	1	1	...	...	...	...	...
Total ...	27	24	33	32	28	39	35	37	37
	39	34	40	39	37	39	35	37	37

The first line of each bracket gives in small type the figures of last settlement taken from paragraph 16 of Captain Davies' preliminary report, but for the Rukan circles figures are not available. Owners cultivate their own holdings less than before, the average for Phalia being 61 per cent. and the whole tahsil 60 per cent. compared with 70 per cent. in Phalia at last settlement. Owners no doubt still cultivate the land but as tenants of the mortgagees and the amount of land sold to non-agriculturists (paragraph 21) is cultivated by tenants. There are practically no occupancy tenants in the tahsil. The various forms of rent are discussed below.

30. The most general form of rent is that of a fractional division of the produce, but the landlord's share is less in this than in the other two tahsils and the share of straw is much less often a condition of the tenancy. The area under *batai* is now 30 per cent. against 13 per cent. in Phalia at last settlement. The Bet Jhelum is as before the only circle in which half is paid on any considerable area and it has risen from 10 to 19 per cent. : at the same time the area paying $\frac{1}{2}$ has risen from 5 to 10 per cent. Both rises are at the expense of cultivation by owners. As at last settlement in this circle the rates are usually $\frac{2}{3}$ or $\frac{1}{2}$ on *chahi*, $\frac{1}{3}$ on *sailab* and $\frac{1}{3}$ on *sailab* and *barani*. The proportion of half *batai* shows this circle is the most prosperous in the tahsil though not as

prosperous as the Bet circles in Kharian or Gujrat. Apart from the Bet Jhelum the most general rent shown by the entries in *jamabandis* is one-third. The entries for higher rents, that is, one-half or two-fifths are few. Captain Davies noted in paragraph 21 of his preliminary report that the share of produce taken by the landlord is less than that taken in the corresponding circles of Bhera, so that the comparison with the Kharian and Phalia tahsils of Gujrat is still more remote. Now every circle shows an increase in the area under one-third *batai*. But really a good deal of this area should be shown as one-fourth. In the Hithar, Bet Chenab, and Chenab circles especially it is common to find that some special crops such as rice, sugarcane and tobacco pay a less share than the general *batai* on the holding, i. e., if the general rate is a third, these crops pay a fourth, if it is a fourth they pay a fifth. Further there is a common condition of a tenancy for a whole well that the part irrigated by well water shall pay a fourth as on it cultivation is more costly, but the fields with an un-irrigated crop pay a third. This conditional rent has not been understood by the Naib Tahsildars attesting the *jamabandis*, and as most of the *jamabandis* were prepared before my arrival under the control of Rai Sahib Hira Singh the entries are not yet corrected. Often adjacent fields on one well, or even separate parts of one large field, have different rents shown, according to the crop found when the last *jamabandi* was written up. But it is necessary to note that allowance must be made in estimating the landlord's share of the produce. A further qualification of the entries should be specified. In the Hithar fodder is scarce and very often in addition to giving up all his share of the straw and stalks the owner allows the tenant to feed green crops to his cattle without taking account of it in the division of produce, so the amount of wheat and *jowar* divided is often much less than is represented by the annual record of crops. The average area per holding let to a tenant paying *batai* is about 2½ acres.

31. The area under cash rents was at last settlement only 8 per cent. for the Phalia tahsil. Captain Davies in paragraph 34 of his preliminary report noted that competition cash rents were almost unknown. The Financial Commissioner (paragraph 5) agreed they were of no importance. Now in Phalia cash rents are paid on only 2 per cent. These are as before not competition rents, but represent either tenancies by village menials at favourable rates, or sometimes represent interest on loans. These are quite different reasons for paying cash rents and afford no reasonable basis for calculation.

Mr. Wilson also noted that for the Chenab circle (paragraph 48) cash rents were not determined by competition, and for the Bar and Jhelum circles (paragraph 46) no help could be got from them in estimating the landlord's net profits. The area in sub-tahsil Rukan paying cash rents is now 3 per cent. However taking now the *jamabandi* entries without much elimination of abnormal rents the following figures are found :—

	Chahi.	Sailab.	Barani.	Chahi-barani	Chahi-sailab.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Bet Jhelum ...	5 7 8	1 14 1	1 0 10	...	14 0 0
Bar ...	1 8 5	...	1 9 0	1 4 8	...
Hithar ...	2 6 5	...	1 9 7	2 2 1	...
Bet Chenab ...	3 3 9	2 4 2	2 4 2	2 1 9	...
Phalia ...	3 6 11	2 4 0	1 8 11	1 14 2	14 0 7
Chenab ...	2 8 10	1 12 10	1 8 4	1 14 9	2 1 7
Bar ...	1 3 8	...	1 2 9	0 15 7	...
Rukan ...	2 3 6	1 12 10	1 3 4	1 9 10	2 1 7
Total ...	3 2 10	2 0 9	1 8 1	1 12 7	4 0 9

The figures are contradictory and I think that as before they can be ignored.

