

ASSESSMENT REPORT  
OF THE  
ABBOTTABAD TAHSIL  
OF THE  
HAZARA DISTRICT  
NORTH-WEST FRONTIER PROVINCE.

BY  
H. D. WATSON, ESQUIRE, M. A., C. S.

*Settlement Collector, Hazara.*

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FROM

M. F. O'DWYER, ESQUIRE, I.C.S.,  
Revenue and Financial Secretary to Chief Commissioner,  
N.-W. Frontier Province,

TO

THE HON'BLE MR. J. M. DOUIE, C. S. I.,  
Settlement Commissioner, Punjab, Lahore.

Dated PESHAWAR, the 9th February 1906.

Sir,

I AM directed to acknowledge receipt of an advance copy of your review of Mr. Watson's Assessment Report of the Abbottabad Tahsil and to convey the following orders and remarks of the Hon'ble the Chief Commissioner on the proposals.

2. The orders already passed on the Munschra and Haripur Reports have practically fixed the standard of assessment for the Hazara District; and as Abbottabad, the only tahsil remaining to be dealt with, is intermediate in geographical situation and agricultural conditions between those two tahsils, the problem of assessment must be governed by the same general considerations due regard being paid to any peculiar local features that may be found to exist.

3. Looking to the agriculture alone the leading facts bearing on the assessment are the following:—The tahsil was very leniently assessed by Captain Wace 34 years ago; his own estimate was that the demand fell short of one-tenth of the actual value of the agricultural produce. Since then cultivation has increased by at least 22 per cent. (from 108,285 to 131,290 acres), and though it is stated that the increase has been in the poorest soils the argument is not borne out by the statistics in paragraph 20 of the report, which show in round numbers an addition of only 3,000 acres to the two inferior soils *rakkar* and *kalsi* and of 20,500 acres in the superior classes. Owing to the industry of a dense and rapidly increasing population, the increase of cattle (horned cattle have doubled, sheep and goats trebled in numbers), and the fact that the abundance of firewood in most circles leaves the manure available for fertilising the land, there has been a general upgrading of soils and the area of manured homestead lands (*bari*) has risen by 7,000 acres, or 50 per cent. The cultivation of which only 6 per cent. is irrigated, is rendered unusually secure by a copious rainfall, varying from 35 to 70 and averaging 48 inches, so that famine is unknown, scarcity extremely rare, there is no record of any general crop failure, and on an average of years 100 acres of cultivation yield just over 100 acres of matured crops, of which 70 acres are superior crops—rice, wheat and maize. Owing to the opening out of what was at last settlement, a remote and isolated tract by new roads and the location of summer cantonments prices of agricultural produce have risen by about 80 per cent., while the value of land has risen in a far greater proportion and the sale price now represents 200 years' purchase of the land-revenue. At the same time the fact that two-thirds of the mortgages and five-sixths of the sales have been to agriculturists proves that the landowning tribes are able to hold their own.

4. As a result of the above development the present demand on the land (Rs. 79,748) represents only one-eighteenth of the produce estimate (14 lakhs) worked out on the average cropping of the last five years and only two-sevenths of the half-net assets—Rs. 2,90,000—based on that estimate. Mr. Watson proposes to raise the present demand to Rs. 1,30,500, which would be an enhancement of 64 per cent., but represents only 45 per cent. of the leniently calculated half assets, and would give an incidence of slightly less than one rupee per cultivated acre and per acre of harvested crops. The modification you

propose in certain circles would reduce the new demand to Rs. 1,21,250 which comes to less than 42 per cent. of the half assets. This is an unprecedentedly low proportion even in a frontier tahsil, for in Mansehra and Haripur the new assessment represented 56 and 59 per cent., respectively, of the half assets; in the recently assessed district of Kohat it comes to 70 per cent.; and even in the Kurram Valley which has been only 13 years under our administration and where the density of the population, 900 per square mile cultivated, is practically the same as in Abbottabad, the assessment recently sanctioned by the Government of India is 50 per cent. of the half assets, and 175 per cent. above the former demand.

Extending the comparison to the adjoining districts of the Punjab which have recently come under re-assessment, it appears that in Jhelum the State takes 70 per cent. of the half assets as land revenue, in the Attock Tahsil (which was for a time part of the Hazara District) it takes 65 per cent., and in the Gujar Khan Tahsil of Rawalpindi 70 or 88 per cent. (according to the method of calculation adopted).

5. The Chief Commissioner believes that excepting the Kurram Valley none of the tracts mentioned can compare with that now under consideration as regards the abundance and certainty of the rainfall, the fertility of the soil, the security of agriculture, the proportion of first class crops raised, and above all in the extent to which the income from agriculture is supplemented by the profits from the waste, the area of which is double that under cultivation and the returns from which in certain circles almost equal those from agriculture. The proposal to limit the new demand to 42 per cent. of the half assets from agriculture alone and less than 9 per cent. of the estimated value of agricultural produce must, therefore, as you remark in paragraph 17 of your review, be justified on broad grounds of policy as it cannot be supported by any appeal to standards.

6. Before examining those grounds of policy the Chief Commissioner thinks it advisable to refer briefly to the estimates on which the proposals are founded. The basis of the calculation are the crop-areas of the year 1904-05, the first for which complete data are available. Applying to those areas the assumed rates of outturn and the scale of commutation prices, the total value of the crops on 143,306 acres harvested comes to Rs. 15,05,000. The rabi harvest of 1905 was, however, considerably above the normal, and as the total crop area of the year was some 7 per cent. above the average of the five years ending 1904-1905, the Settlement Officer by making the necessary adjustments according to the circumstances of each circle has reduced the produce estimate by about 7 per cent., i.e., to 14 lakhs from which the half assets estimate of Rs. 2,90,000 is arrived at. This method is as you remark rather a rough and ready one, but at all events it is a safeguard against over-assessment, provided that the estimates of yield and the commutation prices are fair and reasonable. That the prices are moderate cannot be questioned. It is highly improbable that—in view of the early extension of the railway to Abbottabad and beyond—the present generation in the Abbottabad Tahsil will see wheat, barley and maize, which represent four-fifths of the crops raised, selling as low as 29, 18 and 21 annas per maund, respectively. The average rates of yield assumed are not so easy to follow owing to the many varieties of soil for which it has been necessary to assume separate outturns. The following table shows the acreage, in 1904-1905, average yield and average price per acre of the leading staples:—

	Percentage of total.	Acreage total.	OUTTURN IN MAUNDS.		VALUE IN RUPEES.	
			Total.	Per acre.	Total.	Per acre.
					Rs.	
Maize ... ..	47	67,025	645,888	9.6	8,47,722	12.6
Wheat ... ..	20	27,816	166,450	6.0	3,01,690	10.9
Barley ... ..	18	19,480	127,552	6.6	1,43,496	7.4
All others ... ..	15	29,045	...	...	2,12,120	7.3
Total ... ..	100	143,306	...	...	15,05,037	10.5
Average of five years ... ..	...	134,242	...	...	14,00,000	10.5

7. The rates of yield for all crops are undeniably lenient and the final result which brings out the value of an acre of harvested crops as Rs. 10-8 certainly does not err on the side of severity. Moreover Mr. Watson has omitted the value of the straw though Abbottabad and the Gali Cantonments afford an excellent market for *bhusa*, and has excluded the *rabi* fodder crops from his calculation. He has also in working out his net assets taken no account of the services (*khidmat*), and miscellaneous dues (*katub*) which the tenants are bound by custom to render to the landlord and which are not infrequently as valuable to the landlord as his share of the produce. It may therefore safely be said that—Mr. Watson like Captain Wace at the Regular Settlement has in cases of doubt left a large margin in favour of the people.

8. A few remarks are necessary as to the rent rates. Only 14 per cent. of the cultivation is held by tenants-at-will paying in kind. Owing to the density of the population and the competition for land the rent rates are very high. At last Settlement (page 162, Final Settlement Report), the landlord's share on 12,303 acres held by tenants-at-will was '38. As now calculated arithmetically (Statement VII) the landlord's share on 17,926 acres comes to '44, an increase of 16 per cent. Mr. Watson in working out the net assets from the produce estimate (Appendix E) has rightly taken not the arithmetical fraction but the prevailing rent rate on each class of soil. The final result is however the same, viz., the net assets represent 44 per cent. of the gross produce, or after deducting 7 per cent. for menials dues between 40 and 41 per cent. The half assets therefore represent about 20·5 per cent. of the total value of the produce, a very high proportion, and the Chief Commissioner agrees with the view you express in paragraph 12 that the half-net assets in the present case are far in excess of the revenue that can be taken from a body of peasant proprietors, with very small holdings, which they cultivate as a rule themselves.

Unfortunately the data as to cash rents which are taken on only 6 per cent. of the cultivated area, and which though they have risen considerably since Settlement are apparently regulated by custom rather than by competition are too meagre to furnish any reliable guide. Such as they are and excluding the value of the customary dues and services levied in addition to them they bring out a half assets estimate of Rs. 1,36,000, which is more than Mr. Watson or you propose to take.

9. The considerations of policy which bear on the assessment are lucidly set forth in paragraphs 17 to 24 of your review. They may be summarised as follows:—

- (1) The low pitch of the existing assessment when it was imposed depars Government from any substantial enhancement of the standard then set.
- (2) The increase of population since last Settlement—71 per cent. if the figures of last Settlement are correct—has outstripped the expansion of cultivation which is only 22 per cent.; and the present density of the rural population (903 per square mile of cultivation) with the consequent sub-division of holdings and pressure on the soil constrains Government to forego a large portion of its share of the produce, as the enforcement of its claim in full would seriously trench on the means of subsistence.
- (3) The indebtedness of the people, a result partly of litigation and extravagance, partly of the usurious rates of interest, compels them to pay to money-lenders more than three times what they at present pay to the State and reduces their ability to pay a considerably enhanced revenue.

The Chief Commissioner agrees with you that all of these considerations may reasonably be taken into account in mitigation of the enhancement to which the State is entitled. But he is disposed to think that there is danger of their being pressed too far, especially if the accepted principles of assessment and the arguments on the other side are not kept steadily in view.



10. In passing orders on the Haripur and Mansehra Assessment Reports Sir Harold Deane admitted the argument that however much political and other considerations may have altered in Hazara since last settlement, any sudden alteration of the policy of lenient assessment then accepted would now be regarded as a hardship. The argument that a tract which (through accident or for temporary reasons which have now lost their force) was assessed far below the general standard in the past should never have that standard raised might, however, be easily pushed too far. But there is no necessity to pursue the discussion in the present case as it is not proposed to raise the demand even to the one-enth share of the agricultural produce which Captain Wace believed his assessment to represent.

11. The argument based on indebtedness does not appear to the Chief Commissioner to carry very great weight. The remarks on the subject of alienations show that the area sold and mortgaged to non-agriculturists is extremely small, and it appears that the Hazara peasant prefers and is in a position to borrow money by pledging his credit rather than by selling or pledging his lands, as is done generally by his brethren in the plains. The remoteness of much of the tract from trade centres and the high rates of interest which are customary on floating debts no doubt conduce to this result, but from whatever point of view it may be regarded, the fact that so much money is lent out unsecured on the land is more or less proof that the credit of the peasant is extremely, it may be said, dangerously high, and this high credit can only be the result of a very lenient assessment and secure returns from the land.

12. The most weighty argument is that of over-population. No doubt the pressure of population on the soil, 903 per square mile of cultivation, would be excessive, if that population were solely dependent on agriculture as is generally the case in the adjoining tracts of the Punjab to which reference has been made in paragraph 4 above. But that is by no means the case in Abbottabad or in Hazara generally. In all circles of this tahsil the profits from the waste land represent a considerable, and in some the major portion of the proprietor's means of livelihood. Those profits come directly from the waste land which is left at the disposal of the proprietary bodies; the proprietors themselves directly receive a substantial proportion of them, and Government is as much entitled to a share of them as it is entitled to a share of the profits of agriculture. The fact that those profits from the sales of *ghi*, butter, milk, wood, grass, &c., exist, and that their money value has increased in an even greater proportion than the value of agricultural produce explains why the land is able to maintain a population so dense in relation to the cultivated area, and why that population, though so rapidly expanding, is able to live and thrive.

If any class were to suffer in the struggle for existence, it would be the tenants-at-will, whose cultivated holdings average only 1·8 acres; but the Settlement Officer in paragraph 37 of his report writes that "thanks to profits from cattle and other miscellaneous assets they are fairly well off in most villages." It would probably be safe to estimate that these large and valuable areas of waste furnish a livelihood equal to half of that furnished by agriculture. If this is accepted it would reduce the pressure on the cultivation to 600 souls per square mile, which when relative productive powers are taken into account, does not compare unfavourably with 440 per square mile in Gujar Khan and 488 in Attock, those two tahsils having little or no profits from waste lands.

13. Excluding the income from service—Rs. 2,82,300—which, though it improves the position and revenue-paying capacity of the people, is not an asset to be taken into consideration in assessment, the Settlement Officer estimates the profits from the waste lands at 5½ lakhs. His calculations though necessarily rough are as he remarks certainly not exaggerated. Of this 5½ lakhs he assigns about Rs. 2,44,000 or less than one-half as the proprietor's share. Seeing that the proprietors and their families represent two-thirds of the population the proportion is certainly rather under than over the mark. The estimated value of the net assets from the cultivation is Rs. 5,80,000, and to get a fair basis for the assessment of the land as a whole we should add at least 2½ lakhs for the net assets from the waste, thus raising the net assets to Rs. 8,30,000 and the half assets estimate to

\*14. The proposals for each circle may now be considered with reference to the above remarks.

Circle.	Present demand.	HALF ASSETS			DEMAND PROPOSED	
		From agriculture.	From waste.	Total.	By Settlement Officer.	By Settlement Commissioner.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Dhangar ... ..	14,379	36,367	7,450	43,817	21,000	20,000
Rash ... ..	12,882	69,205	7,310	76,515	28,500	25,750
Tanawal ... ..	20,856	49,394	34,700	84,094	25,000	25,000
Nara-Lora ... ..	13,614	33,000	12,050	45,050	18,000	18,000
Dhaka ... ..	10,039	54,675	36,270	90,945	21,000	18,000
Boi ... ..	3,240	19,463	17,285	36,749	6,000	5,000
Bakot ... ..	4,733	28,471	6,343	34,816	11,000	9,500
Total ... ..	79,743	2,90,576	1,21,410	4,11,986	1,10,500	1,21,250

After giving full weight to every consideration, such as leniency of the old demand, density of the population, extent of floating debt, high rent-rates on which the half assets have been calculated, which can be advanced in favour of the proposals, Sir Harold Deane is of opinion that they can hardly be justified either by those considerations or by reference to the standard followed in the rest of the district. In Haripur and Manshira the new demand represents 59 and 56 per cent. of the half assets on cultivation and  $\frac{1}{2}$  and  $\frac{1}{10}$  respectively of the produce estimate. In Abbottabad he is inclined to think that there is no sufficient reason for assessing below 50 per cent. of the half assets on cultivation—Rs. 1,45,000—or at least below Rs. 1,40,000 which is equivalent to only one-tenth of the value of the agricultural produce.

In deference, however, to the strong representations of yourself and Mr. Watson he agrees to reduce even that demand and to fix the new demand at Rs. 1,36,000 to be distributed as follows:—

	Rs.
Dhangar ... ..	21,000.
Rash ... ..	30,000.
Tanwal ... ..	25,000.
Nara-Lora ... ..	19,000.
Dhaka ... ..	23,500.
Boi ... ..	6,000.
Bakot ... ..	11,500

The new assessment is 70 per cent. above the old, and gives an incidence of  $16\frac{1}{2}$  annas per acre cultivated and per acre matured. It represents less than 10 per cent. of the value of agricultural produce, only 7 per cent. of the total produce of the land, and falls at the rate of less than 12 annas per head on the rural population. It is certainly not heavier than Captain Wace's assessment was when first imposed. The Settlement Officer is authorised to make any modifications of his proposed soil rates necessary to bring out the above result.

15. The distribution of the new demand, lenient though it undoubtedly is for the tract as a whole, will probably involve very large enhancements in individual villages, and the Chief Commissioner agrees with the views expressed in paragraphs 17 and 25 of your review that in accordance with the principles of land revenue policy enunciated in the Government of India Resolution of 16th January 1902 that in such cases the system of gradual and progressive enforcement by spreading the enhancement over a term of years should be followed. He therefore authorises the Settlement Officer in cases where the enhancement on an estate exceeds 66 but falls short of 100 per cent. to defer up to one-third of it for three or five years as may seem expedient and where the enhancement is 100 per cent. or more to defer up to one-half for three and up to one-third of it for seven years. The most convenient method of giving effect to such deferred assessments is to announce and distribute the full final demand and then to defer so many annas in the rupee on each holding.

16. The mill assessments have been worked out on the same lines as in Haripur and Mansehra and the Settlement Officer's proposal to raise the demand from Rs. 3,529 to Rs. 6,000 which gives an enhancement of 70 per cent., and represents about one-ninth of the income, is approved. The Settlement Officer is given discretion to assess up to Rs. 500 above or below Rs. 6,000 as circumstances may require.

17. The taxation of goats (paragraph 54, report) has been the subject of separate orders.

18. The cesses Rs. 19-12-8 per cent. or 3 annas 2 pies per rupee, and the dates of the revenue instalments Kharif January 15th, Rabi July 15th, require no modification. The new assessments should take effect from Kharif 1905; the distribution among villages and over holdings is a task requiring careful discrimination and the Chief Commissioner is assured that the sound judgment and knowledge of local conditions, which are so manifest in his report will enable him to carry it out speedily and successfully.

