

63. *Nahri*.—Nahri land represents 4 per cent of the total cultivated area of the tahsil. It is confined to the Nala circle in which it constitutes 9 per cent of the cultivated area. 7,890 acres of nahri land produce on an average 7,422 acres of matured crops, *i.e.*, 100 acres of land produce on an average 94 acres of matured crops. The chief crops grown on nahri land are shown below with their percentages on the total nahri matured area of both harvests :—

*Kharif.*

Maize.	Jowar.	Bajra.	Cotton.	Fodder.	Others.	Total
32	2½	3	8	6	½	48

*Rabi.*

Wheat.	Barley.	Oil-seeds.	Fodder.	Others.	Total.
89	7	3	2	1	52

It will be seen at once that the nahri land is far less valuable than the chahi land as no sugarcane or tobacco and hardly any vegetables or spices are grown. Double cropping is seldom resorted to except near the village sites where manure can be easily obtained. The most common form of it is for maize to be grown after wheat or barley. The *ek-fasli* land is sometimes cultivated for two harvests in succession and then left fallow for two harvests as in the case of barani land.

64. *Abi*.—The most important abi land is in the villages of Hasan Abdal and Wah and is highly cultivated. 1,209 acres of abi land in the whole tahsil produces on an average 1,928 acres of matured crops, *i.e.*, 100 acres of land produces 159 acres of matured crops. In the kharif the most important crop is maize (4½ per cent.), followed by sugarcane (paundha) (3·2 per cent). In the rabi we find wheat (18 per cent), barley (10 per cent) and tobacco (4·2 per cent). The abi lands round Hasan Abdal and Wah are probably quite as good as the chahi land of the Chhachh and usually are as well cultivated. The other abi lands are not of such good quality and are not so well cultivated or so heavily manured, and in times of drought the water supply is rather uncertain.

65. *Sailab*.—There are 1,960 acres of sailab in the tahsil which produce on an average 1,425 acres of matured crops. 100 acres of land thus produces 73 acres of matured crops, which is very slightly higher than in the case of barani. Most of the sailab is the chel land in the northern part of the Sarwala circle (*vide* paragraph 16 above). This land grows practically nothing except jowar and chari and occasionally a little maize and cotton. It is usually too water-logged in the winter for any rabi cultivation. The sailab in the Nala tract grows chiefly wheat, maize, chari and bajra. This land as has already been explained is mainly found in patches along the edges of the Haro river and its tributaries.

66. *Barani*.—There are 173,122 acres of barani land in the tahsil, representing 87 per cent of the total cultivated area. This produces on an average 123,032 acres of matured crops, *i.e.*, 100 acres of land produces 71 acres of matured crops. Kharaba averages 21 per cent of the sown area. The kharif constitutes 20 per cent. of the total matured area. Of this bajra comprises 10 per cent. Fodder comes to 3 per cent, while maize, jowar, moth and mung each constitute between one and two per cent. The rabi is 80 per cent and by far the most important crop in it is wheat (59 per cent). After this come oil-seeds (9 per cent), and gram (7 per cent).

The areas (in acres) of the different kinds of barani land in the tahsil are given below :—

			Lipara.	Las.	Maira.	Rakkar.	Total Barani.
1902-08	...	...	4,167	11,668	146,363	11,295	173,493
1923-24*	...	..	3,466	11,360	143,166	10,286	168,228

The decrease in lipara is due to the large number of new wells which have been sunk. In the las of the Nala and Sarwala and in the firmer maira we often find the do-fasli-do-sala system, i. e., wheat or occasionally barley is followed by some kharif crop, usually bajra or chari. The land is then left fallow for two harvests and ploughed regularly whenever there is rain. This system is sometimes also followed in the lipara land, but the soil being richer more than two crops in two years are frequently taken. In the las and the better maira of the Chhachh wheat is often grown for several years in succession, though in time a change has to be made to prevent exhaustion of the soil. In the lighter sandy soils cultivation is almost entirely confined to the rabi as they do not seem to be suitable for bajra and jowar. If anything is sown in the kharif at all it is usually moth. The zamindar likes to grow wheat and gram alternately, but so many of them have become discouraged by the heavy gram failures of recent years that they frequently prefer to let the land lie fallow for a year after wheat has been grown once or twice instead. Most of the rakkar land and a good deal of the poorer maira is not sown at all in a bad year. The rakkar being often sloping land from which the water drains off quickly is the first to suffer when the rains fail. For this reason it is very seldom cultivated in the kharif as the summer rains are more unreliable and a break then causes the crops to dry up more quickly than in winter. The crop which does best on rakkar is taramira.

67. In the Chhachh the cultivation is nearly always excellent. Where the do fasli-do-sala system is followed the land is ploughed 10 or 12 times before the wheat is sown. In other cases it is usually ploughed four times for wheat, twice for barley and gram and once for moth, mung, taramira, etc. In the Sarwala the cultivation is rougher. The light sandy soil of the centre and much of the north of the circle requires very little ploughing and probably gets sufficient. The stiffer soils to the south want more and do not always get it as the tenants find they can employ their time more profitably doing other things. In the Nala the rather firm loam requires more ploughing than that of the Chhachh. The owners themselves are usually industrious but the weak point is the large area cultivated by occupancy tenants paying at batai rates. Many of these, especially in the villages near the Grand Trunk Road and the road to Abbottabad, neglect their ploughing for the carrying trade, etc., while all over the circle most of the *bands* which make the las land are in a chronic state of disrepair,—a striking contrast to the excellently designed and beautifully kept *bands* of most of the Tallagang tahsil.