Lump grain rents.

32. The lump grain rent, which is common in Gujrat, is almost unknown in Phalia.

CHAPTER VI.—HALF NET ASSETS BASED ON KIND RENTS.

33. The commutation prices sanctioned for the whole district in Financial Commissioner's letter No. 2131, dated 26th March 1913, are as follows in annas per maund :—

	Sanctioned, 1890.	Sanctioned, 1913.	Increase, per cent.	Ten years previous to last settlement.	Ten years ending <i>rabi</i> 1913.	Increase, per cent.
Wheat	24	36	50	28	45	61
Barley	16	22	38	19	33	74
Gram	20	28	40	26	39	50
Wheat-Gram	...	31	...	...	...	...
Massar	...	24	...	...	...	...
Tobacco	...	70	...	...	...	...
Toria	...	52	...	...	...	...
Linseed	...	64	...	...	...	...
Sarshaf	...	50	...	...	...	...
Taramira	...	48	...	...	...	...
Rice	21	32	52	61	76	25
Maize	18	28	56	28	40	43
Jowar	18	27	50	24	39	62½
Bajra	19	29	53	26	41	58
Mung	...	32	...	...	...	...
Moth	...	28	...	...	...	...
Mash	...	40	...	...	...	...
Til	...	64	...	...	...	...
Cotton	49	88	80	67	109	63
Other food crops	...	24	...	...	...	...
Sugarcane	43	Rs. 100	...	...	...	...
Sam	...	16	...	...	...	...
Fodder crops	...	8	...	...	...	...
Fruits and vegetables	...	20	...	...	...	...

It is not necessary to repeat the details of comparison with the figures of last settlement. They will be found in my assessment report of the Gujrat tahsil. It is enough to note that the rise in prices is between 51 and 58 per cent. according to the method of calculation employed, roughly 55 per cent. The prices obtained by the cultivators in the Phalia tahsil further from markets than the other tahsils are rather lower than in Gujrat or Kharian, and I considered whether any alteration was necessary. But in present conditions owing to the war prices have been very variable. The price of wheat has gone up, and that of cotton has gone down, and it is difficult to attest the accuracy of prices. But as the list was sanctioned over two years ago, it may be considered that apart from the disturbance of the war the sanctioned prices are within the range of prices obtained by the cultivators. If there is any doubt it is in the case of sugarcane, which in this tahsil is not of good quality. It is mostly grown in the Hithar and is often sold for fodder.

34. In framing estimates for the yield of crops in this tahsil I have had some crop experiments, and have noted the opinions of the cultivators themselves. But I have not been able to get any reliable information from shopkeepers' books. The information at my disposal is not satisfactory. Cultivators seldom say accurately what the outturn is, but think that by giving a small figure they will benefit. Crop experiments do not give a very reliable result either. Nearly all the seasons in the last two years have been abnormal. The rains have been erratic : *rabi* 1913 received rain only just in time to save the crop, *kharif* 1913 was not good, *rabi* 1914 received rain late, *kharif* 1914 was almost a total failure, *rabi* 1915 was finally about average, as there was ample rain in October, then after a long break, ample rain in February and March. Variations like this are much felt in the dry area of Phalia, and large

well areas cannot be properly matured without rain. In selecting fields for crop experiments I find there is a tendency to select fields better than the average and to avoid the poorer villages. But even if a moderate field is selected, its outturn is probably more than the average of all the fields over a series of years. I have also based my estimates on the outturn assumed at last settlement by Captain Davies and Mr. Wilson. The estimates of Captain Davies' outturns are not criticised in detail by the Commissioner, though he says in paragraph 4 that Captain Davies had been studiously moderate, and the Financial Commissioner agreed, saying the produce estimate was "based on cautious calculations of prices and yields, and on unusually low produce rents, and fodder crops have been excluded", but as reductions were made by the Commissioner, and again by the Lieutenant-Governor, in the rates based on these, it may be considered that the rates were somewhat high.