19. The present report completes Mr. Watson's proposals for re-assessment of the Hazara District. The work has been as you point out one of unusual difficulty complicated by the nature of the country, the difficulties of field survey, the extraordinary diversities of soil and the cognate but intricate questions of forest policy and management which he has had to deal with. The Chief Commissioner fully concurs in your appreciation of the care and ability with which Mr. Watson has conducted the Settlement, and he wishes at the same time to record his cordial thanks to you for your careful and able supervision of the operations throughout, and for your interesting review of Mr. Watson's proposals.

I have the honour to be,

SIR,

Your most obedient servant,

M. F. O'DWYER,

*Revenue and Financial Secretary  
to Chief Commissioner, N.-W. Frontier Province.*



# Settlement Commissioner's Review of the Abbottabad Assessment Report.

THE violent contrasts of soil and production which form so marked a feature of the Haripur tahsil are reproduced, or even exaggerated, in Abbottabad. This is natural in a large tract of country extending from the Jhelum to within a few miles of the Indus, and stretching across the high forest-clad mountain range which forms the watershed of these two rivers. The greater part of the tahsil is occupied by intricate ramifications of spurs trending generally in a westernly and south-western direction from the main range, and by the elevated valleys which lie between these spurs. The variation of elevation is from 2,000 to 10,000 feet, and Abbottabad includes at one end of the scale the low bare hills of Tanawal and the hot stony soils of the lower Dor Valley, where spring are as important as autumn crops, and at the other the lofty Dungagali range with the network of mountains and glens which have been included in the Dhaka, Bakot, and Boi circles, in the greater part of which maize, the kharif pulses, and rice, are the only crops that count for much. Between these two extremes we have the rich Rash plain at an elevation of 4,000 feet, and the high glens drained by the Nilan and the two Haros which compose the Nara-Lora circle. As in Haripur the original scheme of assessment circles was faulty, but fortunately it was possible to recast it before the assessment report was written.\* I inspected the lower parts of the tahsil at the end of last spring, and the higher tracts in September.

2. The soil classification is in the main the same as in Haripur. The irrigated lands are of far less extent, and cover only  $4\frac{1}{2}$  per cent. of the cultivated area. *Hotar* and *bahardi abi* are the only important classes. *Bagl* and *bari abi* have been distinguished, as suggested in the 3rd paragraph of my Review of the Haripur Report, but the area of the two together is insignificant. The very moist and rich unirrigated soil, known as *jab*, found in part of the Rash plain and in the Dhan basin in the Nara Lora circle has been classed as *bela*, and the same name might have been given to the valuable *negar* lands near Sarai Niamat in the Tanawal circle. In Dhangar and Tanawal two kinds of *maira* have been recognized, *maira II* being in fact a rather superior *rakkar*. The soils may be classified as follows:—

<i>Abi I</i>	...	...	...	<i>Bagh</i>
" <i>II</i>	...	...	...	<i>Bari abi, bahardi abi, hotar.</i>
" <i>III</i>	...	...	...	<i>Gharera and burangar.</i>
<i>Barani I</i>	...	...	...	<i>Bari, bela, negar.</i>
" <i>II</i>	...	...	...	<i>Kund and maira I</i>
" <i>III</i>	...	...	...	<i>Maira II, rakkar, kalsi.</i>

3. The distribution of soils in the circles, the percentages of matured and failed crops on the cultivated area,† and of inferior to total crops, are shown in the annexed table. Under inferior crops are included *kangni*, buckwheat, kharif pulses except *mung* and *mash*, kharif fodder and miscellaneous crops, and all rabi crops except wheat, barley, and sarshaf:—

DETAIL.	Rash.	Nara-Lora.	Dhaka.	Bakot.	Dhangar.	Tanawal.	Boi.
<i>Abi I</i> ... ..	...	...	...	...	1	1	...
" <i>II</i> ... ..	8	5	3	8	6	2	2
" <i>III</i> ... ..	...	...	...	...	2	...	...
<i>Barani I</i> ... ..	20	22	21	19	12	16	16
" <i>II</i> ... ..	59	42	28	21	40	11	10
" <i>III</i> ... ..	15	31	48	52	39	70	72
Percentage of matured crops on cultivated area.	108	97	96	96	103	100	94
Percentage of failed crops on total area	11	16	9	11	35	34	5
" of inferior to total crops ...	9	8	8	12	18	14	21

\* I am inclined to think the Nilan part of Nara-Lora should have been kept as a separate circle.

† The crop areas are the averages of the four years ending 1903-04 and the cultivated area is the area by new measurements. The figures do not agree with those in paragraphs 8, et seq., of the report, which relate to the exceptional year 1904-05.

The figures are of some use as a guide to the relative value of the circles from an assessing officer's point of view.

4. The pasturage is of course of immense importance to the people. Of the whole area 70 per cent. is waste, but about one-sixth of this is Government forest. The best part of the waste to which the State has asserted no title consists of the *banna*, or strips of pasture dividing one cultivated field from another, and the *dhaka rakh*, or parts of the hill sides in which grass is preserved through the rainy season and cut as hay. These together cover an area larger than the recorded cultivation.

5. The rainfall of course varies greatly in different parts of the tahsil, but is usually abundant. In 22 years the average at Abbottabad has been 47 inches, the extremes being 33 inches in 1901-02, when an extraordinary drought prevailed throughout November, December, January, and February, and 82 inches in 1893-94, when the summer rainfall reached 60, and the winter 22 inches. The Dhangar and Tanawal circles are by no means exempt from the risk of serious failure as the figures in paragraph 3 show.

6. Major Wace's assessment was, except in Tanawal and part of the Nara-Lora circle, a lenient one, but it was unevenly distributed as between village and village. The tahsil did not escape in the famine year 1877-78, and a quarter of the revenue was suspended. The only other year in which relief worth notice was required was 1901-02 when Rs. 2,907 were suspended in Tanawal.

7. On paper the increase in the cultivated area since the last settlement has been 22 per cent., and there is no reason to suppose that it has been less in fact. The new cultivation consists for the most part of inferior sloping lands in the hills, some of which had better have been left in their natural state. In the Dhangar there has been practically no development, and the rise in the Rash and Nara-Lora circles has been moderate (12 and 14 per cent.); but in the hill circles the increase varies from 22 per cent. in Boi to from 30 to 40 in Tanawal, Bakot, and Dhaka. The important point in connection with the assessment is the increase of 50 per cent. in manured homestead lands (*bari*), and Mr. Watson has given good reasons for thinking that the recorded area under this head is not exaggerated.

The growth of population has unfortunately far outstripped that of cultivation. The rise since settlement has been 71 per cent., and, while there was nearly 1 acre of cultivation per head 40 years ago, now there is little more than two-thirds of an acre. The pressure on the soil is therefore very great. Fortunately the rate of increase, which had been 33 per cent. between 1881 and 1891, fell to 13 per cent. between 1891 and 1901. The climate is healthy, large families are common, and, except among Tanaolis, there is no great inclination to take service. The men of the higher hills will not accept employment which exposes them to the heat of the plains. Under these circumstances it is small wonder that the normal proprietary holding has fallen to  $3\frac{1}{2}$  acres (Appendix C). The waste available for grazing amounts to 235,000 acres, and the people depend for their livelihood very largely on their flocks and herds. According to the last cattle census there were 122,000 kine and 80,000 sheep and goats in the tahsil, which gives over one head, great or small, for each unit of population, and 10 kine and 7 sheep or goats per 11 acres of cultivation and 18 acres of waste. Mr. Watson estimates that the income derived by the people from their flocks and herds exceeds five lakhs, of which nearly one half falls to the landowners. Their share is about thrice the present land revenue. The income of the landowners from all sources other than the cultivation of the land is put at  $4\frac{1}{2}$  lakhs, but, on the other hand, the yearly interest charges on their unsecured debts are estimated at  $2\frac{1}{2}$  lakhs. There remains a balance of Rs. 1,75,000, out of which to pay Rs. 96,000 on account of the present land

revenue and cesses and meet the cost of the food, &c., which the proprietors have to procure from outside. I shall discuss later the bearing of these calculations on the assessment proposals.

8. The proprietary body is not a strong one. The best elements are the Awans and the Tanawils, who hold one-fifth of the tahsil. Pathans (26 per cent.), Dhunds (15 per cent.), and Karrals (12 per cent.) are fairly hardworking, but litigious and extravagant. Debt is, therefore, as already noted, pretty heavy, and the interest charges amount to three times the land revenue. Mortgages and sales to non-agriculturists are, however, not large, and recent legislation will prevent any great increase, and here as elsewhere tend to check extravagance. The value of land has risen enormously since last settlement.

9. A clear account of the cropping is given in the fifth chapter of the report. The period of four years ending with 1903-04 may be considered a normal one, though it included one extraordinarily bad rabi (1902) followed by a very poor kharif, in which the trouble was aggravated by a failure of grass, a very serious matter here. The table below, which shows the results of the harvests of these four years, may be compared with that in the 15th paragraph of my review of the Haripur Report. The percentages are calculated on the cultivated area by the new measurements :—

YEAR.	KHARIF.			RABI.			TOTAL.		
	Sown.	Failed.	Harvested.	Sown.	Failed.	Harvested.	Sown.	Failed.	Harvested.
1900-01	80	7	73	45	3	42	125	10	115
1901-02	74	6	68	63	15	15	107	24	83
1902-03	88	20	63	41	7	34	124	27	97
1903-04	80	11	69	34	5	29	114	16	98
Average	79	11	68	38	8	30	117	19	98

In Haripur the rabi crops are more extensive though less valuable than the kharif crops; but in Abbottabad, where the cultivated lands are usually so much higher and colder, autumn crops cover more than twice the area of spring crops. I remarked regarding Haripur that "the rabi sowings are more constant than the kharif, and the proportion of failure is usually less." Exactly the opposite obtains in Abbottabad.

Maize is by far the most important staple, and is grown in all but the very worst soils. It occupies one-half of the whole area. In the comparatively low lying and hot Dhangar and Tanawal circles the fraction falls to one-third; in the cool Dhaka circle it rises to nearly three-fourths.

Rice occupies only 2 per cent. of the area. It is most important in the Bakot circle, where the *hotar* lands in the comparatively level plateau above the Jhelum gorge and in the glens draining from the Dungagali range into that river are extensive and valuable.

Potatoes are of local importance in the Bakot and Dhaka circles, finding a ready market in Murree and the stations in the Galis. *Kongni*, *chin* or buckwheat, and the kharif pulses are the other autumn crops covering any large area. The chief pulses are *kulath* and mash, and in Tanawal *moth*. *Kulath* is grown on every poor land and is of little value. More than one-quarter of the autumn crops in Dhangar consists of *kulath*, a sure sign of the poorness of the soil.

The rabi area is only important in Tanawal (50 per cent.), Dhangar (47 per cent.) and Rash (40 per cent.). In these three circles wheat is largely grown on the *maira* lands, and in Tanawal barley is also a favourite crop. In all three wheat and barley are second crops in the manured *bari* lands, and in the other circles about half of the total area under wheat and barley is in *bari*. *Sarshaf* often follows maize in the same class of land.



10. I have noticed in previous reviews the extreme difficulty in Hazara of framing a trustworthy estimate of the yield of crops on different classes of land. I note below the outturns assumed for maize, kharif pulses, wheat, and barley on the soils I have grouped under the heads of *barani* I, II, and III in my second paragraph :—

CROP.					I	II	III
Maize	...	...	...	...	11 to 20	6 to 14	3 to 6½
Kharif pulses	...	...	...	...	4 to 5	3 to 4	2 to 3
Wheat	...	...	...	...	5½ to 10	4 to 8	3 to 4
Barley	...	...	...	...	6½ to 11	5 to 9	4 to 5

The highest yields for *barani* I maize are those for *bari* (17 maunds) and *bela* (20 maunds) in Rash, the lowest those for the hot *bari* lands of Dhangar and for the same soil in the poor Boi circle. For *barani* II also the highest outturn is 14 maunds in Rash. The estimates for the other circles range from 6 and 7 in Boi and Dhangar to 9 and 10 in Tanawal, Dhaka, and part of the Nara-Lora circle. The lowest outturns for *barani* III maize are 3 to 4 maunds in Dhangar and 4 in Boi.

The amount of pulses grown in soils classed as *barani* I is very small. Over two-thirds of the area under pulses belong to the inferior *barani* III soils, and they account for over two-fifths of the kharif crops grown on these soils. The highest yields are those of the Rash circle, where *mash* is the pulse mostly grown. The largest outturns of wheat are also in Rash, where the yield in the moist *bela* land is put at 10 maunds. The lowest are in Boi. The outturn on *barani* III soils has usually been taken as 3 maunds. Barley has been put everywhere one maund above wheat.

The yields assumed for rice vary from 8 maunds in Dhaka to 13 in Bakot.

It would be futile to criticise these estimates at all closely. They have been made by the officer who has had the best opportunity of framing an approximately correct estimate and who has taken pains to do so. He himself would not claim for them any high degree of accuracy, the attainment of which is here in fact a sheer impossibility. We must be satisfied if they conform to the two facts about the local agriculture, which are of the first importance in this connection, *viz.*,—

(a) that the outturn of rabi crops on *dofasli* manured lands is not large, the object of the cultivator in Hazara being to get a heavy crop of maize off such land; and

(b) that the yield in the inferior *ekfasli* lands, which I have classed as *barani* III, is very light.

I am not quite sure whether the *rakkar* and *kalsi* yields, small though they look on paper, are not in excess of the truth.

11. As regards prices I have little to add to what I have said in former reviews. They have been very leniently estimated. The rise since last settlement is calculated to amount to 78 per cent. and has undoubtedly been very large. Of course Government is entitled to benefit by this rise seeing that its cash assessment is a composition for its right to take a share of the actual produce; but a dearth of grain does not practically increase the revenue paying capacity of a people who cannot feed themselves off the produce of their fields. It is out of the miscellaneous sources of income that the revenue is paid.

12. The rent data are somewhat scanty. Only 20 per cent. of the area is tilled by tenants-at-will. The lowest figures are in Tanawal (18 per cent.) and the highest in Bakot (26 per cent.). The cash rented area is rather less than one-third of the whole. This is very different from the figures of the

previous settlement when over three-fifths of the area in the hands of tenants-at-will was returned as cash rented. In Bakot cash rents still predominate, 20 per cent. being cash rented, and only 6 per cent. kind rented.

The landlord's share deduced arithmetically from the figures for the whole tahsil in Statement VII is—

Abi.	Barani I.	Barani II.	Barani III.
47½	46½	44½	41½

Mr. Watson has assumed—

50 per cent. for *abi*, except *abi* III in Dhangar, and for *barani* I with one trifling exception.

40 per cent. for *barani* II.

40 „ „ III in Rash, Dhaka, Bakot, and part of Nara-Lora.

33 „ „ III elsewhere.

To this no serious exception can be taken. A lower rate than 50 per cent. might have been taken for *abi* II in Dhangar and for *barani* I in Dhangar and Tanawal. On the other hand *barani* II and III have been lightly dealt with.

Landlords, as a rule, get no share of the straw or of rabi fodder crops. The deduction on account of kamins' dues is small, amounting to only 7 per cent.

The landlord's share and the half-net assets share are therefore—

DETAIL.	Abi and Barani I.	Barani II and Barani III (part).	Barani III (part).
	Per cent.	Per cent.	Per cent.
Landlord's share... ..	46	37	31
Half-net assets ... ..	23	18½	15½

Any half-net assets estimate based on such high rents paid for small plots aggregating less than one-sixth of the cultivated area is bound to be far in excess of the revenue that can be taken from body of peasant proprietors with very petty holdings, which they cultivate, as a rule, with their own hands.

13. In framing his produce and half-net assets estimates Mr. Watson was faced by the difficulty that it was impossible to follow the usual practice

of taking as the basis of the calculation the average crop areas of a series of years, because 1904-05 was the only year for which he had reliable figures by soils. Now 1904-05 was not really a normal year. In most parts of the tahsil, as the figures in the table in the 30th paragraph of the report show, the kharif was average. The rabi, on the other hand, was abnormal, the variation from the average of the previous four years being considerable everywhere, except in Rash and Boi, and in Tanawal amounting to 43 per cent. In framing his produce estimate Mr. Watson has calculated the total value of the crops for 1904-05, but in deducing his half-net assets rates for unirrigated soils he has made the following deductions—

Dhaka and Boi ... ..	7 per cent.
Dhangar ... ..	8 „
Tanawal ... ..	16 „
Nara-Lora ... ..	5 per cent in Nilan and Dhan, and 25 „ in Lora.

These deductions are founded on the fact that the total area of kharif and rabi unirrigated crops in 1904-05 exceeded the average for the five years ending 1904-05 by the above percentages. The device, as Mr. Watson himself

points out, is a rough and ready one, and might be criticized on several grounds; but the elements of uncertainty which surround any half-net assets estimate that the wit of man could frame in Hazara are so great that no exception need be taken. It is the less necessary to make any minute criticisms on a particular part of the process by which the estimate has been evolved that there is no possibility of imposing a revenue which will in any degree approximate to the half-net assets as worked out in Appendix E. After making the deductions referred to, Mr. Watson puts the produce estimate at 14 lakhs and the half-net assets at Rs. 2,90,000. The existing demand is Rs. 79,743.

14. In the 42nd paragraph of the report Mr. Watson has compared a half-net assets estimate based on cash rents paid by tenants-at-will with that founded on *batai* rents. The difference between the two sets of figures is very curious. The cash rent estimate is only Rs. 135,718, or 47 per cent. of the *batai* rent estimate. In two circles only, Tanawal and Dhaka, is the former as much as half of the latter. The explanation offered is that owing to insufficient data the cash rent estimate is not to be trusted. That might be accepted if the cash rented area was small in every circle. But in Bakot the state of things is peculiar. Twenty-five per cent. of the land is tilled by occupancy tenants, and practically they all pay light cash rents. Twenty-six per cent. is in the hands of tenants-at-will and four-fifths of this is cash rented. *Prima facie* the cash rent estimate based on rents paid by tenants-at-will should be far more valuable than the kind rent estimate in Bakot, and the figures here are—

							Rs.
Cash rent estimate	...	...	...	...	...	...	10,093
Kind	...	...	...	...	...	...	28,471

I can find no explanation for this very curious phenomenon, which is the more strange that the cash rents for the inferior soils often include a payment for the adjoining grazing land. There is nothing to show that only poor lands are cash rented. The percentages of the different soils tilled by tenants-at-will on these terms are—

							Per cent.
Abi	...	...	...	...	...	...	10
Barani I	...	...	...	...	...	...	16
" II	...	...	...	...	...	...	20
" III	...	...	...	...	...	...	21

The data supplied by rents paid on holdings containing only one class of land are not large, but still they are not negligible.