Mr. Wilson's estimates were considered by the Financial Commissioner (paragraph 7 of review of Jhelum and Bar Circles) to be high for *barani* wheat, *bajra*, and cotton, but otherwise trustworthy: but in paragraph 9 the Financial Commissioner said Mr. Wilson's half-assets estimates as a whole were very full ones. Mr. Wilson's figures have been revised by Mr. Rudkin, in his report of 1911, on a tract west of that now under report, and I have noted his figures also.

In paragraph 12 of his orders on my Kharian report the Financial Commissioner directed me to consider whether distinction should be made between manured and unmanured fields as had been done in Rawalpindi and Jhelum. It is true that the manured *barani* fields have a larger outturn, but it is not always the same fields which the cultivator manures, though naturally the fields round the village habitation and round the wells gain most advantage from farmyard manure and the habits of the people. In many cases the crops thus grown are cut green for fodder, and the increased value is sufficiently reckoned if the crop be considered to have matured. However the distinction has not been made in the revenue papers, and I have found only one instance in which the villagers have made it in the distribution over holdings. So I consider there is no need to specify larger outturns on account of the manure. All the outturns assumed are shown in statement No. XIV.

35. Wheat is the most important crop in all circles, and occupies 44 per cent. of the cropped area of the year. The figures for the various circles at last settlement and now are in percentage on total harvested area :—

	Bet Jhelum.	Bar.	Hithar.	Bet Chenab.	Bar Rukan.	Chenab Rukan.
Last settlement ...	40	28	44	48	...	...
Now ...	50	34	52	58	32	55

Bet Jhelum.—Captain Davies put the outturn in the Bet Jhelum at *chahi* 11 maunds, *sailab* 8, *barani* 6, and noted that the estimates agreed closely with produce experiments, and in the neighbouring circle of Bhera the outturns assumed were 12, 8 and 6 maunds. In this circle the *chahi* crops are good, and the rainfall along the river bank is as good as anywhere in the tahsil. The *chahi* crops are after the good rains of the present year as good as those of the Hithar of Gujrat, where 12 maunds were assumed, but as there is a difference in rainfall, which makes a less average appropriate, I consider 11 maunds enough. The *sailab* is good as the Jhelum deposits silt and not sand, and the 8 maunds of Captain Davies' estimate is not too high. The *barani* is variable. In 1891 the Commissioner (paragraph 8) thought the *barani* of this circle better than

that of the Bar. I find that the soil of this circle is not better than that of the Bar. The washings from higher lands which Mr. Thorburn spoke are into the *kallarathi* depression which is found under the Nakka, and here crops are not good. The *barani* crops grown on *chahi* lands, which for a season are not watered, are pretty good, and there is a strip of *barani* out of reach of the floods which in some cases is good, but taking it altogether I think 6 maunds is ample. This is as much as the assumed outturn in the Maira of Kharian and the Bulandi of Gujrat which get more rain. The conclusion is that Captain Davies' estimate may be accepted.

Bar.—Captain Davies estimated *chahi* 9 maunds and *barani* 6. The *barani* was the same as the estimate in the Bar circle of Bhera, and was a reduction from the all-round rate of 8 maunds of the previous settlement. The outturn according to the opinion of cultivators averages 320 seers for *chahi* and 240 seers for *barani*. Crop experiments average about 500 seers for *chahi* and 300 for *barani* which is too much. The general quality of soil in the Bar is good, and there is no doubt that with reasonably copious rainfall the outturn of *barani* is not less than 6 maunds. I took only $5\frac{1}{2}$ maunds in the neighbouring Gojar Circle of Kharian which is nearer the hills, but in that circle is much clay land, and some *kallarathi*, where the outturn is poor. Captain Davies had taken only 5 maunds as the average of his larger Maira circle, but 6 maunds in the Bar. The excellence of the soil is counterbalanced by smaller rainfall.

In paragraph 26 of his preliminary report Captain Davies noted that "as a rule much land is sown in which seed does not even germinate owing to want of rain". It must also be true that many fields recorded as matured are not fully matured. The six maunds *barani* assumed in Bhera Bar by Mr. Wilson in 1890 has been reduced to 5 maunds in the later assessment,—see Appendix C. III of Mr. Rudkin's report. I would make a reduction in the Bar of Phalia, and assume $5\frac{1}{2}$ maunds or 220 seers, and think this is high enough for a general average. The *chahi* rate of Captain Davies can be raised to 10 maunds as in the Bhera Bar. Mr. Wilson's 10 maunds have been maintained by Mr. Rudkin and Mr. Leigh.

Hithar—In the Hithar Captain Davies took 10 maunds on *chahi* and 6 on *barani*, the mean between the Jatatar of Gujrat and the Chenab circle of Bhera, but the Jatatar then was too good a circle to compare with the Hithar of Phalia. Comparison may perhaps be made with the present *nahri* of Gujrat where I assumed *chahi* 10 maunds, *barani* 6 maunds. I now think that rather a high estimate. But the Hithar has a more precarious rainfall as it extends further west, it has a much more varied soil, good in patches, but mostly poor. As Captain Davies said in paragraph 42 of his assessment report "the quality of the soil is inferior in productiveness to that in any other part of the district". In the circle which forms a continuation of this, the Chenab circle of Bhera, Mr. Wilson (paragraph 32) took 5 maunds for *barani*, and this has been accepted in Mr. Rudkin's report of 1911. In the Hithar cultivators give outturns from 5 to 9 maunds *barani*. Crop experiments average 449 for *chahi* and 259 for *barani*. In view of the admitted inferiority of the soil, a poor rainfall and variableness of matured area a reduction is necessary. The outturn is quite a maund less than in the Bar, and I would reduce to $4\frac{1}{2}$ maunds as a general average. For *chahi* Captain Davies took 10 maunds. Cultivators now give outturns from 9 to 11. Mr. Wilson and Mr. Rudkin took 10 maunds in the Chenab circle. But I think that considering the large well areas which imply but a small amount of water given to each acre, this is a high estimate. I would reduce the *chahi* and think that as an average of the circle over a series of years 9 maunds or 360 seers will be quite high enough. My own observations would lead me to make even a further reduction, and the Extra Assistant Settlement Officer urges that 9 maunds are too much.

Bet Chenab.—Captain Davies recorded that the *barani* was inferior to that of the Hithar, though the assessment proposed and sanctioned was the same in

Imp 16204 Dated 1.1.10

both. Down to the high bank above the *sailab* the land is really of one quality. I would take the same outturn for *barani* as in the Hithar and would keep 7 maunds for *sailab* which is inferior to that of Gujrat, and also inferior to the Bet Jhelum. With regard to *chahi*, I find little difference between this circle and the Hithar: some parts are better as they are near the river and wells irrigate land just too high for *sailab*, but these are counterbalanced by areas of *kallar*. I would take only 9 maunds or 360 seers for *chahi* as in the Hithar.

Bar Rukan.—Bar Rukan can follow the Bar of Phalia, and its *sailab* rate can follow the Bet Jhelum.

Chenab Rukan.—This circle is one which deserves special treatment as its revenue has been made fluctuating since 1910. The soil is poor and variable, it is a continuation of the inferior Hithar circle, but is rather worse. The soil is sandy and uneven. Mr. Wilson took outturns—*chahi* 10 maunds, *sailab* 7, *barani* 5. Mr. Rudkin estimated the average outturn at *chahi* 10, *sailab* and *barani* 5, in the tract adjoining this one, but the average is certainly worse than in the Hithar, and I would take only 4 for *barani* and $8\frac{1}{2}$ for *chahi*. This *chahi* rate is kept up to this mark only by the villages which are in the depression under the Nakka, and by the villages whose *chahi* is helped by *sailab*.

36 Barley occupies 3 per cent. of the total area harvested. The outturn is usually estimated to be rather more in bulk than wheat, but about the same in weight. The crop is often cut green. Captain Davies took higher outturns than of wheat, but I consider that e.g., 8 maunds for *barani* barley in the Hithar is certainly too much. I would, as I did in Kharian, adopt the same outturn as of wheat in all circles.

37. Gram now occupies 7 per cent. of the harvested area against 3.2 per cent. in Phalia at last settlement. It is an unirrigated crop, but very variable in outturn. As Captain Davies remarked it often fails for no apparent reason. Captain Davies took an outturn of 7 to 8 maunds, though he took 7 maunds in all circles in Kharian. Mr. Wilson took 6 maunds in the Chenab circle, but 8 in the others. Cultivators give outturns varying between 200 to 400 seers. Mr. Rudkin (Appendix C. III of his report of 1911) took 5 maunds as the outturn on *barani* soil in all circles, and though he took higher outturns for *chahi*, I think no *chahi* rate need be considered. Crop experiments give 200 to 400 seers. I think it will be quite enough to take 5 maunds or 200 seers in Chenab Rukan, 6 maunds or 240 seers in the Hithar and Bet Chenab circles, and 7 in the two Bar circles and Bet Jhelum.

38. Wheat grain is of increasing importance and as in the rest of the district men are learning its value. Neither Captain Davies or Mr. Wilson mentioned it, but it should now have a separate record. The seed sown is usually less gram than wheat, but the outturn contains more of one or of the other according to the season. The crop is more secure than either ingredient, but it is reasonable to take an outturn intermediate between that assumed for gram and for *barani* wheat in each circle.