I compare the figures obtained by confining attention to them with the half-net assets soil rents deduced from the produce estimate.—

SOIL.	Abi.	Bari.	Maira.	Bakkar.	Kalsi.
	Rs. a.	Rs. a.	Rs. a.	Rs. a.	Rs. a.
Cash ... ..	1 1	2 8	1 6	1 2	0 8
Produce ... ..	3 15	5 4	1 10	0 13	1 4

The divergence between cash and kind rents is far more striking than in Mansehra (see paragraph 20 of Review of Mansehra Report). The difference is, perhaps, partly explained by the fact that landlord's demand, at least in some parts of the tahsil, *khidmat* and *habub* from their tenants; but it is not stated by Mr. Watson (paragraph 38 of report) that these exactions are confined to tenants paying rent in money. I think we must treat the cash rent estimate as conveying a warning not to lay too much stress on the other estimate.

15. The ordinary assessment data point to a very large enhancement in this tahsil. Captain Wace's settlement was made over 30 years ago. The revenue was then leniently assessed, though its distribution over circles and villages was unequal. The cultivated area has increased by 22 per cent., and Mr. Watson calculates that the rise in prices amounts to 78 per cent.



The present demand is only one-eighteenth of the produce estimate and two-sevenths of the half-net assets estimate based on produce rents. Even the cash rent estimate exceeds the revenue by 70 per cent.

16. Mr. Watson proposes to raise the demand from Rs. 79,743 to Rs. 1,30,500, or by 64 per cent. In three circles the enhancement varies from 20 to 46 per cent. In the other four it is 85, 109, 121, and 132 per cent. In Haripur the revenue was raised by 53 per cent., the highest rate of increase being 79 per cent. in the rich Maidan Utlā Circle.\* Omitting Kagan, where the circumstances are quite exceptional, the revenue of Mansehra was raised by 91 per cent., the ratios being 80 in Kunhar, 90 in Pakli, and 113 in Konsh Bhogarmang. On the other hand the fraction of the total produce and of the half-net assets absorbed by the proposed new revenue is less in Abbottabad than elsewhere :—

DETAIL.	Abbottabad.	Mansehra.	Haripur.
Fraction of produce ... ..	1-11th	1-10th	1-7th
Percentage of half-net assets ... ..	45	56	59

96 per cent. of the cash rent estimate is to be taken in Abbottabad as compared with 63 per cent. in Mansehra. The cash rent data in Haripur are small.

17. The proposals have been carefully considered. If they are to be impugned, it cannot be by any appeal to standards but on broad grounds of policy. I shall state these in the words used by the Government of India in the 33rd and 34th paragraphs of their Resolution No. 1750—2, dated 16th January 1902, on land revenue policy :—

“That revenue enhancements must often be large is of course the direct consequence of long term settlements. \* \* \* \* There can be no question of the hardship which a family must experience in finding its income suddenly reduced by a third or even more, as may happen, for instance, when at the end of a term of settlement it is enjoying 75 per cent. of the assets and resettlement is made at 50 per cent. The question in the aspect now under consideration is not really affected (as is sometimes assumed) by the grounds on which the enhancement is made : a heavy addition to the assessment is as disturbing if justified by a large increase of cultivation as if resulting from a rise in valuation rates. It may be argued that a family in such a case has profited largely by the enjoyment of income which it would have lost under a shorter term of settlement ; that it should have saved from its surplus to meet the eventual curtailment of its means ; and that the State will find long-term settlements exceedingly disadvantageous if it is not only to lose all increment during their currency, but is also to forego part of its dues at their close. But the question must be considered from a practical point of view, and with reference to the conditions of human nature. The State cannot without hesitation call upon people suddenly to effect a great reduction in their domestic expenditure, however well justified in theory its demand may be. A man will look more to the actual increase of his obligations than he will to the arithmetical standards by which it is justified or determined. If for 30 years he has been paying a land revenue of Rs. 1,000 and is called upon to pay Rs. 2,000 upon resettlement, it is small consolation to him to be told that, while the former sum represented 50 per cent. of his former assets, the latter only amounts to 47 per cent. of his assets as they now stand. A reduction in percentages is far from compensating him for an enhancement of burdens.

To meet such cases the Government of India desire to lay much stress upon the principle of gradual and progressive enforcement of sudden increases of other than moderate dimensions. The mitigation of a large enhancement by spreading its imposition over a term of years has been a recognized feature in the settlement procedure of Upper India for a long time past, but has not till recently been brought systematically into practice. In 1895 the Government of India, with the concurrence of the Secretary of State, drew general attention to the advisability of making larger use of progressive enhancements.”

18. I shall now consider how far these considerations, which apply to the assessment of all holdings, larger and small, are reinforced in Abbottabad by two special factors, overpopulation and debt.

\* This refers to the circle as defined in the Assessment Report.

19. The growth of population since last settlement has been far more rapid than in the other tahsils.\* The pressure on the soil is also much greater. In considering the following figures it must be remembered how much a large area of pasture land mitigates the effect of a heavy incidence on cultivation :—

Tahsil.						Population per square mile of cultivation.	Percentage of owners waste on cultivation.
Abbottabad	...	...	...	...	71 per cent.		
Mansehra	...	...	...	...	56 "		
Haripur	...	...	...	...	80 "		
Haripur	...	...	...	...	...	631	171
Mansehra	...	...	...	...	...	800	193
Abbottabad	...	...	...	...	...	903	198

\* Kagan excluded as its circumstances are quite exceptional.

20. Mr. Watson's estimate of surplus, or, to write more correctly, of deficit, in production as compared with consumption, is given in the 52nd paragraph of his report. If we accept his data it is hard to subscribe to his conclusion that "no difficulty should be experienced in meeting the (enhanced) Government demand." There is a mistake in the calculation, for the cost of 175,000 maunds of maize, which the rural population has to import even at the low price of 21 annas per maund adopted for assessment purposes, is Rs. 2,30,000, not Rs. 1,30,000. But what we really want to know is the surplus income of the landowners, not that of the whole rural population. In the following table I assume that the average production is ten lakhs of maunds, or 7 per cent. more than Mr. Watson supposes. Roughly, there are 27,000 full owners and 6,000 *malikan kabza* in the tahsil. I reduce the total to 30,000, making a liberal deduction for men counted twice over as owning land in more than one estate. I assume that a landowning family consists on the average of  $4\frac{1}{2}$  persons, which seems a moderate estimate for Házara. The persons responsible for paying the revenue have, therefore, to find food for 135,000 persons. As 60 per cent. of the land is tilled by owners and tenants free of rent, who are mostly owners, I allow them 60 per cent. of the whole produce, making no deduction for *kamins* or for charity. On 18 per cent. of the land proprietors divide the crop with the tenant, and I allot them half the produce, which is a good deal more than they get. Their income from other sources than agricultural land is put at Rs. 4,27,000 and they get Rs. 42,000 in cash rents. I assume a consumption of 10 chittaks per head daily, or  $5\frac{1}{2}$  maunds per annum, which seems moderate. The balance sheet is as follows :—

										Maunds.
GRAIN	{	$\frac{60}{100} \times 1,000,000$	...	...	...	...	...	=		600,000
		$\frac{9}{100} \times 1,000,000$	...	...	...	...	...	=		90,000
		Total	...	...	...	...	...	=		690,000
		Deduct food of 135,000 persons at $5\frac{1}{2}$ maunds per head	...	...	...	...	...	=		742,000
CASH	{	Deficit	...	...	...	...	...	=		52,000
		Income from cash rents	...	...	...	...	...	=		Rs. 42,000
		Income from sources other than agricultural land	...	...	...	...	...	=		27,000
		Total	...	...	...	...	...	=		4,27,000

We can hardly suppose that imported maize costs less than Rs. 1½ per maund, hence Rs. 78,000 have to be spent in buying food. Out of Rs. 4,67,000 have to be met:—

	Rs.
(a) Present land revenue and cesses ... ..	1,00,000
(b) Cost of food ... ..	78,000
(c) Interest on debt ... ..	2,50,000
Total ... ..	4,28,000

This leaves a modest surplus of Rs. 39,000 to meet the cost of cotton cloth in a country where very little cotton is grown, and of salt, tobacco, and gur. Of course a certain number of landowners eke out their resources by cultivating as tenants.

It would be absurd to attach too much importance to such calculations when they are unsupported by statistics of actual imports and exports; but they do convey a warning that we are dealing with people who must often find it hard to make both ends meet.

21. Obviously their difficulties spring largely from indebtedness. This is not the result of any severity in the revenue demand. The workmen of the holdings may in bad seasons lead to legitimate borrowing, but the bulk of the debt seems to be due to expenditure which might be avoided. Debt is certainly much heavier than in Haripur and probably the burden is greater than in Mansehra.

TAHASIL.	Debt.	Per owner.	Cultivated acres per owner.	Debt per cultivated acre.
	Rs.	Rs.		Rs.
Abbottabad ... ..	7,97,000	24	4	6
Haripur ... ..	5,65,000	28	7½	33½
Mansehra ... ..	5,64,000	41	8½	5

22. The source of the remarks which I have quoted from the resolution of the Government of India makes them authoritative and the policy which they outline is in itself eminently reasonable. They are quite independent of the special factors of over population and debt. But it is needful to consider how far these increase the force of the argument in favour of moderation.

23. It is easy to lay too much stress on the plea of over-population. If the State were to regulate its demand from the land by counting mouths it would have to give up its claim as supreme landlord to a share of the produce of every field, and in the end might in some tracts have to remit the whole land revenue. Suppose it were to do so a people determined to increase up to the margin of existence would soon be none the better for the generosity of its rulers, while the general community would bear the loss. These are common places of revenue literature, and like much that is trite should be carefully kept in view. But the practical consideration remains that where the habits of the people, the effects of climate and of a long term of lenient assessment, combine to produce such results as we find in Hazára, a prudent and humane Government cannot ignore them in deciding the amount of enhancement which it will demand. As the Government of India remarked we must consider such questions "with reference to the conditions of human nature."

24. The plea of indebtedness is much weaker. It is more culpable to live above your means than to have a large family. Except where debt is directly due to pressure of population it ought not to be much



considered. For both in law and in equity the lien of the State on the produce of the soil is superior to that of any creditor. It is right that a man should be made as far as possible to pay his debts, but it is part of the tenure on which he holds his land that he should meet his obligations to the State.

25. My general conclusion is that in some circles Mr. Watson's proposed assessments should be reduced on the broad ground that

Conclusion.

to more than double the demand in a circle as a whole, which means probably trebling or quadrupling the revenue in some estates, is opposed to sound policy. Moreover, I think, that we ought, wherever the enhancements are severe, to mitigate the effect by a liberal resort to progressive assessments such

Paragraph 34 of Mansehra Review.  
Paragraph 32 of Haripur Review.

as I suggested in reviewing the Mansehra and Haripur reports. I

have since had to hear many assessment appeals from the Hazára district, and the experience I have thereby gained has increased my regret that these proposals were not accepted, and that the orders only allowed the postponement of a small part of the demand for the short term of three years. At the end of the 38th paragraph of the resolution from which I have already quoted, it is stated that the Government of India have further laid down liberal principles for future guidance and will be prepared, where the necessity is established, to make further advance in respect of the progressive and graduated imposition of large enhancements.

26. The assessment to be imposed depends so largely upon the general considerations which I have dealt with at length, and so little on rates or

Dhangar circle.

deductions from half net-assets data that I can dispose of the proposals for each circle very briefly.

The Dhangar is a poor tract which takes its name from the hot stony land so commonly found in it. The area of good *abi* land is really very small. Mr. Watson proposes to raise the revenue from Rs. 14,379 to Rs. 21,000. The incidence of the population per square mile of cultivation is 749, and the average cultivated area per owner is a little over 5 acres. The pressure of population upon the soil is much greater than in the adjoining Kandi Kahl circle of Haripur. Though on paper a trifle less, it is in reality much greater than in Maidán Utlá, a far richer circle. The income of the proprietors from sources other than the cultivated land is for Hazára small, and does not equal the yearly interest on the heavy debt, which exceeds a lakh, a burden ascribed to the litigious and extravagant habits of the people. As in Kandi Kahl, crops are liable from time to time to fail badly. I do not consider that we should attempt to take more than Rs. 20,000 here. I have nothing to say against Mr. Watson's rates as rates, except that I would prefer to limit that on *bari* to Rs. 2½ as in Kandi Kahl, and the all-round rate on *maira* to 11 annas which was sanctioned for that circle. This could be done by reducing the rate on *maira* I to 13 annas per acre. It must be remembered that Mr. Watson was allowed to assess Kandi Kahl 7 per cent. below rates. Rupees 20,000 is 55 per cent. of the half net-assets estimate, 112 per cent. of the cash-rent estimate, and about one-ninth of the estimated value of the produce.

27. The adjoining Rash circle is the richest and most secure in the táhsil, and we can deal with its assessment much more boldly. The popu-

Rash circle.

lation is dense, but much of the soil is excellent, and the yield of maize on *bela* lands (1,901 acres) is extraordinarily high. This miscellaneous income is far larger than in Dhangar and greatly exceeds interest on debt. The present demand is Rs. 12,882, and Mr. Watson proposes to raise this to Rs. 28,500. For the reasons given in paragraphs 17 to 25 I think that we ought to be content with doubling the present demands and that this should be accompanied with a very liberal resort to progressive assessments. If these reasons are not accepted, I have nothing to urge against the detailed proposals except that I would not assess *bari* higher than *bela*, considering the great natural advantages of the latter soil. A revenue of Rs. 28,750 would be 37 per cent. of the half net assets deduced from produce rents, 104 per cent. of the cash rent estimate, and one-thirteenth of the gross produce.

28. Tanawal is a poor circle with a very superabundant population. The people could not live at all but for the fact that so many of them take service.

Tanawal circle.

It is a difficult country to assess, because the villages vary so greatly in character. On the whole it is better than the adjoining Badhnak circle in Haripur, for the lands about Sarai Niamat Khan in the south-east corner, where the Babarhan kas enters the Haripur plain, and those in the north-east of the circle between Sherwan and Kuthiala and the Mangal stream, raise the average considerably. The cultivated area has increased by 32 per cent., but much of the new cultivation must be very poor stuff. When one sees the sort of land that is tilled on some of the steep hill sides, one can only suppose that the goad of necessity must be very sharp. The burden of debt is great, considering the smallness of the holdings ( $3\frac{1}{2}$  acres). Captain Wace assessed the tract curiously high. Mr. Watson proposes to raise the demand from Rs. 20,856 to Rs. 25,000, or by 20 per cent. I think this should be sanctioned. I observe that in the table on page 46 the rate on *nagar* is shown as Rs. 2-8, but in the text a rate of Rs. 2-12 is proposed. The latter figure is no doubt correct. The new demand will be 51 per cent. of the half-net assets estimate based on *batai* rents, 86 per cent. of the cash rent estimate, and one-ninth of the gross produce reduced by 16 per cent. on account of the abnormal rabi of 1905.

29. The Nara Lora circle consists of three parts, Nilan, Dhan, and Lora, which are drained by the two branches of the Haro and its affluents, of which

Nara Lora circle.

the Nilan is one. The first is a narrow glen at an elevation of about 4,000 feet, flanked by very bare hills. The people are most hard-working and every inch of available land is utilized. Terracing is done with great care and fields are often protected by strong stone revetments. The soil seemed to me to be generally a good solid brown loam pretty free from stones. The crop returns point to a much greater degree of insecurity than elsewhere in the circle. The best of the Nara Lora *abi* is in Nilan, but at this height one cannot expect a good rabi crop after maize. Dhan is a small valley drained by a tributary of the Haro. The land near this stream is sometimes a clayey moist *bela* in which the maize never suffers from drought, and indeed is apt to rot in years of heavy rainfall. The *maira* is a good strong soil and fairly free from stones. Dhan is more likely to suffer from excessive moisture than from want of it. The greater part of the circle is occupied by Lora, through which the two Haros pass and meet immediately beyond its border. I have no notes on this tract, and I do not think I saw much of it. The estate from which it takes its name is a fine village. Captain Wace overvalued Nilan and assessed it far higher than Dhan or Lora. Throughout Nara Lora the pressure of population is heavy: averaging over a thousand souls per square mile of cultivation. There is much indebtedness, but the miscellaneous income of the proprietors fortunately exceeds the interest charges. It is now proposed to raise the revenue by 32 per cent. on the whole circle, the lowest rate of increase being in Nilan (13 per cent.). In Dhan the enhancement is 40 per cent. and in Lora 45 per cent. The increases in cultivation since last settlement are 13, 26, and 14 per cent. respectively. I think the proposed rates and the resulting demand of Rs. 18,000 may be sanctioned. It is 55 per cent. of the half-net assets based on produce rents, 122 per cent. of the cash rent estimate, and between one-eighth and one-ninth of the gross produce, after allowing for the abnormal spring harvest of 1905.

30. The Dhaka circle consists largely of poor hill land. Forty-eight per cent. is actually recorded as *rakkar* and *kalsi*, and *maira* (28 per cent.) is, Mr.

Dhaka circle.

Watson says, often little better. The *bari* is inferior, and so is the small area of irrigated land. But abundant rainfall and manure make up to a considerable extent for poverty of soil. The most serious matter as regards the assessment is the extraordinary density of the population. There are 1,064 persons to the square mile of cultivation, and the normal proprietary holding is only about three acres. It is small wonder therefore that the Settlement Officer describes the majority of the owners as "struggling." They must be greatly helped in their struggle by the neighbourhood of Murree and the different Civil and Military Stations in the Galis. Nevertheless indebtedness is heavy.

Captain Wace assessed this circle 23 per cent. below rates and the incidence was about 10 annas an acre, which has now been lowered by the spread of cultivation to 7 annas. Mr. Watson proposes to raise the demand from Rs. 10,039 to Rs. 21,000. Looking to all the circumstances I think we should not attempt to take more than Rs. 18,000, which represents a rise of 80 per cent. Even so the enhancement in some estates will probably have to be exceedingly severe. Of course the variation from standards is extreme, and the revenue I propose only represents one-fourteenth of the estimated gross produce. But I cannot regard standards, even if they were reliable, as having much practical bearing on the assessment of the Dhaka. Its present assessment is much heavier than that paid in the adjoining and similar Murree tahsil. It is undesirable that the contrast between the two should be very glaring, and this all the more because they are now under different administrations. I invite attention to the two tables below.

#### A.—CULTIVATED AREA AND REVENUE.

CIRCLE.	Cultivated acres.	Present de- mand and rate.	Demand pro- posed by Settlement Officer and rate.	Increase of revenue per cent.	Increase of cultivation per cent.
		Rs.	Rs.	Rs.	
Dhaka ... ..	23,691	10,039 0 6 9	21,000 0 14 2	109	89
Murree ... ..	39,357	13,492 0 2 0	24,000 0 9 9	78	52

#### B.—SOILS AND ASSESSMENT RATES.

CIRCLE.	Detail.	Abi.	BARANI.		
			I.	II.	III.
DHAKA ... ..	Per cent. ... ..	2	21	28	49
	Rate ... ..	1 4	2 0	0 10	0 6
MURREE ... ..	Per cent. ... ..	5	84	51	10
	Rate ... ..	0 12	1 2	0 6	0 3

At last Settlement it was found that the cultivated area of Murree had increased by 129 per cent., but the Financial Commissioner ordered the Settlement Officer not to raise the demand by more than 60 per cent. The present Settlement Officer of Rawalpindi has had to meet the same difficulty, and his proposals are dominated by the feeling that very large and sudden enhancements however justified press hard. It is possible that I shall propose a larger demand tempered by a liberal resort to progressive assessments. But I shall certainly not suggest that the revenue should be more than doubled. Murree assessed at Rs. 26,000 will still be more lightly dealt with than Dhaka assessed at Rs. 18,000, the amount I have suggested might be taken.

31. A good description of the Bakot circle is given in the 14th paragraph of the report. It is a better tract than Dhaka. Its *abi* lands are much superior in quality and form a much larger proportion of the total cultivation. The other soils and waste are, Mr. Watson says, perhaps slightly better in Bakot than in Dhaka. The pressure of population is less. The large area (24 per cent.) tilled by occupancy tenants paying cash rents is of course a source of weakness to the landowners. There is much less debt than anywhere else in the tahsil, as the table in the 28th paragraph of the report shows. Captain Wace's rates were here meaningless, for he seems to have fixed his demand at about two-fifths of the sum which resulted from their application. It is useless to discuss Mr. Watson's rates. They may well be accepted if it is



right to raise the demand by 132 per cent. My own advice is not to do more than double it. I would therefore fix the revenue at Rs. 9,500. The cash rent data cannot be disregarded here, for about four-fifths of the land in the hands of tenants-at-will and one-fifth of the whole cultivated area pays cash, not to speak of 24 per cent. more, for which occupancy tenants pay money rents. The demand I propose is 95 or 96 per cent. of the cash rent estimate, but only 30 per cent. of the half-net assets estimate based on *batai* rents, and one-fourteenth of the gross produce.

32. Boi is the poorest and weakest of all the circles. The irrigated area is very small, and 72 per cent. of the cultivated land consists of *rakhar* and *kalsi*. The people are very poor, very ignorant, and totally lacking in enterprise. The demand is on paper extremely light and is practically all paid to the jagirdar. I think it would be wise to limit the increase to Rs. 5,000, which represents an enhancement of 54 per cent.

I note below the financial results of the re-assessment should my proposals be accepted.

CIRCLE.	Present demand.	PROPOSED DEMAND.		Increase (column 4 on column 2) per cent.
		Settlement Officer.	Settlement Commissioner.	
	Rs.	Rs.	Rs.	
Dhangar ... ..	14,379	21,000	20,000	39
Rash ... ..	12,882	28,500	25,750	100
Tanawal ... ..	20,856	25,000	25,000	20
Nara Lora ... ..	13,614	18,000	18,000	32
Dhaka ... ..	10,039	21,000	18,000	80
Bakot ... ..	4,733	11,000	9,500	100
Boi ... ..	3,240	6,000	5,000	54
...	79,743	1,30,500	1,21,250	52

33. Where the demand in any estate is raised by more than 66 per cent. the Settlement Officer should, I consider, have authority to defer the imposition of one-third of the increase for five years. Where the enhancement is, as it often will be, above 100 per cent., I would take half at once and reach the full demand by two steps adding one moiety in Kharif 1910 and the other five years later. There may be cases where the assessment will be trebled. If so I would spread the enhancement over 15 years, taking one-third of it at once, and the remaining two-thirds in equal parts at intervals of five years.

34. The proposed assessment of Rs. 6,000 on mills may be accepted, and Mr. Watson might be given the discretion to go Rs. 500 above or below it for which he asks. He calculates that the tax on goats recently sanctioned will bring in about Rs. 8,500 yearly.

35. No orders are required regarding cesses. The new demand should be introduced with effect from Kharif 1905, and it will be expedient to limit the term of the Settlement to 20 years. The existing dates for the payment of the kharif and rabi instalments may remain unchanged.

36. The report\* is a good one and is marked by the care and ability which Mr. Watson's past work in Hazara has led one to expect. With the assessment of the Abbottabad tahsil he will bring almost to an end a very difficult task. I need not enlarge on its magnitude further than to say that in many respects the work in Hazara has been more like a first Regular, than an ordinary Revised, Settlement. The Chief Commissioner is well aware how thoroughly Mr. Waston and his Assistant Captain Beadon have carried it out.

Concluding remarks.

J. M. DOUIE,

*Settlement Commissioner.*

5th February 1906.

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\* It reached my office in print on 20th January 1906. Mr. Watson gave me a typed copy in September 1905, so apparently it took a long time to pass through the Press. The date when the manuscript was received and the date when the report was issued in print should under standing orders have been entered at the end of the report.

# ASSESSMENT REPORT

## OF THE

# ABBOTTABAD TAHSIL

## OF THE

# HAZARA DISTRICT.

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### CHAPTER I.—PHYSICAL CHARACTERISTICS.

The Abbottabad Tahsil is the middle of the three tahsils of the Hazara

Area and boundaries.

District and, if we exclude from Mansehra the enormous areas of unculti-

vated waste in the Kagan and Bhogarmang valleys, is the largest of them all. In any case it is the most populous, has the greatest number of villages and if not the most prosperous, is, as containing the headquarters of the district and several hill stations and cantonments, the most important. As a separate tahsil, however, it only dates its existence from the year 1874, being formed at the close of last Settlement out of portions of the Haripur and Mansehra Tahsils which then constituted the whole District. It is some 690 square miles in extent or just one quarter of the total district area, and is 32 miles at its widest from east to west and 30 from north to south. Its northern boundary marches with the Mansehra Tahsil and is an irregular line drawn from the Siran river on the west to the Kunhar river on the east meeting the latter at a point some three miles south of Garhi Habibullah Khan on the Abbottabad-Kashmir road. From the junction with the Siran the boundary turns to the south-west and follows that river with slight deviations for a long distance, marching for the first few miles with the feudal territory of the Nawab of Amb and below that with the Badhnak tract of the Haripur Tahsil. At Kachhi the line leaves the Siran and strikes for a short distance due south across a spur of the Tanawal hills; then as it touches the edge of the Haripur plain it turns eastward and runs partly along the edge of the plain and partly through the southern fringe of hills till it reaches the open valley where Serai Niamat Khan lies. After skirting the Haripur plain in a southerly direction for a short way it turns more to the east, strikes across the Dor river to the low hills on the further side and then proceeding generally in a southerly or south-easterly direction wanders through the hills that form the northern portion of the Khanpur range and, crossing the two Harroh streams just above the point where they unite, after many windings meets the boundary of the Rawalpindi District. Hitherto the line has marched with the Haripur Tahsil, but from here turning north-east it skirts the Murree Tahsil of Rawalpindi until, after crossing the high range connecting Murree with the Gali hill stations near the Khaira Gali Cantonment, it descends to the Jhelum river. The latter forms the southern portion of the eastern boundary of the tahsil, while the Kunhar, which at Pattan pours the waters of the Kagan valley into the bigger stream, forms the northern. Across these rivers lies the territory of the Punch and Kashmir States.

2. Generally speaking the tahsil is a maze of hills and valleys of varying altitudes. Two small tracts only can be dignified with the name of plain.

Physical features

One is the valley of the Dor from where it debouches from the Dhamtaur hills south-east of Abbottabad to where after a southerly course of 12 miles or so it enters the Haripur Tahsil. This plain, of an altitude of between 3,000 and 2,600 feet, is nowhere more than three miles wide and, though from a distance it looks level enough, a nearer inspection will show it to be seamed with ravines and on both sides to slope gently down towards the Dor from the hills on its borders. The Dor itself, a small stream enough save when rain or melting snow has swelled its volume, flows in a deep though wide bed, and most of the level ground lies on its left bank. The other tract is the Rash or Orash plain which is situated to the



north of the Dor valley and is separated from it by the Sarban hill rising between the Dor and the Salhad nullah along which the tonga road runs. The Rash plain proper is a stretch of moist level land about 4,000 feet above sea-level, some 5 miles in length and 3 in width, enclosed by an irregular amphitheatre of hills and looking as if it had once been a lake. In fact it would appear that only within the last 60 years or so has the centre of the plain been gradually converted by drainage from a marsh into one of the most fertile portions of the tahsil. It is at the southern end of this tract that the Abbottabad civil station and cantonment lie. More broken but still open and level land known as the Mangal ilaqa continues the valley to the north till it meets the boundary of Mansehra.

The two tracts thus described separate the two mountain chains which with their innumerable spurs and offshoots and the valleys which they enclose make up the rest of the tahsil. On the west side is the Tanawal country; on the east the lofty ridge which may here for convenience sake be termed the Dunga Gali range. These tangles of hills are somewhat bewildering but with the help of the map some main features may be discerned. The watershed of Tanawal is a ridge extending north-westward from the Habiba hill behind Abbottabad itself to the Mangal nullah at a point near the boundary of the Mansehra Tahsil. From this ridge three long spurs extend in a south-westerly or westerly direction. The southernmost starts from Habiba and following the line of the Abbottabad and Haripur road and the Dor ends in the Haripur plain. The next runs almost due west to the Siran at Kachhi. The large nullah between these two ridges is known as the Babarhan kas. It varies much in width, its broadest part being where it debouches on the Haripur plain at Serai Niamat Khan. The third spur emerges from the Biliana hill, which is 6,200 feet above sea-level and the highest point in Tanawal, and running due west eventually meets the Siran at Bir and Phuhar. The valley between it and the spur to the south is known as the Jarl or Soha nullah. It is narrower than the Babarhan, opening out only as it approaches Soha at its western end. North of this spur and across the deep bed of the Mangal stream, which, rising in the hills to the east of Rash, here cuts its way through Tanawal to join the Siran at Seri Sher Shah, is another ridge at a lower elevation which is a continuation of the Garhian hills of the Mansehra Tahsil and running in a south-westerly direction between the Siran and the Mangal forms the north-western corner of the tract. The description of Tanawal may be completed by the mention of a series of minor spurs projecting in a north-easterly direction from the Habiba-Biliana ridge to the Mangal nullah or the edge of the Rash plain.

If we turn now to the country which lies east of Rash and the Dor valley we shall find that the dominating feature is the lofty wooded ridge which, continuing the chain of mountains that flank the Kagan and Kunhar valleys on their west side, stretches through the tahsil from north to south and ends in the Murree hills. It varies in height roughly between 10,000 and 7,000 feet and forms a watershed between the Jhelum and the streams that eventually find their way into the Indus. It is studded with small hill stations and cantonments, the former comprising Thandiani, Nathia Gali and Dunga Gali, and the latter Bara Gali, Kalabagh, Ghora Dhaka, Khanspur, Changla Gali and Khaira Gali. Of these Nathia Gali is the headquarters of the North-West Frontier Province Government in the hot weather. From this huge backbone a number of ribs of varying height and length extend towards the Kunhar and Jhelum on the one side and the Rash and Dor plains on the other. The tract enclosed between the northern portion of the ridge and the Kunhar is known as Boi, that between the southern portion and the Jhelum as Bakot. The former is of greater width than the latter and it is traversed by several long spurs projecting from the Thandiani hill which end abruptly on the edge of the Kunhar. It is a remote inaccessible region, a land of deep ravines flanked by formidable precipices; the only level ground is on the narrow crests of the ridges or where a little space is left between their base and the river bank; and the manner in which cultivation is carried up the almost perpendicular hill slopes must be seen to be believed. In Bakot the precipices are as lofty and almost as sheer, but otherwise there is a considerable difference in the character of the country, for the spurs are much shorter, their soil is more productive and between them and the Jhelum but still at a considerable height above the river is a strip of land scored by nullahs but with level patches here and there and wider and more fertile than any that the Boi tract can show.

On the western side of the range the drainage at the northern end is carried through deep ravines to the Siran by the Mangal and other minor streams and below comes a series of valleys the northern of which are drained by the Dor and the southern by the Harroh and their respective tributaries. The most notable of these valleys are the following:—

First what is termed the Dhangar Nara tract, an open but arid and raviney stretch of land draining into the Dor and behind the low fringe of hills that flanks the Dor plain on the south-east near the border of the Haripur Tahsil. Its elevation is something over 3,000 feet. Further to the south-east and separated from Dhangar Nara by a bare steep ridge is the Nilan valley, a fertile tract 3,500 to 4,000 feet above sea-level drained by the Nilan stream. The latter after pursuing a south-westerly course through the valley, turns due south and cutting its way through the next chain of hills joins the Harroh at a point just inside the Haripur Tahsil. East of this tract we climb the ridge on which the village and *thana* of Nara stand and make a short descent into a remarkable upland valley known as the Dhan with an altitude of 5,000 feet or so and a moist and in some places marshy soil. Leaving this and proceeding east in the direction of the main range we follow for a short distance the course of the Samundar nullah which rises between the Bara Gali and Kalabagh cantonments and flows down between the spurs that strike out from the ridge at these two points. We then come to the valley of the Karral Harroh which has its source between Nathia Gali and Dunga Gali. This valley is enclosed by precipitous ranges on either side and with the exception of some rice fields in the river bed the only level land is in bays in the hills receding from the river bank and at a considerable elevation above it. Finally we cross another ridge and come to the valley of the Dhund Harroh which has its sources between Changla Gali and Murree and joins its sister stream at a point just inside the Khanpur tract of the Haripur Tahsil. The hills that surround this valley are less precipitous and on the left bank the land is more open; in fact, where the village of Lorah stands, the surrounding country might almost be called a plain, were it not broken by low hills and numerous ravines. It is within easy reach of Murree and the tonga road to Rawalpindi.

### 3. From the above attempt to describe the physical conformation of the tahsil it will be gathered that

Climate and rainfall, Appendix A.

there are marked differences of climate in its various portions. As the altitude is nowhere less than about 2,000 feet the heat of the Punjab plains is not to be met with; but the Dor valley, the lower part of Tanawal and the banks of the Kunhar and Jhelum can be exceedingly hot on occasion, though the extreme heat begins later and ends earlier than in the Punjab. Elsewhere the climate is cool and temperate. The most unpleasant months are July and August when in the valleys and lower hills the air is close and enervating, and the higher hills are often enveloped in mist; nor are January and February as a rule very agreeable, for rain, snow, and severe cold make Abbottabad itself a somewhat undesirable residence at that season. Snow falls down to a height of 4,000 feet on the average and in the higher ranges it lies till April or May. Statistics of rainfall will be found in Appendix A (1). It will be seen that the average of the last 22 years is about 47 inches which compares favourably with the 36 inches of Mansehra and the 30 inches of Haripur. Two-thirds fall in the summer months of April to September, and one-third during the winter months. August is the rainiest month of the year with an average of  $9\frac{1}{2}$  inches but is followed closely by July. In the winter there is not much to choose between January, February and March which have an average of between  $3\frac{1}{2}$  and  $4\frac{1}{2}$  inches. Generally speaking the rainfall is sufficient for the sowing and maturing of the crops, but it would be an error to take the 47 inches of the Sadar station at Abbottabad as the average throughout a tahsil so varied in altitude and physical features. In Tanawal (especially the lower portion) and in the Dor valley the average approaches more to that of Haripur and an occasional drought such as that in the winter of 1901-02 when in Abbottabad itself less than 6 inches of rain fell and no snow lay even on the Gali Ranges may have serious consequences on the fortunes of the crops. On the other hand in the higher hills the rainfall is much heavier than the average. This is evidenced by the readings of the rain-gauge recently erected at Dunga Gali, (*vide* Appendix A (2)) from which it will be seen that from May to October in the

years 1903-04 and 1904-05 the rainfall was 55 and 40 per cent. respectively above that registered at Abbottabad during the same months. We should thus be on fairly safe ground if we say that, including snow, the average rainfall of the tahsil ranges from 35 in the driest to 70 inches in the wettest tracts.