39. Rice is grown to some extent in the Bet Jhelum and Bet Chenab and also in lowlying villages of the Hithar which get flooding from the Budhi *mallah*, or in villages where the soil is poor and suits rice better than other crops. The comparison with the Jatatar circle of Gujrat made by Captain Davies is not fair. The soil is mostly poorer in this tahsil and it gets less help from rain. Cultivators estimate the outturn from 480 to 600 seers. Crop experiments give 512 seers. I would take Captain Davies' lower estimate of 12 maunds or 480 seers in all circles. This agrees with Mr. Wilson's estimate in the Jhelum circle, a little of which is still left in the Bar Rukan.

40. Maize is of little importance except in the Hithar and Bet Jhelum and is mostly either *chahi* or *sailab*.

Maize.

Produce on *sailab* ought to be low as it is liable to damage from both flood and draught. Captain Davies' rates were higher than he took later in Kharian. Crop experiments give 435 seers on *chahi* land in the Bet Jhelum. Cultivators' opinions range from 260 to 800 seers. I think that Captain Davies' outturns can be kept as before in the Bet Jhelum except *barani* 250. His figures in that circle were the same as Mr. Wilson's and in the Chenab Rukan circle I would keep Mr. Wilson's 240 for *sailab*, but its *chahi* outturn cannot be higher than in the Bet Chenab, so I reduce to 400 seers. The Bar was put by Captain Davies much less than the Hithar. But I consider it should be no lower, so I take the same in both.

41. Bajra is as in the other tahsils much the most important *kharif* crop, occupying 13 per cent. of the total matured area of the year. It

Bajra.

grows well in the Bar, and in a good year has stalks 10 to 11 feet high with a good head. *Chahi* crop is usually on small areas as the crop is *barani*, and one outturn will do for all soils. The crop wants a good soil and is often grown on the manured fields near the village habitation, or near a well. Captain Davies took outturns ranging from 5 maunds to 7. Crop experiments average 252 seers on *barani* soils in the Bar. Opinions of cultivators give 200 seers in Hithar and Bet Chenab. Mr. Rudkin (Appendix C. III) takes only 4 maunds or 160 seers in the part of the Chenab circle which he assessed. I think in this poor circle 160 seers quite enough. I would keep 5 maunds or 200 seers in the Hithar and put the same figure for the Bet Chenab. Captain Davies' figures may be kept for the Bar 280 seers and Bet Jhelum 240 seers. In the Bar Rukan circle as it includes some *sailab* villages and is further away from the hills I retain Mr. Wilson's figure of 240 seers.

42. Jowar occupying 4 per cent. of the harvested area is not grown much except for fodder and any estimate for it as a crop-bearing grain ought not

Jowar.

to exceed its value as fodder. Moreover as it is merely fed to the cattle of the owner or his tenant, and not sold, it is difficult to fix any price. The outturn of the revised settlement was 4 maunds in all circles except Bar, where it was 5 maunds. Captain Davies raised this to 5 maunds in Hithar and 5½ elsewhere, though his outturn in all circles in Kharian was only 160 seers, and Mr. Wilson took 5 maunds in Chenab and in the other circles 6 on *chahi*, 4 on *barani*. Cultivators' opinions in the Hithar give about 6 maunds *chahi* and 4 *barani*. I think this is quite enough to take, and assume this in all circles.

43. Cotton occupies 3 per cent. of the matured area. But the great variations in it noted by Captain

Cotton.

Davies show how cautiously this crop should be estimated. It is easy to under-estimate failure. Captain Davies took 5 maunds for *chahi* cotton in all circles but the Bar, and that is as much as his highest outturn in Kharian. Crop experiments give 190 seers *chahi* in the Bar and 180 in the Hithar. Cultivators' opinions go up to 200 seers and over, and it would be fair to take Captain Davies' figures of 5 maunds *chahi* in all circles, but for *barani* in the Hithar, Bet Chenab, and Chenab Rukan, I would not take more than 100 seers, retaining 120 in the other circles.

44. Next an outturn is to be fixed, as in Gujrat and Kharian, for those crops for which Captain Davies assumed

Other crops.

a money value. As a detailed list of prices has been sanctioned, an attempt should be made to fix the outturn, though it is difficult as the minor crops are mostly not grown by themselves, but mixed with the more important crops. The area concerned is small. I have put the outturns in statement XIV mostly taking one outturn from the Bet Jhelum and Bar and a smaller one for the inferior soils of the Hithar and Bet Chenab Circles. *Til* was estimated at only one maund per acre in the Bar circle by

Mr. Wilson. He said it was formerly grown on poor land with little preparation. Now it is chiefly grown mixed with *bajra*, and therefore on better soil I think it can have the same rate as the pulses. Tobacco is nearly always shown at a maund per *kanal*, that is 8 maunds an acre, but this is before it is dried.