It will be noticed that the figures of Appendix A afford little ground for supposing that during the last half century there has been any permanent decrease in the quantity of rain that falls owing to disforestation or other causes. The average for the fifteen years ending 1872-73 is only half an inch more than the average of the last 22 years and the falls of 1900-01 and 1904-05 are both well above those averages. The fact seems to be that though much denudation has taken place in the village wastes, the large areas of Government and village forests that still remain both here and in the Mansehra Tahsil are sufficient to prevent a change in the climatic conditions.

4. The soil classification adopted is as follows (the figures in brackets denote the total acreage under each soil):—

Classification of soils.

#### A.—IRRIGATED.

(1). *Bagh* (470).—Plentifully manured irrigated land which grows sugarcane, turmeric or vegetables or heavy crops of maize and wheat or barley.

(2). *Bari abi* (434).—Manured land near a village site or homestead which gets less water than *bagh* and grows ordinary *kharif* and *rabi* crops.

(3). *Bahardi abi* (1,946).—Land further removed from the village site or homestead than *bari abi* and receiving less manure but otherwise resembling it.

(4). *Hotar* (2,830).—Rice growing land, usually found in level terraces on the banks of hill torrents.

(5). *Barangar abi* (307).—Inferior stony soil, generally with a scanty water supply.

(6). *Gharera abi* (266).—The stony land lying in the bed of streams and exposed to their action.

#### B.—UNIRRIGATED

(1). *Bari* (20,946).—Manured land in the vicinity of the village site or homestead.

(2). *Bela* (2,080).—Naturally moist, almost marshy, soil.

(3). *Kund* (1,539).—Land lying in a hollow or on the banks of a stream with special facilities for receiving and retaining moisture; generally a good strong loam. At the lower end of Tanawal the term includes the so-called *neqar* lands lying in the beds of the nullahs, which consist of an excellent alluvial soil that is periodically renewed by the silt brought down by floods.

(4). *Maira* (47,547).—A loam that varies in quality from the strong clayey soil of the Mangal tract to the poor stony lands of the Dor valley. In the hills all land that is fairly level and is not too full of stones to be classed as *rakkar* or too near a village site or homestead to be shown as *bari* is so recorded.

(5). *Rakkar* (17,944).—Bad stony land found generally at the base of the hills or on the edges of ravines. It is less level as a rule than *maira* but not so sloping as *kalsi*.

(6). *Kalsi*. (85,611).—The soil of the narrow fields that climb the steep hill sides. Where practicable these are fashioned into terraces that make some approach to flatness and are supported by stone walls; but the slopes are often too great to allow of this being done.

A comparison with the soil classification given in the Assessment Reports of the other two tahsils will show that the term *bari abi* is an innovation, for, although the soil is to be found there also, it has all been classed under *bagh*. It would have perhaps been better to discriminate between *bagh* and *bari abi* in these tahsils, at any rate in certain circles, but the distinction is more marked in Abbottabad than elsewhere. And as it will be helpful for purposes of assessment I have had little hesitation in adopting it. I would also note that the term *bela* bears a somewhat different interpretation to what it does in Haripur and



Mansehra. The soil is only to be found in two tracts, Rash and Dhan, and is locally known as *jab* or *jabba*. In the Punjab it would be included under the head of *sailab*. And lastly I would observe that, apart from the difficulties of classification which I have described in paragraph 4 of the Haripur Report, and need not repeat here, it is no easy matter in hill country where cultivation is everywhere interspersed with waste to estimate accurately the cultivated areas. This especially applies to *kalsi*. It is impossible to measure separately each cultivated plot where a field number includes many such with strips of waste between them and all that can be done is to make a rough calculation of the cultivated and waste included in the total area of the field. But, as in the case of *kalsi* the waste is often nearly as valuable as the cultivation, inaccuracies in this regard do not really matter much for assessment purposes. Further observations regarding special characteristics of the soils in the various assessment circles will be found in the next chapter.

5. Cattle and the income from wood and grass are such important assets of the tahsil that the area and character of the waste land require special notice. Exclusive of Government forests the classification and acreage are as follows:—

- (1). *Banna* (17,648).—The banks of fields or the strips of waste land that separate one cultivated terrace from another. These usually grow a valuable crop of grass.
- (2). *Dhaka Rakh* (116,969).—Plots of waste land in the hills, usually adjoining cultivation, in which the grass is preserved during the rainy season and subsequently cut for fodder, the cattle then being turned on to graze.
- (3). *Dhaka Charagah* (58,936).—Hill waste used for grazing purposes, on which no attempt is made to preserve the grass.
- (4). *Dhaka Darakhtan* (28,398).—Hill land thickly covered with trees.
- (5). Other unculturable waste, (35,705).
- (6). Culturable waste, (3,660), i.e., *banjar jadid* (659) and *banjar qadim* (3,001).

*Banna* and *dhaka rakh* are usually held in severalty, *dhaka charagah* and *dhaka darakhtan* in common. I would observe however that it is not always easy in practice to distinguish between the various classes, to say, for example, where *banna* ends and *dhaka rakh* begins, or whether waste should be shown as *dhaka rakh* or *dhaka charagah*, or as *dhaka charagah* or *dhaka darakhtan*. Nor has such care been exercised in checking this classification as in checking that of cultivated soils, as the matter is less important. Still I think that the returns are sufficiently accurate for our purposes.

## CHAPTER II.—ASSESSMENT CIRCLES.

6. Before I proceed to discuss the assessment circles of the tahsil a few preliminary remarks on the accuracy of the figures embodied in the appendices and statements that form the second part of this report will not be out of place. I need not dilate here on the inaccuracy of the old Settlement records which has been sufficiently set forth in the reports on the Haripur and Mansehra Tahsils. I would only remark that owing to difficulties of measurement caused by the extreme hilliness of the tahsil the maps are worse on the average than those of Haripur though not so bad as in Mansehra. We found that in 291 villages these maps were accurate enough for the old field numbers to be identified approximately on the ground, in 25 we had to disregard those numbers except for checking the entries of ownership and tenancy and to measure in accordance with possession, and in 43 we measured in parts by the old numbers and in parts by possession. But on the other hand the returns of the new measurements may be accepted with greater confidence than the incomplete statistics of Haripur and the imperfectly attested figures of Mansehra, for by the time that the assessment statements of the Report were compiled the survey of the tahsil had been finished for some months, the work of attestation was fairly well advanced, and the soil entries in nearly all the villages had been finally revised by the Settlement Naib Tahsildars, if not by the Tahsildar. Many mistakes no doubt there still are and it is impossible to expect in the hills the accuracy obtainable in the plains, but I believe that the new figures are sufficiently near the mark to give a very correct general idea of the circumstances and resources of each circle.

I would also add that statistics of cropping on the various soils will be given for 1904-05 alone, because this is the only year in which reliable figures for all villages are available, and that in weighing them it must be remembered, as will be noted more in detail in another chapter, that the *khariif* of 1904 was average in the cooler and below average in the hotter tracts, and the *rabi* of 1905 was an exceptionally favourable one almost throughout the tahsil.

7. In a country of this kind the forming of assessment circles is no easy matter and in any case it is hopeless to expect the uniformity of the Punjab plains. And, as in the case of Haripur and Mansehra, experience has shown that a more intimate acquaintance with the district than that possessed when the Preliminary Report has to be submitted is necessary before the limits of those circles can be laid down with any certainty. In fact I have found that only a village to village inspection enables me to judge satisfactorily how the arrangement of circles adopted at last Settlement should be modified. The Preliminary Report will show that I proposed to reduce Captain Wace's 25 circles to five which I named Rajoia, Orash, Tanawal, Nara and Dhaka. I have now come to the conclusion that this number is too small and have split up the Dhaka circle into three, while I have also altered the boundaries of all the others to some extent. The seven circles thus created I propose to call Dhangar, Rash, Tanawal, Nara-Lora, Dhaka, Boi and Bakot. Their physical features may be gathered from the description of the tahsil given in paragraph 2, and their limits are shown in the map accompanying this report. Dhangar is the open valley of the Dor, with one or two side valleys of similar character. (*Dhangar*) is a term denoting the poor stony soil that is to be found in most of the villages of this tract and is a more suitable name than Rajoia. Rash is the plain of that name and the Mangal tract that forms its continuation to the north. Tanawal is the country enclosed by the Tanawal hills. Nara-Lora is composed of three portions, the Nilan valley, the Dhan ridge and basin, and the villages on the banks of the two Harrohs for some distance above their junction which for convenience sake I describe as the Lora tract. Dhaka is the hilly country lying to the immediate west of the Dunga Gali range and Boi and Bakot are the tracts to the east of it. Detailed particulars regarding each circle are given in the following paragraphs.

8 The Dhangar Circle consists of 34 villages. It is formed from Captain Wace's circles of Gujhail, Marhad, Dhangar, Gujrat and Dhangar Nara with the

exclusion of the village of Samwala, which is in the Nilan valley and was wrongly included in Dhangar Nara, and with the addition of the villages of Kiala, Banda Sahib Khan, Khokhar and Banda Shohalian, the first of which was put by Captain Wace in Nilan and the latter three in Orash, though they are really outside these tracts. The main features of the circle are the valuable bit of Dor irrigation at the south-western end and the large area of stony and arid *barani* soil. The former is the head of the wonderfully fertile tract which extends along the Dor bed to Haripur. It gets abundance of water, is enriched by the silt brought down by floods, and grows valuable crops of sugarcane and turmeric. The latter soil is found throughout the circle but is prevalent in its worst form on the sloping lands of the villages on the right bank of the stream between the tonga road and the boundary of the Haripur tahsil, in one or two villages on the left bank of which the most important is Rajoia, and in Dhangar Nara. On the other hand in some lands on the right bank of the Dor there are stretches of good loam free of stones, and again near the hills to the east in the old Gujhail and Marhad circles is some more good soil, stony, it is true, but with a large admixture of clay, and cooler than that of the rest of the tract. I have thus found it necessary to distinguish two classes of *maira*, *maira II* being such of the inferior land above alluded to as has not been recorded as *rakkar*, from which indeed it differs little, and all the other *maira* being put in the first class. Of the other *barani* soils the *kund* lies in the ravines, is generally of inferior quality and for assessment purposes may be classed with *maira I*. The *bari* varies according as it is manured *maira I* or *maira II*; but it is usually of the former class and is therefore good on the average. The *kalsi* is in the hills bordering the circle and is very poor stuff, while the *rakkar* is no better.

Of the irrigated soils which constitute 9 per cent. of the total cultivation the *bagh* has been above referred to. The *bari abi* and *hotar* are in the main poorish stony lands fed from springs towards the head of the tract or up under the hills; the *bahardi abi* is good alluvial land outside the limits of the *bagh*, the *barangar abi* is irrigated *maira II* and the *gharera abi* in the bed of the Dor varies in area and quality from year to year according to the caprice of the river.

If we turn to the waste we find that the resources of the circle in this respect are small. Though it covers 58 per cent of the total area, it is of little value. The hills are stony and bare; the brushwood that they used to produce has been cut down and grass is not overplentiful. Thus it comes about that the *bari* area in several villages is affected by the necessity of using manure for fuel, and in others grass has to be purchased from the Tanawal hills to feed the cattle.

Statistics of the area and cropping of the circle will be found in Statements I, II and III, and I need not here repeat them. But the following percentages of the total cultivated area matured and sown and of the total sown area failed in the year 1904-05 will be instructive:—

	Percentage of total cultivated area.	Percentage of cultivated area sown.	Percentage of cultivated area matured.	Percentage of sown area failed.
Bagh ... ..	1	168	168	...
Bari abi, hotar, bahardi abi ... ..	6	121	114	6
Barangar and gharera abi ... ..	2	129	118	8
Bari ... ..	12	186	158	15
Kund and maira I ... ..	40	148	114	23
Maira II ... ..	20	188	99	25
Rakkar and kalsi ... ..	19	116	85	27
Total ..	100	142	112	27



It will be seen that there is heavy double cropping on *bagh* and *bari*. *Bagh* in fact would be all *dofasli* were it not for sugarcane and turmeric, which are rarely followed by a second crop in the same year. The exceptional *rabi* of 1905 renders the sown and matured areas of *maira II* above the average as *rabi* crops predominate on this soil. On the other soils the crops are fairly equally divided between the two harvests. An indication of the pooriness of much of the *barani* land is shown by the fact that in the *kharif* the percentage (63) of area under the superior crops, maize, rice, cotton, potatoes, cane and turmeric is lower, and the percentage (37) under pulses and other inferior crops is higher than in any other circle. In the *rabi*, on the other hand, the percentage under wheat is the highest in the tahsil, and, generally speaking, except on the irrigated lands, the *rabi* is more important and more secure than the *kharif*.

9. The Rash Circle contains 22 villages of which 12 lie in or on the immediate edge of the Rash plain proper, and 10 in the Mangal tract.

Rash.

It comprises Captain Wace's circles of Orash Dhamtaur, Orash Nawanshahr and Mangal with the exception of the three villages mentioned in the preceding paragraph, which I have transferred to Dhangar, and a number of others on both sides of the plain, most of them of very small size, which are more akin to the Tanawal and Dhaka circles respectively, and have therefore been included in them. The following table gives the cropping on the soils for 1904-05 :—

	Percentage of total cultivated area.	Percentage of cultivated area sown.	Percentage of cultivated area matured.	Percentage of sown area failed.
Hotar ... ..	2	129	128	1
Other abi ... ..	4	104	103	1
Bari ... ..	10	161	159	1
Bela ... ..	10	115	115	...
Kund and maira ... ..	59	112	108	4
Rakkar and kalsi ... ..	15	103	88	15
Total ... ..	100	116	111	4

These figures are eloquent of the excellence of the land, for, except on the worst soils, there is little difference between the sown and matured areas. The *maira*, in fact, is much the best in the tahsil. In Mangal it is a dark strong loam; in Rash proper it is lighter and sandier, especially on the western side of the plain. The former requires more rain than the latter, but usually gets enough for its wants. The *bari* like the *maira* is excellent, and there is some good *kund* in the ravines. The *rakkar* and *kalsi* are indifferent soils at the base or on the slopes of the bare hills that surround the tract.

But the feature of the Rash plain proper is the *bela* or '*jab*' land of which its centre is composed. Once, perhaps, a lake, later a marsh, it was only about the commencement of British rule that it began to be systematically drained, the tradition being that a Kashmiri taught the people how to set about the task. The channels constructed for this purpose carry the surplus waters into the Darkhan stream, which joins the Dor below Dhamtaur. In the course of years they have deepened slightly, and the water level has sunk, with the result that land which was formerly too moist to be cultivated at all grows splendid maize and the old complaint that heavy rain water-logged the soil and rotted the

crops has now little foundation in fact, though it is still true that a fairly dry year is better for this land than a very wet one. The diminution in the area of irrigated soils since last Settlement seems also to be due to this gradual drying process. 8 per cent of the total cultivated area of the circle was then irrigated; now only 5 per cent is so, the respective areas being 1,396 and 996 acres. 35 per cent of this irrigation is in the Rash plain itself, where the water is brought on to the land by dams in the drainage channels, and practically all the decrease has taken place here. Much of the old *hotar* has been absorbed in *bela* or *other abi* and, in fact, in the *jub* tract only 42 acres of this soil now remain. I should note, however, that this striking diminution in area is partly due to greater strictness of classification, for I have decided that in this tract those fields only should be recorded as *hotar* on which rice has been grown in at least four out of the last six *kharif* harvests. Where rice is only an occasional crop, the soil is entered as *bari abi* or *bahardi abi*, as the case may be. The other *hotar* of the circle lies in the Darkhan or in the Mangal and its tributary nullahs, the latter is of good, the former of average quality. The *bagh* is mostly devoted to vegetables, and the other irrigated soils call for no special remark.

If we turn to the cropping we find that the *kharif* is the more important harvest, due to its preponderance on the *bela* and *kalsi* lands. On the *maira* the crops are fairly equally divided. The percentage under superior crops in the *kharif*, which are almost exclusively maize, is the highest of all circles, except Dhaka, and in the *rabi* wheat is nearly as prominent as in Dhangar.

The waste which comprises about half the total area contains a good supply of grass, but wood is very scarce. The hills have been denuded to supply the wants of Abbottabad and of the big villages that stud the plain, and manure has to a large extent to be used for fuel.

10. The Tanawal Circle consists of 144 villages and comprises Captain Wace's circles of Kachhi, Maidan Tanawal. Shingri, Kandi Shingri, Sherwan, Garhian and Babarhan, with a few villages transferred from the hills on the west side of the Rash plain. The soil and cropping percentages are as follows:—

	Percentage of total cultivated area.	Percentage of cultivated area sown.	Percentage of cultivated area matured.	Percentage of sown area failed.
Bagh ... ..	1	228	227	1
Other abi ... ..	2	135	127	6
Bari ... ..	14	191	172	10
Kund or negar ... ..	2	193	175	9
Other kund and dofasli maira ... ..	11	192	175	9
Ektasli maira ... ..	23	123	98	21
Bakkar ... ..	26	133	98	26
Kalsi ... ..	21	121	93	23
Total ... ..	100	144	119	18

The physical features of the circle give rise to a great variety of agricultural conditions. Some of the villages have all their lands on the ridges and the hill slopes beneath; others lie in the valleys with a hotter but more level soil:

others again are a mixture of both. The irrigated lands cover 8 per cent only of the total cultivated area. The *bagh* is to be found mainly in the villages of Bir and Kachhi on the edge of the Siran. That of Bir is of great excellence and no better cultivation can be found in the tahsil. In addition to the *rabi*, two crops of maize are grown in the year, which explains how it is that the area under this soil is more than double cropped. Of the other *abi* soils the *hotar* is of poorish quality, and is mostly in the nullahs that run down towards the Mangal. The *bahardi* and *bari abi* are irrigated by cuts from the Mangal or Siran rivers or fed by springs in the hills. The latter class have a precarious water-supply, which in dry years often ceases altogether. The figures for the unirrigated soils show the intensive nature of the cultivation; the holdings are small, the population industrious, and cattle numerous; hence the large amount of double cropping which extends beyond the *bari* to the *kund* and *maira*. So much, in fact, of the latter soil that lies on the outskirts of the *bari* is manured, and in an average season grows two crops a year that I have thought it advisable to divide it for assessment purposes into two classes, *maira I* being taken to include all fields of whose area not less than half has matured a second crop during the year 1904-05, and *maira II* comprising the rest. The statistics show that nearly one-third of the *maira* area is of the first description, but in this circle, more almost than in any other, the exceptionally fine *rabi* of 1905 must be borne in mind in considering the figures. *Maira II* is generally poor stony stuff, little better than the *rakkar* as the figures indicate, but there is some good soil of this class in the open land at the lower end of the Babarhan and Soha nullahs. The *bari* differs much according as it is sloping or flat, in a hollow or on a ridge, full or free of stones, near the main *abadi* or round an isolated homestead, but it is everywhere heavily manured, carefully tended, and, except in some of the coolest lands at the most elevated points of the circle, almost always sown with two crops in the year. The *negar*, which has been referred to in paragraph 4, is superior to the average *bari*, for though it is also *dofasli* it does not require manure. Its defect is that it is liable to diluvion and to be spoilt by sand and stones brought down by floods. The *rakkar* and *kalsi* are bad arid lands for the most part with little earth among the stones; but even they, in certain villages, get some manure, and the *kalsi* is, as a rule, laboriously terraced and supported by walls of stone which help to retain the rain water.

The area under *rabi* crops is slightly larger than that under *kharif*, though the latter preponderates in the cooler and higher villages. The *rabi* is also more secure, for a brief spell of drought rapidly withers the maize on the stonier lands. The poor quality of much of the soil is indicated by the prevalence of inferior crops in the *kharif* and by the fact that barley, a hardier but less valuable crop than wheat, in this circle alone covers a higher percentage of the area.

The waste is extensive, accounting for 71 per cent. of the total area. The hills are rocky and stony, but yield a fine crop of grass if the rainfall is propitious. The Biliara hill and adjacent ridges are well wooded with *chir* (*Pinus longifolia*); elsewhere there is little but brushwood, the most conspicuous shrubs being the *sanatha* (*Dodonaea burmanniana*) and barberry; in many villages the hillsides have been denuded even of these to supply the requirements of the Rash and Haripur plains or of the villagers themselves.

11. The Nara-Lora Circle, which contains 58 villages, comprises Captain Wace's circles of Nilan (with the exclusion of Kiala and inclusion of Sam-

Nara-Lora.

wala as noted in paragraph 7), Maidan Danna, Dhakkan Danna and the lower portions of Harranda Nara and Dhaka Danna. I have had some difficulty in fixing the limits of this circle, for its physical features are varied, and the grouping adopted by Captain Wace is not here a very reliable guide. My chief doubts have been as to whether the Nilan valley should not be constituted a separate circle and how I should treat the Dhan, which is 1,000 feet higher on the average than the rest of the tract and possesses a unique character, but is too small to form a circle by itself. After a full consideration of the circumstances I have come to the conclusion that it will be possible to apply the same rates throughout, and thus form the whole into one circle, but to show how far I am justified in doing so I have made three sub-circles out of the tract and give separate figures for each. Nilan is composed of the villages draining into the Nilan stream, Dhan of those surrounding the basin of that name with the addition of the two villages of Lassar and Dabran, which lie further along the ridge to the south at similar elevation, and Lora is



the country drained by the two Harrohs for some 8 miles above their junction. The percentages of cultivation and cropping are as follows:—

				Percentage of total cultiva- ted area.	Percentage of cultivated area sown.	Percentage of cultivated area matured.	Percentage of sown area failed.
(A).—NILAN.							
Hotar	...	...	...	2	116	109	7
Other abi	...	...	...	4	141	114	19
Bari	...	...	...	21	179	158	12
Kund and maira	...	...	...	40	189	105	24
Rakkar and kalsi	...	...	...	33	100	65	37
Total	...	...	...	100	135	108	23
(B).—DHAN.							
Hotar	...	...	...	8	83	83	...
Other abi	...	...	...	2	62	50	20
Bari	...	...	...	18	128	110	11
Kund, bela, maira	...	...	...	56	106	97	8
Rakkar and kalsi	...	...	...	25	93	76	19
Total	...	...	...	100	105	94	11
(C).—LORA.							
Hotar	...	...	...	5.6	94	92	2
Other abi	...	...	...	4	105	100	5
Bari	...	...	...	25	187	182	3
Kund and maira	...	...	...	36	154	140	9
Rakkar and kalsi	...	...	...	33	111	93	16
Total	...	...	...	100	145	132	8
TOTAL CIRCLE.							
Hotar	...	...	...	3	97	94	3
Other abi	...	...	...	2	134	110	18
Bari	...	...	...	22	172	160	7
Kund, bela, maira	...	...	...	42	134	116	13
Rakkar and kalsi	...	...	...	31	105	80	23
Total	...	...	...	100	132	114	14

The irrigated soils, which cover 5 per cent of the total area, consist, except for some good *bari abi* and *bahardi abi* in Nilan, of little but *hotar*. The latter is best in Nilan, where the climate is hottest and the water-supply most constant. In Lora, though the soil is equally good, the springs from which most of it is irrigated occasionally fail, and in dry years part, as the figures indicate, has to be left uncultivated or sown with a *barani* crop. The channels of the two Harrohs are too deep to irrigate any land except that lying in the bed of the stream, and this, though it gets plenty of water, is liable to diluvion. On the *barani* soils the small amount of double cropping in Dhan, as compared with Lora and Nilan, is most marked. This is due to the climate being too cold for *rabi* crops, but is compensated for by the excellence and security of the *kharif*. The *hari*, *kund* and *maira* of the Dhan are all of high quality, a strong soil, free of stones, and the *bela* in the centre of the basin is somewhat akin to that of the Rash plain, though the water lies nearer the surface and the crops are therefore more liable to rot with excessive rain. The *bari* and *maira* of Nilan is also, on the whole, a good strong soil, but it is more stony than the Dhan and in parts, especially towards the hills on the west, becomes shaly and arid. The same soils in the Lora tract are somewhat lighter and vary much in quality according as they are level or sloping, stony or the reverse; but on the average I think there is little real difference in value between them and those of Nilan. It is true that the figures given above show their double cropping to be heavier, but for purposes of comparison these figures are fallacious, the *rabi* in the Lora tract having been an exceptional one both in area and quality, while that in Nilan, owing to damage

by hail, was not so good. A better indication is afforded by the percentages of area matured in the quadrennial period of 1900-01 to 1904-05, which is 100 for Nilan and 104 for Lora. The remaining soils, *rakkar* and *kalsi*, which constitute nearly one-third of the cultivated area of the circle, are worst in the Nilan, where the soil is hottest and driest.

As regards the crops, we find that the *kharif* is much the most important harvest in all three sub-circles, but especially so in the case of the Dhan, for the reason above noted. The higher percentage of superior crops in Dhan and Lora, as compared with Nilan (86 against 73), is due to the greater coolness of the soil, which is favourable to maize, and also perhaps to a slightly heavier rainfall. The same causes account for the lower percentage of *kharaba*. In Nilan the *rabi* area is more constant than in the rest, since the warmer climate enables the crop to be sown later, whereas in Dhan and Lora it is too cold to sow after October, and hence, if there is no rain in that month, the area under crop is insignificant. The prevalence of barley, which is specially marked in Nilan, where it exceeds wheat in area, is due to the fact that the *rabi* is mostly grown on *dofasli* lands, where it is usual for barley to follow maize.

The waste covers more than three-fourths of the total area. 15 per cent of it is Government Forest, which in Dhan and Nilan consists chiefly of scrub, and in Lora of scrub or *chir*. Nilan is worst off for wood and grass, the hills especially to the west being very bare and rocky. Dhan has a good supply of grass, but little wood, while most of the Lora villages have a sufficiency of both.

12. The Dhaka circle contains 57 villages, and consists of Captain Wace's circles of Dhaka Dhamtaur, Dhaka Nawansbahr (excepting one village, Mandroch Khurd, which I have included in Rash), Dhaka Rajolia, Samundarpar, and the upper portions of Harranda Nara and Dhaka Danna. I have also added the large village of Tarnawai from the northern end of the old Mangal circle and the 6 villages of the old Boi circle which lie on the west side of the Miran Jani ridge, and are superior in quality to the rest of that tract. The circle is of necessity a somewhat heterogeneous one, and the villages composing it differ considerably from spur to spur and valley to valley, but the similarities of climate, soils and cropping are sufficiently marked to justify one set of rates throughout, nor can I think of any other grouping which would be more satisfactory. The soil and cropping percentages are as follows:—

	Percentage of total cultivated area.	Percentage of cultivated area sown.	Percentage of cultivated area matured.	Percentage of sown area failed.
Irrigated soils ... ..	3	97	95	2
Bari ... ..	21	139	134	4
Kund and maira ... ..	28	114	104	8
Rakkar ... ..	12	98	89	9
Kalsi ... ..	86	97	85	13
Total ... ..	100	111	101	8

A circle of this kind, with its succession of ridges and deep narrow glens and ravines, has naturally little level land and the soil, except where protected by forests, is apt to be washed away by heavy rain leaving a substratum of rock, stone, or shale that in itself affords little hope of maturing any crop that may be sown in it. But the intrinsic poorness of the soil is compensated largely by heavy manuring, by the absence of excessive and scorching heat and by the regular and ample rainfall, and thus it is that we find good crops of maize growing on the most unpromising ground. The best lands of the Dhaka circle lie up under the higher ridges where the rainfall is heaviest and the forests assist in preserving the soil. The lands at a lower altitude are drier, hotter and stonier though they have the advantage of being more suitable for *rabi* crops. The irrigated lands consist almost exclusively of *hotar*, which is here of a somewhat inferior description as the climate and water are too cold for the better sort of rice. The *bari* is variable in

quality and is largely made up of the fields round single homesteads, for the cultivator lives on his land as a rule and the main village site is often only a cluster of a dozen huts or so. The coolest lands are *skfushi*; elsewhere the usual rule is for three crops to be grown in two years. Like the *bari* the *maira* varies much from village to village but has usually a superfluity of stones. In some of the lower villages the *kalsi* is extremely bad; higher up it is better. As to the cropping it will be noticed that the *khari* is far the most important harvest and that the percentage of cultivated area under maize is higher than in any other circle of the tahsil. The *rabi* is valuable only in a few of the lower villages.

The waste accounts for nearly four-fifths of the total area. 40 per cent. of it is made up of the fine Government forests of *paludar* (*Abies Webbiana*), *biar* (*pinus excelsa*), *chir*, oaks and other broad-leaved trees that clothe the Dunga Gali range. The rest contains valuable village forests, grazing grounds and grass preserves, though in some of the higher villages the grass supply is hardly sufficient for the numerous cattle, and in the lower the reserve of fuel has been depleted to provide the wants of the cantonments and villages in the Rash plain.

13. The Boi circle contains 29 villages and is Captain Wace's circle of that name with the exclusion of the 6 villages mentioned in the preceding paragraph, which were probably only placed in the original circle because they formed part of the Boi Jagir. As already noted, I at first intended to include the whole of this tract in Dhaka, but further consideration has convinced me that the villages to the east of the range should stand in a group by themselves. The hill slopes are steeper even than in Dhaka, the soil is less fertile, the miscellaneous resources are smaller, the people are much poorer and, even were other matters equal, the extreme lowness of the previous assessment would make it impossible to apply the same rates. The following are the soil and cropping percentages:—

						Percentage of total cultivated area.	Percentage of cultivated area sown.	Percentage of cultivated area matured.	Percentage of sown area failed.
Irrigated	...	...	...	...	...	2	115	114	1
Bari	...	...	...	...	...	16	145	141	3
Maira	...	...	...	...	...	10	128	120	6
Rakkar	...	...	...	...	...	10	113	106	6
Kalsi	...	...	...	...	...	62	92	87	5
Total						100	107	102	5

The most noticeable point in these figures is the very large percentage of *kalsi* which is far in excess of any other circle. Some of this is exceptionally poor stuff, more scratchings on a perpendicular hill side, and is only sown with a crop every second or third year. And the not infrequent land slides show that in many cases it would have been better to have left the soil in its virgin state. The best lands of the circle are down by the Kunhar where the climate is warm enough to grow a fair *rabi* crop, and there is some good *hotar*. But they are rivalled by some excellent soil in one or two spots near the main range which grows fine crops of maize that are not apt to be scorched by heat like those near the river. The worst villages are those which lie a little way back from the latter. Their soil is stony, sloping and arid and both harvests are poor; and the little *hotar* which they possess is cooler and therefore less productive than that near the river bank.

The *khari* is paramount in the higher villages and is every where the most important crop; the fact that in this harvest only 65 per cent. of the area is under superior crops as against 88 and 83 per cent. in Dhaka and Bakot respectively is an indication of the inferiority of the soil.

The waste covers nearly two-thirds of the total area. 22 per cent. of it is Government Forest of *paludar* and *biar* on the Thandiani ridge. There are also some good village forests in the vicinity of the ridge; the rest of the waste consists in the main of steep grassy slopes with patches of scrub here and there



especially near the river bank. Some villages are badly off for timber for building purposes but there is little lack anywhere of fuel and grass.

14. The Bakot circle is the group of 15 estates which formed Captain Wace's circle of that name. It consists for the most part of a succession

Bakot.

of big villages lying with their heads on the Dunga Gali range and their feet in the Jhelum. The tract is divided physically into two portions, viz., the high lands or 'Khan' and the lower lands near the river known as 'Nawal'. The 'Khan' is more fertile than the similar land in the Dhaka and Boi circles, there being more depth of soil; the *bari* and *maira* on the top of the ridges is excellent in parts and the *kalsi* in spite of its steepness is also good of its kind. The Nawal is somewhat hot and has much arid, sloping land on which the crops are sometimes scorched, but there are some good bits of *maira*, the *bari* round the village sites is excellent *dofusli* soil, and the *hotar*, which is the main feature of the tract, is some of the best in the tahsil. Irrigation is from the numerous hill torrents that find their way into the Jhelum; they contain a fertilising silt brought down from the upper grazing lands and the rice crop is consequently a fine one. As with Boi I have little hesitation in separating this group of villages from the Dhaka circle in which I originally included it. It forms a compact and uniform circle by itself, divided from Dhaka by a fine natural boundary and differing from both it and Boi in the character of its soils and in general circumstances.

I give below statistics as for the other circles:—

			Percentage of total culti- vated area.	Percentage of cultivated area sown.	Percentage of cultivated area matured.	Percentage of sown area failed.
Irrigated i.e. hotar	...	...	8	100	98	1
Bari	...	...	19	142	133	6
Maira	...	...	21	101	85	16
Rakkar	...	...	11	87	72	17
Kalsi	...	...	41	99	88	11
Total	...	...	100	106	95	11

The *rabi* is of importance only in Nawal, and a higher percentage of the cultivated area is sown with *kharif* crops than anywhere else in the tahsil.

Of the waste, which covers over four-fifths of the total area, 44 per cent. is the Government Forest that clothes the eastern side of the Dunga Gali range. Below the forest boundary lie some fine village forests and grazing grounds and grass is abundant everywhere. Altogether the hill waste is superior to that of any other circle.

## CHAPTER III.—FISCAL HISTORY.

15. For a summary of the history of the District the Haripur Assessment Report may be referred to, and here I will only allude to it as it affects

History before annexation.

this tahsil. It would appear that under the Moghal Empire the tracts now included in the Dhangar, Nara-Lora and Bakot circles and the lower part of Dhaka were a portion of the Gakkhar chiefship which had its headquarters in the present Rawalpindi District, while the rest of the tahsil was included in the Kashmir province. About the beginning of the 18th century, when that Empire had begun to decline, the Tanaolis crossed from the west bank of the Indus and appropriated the country that now bears their name, the Jaduns, also from transborder, evicted the Turks from the Rash plain, and the Dhunds and Karrals of the Nara-Lora and Bakot ilaqas began to assert their independence of the Gakkhars. The Duranis, whose rule was established in the middle of the 18th century, administered the country through the chiefs of these tribes, whom they conciliated by large allowances. By the beginning of the 19th century, however, the Durani Government had become very weak, and it was only on their way to or from Kashmir accompanied by strong forces that the rulers were able to impose any semblance of their authority on the unruly tribes and collect such arrears of revenue as time and convenience permitted. Otherwise the district relapsed into a state of anarchy, and intrigue, murder and inter-tribal fighting were the order of the day.

The introduction of the Sikh rule, which commenced in 1818, was for some time resisted by the tribes of the Abbottabad Tahsil and Sirdar Amar Singh Majithia, who was sent in 1821 by Ranjit Singh to take over the Governorship of Hazara, was slain in the Karral hills when retiring after a successful attack on the stronghold of the Karral chief, and his rear guard cut to pieces. But in the succeeding years the authority of the Sikh Government was re-established by the famous Sirdar Hari Singh Nalwa, who defeated in battle the Jaduns and Tanaolis, and enforced the submission of the Karrals. Forts were built at Nawanshahr, Nara and elsewhere, and the subjugation of the country was completed by the defeat of the Dhunds in 1832. From this date, except for abortive insurrections on the part of the Dhunds and Karrals, the history of the tahsil is comparatively uneventful till 1845 when the first Sikh war began. Then there were risings throughout the district, which resulted in the retirement of the Sikhs and the brief period of Muhammadan supremacy, known as the Lundi Musalmani. By the end of 1846, however, Gulab Singh, the Governor of Kashmir, to whom Ranjit Singh had granted Hazara as *jagir*, had re-asserted his authority. With his cession of the district in 1847 to the Lahore Darbar in exchange for other territory and the deputation of Major Abbott to make the first Summary Settlement the complete pacification of the country was effected, hereafter to be broken only for a few months by the disturbances that attended the revolt of Chatar Singh at Haripur and the 2nd Sikh war that ensued.