45. The deductions to be made for village servants are described in paragraph 22 of Captain Davies' preliminary report. In tahsil Gujrat he had taken ten per cent. on all lands, but later thought it somewhat low. In Kharian and Phalia he took one-sixth on *chahi* and one-eighth on *barani* land. In Kharian I reduced this to 12 per cent and 8 per cent. The Financial Commissioner said these rates were liberal. Phalia tahsil is more to be compared with Bhera than with Kharian, and in Bhera Mr. Wilson also took one-sixth and one-eighth in the Bar but one-fifth and one-eighth in Chenab. These figures have been retained by Mr. Rudkin and Mr. Leigh. In criticising these estimates the difficulty is to get a common basis. Captain Davies took two areas for a plough, one yielding 800 *topas* and one yielding 640, and two quite different estimates of the amount given to each village servant, but he did not say which was correct. Mr. Wilson made an estimate by the plough and another by the well. Both officers reckoned from allowances to a long list of servants, and since many of these do no work subsidiary to agriculture, some reduction in the estimate might be made at once on that account. I propose, however, to keep the calculation by plough as in the other two tahsils. It is as before difficult to know what to consider a plough. If we divide the total cultivated area by the number of ploughs in statement 7 we get 11 acres per plough. The average holding per owner in paragraph 18 is shown as 7 acres. The average area of a tenancy paying *batai* is only $2\frac{1}{2}$ acres. It is an intermediate figure if we take 9 acres per plough as in Kharian : of this 81 per cent. is harvested each year leaving $7\frac{1}{2}$ acres of which two will be under fodder crops, and the rest would yield 36 maunds if all under wheat and *bajra*, but when the area under less valuable crops has been deducted, the produce left for division will not be much more than the 32 maunds or 640 *topas* assumed by Captain Davies in the smaller of his estimates : accordingly I assume 640 *topas*. The dues paid to village servants are found to vary as they take a little of nearly all crops but most from wheat. I think the amounts specified for Kharian are approximately correct and the account can be—

Barani and sailab.—Blacksmith 20 *topas*, carpenter 20 *topas*, sweeper for winnowing 10 *topas*, *mochi* and miscellaneous 5 *topas*, total 55 *topas*.

Chahi.—As before but the carpenter gets extra dues 10 *topas*, potter 20 *topas*, total 85 *topas*.

This comes to $8\frac{1}{2}$ per cent. and $13\frac{1}{2}$ respectively.

An independent estimate has been made by the Extra Assistant Settlement Officer who has made allowances on *barani* land for the *lohar* and the *tarkhan* and has considered the miscellaneous dues of the *mochi* and *musalli* as equivalent to those of one of the agricultural menials ; on *chahi* land he adds the *kumhar* or potter. He has estimated the yield on an average holding of all the crops grown, and the amount given to each menial. The result is that in all circles he finds 8·7 is taken on *barani* lands and 11·6 on *chahi*. As this agrees with my own calculations I think it fair to deduct 12 per cent. on *chahi* and 8 per cent. on *sailab* and *barani* in all circles. As this is on all crops it is a sufficiently liberal deduction. It may be observed that this agrees with the deductions made by Mr. Chandu Lal in the Chenab Circle of the Hafizabad tahsil.

Among services to be reckoned as subsidiary to agriculture the watcher or *rakhi* should be considered. He drives away birds and animals and gets something for his services, but I think they may be considered as included in the miscellaneous service, rendered by the *mochi* and *musalli*.

46. To estimate the landlord's share of the grain the prevailing or average share of *batai* in each circle must be noted. It is shown in Statement XIII and is summarized below, for each fraction of *batai* are given the acres recorded as being with or without the corresponding share of straw :—

	HALF.		TWO-FIFTHS.		ONE-THIRD.		OTHER.		TOTAL.		
	With straw.	Without straw.	With straw.	Without straw.	With straw.	Without straw.	With straw.	Without straw.	Total acres.	Landlord's share.	Percentage.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
Bet Jhelum	1,845	...	462	...	675	...	33	...	7,002	3,015	43
Bar	427	...	1,444	...	8,613	...	500	...	32,303	10,984	34
Hithar	584	5	325	20	8,514	1,569	785	...	35,430	11,802	33
Bet Chenab	413	170	263	192	1,221	677	25	...	8,095	2,931	37
Chenab	97	183	45	281	718	838	116	...	6,409	2,228	35
Bar	816	23	267	1	1,869	401	162	...	8,805	3,039	35