16. The revenue levied by the Sikhs was estimated at half the produce and to this must be added numerous cesses which may have amounted to 12 per cent. of the revenue. But in the tracts which now form the Abbottabad Tahsil, except in the Kash plain and other villages in the immediate vicinity of the forts, less no doubt was taken, the difficulties of collection being enhanced by the remoteness and hilliness of the country. Still the burden on the people must have been a heavy one even in the time of Diwan Mulraj, the most moderate of the Governors, who reorganised the assessments in 1844, and brought out a total demand of Rs. 72,687. Major Abbott was instructed to reduce the standard from one-half to one-third of the produce on the average while making due allowances for the circumstances of each case and assessing more lightly in the wilder and less populated tracts. The result in this tahsil was a reduction to Rs. 58,146, or 20 per cent. below Diwan Mulraj's assessment.

The leases of the first Summary Settlement were given for a period of three years and in 1851 Major Abbott, who was the first Deputy Commissioner of



the newly annexed district, obtained permission to revise them. In 161 estates of the Abbottabad Tahsil the assessments were raised, in 44 they were reduced and in 151 they remained as before. Of the last 84 in the Boi, Bakot and Lora tracts were not touched because Major Abbott had not time to revise them before he left the district in 1853. The net result was a further reduction to Rs. 57,514 or 1 per cent. below the total of the first Summary Settlement.

The figures here given for the assessments of Diwan Mulraj and Major Abbott are, I would observe, somewhat lower than those stated by Captain Wace on page 170 of his Settlement Report, but as they have been compiled from the Settlement Note-books they are presumably more accurate.

The second Summary Settlement lasted for 20 years and the revenue was paid with great ease. In this tahsil it probably represented at its start about one-fourth of the total produce, but the rapid extension of cultivation reduced this proportion and in the abortive assessments of Major Adams and Coxe, which were made in 1862 and 1863, a standard of one-sixth only brought out a total slightly in excess of that fixed by Major Abbott.

17. The operations of the Regular Settlement were begun by Captain Wace in 1868 and the new assessments were introduced from the *kharif* of

1872. His nominal assessment guides were three, *viz.*, an estimate of one-sixth of the value of the gross produce, soil rates and plough rates. But none of these were reliable, for the inaccuracy of the crop returns and the calculation of the yield on irrigated and unirrigated lands only without further distinction of soils vitiated the produce estimate; the soil rates were more or less guess work and not based on any half assets data, and plough rates are at best an unsatisfactory test. In his detailed assessments therefore Captain Wace largely discarded these standards and paid more regard to the revenue hitherto paid and to any circumstances of the village which in his own or in his subordinates' opinion would justify an enhancement.

The following figures show how his actual assessment compares with his estimates:—

	Rs.
One-sixth gross produce	91,373
Soil rates	92,028
Plough rates	1,00,731
Actual assessment	80,510

Thus, according to Captain Wace's calculations, the actual assessment represented a little under one-seventh of the gross produce and was some 12 per cent. below the result brought out by his soil rates. If we include Rs. 2,419 for the revenue of mills, which were assessed but not shown separately in the Summary Settlements, the total, Rs. 82,929, of the Regular Settlement exceeded that of the second Summary Settlement by 44 per cent. and that of Diwan Mulraj by 12 per cent. This rise was fully justified by the great increase in cultivation and general prosperity and taken as a whole the new assessment was a lenient one. Its internal distribution, however, between the circles and among the villages composing them was somewhat faulty. To ensure an equitable distribution on the lines followed moderately accurate statistics and a close acquaintance with the circumstances of each village are essential in a tahsil of this kind; but in many cases both these conditions were absent. The records were sometimes altogether unreliable, and as the system of village to village inspection by the Settlement Officer had not then been introduced and in fact in view of the mass of other work was hardly practicable, Captain Wace had to rely largely on accounts given by his assistants which were occasionally misleading. Thus it is not surprising to find that the assessments of circles and of individual villages are more unequal than, in the light of fuller knowledge, the circumstances justify. Still the moderation of the assessment is such that it is only in a few instances that the revenue can be said to have undoubtedly been too severe and to have had an adverse effect on the prosperity of the village.

18. During the 32 years that have followed the announcement of the assessments of the Regular Settlement there has seldom been any difficulty in realising the revenue and where it has not been paid in by the due date this



has been due more to the negligence of the lambardars than to any real inability to meet the demand. Figures for suspensions and remissions are given below. The remissions are for damage by hail and are hardly worth noticing. In two years only have the suspensions in any circle been on a considerable scale. In 1878 there was a very general failure of the *kharif* crop from drought and in 1902 a bad *kharif* in Tanawal following a bad *rabi* necessitated measures of relief. I would add that I believe the *kharif* of 1878 was as bad in Boi as elsewhere, but suspensions in that circle were perhaps considered unnecessary because it is all jagir. :—

					SUSPENSIONS.				REMISSIONS.
					1877-78.	1896-97.	1901-02.	1902-03.	1899-1900.
Dhangar	...	...	...	...	6,484	200	...	...	...
Rash	...	...	...	...	2,312	...	...	...	...
Tanawal	...	...	...	...	2,561	122	92	2,907	232
Nilan	} Nara-Lora	...	...	...	1,917	4,658	...	...	...
Dhan					347				
Lora					2,394				
Dhaka	...	...	...	...	3,403	...	...	...	17
Bakot	...	...	...	...	1,259	...	...	...	...
Total Tahsil					20,677	322	92	2,907	249

It may be observed in conclusion that the present land revenue is Rs. 79,743, or Rs. 867 below that fixed by Captain Wace, the decrease being due mainly to diluvion and to the acquisition of land by Government for the extension of cantonments and other purposes. On the other hand the increase in the number of mills has raised the revenue from that source by Rs. 1,120; so that the total revenue of the tahsil, which amounts to Rs. 83,272, is Rs. 343 more than the original assessment.

19. About Rs. 19,000, or nearly one-fourth of the above revenue, is assigned, as the following percentages will show :—

Assessment Circle.										Percentage of total revenue assigned.
Dhangar	...	...	...	...	...	...	...	...	...	10
Rash	...	...	...	...	...	...	...	...	...	14
Tanawal	...	...	...	...	...	...	...	...	...	26
Nilan	...	...	...	...	...	...	...	...	...	30
Dhan	...	...	...	...	...	...	...	...	...	64
Lora	...	...	...	...	...	...	...	...	...	19
Dhaka	...	...	...	...	...	...	...	...	...	26
Boi	...	...	...	...	...	...	...	...	...	88
Bakot	...	...	...	...	...	...	...	...	...	4
Total Tahsil										23

Of this 77 per cent is in perpetuity, 7 per cent for life and 16 per cent for the term of Settlement. 71 per cent are jagirs or mafis attached to land which vary in proportion to the revenue assessed thereon. The remainder are fixed cash grants deducted from the revenue. The latter are mainly lambardari inams lasting for the term of Settlement and now in course of revision. The biggest jagirdars are Dost Muhammad Khan Tanaoli of Shingri (Rs. 2,779), Sultan Muhammad Khan Tanaoli of Bir (Rs. 1,717), Shahdad Khan Jadun of Banda Pir Khan (Rs. 2,475), Rahmat-ullah Khan Karral of Diwal Manal (Rs. 1,011), Said Muhammad Khan Karral of Dabran (Rs. 1,096), and Sultan Barkat Khan Bamba of Boi (Rs. 4,310, subject to the payment of *nazrana* of Rs. 718).

## CHAPTER IV.—GENERAL STATISTICS.

20. The area statistics of the tahsil are summarised by percentages of the total area in the following table:—

Areas (Statement No. I.)



The increase in cultivated area is largest in the hillier tracts as was only to be expected. What if any of this increase is due to more correct measurements it is very difficult to say. On the whole, I think, that the area under cultivation at last Settlement was probably over-estimated. The system of calculation then employed usually exaggerated the true area and in recording the cultivation on the hillsides less allowance perhaps was made for the intervening waste than has now been done. My impression, therefore, is that during the currency of the Regular Settlement cultivation has expanded at least as much as the figures indicate. But the newly broken up land has not, as a rule, been of much value. It is chiefly in the hill waste and has often been secured at the sacrifice of a bit of village forest or grass preserve which in itself is perhaps more profitable than the cultivation that takes its place will be in a few years time when the rains have done their work on the soil. It is almost alone in this direction that further room for expansion lies, and it is a question whether in most villages a limit has not already been reached beyond which it will be inadvisable to go. For as cultivation spreads fuel, timber and grass reserves contract, with the denudation of the hillsides the soil itself deteriorates, floods become more violent, springs dry up, and the last state of the village is worse than the first. To some extent the village forests have been preserved by constituting parts of them protected waste within which no cultivation is allowed, but measures to prevent the reckless breaking up of land without these limits merit serious consideration.

Owing to the faulty classification of last Settlement the following table, which gives the variations in the soil areas of the tahsil, is not as trustworthy as could be wished:—

	Last Settlement.	New measurements.	Increase per cent.
Irrigated soils	5,470	6,258	14
Bari	14,062	20,946	49
Kund, bela, maira	38,512	51,166	33
Rakkar and kalsi	50,241	53,555	7



The increase in irrigated soils is due mainly to more correct classification for there has been little real extension of irrigation nor is there much room for it. The increase in *rakkar* and *kalsi* is not so great as might be expected because much land that was so recorded at last Settlement has now been more properly shown as *maira*, to which cause also is partly due the large increase in the latter soil. The notable increase of 50 per cent in *bari* is due mainly of course to the rise in the number of the population and of cattle. In this connection the following figures which show the result of my calculation of the manured area per head of cattle may be of interest. I may explain that in manured area I include *bagh* and *bari abi* as well as *bari*, and that in estimating the number of cattle with reference to the amount of manure that they provide I have counted each buffalo as two, every two head of young stock and every five goats or sheep as one and all other animals as one each.

			Dhangar.	Rash.	Tanawal.	Nara-Lora			Dhaka.	Boi.	Bakot.	Total Tahsil.
						Nilan.	Bhan.	Lora.				
Average manured area per head of cattle in kanals.	Last Settlement ...	...	...	...	...	...	...	...	...	...	...	1.5
	Now ...	...	1.1	.9	1.5	1.2	1.	1.1	1.1	1.3	1.1	1.1
						1.2						

An average of 1.1 *kanals* per head of cattle is not at all excessive so far as one can judge from the estimates that trustworthy zamindars themselves make. The comparatively high average of the Tanawal and Boi circles is due to the large number of small holdings, the industry of the population and the fact that the cattle seldom leave the village to graze elsewhere. The low average in Rash, on the other hand, is because so much manure has to be used as fuel and cannot be put on to the land.

It will be seen that in Tanawal only is the average as high as it was for the whole tahsil at last Settlement. But the latter figure is not very reliable as the number of cattle was undoubtedly under-estimated. Still so far as it goes it confirms the belief that the land has not been over-classed in the new measurements and in a matter of this kind it is as well to be on the safe side.

21. The following table illustrates the distribution and density of the population :—

Population and tribes (Statements VI and IX.)

	Total population.	Per cent increase since settlement.	Per cent increase since 1891.	Average population per square mile of total area (exclusive of Government Forests).	Average population per square mile of cultivation.
Dhangar ...	20,246	36	4	312	749
Rash ...	35,964	76	7	580 (454)	1,160 (909)
Tanawal ...	41,198	70	10	273	936
Nilan ...	7,261	32	6	279	1,037
Dhan ...	4,766	63	17	265	953
Lora ...	10,450	60	12	276	1,045
Dhaka ...	39,382	95	22	290	1,064
Boi ...	17,758	69	15	301	710
Bakot ...	16,842	94	24	286	842
Total Tahsil ...	198,867	71	13	316 (303)	941 (903)



The figures in brackets show the density in the Rash circle and the whole tahsil after the exclusion of the population of the Abbottabad Municipality and Cantonment amounting to 7,776 souls, which is mainly non-agricultural. Even with this deduction the average pressure on the soil is very heavy and is in fact higher than in any other tahsil in the Province or than in any district of the Punjab, with the exception of Simla and Montgomery. It may be compared with the average of 631 and 831 in the Haripur and Mansehra tahsils, respectively, and with the 778 of the Hangu Tahsil of Kohat, which appears to have the highest average of other districts in this Province. The large area of waste of course relieves this pressure considerably; but in many villages throughout the tahsil the excessive density is a serious matter and in Tanawal, Boi and Nilan, especially, there are signs of overpopulation.

The main tribes, as Statement VI will show, are the Awans, Dhunds, Karrals, Pathans, Sararas and Tanaolis. The Awans, who own 10 per cent of the cultivated area of the tahsil, are most numerous in Tanawal and Dhaka. They are good cultivators, industrious and, as a rule, well-behaved. The Tanaolis are equally industrious but somewhat more quarrelsome and litigious. They own 11 per cent of the total cultivated area and are almost entirely confined to the Tanawal circle. The Dhunds and Karrals own 15 and 12 per cent of the total cultivated area respectively. The former are found chiefly in Dhaka, Bakot, Boi, and Lora, and the latter in Dhaka, Boi, Nilan and Dhan. They are both average cultivators but are much given up to faction and intrigue and are apt to ruin themselves by litigation and extravagance. The Dhunds are the more intelligent and where they have the sense to avoid quarrelling amongst themselves and bringing false charges against each other are prosperous and useful members of the community. And in justice to the Karrals it should be said that the faults above noted are confined chiefly to the bigger men and that the poorer proprietors, notably those of the Boi ilaqa, are usually inoffensive and well-behaved.

The Pathans are almost entirely Jaduns, who own most of Rash and Dhangar and are also found in Tanawal, Dhaka, and Nilan. Twenty-six per cent of the total cultivated area is in their hands. They are a proud tribe and will not demean themselves by coolie labour. Average cultivators like the Dhunds and Karrals they too are apt to waste their heritage in litigation and extravagance. The Sararas are a poor tribe inhabiting the Boi Circle, hard-working and docile. They own 5 per cent of the total cultivated area of the tahsil. Besides the above there are a fair number of Gujars scattered throughout the tahsil, both as proprietors and tenants. They are as a rule good cultivators and, true to the traditions of their race, keep numerous cattle. Saiads also are to be found in all circles and as usual are a lazy and improvident lot. The best cultivators of the tahsil are the Malliars, who are to be found chiefly on the *bagh* lands of Dhangar and Tanawal; and almost equally industrious and thrifty are the Sikh Brahmans, who both as owners and tenant, cultivate land in Dhaka, Nara, Lora and Bakot. The  $1\frac{1}{2}$  per cent of the cultivated area which is owned by non-agricultural Hindus and Sikhs is mainly in Dhangar, where some big *sahukars* have acquired considerable areas of land from Jaduns who are in their debt.

22. The main line of communication is the tonga road from Hassan

#### Communications and markets.

Abdal to Abbottabad, Mansehra and Kashmir which traverses the lower portion of the Dhangar circle and the whole of the Rash. From Abbottabad a branch strikes off to Dhamtaur and there narrows into a riding road which leads to Murree through the Galis. Other roads maintained by the Military Works Department are one to Handiani from Nawanshahr, and another, which runs from Abbottabad through the Tanawal hills, crosses the Siran at Seri Sher Shah and eventually finds its way to Darband in the Nawab of Amb's territory. These roads are rideable throughout their length but the same can hardly be said of the district roads, of which the chief are two leading from the Dor Valley through the Lora and Nara hills to Murree, and one that runs from Garhi Habibullah along the Kunhar and Jhelum to Kohala. At the last named place the Kashmir-Murree tonga road crosses the Jhelum and passes for some distance through the lower portion of the Bakot circle as does an older and shorter road from Kohala to Murree. Mention should also be made of the continuation of the former road from Murree to Rawalpindi which though it does not actually enter the

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district skirts the eastern boundary of the Lora circle for some distance. The projected railway from Serai Kala to Kashmir through the Dor Valley and Rash will of course immensely improve the communications of the centre of the tahsil. Of all the circles Boi is the most difficult to travel in and has no road deserving the name except that along the Kunhar. Bakot is somewhat more accessible for it is served by the Murree roads and has also a passable track running down to Kohala from Nathiagali. But in the cold weather both these circles are cut off from the rest of the tahsil, and the only convenient means of getting to them is by Garhi Habibullah or Murree.

23. The chief markets are Nawanshahr and Dhamtaur, where a number of

Trade.

wealthy sahukars reside, who do a large trade in grain, *ghi*, and other products, and whose operations extend beyond the limits of the district to Rawalpindi and Peshawar on the one side and Kashmir on the other. But owing to the distances and the difficulty of the country there are numerous small centres of trade in outlying tracts to which the local produce is brought. Of these the chief are Rajoia and Sultanpur in Dhangar, Sherwan, Bir and Kachhi in Tanawal, Langrial in Nilan, Sajkot in Dhan, Satora and Lora in Lora, Nagri Tutial in Dhaka, Kohala in Bakot (though for administrative purposes it is in the Rawalpindi District) and Dalola in Boi, of which circle, however, the principal market is Garhi Habibullah; and in the hot weather each hill station has its bazaar to which the bigger traders send their agents.

The only grain exported from the tahsil is the rice of the Bakot Circle, which goes to Murree and Rawalpindi. What surplus there is of other grains is disposed of within the tahsil itself, in the Abbottabad cantonment or the hill stations. Such of the potatoes grown on the Dungagali Range as are not required in these stations find their way to Murree and Rawalpindi. From Dhangar there is some export of turmeric and *gur*, from Bakot and Dhaka of walnuts, and from Lora of pears. *Ghi* is sent to the Punjab in considerable quantities from all the hill circles and there is also a small trade in hides. Of imports the chief are cloth, salt, *gur* and tobacco, and wheat is fetched from Haripur and elsewhere to provide the demands of the cantonments. But, generally speaking, if we exclude what is due to the presence of the troops the volume of trade is less than that of the two other tahsils owing to the inaccessibility of the country, the excessive density of the population and the absence of large fertile tracts like the Pakhli and Haripur plains.