In the Bet Jhelum the prevailing *batai* is half, but in all the other circles is $\frac{1}{3}$ rd. As I noted in paragraph 30 the rates in the three southern circles ought to be a little less, owing to the record as $\frac{1}{3}$ rd *batai* of tenancies really paying $\frac{1}{4}$ th but the result would make less than one per cent. difference in the landlords' shares, so no exact account of it can be taken and I take as the landlord's share the percentage in the last column. So that after deducting menials' dues the final percentage of landlord's share of grain is—

Bet Jhelum	{ <i>Chahi</i> ...	$43/100 \times (100-12) = 33$
	{ <i>Barani</i> ...	$43/100 \times (100-8) = 40$
Bar	{ <i>Chahi</i> ...	$34/100 \times (100-12) = 30$
	{ <i>Barani</i> ...	$34/100 \times (100-8) = 31$
Hithar	{ <i>Chahi</i> ...	$33/100 \times (100-12) = 29$
	{ <i>Barani</i> ...	$33/100 \times (100-8) = 30$
Bet Chenab	{ <i>Chahi</i> ...	$37/100 \times (100-12) = 33$
	{ <i>Barani</i> ...	$37/100 \times (100-8) = 34$
Chenab & Bar Rukan	{ <i>Chahi</i> ...	$35/100 \times (100-12) = 31$
	{ <i>Barani</i> ...	$35/100 \times (100-8) = 32$

47. As in the other two tahsils Captain Davies made no addition to his produce estimate for the landlord's share of straw, but I propose to make an estimate of this item. Mr. Wilson in his report on the Chenab circle also made no mention of it, but in paragraph 35 of his report on the Bar and Jhelum circles said "as regards wheat straw the almost universal custom is for the owner to take a full half share on *nahri* or *sailab* lands, while on *chahi* the owner sometimes takes a third share but more often six bullock loads equal to about 18 maunds per well. The landlord usually takes some share of the straw of other crops also, but it is of little money value and may be disregarded," though finally he made no addition on this account to the *chahi* and *barani* rates. Now the *jamabandis* show that a share of straw is often recorded as a condition of the tenancy, and the figures are shown in the statement in paragraph 46. The condition is not always enforced, but I propose to reckon as in Kharian the straw of wheat, half the wheat gram and the pulses, *mash*, *mong*, *moth* and *massar*. The price is less than in Kharian, as there are no markets and communications are more difficult. Perhaps 4 maunds to the rupee will be enough and the weight assumed is the same as that of the grain. The share of straw is recorded as being taken on the whole area in Bet Jhelum, the whole in the Bar, 91 per cent. in Hithar, 65 per cent. Bet Chenab, 44 in Chenab and 86 in Bar Rukan. As there is no need to make any deduction for menials' share of straw the landlord will take as his percentage Bet Jhelum 43, Bar 34, Hithar 30, Bet Chenab 24, Chenab 15, Bar Rukan 30.

48. In my Kharian report I considered that no further deduction was necessary on account of fodder. But in the Phalia tahsil conditions are different. There is plenty of grazing in the Bar, but in the Hithar a large share of the produce on wells is needed to feed the cattle. I found in my village inspections that in the lowland circles the tenant is allowed practically as much as he wants for feeding his cattle, without taking any account of it in the division of produce. Captain Davies in paragraph 32 deducted all the fodder crops, about 6 per cent. of the whole. Mr. Wilson deducted on *chahi* land in the Jhelum Circle (paragraph 38 of preliminary report) "one-tenth of the value of wheat, one-fourth of the value of the *jowar* and vegetables, and on account of expenses of cultivation shared by the landlord one-half of the value of poppy and sugarcane"; on *chahi* in the Bar he deducted one-eighth of the value of the wheat, all the vegetables and all the *jowar*. No deductions were made on *barani* land. For the Chenab Circle he said (paragraph 27 of report)—"it is very uncommon for the proprietor to take by way of rent any fixed share of the straw or fodder crops. On *chahi* lands he usually takes 5 *marlas* of green wheat and a donkey load of wheat straw from each tenant, or say four times as much from the whole well. He will also sometimes take a day's supply of turnips or *chari* from each tenant. On flooded lands the owner takes green wheat sometimes a donkey load per plough, or a *marla* per *bigha* (equal to $\frac{1}{16}$ th of the whole) and also a donkey load of straw. On unirrigated lands he takes a donkey load or a day's supply of wheat from each tenant."