24. The increase per cent in agricultural stock since last Settlement is shown below :—

Agricultural stock (Statement 1X).

					Horned cattle.	Sheep and goats.	Horses, mules, donkeys and camels.	Ploughs.
Dhangar	...	...	...	...	78	160	180	36
Rash	...	...	...	...	97	225	186	52
Tanawal	...	...	...	...	130	158	97	57
Nilan	} Nara-Lora	...	...	...	27	93	79	40
Dhan		...	...	...	9	201	30	36
Lora		...	...	...	60	377	13	57
Dhaka	...	...	...	...	107	300	20	102
Boi	...	...	...	...	123	228	100	71
Bakot	...	...	...	...	137	329	45	93
Total Tahsil	...	...	...	...	97	213	99	65

Some of these increases are quite impossibly high and there can be no doubt that as noted by Captain Wace on page 97 of his Report the figures of last Settlement were much below the mark. But that there has been a large increase is beyond question, especially as regard sheep and goats. The numbers of the last named are in fact a serious evil and the bareness of many of the hills,



particularly in the Nara-Lora and Dhaka Circles, is a witness to the damage which they do in preventing reproduction. And such damage is aggravated by the visits of the Kagan flocks to these circles and to Tanawal and Bakot in the cold weather.

It will be noticed that there is in most cases a considerable falling-off in the figures since the enumeration of 1899. But I believe that the decrease is in the main nominal only and due to more accurate returns; and probably the figures for sheep and goats in 1899 were swelled by the inclusion of the Kagan flocks. Still owing to recent seasons and particularly the year 1902, when the supply of grass was very scanty, the normal rate of increase has no doubt been retarded of late years.

I give below the average number of cattle per head of population and the acreage of waste per head of cattle in each circle. Waste I have taken to mean *banna*, *dhaka rahh*, *dhaka charagah*, *dhaka darakhtan*, *banjar qadim* and *banjar jadid*, all other unculturable land being excluded as well as Government forests, and each head of cattle is calculated as described in paragraph 20.

	Dhangar.	Rash.	Tanawal.	NARA-LORA.			Dhaka.	Boi.	Bakot.	Total Tahsil.
				Nilan.	Dhan.	Lora.				
Number of cattle per head of population	·9	·5	·8	·9	1·2	1·1	·9	·9	1·0	·8
				1·0						
Acreage of waste per head of cattle ...	1·0	·9	1·8	1·8	1·9	1·4	1·5	1·2	·7	1·4
				1·6						

It will be seen that the number of cattle in proportion to the population is greatest in Lora and smallest in Rash, where the cantonment and municipality figures of course lower the average. The averages of waste acreage show how its value varies in different circles, the fine grass lands of Bakot, for instance, being able to support far more cattle than the stonier and drier hills of Tanawal. In Rash the deficiency of grazing ground is made up for by the abundance of maize stalks available for fodder.

25. The proprietary tenures of the tahsil are classified into 32 *zamin-dari*, 154 *pattidari*, and 173 *bhaiachara*

Proprietary tenures (Statement No. VI.)

By *zamindari* estates I mean those in which the whole of the land is owned by one proprietor or is held in common by two or more sharers. Most of these are to be found in Tanawal. *Pattidari* denotes those estates where the revenue or most of it is paid on ancestral or customary shares and *bhaiachara* where it is paid on possession. These are fairly equally distributed through all the circles except Boi, where they are all *pattidari*. There is now a general desire throughout the tahsil to pay revenue on possession without regard to shares.

Appendix C shows the average cultivated area owned by each proprietor in villages which are to a large extent cultivated by those proprietors themselves. Big holdings, which tend to confuse and vitiate the figures, are thus in the main excluded. The average for the tahsil, 3·3 acres, compares unfavourably with the 5·6 acres of Haripur and the more extensive and valuable area of waste hardly makes up for the deficiency. The comparatively high figure of the Boi Circle, which has also far the highest percentage of *khudkasht* land, is misleading because of the very large proportion of inferior soil, and Rash and Dhangar are in fact best off in this regard. Bakot is fairly well off too in reality, for as it has few very big holdings and its proprietors are all more or less on a level the average of 5·4 acres obtained by dividing the total number of proprietors into the total cultivated area is more instructive than that given in the Appendix. It should be noted further that the proprietors generally are not quite so straitened for land as would appear from these figures, since many of them own property in more villages than one, or are owners in one village and occupancy tenants in other, or within their



own village cultivate the land of other proprietors as tenants-at-will. This is largely the case in Dhangar, Rash, Tanawal, Lora and Dhaka. It is impossible to say what allowances should be made on this account, but in any event there can be no doubt that the average proprietor's cultivated holding is of an unusually small size.

In Statement VI will also be found figures showing the numbers of *malik gabzas*, proprietors that is who are liable for the revenue on their own holdings but have no share in the common land of the village. They have in the main acquired their title by purchase, the vendors jealously reserving rights in the *shamilat* which are often of great value. They constitute 18 per cent of the total number of proprietors and are composed largely of village menials or Hindu money-lenders.

26. The miscellaneous assets of the tahsil consist in the main of the income from Government and other service and from daily labour, and of profits from cattle, from the sale of grass, wood, honey and fruit and from the seigniorage paid on timber felled in Government forests.

The total income derived by proprietors from Government service is about Rs. 72,500 a year, of which 52 per cent goes to Tanawal, 15 per cent to Rash and 11 per cent each to Nara-Lora and Dhaka. Boi, Dhangar and Bakot take 6, 4, and 1 per cent, respectively. The service is chiefly in the various departments of the army and in the police. It is distributed among all the main tribes but is most popular with the Tanaolis. By persons other than proprietors (exclusive of course of the troops) a sum of Rs. 59,700 is derived from the same source. Owing to the numerous cantonments and hill stations a good sum of money is also made through domestic service and daily labour by the villages in their vicinity.

The main profits from cattle are derived from their milk which is made into butter and is usually sold by the zamindars in that form, being converted into *ghi* by the traders who purchase it. The following is a rough calculation of the income from this source :—

In a period of 15 months a buffalo is in milk for 8 months, or say 6 months in the year and its average yield of milk may be estimated at 3 sers a day. Each ser of milk produces about 1 chitak of butter and the result of the calculation shows that each buffalo provides about 34 sers of butter in the year. In the same way a cow is in milk for 6 months for a period of 14 months or 5 months in the year. Its average yield of milk may be put at  $1\frac{1}{2}$  sers a day, and each ser of milk produces  $\frac{1}{2}$  chitak of butter. The total amount of butter provided by a cow in a year is therefore about 7 sers. The market price of butter is 2 sers a rupee; hence, taking the total number of cow buffaloes and cows in the tahsil we find that the total value of the butter produced is Rs. 6,12,900. I exclude goats' milk from the calculation, partly as a set off against the number of cows and buffaloes that may be barren and partly because the milk is largely consumed by the zamindars themselves and not made into butter at all. Most of the butter manufactured is sold to *sahukars* or given them in discharge of debts, for, except on the occasion of a marriage or a funeral, it is only the wealthier zamindars who use *ghi* to any great extent, and they do not as a rule possess many cattle. A certain amount of butter, however, is given to proprietors by their tenants as part of their dues. On the whole we shall not be far wrong if we estimate the total value of the *ghi* that is sold at 5 lakhs of rupees.

A reference to paragraph 38 of the Mansehra Report will show that my calculation is somewhat different from that of Captain Beadon. But, I think, he was in error in assuming that only one quarter of the cows and buffaloes are in milk every year, as a barren animal is usually killed or sold for butcher's meat as soon as possible. I think also that Captain Beadon somewhat over-estimated the amount of *ghi* required for home consumption. Otherwise my estimates are on a somewhat lower scale than his.

The villagers near cantonments make considerable profits by selling milk there, but these may be included in the above total. There is little else made out of

livestock in this tahsil in a commercial way. A number of goats are purchased for food by residents in cantonments, and the hides of cattle are sold, but to nothing like the extent that prevails in Mansehra. Other products are reserved for local consumption. Sheep's wool and goats' hair are manufactured, the former into clothing and blankets, the latter into ropes; and goats' skins are used for the conveyance of grain and flour to and from the water mills. Grass is sold in large quantities in Abbottabad and Nawanshahr from the surrounding villages, and wood is brought there from numerous villages in Tanawal and Dhaka. The denudation of the village wastes, which the latter traffic causes, is a serious matter, and efforts have been made to check it by restricting the sale to headloads and by other measures. This has diminished the quantity brought in, but it has also raised the price of the loads, so that the total profits are not much decreased.

Some money is made in the Boi, Bakot and Dhaka circles by the sale of honey, walnuts and the fruit of the *amlak* or European date plum, and in Lora and Nilan by the sale of pears, but the total sum realised cannot be large. It is worth noting, however, that in Boi one small village pays its revenue to the jagirdar entirely in honey instead of in cash.

Lastly, there is the income from the seigniorage paid to villages on the trees felled in the Government forests within their limits. During the last three years the average amount realized on this account is Rs. 3,233, and owing to increasing demands and the inauguration of a stricter conservancy of village forests it will probably reach a higher figure in future years. Most of this money goes to the Dhaka Circle, and almost all the rest to Bakot and Boi, but in the latter circle the jagirdar takes a half share.

The total annual miscellaneous assets of the tahsil may then be reckoned as follows:—

	Rs.
Government service ... ..	2,32,300
Other service and daily labour, say ... ..	30,000
Butter, ghi, milk ... ..	5,00,000
Hides, fruit, &c., say ... ..	5,000
Wood and grass, say ... ..	15,000
Seigniorage ... ..	3,200
Total ...	7,85,500

The above of course is in most respects an exceedingly rough calculation, but it is fairly certain that it is not exaggerated.

It remains to apportion these assets between proprietors and others, and between the various circles. Taking the number of self-cultivating proprietors into consideration, the circumstances of these and their tenants, the cattle enumerated in each circle and other matters I arrive at the following estimate:—

		Government service.	Other service and daily labour.	Butter, &c.	Hides, &c.	Wood and grass.	Seigniorage.	Total.	Per head.
Dhangar	Total ... ..	13,500	1,000	44,500	...	500	...	59,500	2.9
	Proprietors' share ... ..	6,500	200	14,800( $\frac{1}{2}$ )	...	100	...	21,600	6.4
Rash	Total ... ..	38,000	12,000	41,400	...	2,000	20	93,420	2.6
	Proprietors' share ... ..	25,460	4,000	13,800( $\frac{1}{2}$ )	...	600	20	43,880	10.6
Tanawal	Total ... ..	1,24,800	1,000	98,400	1,000	4,500	...	2,29,700	5.6
	Proprietors' share ... ..	90,700	800	65,600( $\frac{2}{3}$ )	800	3,000	...	1,60,900	20.2
Nara-Lora.	Total ... ..	22,200	2,000	70,400	500	1,500	10	96,610	4.3
	Proprietors' share ... ..	18,200	500	23,500( $\frac{1}{2}$ )	100	500	10	42,810	11.7
Dhaka	Total ... ..	20,500	8,000	1,33,500	2,000	5,000	2,340	1,71,340	4.4
	Proprietors' share ... ..	19,300	3,000	66,700( $\frac{1}{2}$ )	1,000	2,500	2,340	94,840	12.7
Boi	Total ... ..	10,400	1,000	53,200	500	500	540	66,140	3.7
	Proprietors' share ... ..	10,100	900	35,500( $\frac{2}{3}$ )	400	400	270	47,570	12.6
Bakot	Total ... ..	2,900	5,000	58,600	1,000	1,000	290	68,790	4.1
	Proprietors' share ... ..	2,800	1,000	11,700( $\frac{1}{2}$ )	200	200	290	15,690	6.7
Total tahsil.	Total ... ..	2,32,300	30,000	5,00,000	5,000	15,000	3,200	7,85,500	4.1
	Proprietors' share ... ..	1,72,560	10,400	2,31,600	2,500	7,300	2,930	4,27,290	13.1



Thus the total miscellaneous profits of the proprietors work out to something over 4 lakhs.

27. In Statement VI will be found statistics of the area at present under mortgage, but it will be convenient

to bring together here the figures of the percentages of cultivated area so held and the average price realised :—

					PERCENTAGE OF CULTIVATED AREA MORTGAGED			Average price.
					To agriculturists.	To non-agriculturists.	Total.	
Dhangar	...	...	...	...	8.4	4.9	13.3	67
Rash	...	...	...	...	13.5	9.1	22.6	107
Tanawal	...	...	...	...	9.3	5.4	14.7	85
Nilan	Nara-Lora	...	...	...	5.9	2.3	8.2	132
Dhan					5.2	.8	6.0	80
Lora					5	2.4	7.4	71
Dhaka	...	...	...	...	8.3	4.3	12.6	94
Boi	...	...	...	...	4.3	2.7	7	61
Bakot	...	...	...	...	2	.6	2.6	89
Total Tahsil					7.9	4.5	12.4	89

At last Settlement Captain Wace gives 3.2 as the percentage of cultivated area under mortgage and Rs. 27 as the average price. As shown in Statement V the average price of the last six years is Rs. 101, and we may therefore conclude that both figures have nearly quadrupled in the last thirty years. The figures of Statement V indicate a steady and almost universal rise of price. They also show a notable increase in the proportion of redemptions, the cultivated area redeemed in the period between 1886 and 1893 being 32 per cent of the cultivated area mortgaged, in that between 1893 and 1899 64 per cent, and in that between 1899 and 1905 81 per cent. This may in part be due to the growing accuracy of the returns and the observance of the rule that where land is mortgaged to the same mortgagee for an enhanced sum the original mortgage should be recorded as redeemed, but in any case the figures of the total area under mortgage and the increase in recent years are not alarming, and point to a fairly healthy state of affairs. In no circle as a whole, and in very few villages in particular, are the mortgages a sign of impoverishment. As might be expected they are most numerous in Rash, where most of the wealthiest Hindus of the tahsil reside, and the Jadun proprietors are an extravagant and litigious lot. They are least numerous in Dhan, Lora, Bakot and Boi, in the first three largely, because the proprietors are in good circumstances, in the last because the tract is too poor and inaccessible to induce investments of this kind.

That the sales tell the same story as the mortgages, the following percentages and average prices in each circle indicate :—

					PERCENTAGE OF CULTIVATED AREA SOLD SINCE SETTLEMENT.			Average price.
					Total.	To non-agriculturists.	To agriculturists.	
Dhangar	...	...	...	...	5.5	3.4	8.9	65
Rash	...	...	...	...	5.2	2.6	7.8	186
Tanawal	...	...	...	...	8.6	1.3	9.9	74
Nilan	Nara-Lora	...	...	...	7.5	.9	8.4	95
Dhan					8.3	.1	8.4	72
Lora					10.7	1.3	12.0	70
Dhaka	...	...	...	...	9.8	.6	10.4	100
Boi	...	...	...	...	22.3	4.1	26.4	37
Bakot	...	...	...	...	6.8	.2	7.0	124
Total Tahsil					9.4	1.9	11.3	81



It will be observed that the total area recorded as sold is less than the total of that sold during the last nineteen years according to Statement V, but this seeming anomaly is due to the fact that sales of the same land a second time are excluded from the first Statement. Statement V shows a remarkable increase in the average price of land during recent years, which in some circles has more than doubled. In Rash the high figures, which exceed those of any circle in the district except Maidan Hazara Uta in Haripur Tahsil, are partly due to the prices paid for land compulsorily acquired for the extension of the cantonments, *bari* fetching in these cases some Rs. 400 an acre, and *maira* from Rs. 200 to Rs. 350, and generally of course among a population so litigious the amounts are intentionally exaggerated to defeat the claims of pre-emptors. But of the increasing value of land, which may be accounted for partly by the rise in prices and partly by the growing pressure of the population on the soil, there can be no question. At last Settlement the average selling price per acre cultivated is stated to be Rs. 22 only.

In the Boi Circle alone is the proportion of the area sold somewhat high, and this is due no doubt to the very poor circumstances of a number of the villagers. Alienations to non-agriculturists are throughout very small, and only in Dhangar and Rash do permanent transfers to Hindus exceed 1 per cent of the cultivated area. But it must be remembered that except in these two circles there is not much in the tahsil to tempt a would-be vendee unless he is himself an agriculturist or owner of cattle.

28. The total unsecured debt owed by proprietors, so far as it could be ascertained, is shown in the following table:—

							Total unsecured debt.	Average per pro- prietor.
							Rs.	Rs.
Dhangar	...	...	...	...	...	...	1,06,500	32
Rash	...	...	...	...	...	...	1,28,550	31
Tanawal	...	...	...	...	...	...	2,23,250	28
Nilan	} Nara-Lora	...	..	...	...	...	48,350	42
Dhan							32,100	38
Lora							40,050	25
Dhaka	...	...	...	...	...	...	1,58,550	22
Boi	...	...	...	...	...	...	40,550	11
Bakot	...	...	...	...	...	...	19,600	8
Total Tahsil							7,97,500	24

Interest is commonly taken in grain and varies from 1 *odi* to 2 *odis* in the rupee per annum; in Boi and the northern parts of Bakot and Dhaka it is usually the latter, in the rest of the tahsil the former. An *odi* varies in weight from 4 to 5 sers of grain, and, roughly speaking, these rates are equivalent to 25 to 50 per cent, respectively. Cash interest is not as a rule paid at all in the tracts where 2 *odis* of grain are taken; in other parts the cash rate is usually 1 pice or 2 pice in the rupee per mensem, *i. e.*, either Rs. 18-12 or 37-8 per cent. per annum, in accordance with the circumstances of the debtor. We shall perhaps not be far wrong if we assume that the total amount of annual interest due is about Rs. 2,50,000, or a little under 29 per cent of the debt and thrice the present revenue of the tahsil. This figure is