Mr. Leigh made similar deductions from the wheat and fodder crops on *chahi* land. I find also that a share of the wheat is always cut green, and it is the wheat on the good land near the village habitation on the well: the tenant's rights in this respect and in cutting fodder crops are indefinite and instead of specifying any fraction I propose to simplify it by omitting all fodder crops on *chahi* land. This is really the same as Captain Davies' method.

49. The result of the foregoing calculation gives an estimate of the net profits enjoyed by the owners of land based on rents in kind. The calculation will be found in its successive stages in Statement No. XV. The prices are those sanctioned by the Financial Commissioner. The yields are those described in paragraphs 35 to 44 and shown in Statement No. XIV. The areas are the average of the approved years. After the deductions and addition shown in paragraphs 45 to 48 the landlord's share is obtained, and half of it is the theoretical share of Government if all the land be assumed to be let at rents in kind. The resulting sum in the Hithar circle has been reduced in the proportion of 91 to 87, as directed by the Financial Commissioner (see paragraph 26). The resulting assessment is as follows for each circle, and the demand by produce estimate rates in paragraph 35 of Captain Davies' preliminary report is given for comparison:—

			Government share now.	Government share in 1891.
			Rs.	Rs.
Bet Jhelum	...	...	70,272	40,338
Bar	...	...	1,99,266	99,806
Hithar	...	...	2,07,055	1,22,394
Bet Chenab	...	...	74,220	50,709
Phalia	...	...	5,50,813	3,13,247
Bar	...	...	47,588	...
Chenab	...	...	29,345	...
Rukan	...	...	76,933	...
Total	...	...	6,27,746	...

The increase in Phalia only is 76 per cent., and is mainly due to the rise in prices, partly to the more precise account made of the yield of all crops, and the prices of the minor crops, with an addition for straw and a reduction in menial's dues. The incidence of Captain Davies' half net assets on cultivated area was Re. 1-3-4 per acre and the present incidence is Rs. 2-0-11, an increase of 76 per cent.

50. The results of the half net assets estimate are given shortly in the statement below, with the incidence of the Government share on each acre, both cultivated (as recorded in the statement of area) and harvested (on the average of the approved years):—

Statement showing the rate per acre of produce estimate.

Assessment circle.	Soil.	Owner's share.	Government share.	Area harvested.	Rate per harvested acre.	Area cultivated.	Rate per cultivated acre.
		Rs.	Rs.		Rs. A. P.		Rs. A. P.
BET JHILUM.	Chahi	70,032	35,016	6,530	4 1 8	7,817	4 7 8
	Sailab	42,053	21,027	6,011	3 8 0	6,404	3 4 6
	Barani	28,458	14,229	5,559	2 8 11	5,275	2 11 2
	Total	1,40,543	70,272	20,100	3 7 11	19,496	3 9 8
BAT.	Chahi	1,38,776	69,388	22,467	3 1 5	28,276	2 7 3
	Barani	2,53,756	1,26,878	66,981	1 15 0	86,034	1 8 2
	Total	3,92,532	1,96,266	89,448	2 3 8	114,310	1 11 11
HITHAR.	Chahi	2,89,044	1,44,522	48,209	3 0 0	67,695	2 2 2
	Barani	1,25,065	62,533	42,866	1 7 4	39,157	1 9 7
	Total	4,14,109	2,07,055	91,075	2 4 5	106,852	1 15 0
BET CHUNWAR.	Chahi	87,527	43,763	12,224	3 9 3	13,555	3 3 8
	Sailab	45,534	22,767	9,235	2 7 5	10,327	2 3 3
	Barani	15,380	7,690	4,453	1 11 5	3,075	2 8 0
	Total	1,48,441	74,220	25,912	2 18 10	26,957	2 12 1
CHUNAB (RUKAN).	Chahi	31,207	15,603	6,810	2 4 8	10,713	1 7 4
	Sailab	9,859	4,930	2,039	2 5 4	8,090	1 9 1
	Barani	17,823	8,912	6,356	1 6 5	8,499	1 0 9
	Total	58,889	29,445	15,205	1 14 10	22,292	1 5 1
BAR (RUKAN).	Chahi	22,236	11,118	3,982	3 0 4	5,523	2 0 3
	Sailab	3,921	1,910	716	2 10 9	1,346	1 6 8
	Barani	69,119	34,560	17,856	1 15 0	27,234	1 4 5
	Total	95,176	47,588	22,554	2 2 3	34,103	1 6 4