Except on the chahi and abi land and on the las and better maira of the Chhachh very little systematic weeding is done. It is true that in the winter one continually sees children out in the fields pulling up thistles and other indigenous plants, but these are only collected for use as fodder for the cattle and it is doubtful if the practice benefits the crops to any appreciable extent.

68. The very high percentage of gram kharaba of late years is the cause of bitter complaints by the zamindars. They say that now-a-days more often than not the gram is withered by cold winds just after it has flowered. Further they assert

\* These figures include those given by the new measurements in 119 villages and the most recent jama band figures for the remainder.



that this was not the case at last settlement. The matter has been referred to the Agricultural College at Lyallpur and I understand the specialists there are inclined to the view that these failures are due to some fungus which attacks the gram, but no definite conclusion has yet been reached. It is impossible to say, therefore, whether the disease, if it is one, can be cured or prevented. Similar symptoms are found to some extent in the gram area of the Pindigheb tahsil and to a lesser extent in Tallagang.\* In matters of this sort statements of zamindars that affairs are much worse than they were 20 years ago always have to be treated with considerable caution, so to find out whether there was any truth in their complaints I have had the available kharaba figures for wheat, gram and taramira in the Sarwala circle worked out and tabulated. The result is given below :—

<i>Average percentage of kharaba on sown area.</i>			
<i>Period.</i>	<i>Wheat</i>	<i>Gram.</i>	<i>Taramira</i>
1897—1904	19	23	30
1905—1924	15	52	25

These figures are very striking. It will be seen that the average kharaba in the case of gram, which was considerably less than that of taramira and only slightly more than that of wheat during the eight years ending 1904, is now more than twice that of taramira and nearly  $3\frac{1}{2}$  times that of wheat. This certainly tends to show that the abnormally high rate of gram failure is a comparatively recent development. A similar conclusion is reached by an examination of diagram No. 8. Between 1897 and 1904 the graph of wheat kharaba is sometimes above and sometimes below that of gram. During the next three years wheat was good and gram was practically a total failure. Ever afterwards, with very few exceptions, the gram kharaba has been far the higher of the two. The exceptions are all years of poor winter rainfall when the wheat kharaba was high. The worst years for gram, on the other hand, have usually been those in which the winter rains have been good and the wheat has done well.

As an example of a Chhachh village which has been affected in this way I went into the case of Panjwana. There also the years 1905 to 1907 were disastrous for gram and after that very little was sown and a lot of land went out of cultivation. This is exhibited very clearly in diagram No. 7. These gram failures are a serious matter for the very light, sandy soils of the Sarwala and parts of the Chhachh, because these can grow very little else successfully. Though wheat is grown the outturn is very poor and the land has constantly to be given a rest or gram to be sown in rotation in order to revive such little fertility as it possesses. The elimination of gram as an economic proposition is thus probably responsible for the considerable decrease in cultivation which has taken place in these very light soils.

#### PART V.—TENANCIES AND RENTS.

69. In statement No. VII details of the areas cultivated by owners and the different classes of tenants are given.

*Area cultivated by owners.* It will be seen that in each circle there has been a very slight decrease in the area which the owners cultivate themselves. In the Chhachh this decrease is from 33 per cent of the total cultivated area to 36 per cent, in the Sarwala from 23 per cent to 22 per cent and in the Nala from 25 per cent. to 24 per cent. It is difficult to assign any definite reason for this decrease, but it is at any rate partly due to the grant of mukarraridari or ordinary occupancy rights to tenants and others who have sunk wells.

70. Occupancy tenants in this tahsil for the most part come under section 6 of the Punjab Tenancy Act. In the Chhachh they hold 32 per cent of the cultivated area, and on 26 per cent out of this 32 per cent they pay cash rents. These cash rents were fixed by Major Cracroft during the first regular settlement in about 1860. He had to dispose of a very large number of cases of dispute about the amount of the rent paid. In some cases he decreed the land revenue and cesses plus a malikana, which usually varied from 2 annas to 8 annas per

\* In the Tallagang tahsil the average percentage of kharaba on the sown area for the selected years is 30 for gram as against only 18 for wheat.

rupee on the land revenue. The large majority of cases in the Chhachh, however, were decided by compromise, the parties appointing arbitrators. The rents then agreed upon were sometimes very complicated \* and seem to have been based upon ancient methods of calculation peculiar to the Pathans. The commonest form is a rate per acre sown in the kharif and another rate per acre sown in the rabi. In general the rabi rate is higher than the kharif rate. In some villages we also find rates fixed with reference to the kind of crop grown, while in Ghurghushti this type of rent is combined with an ordinary batai rate on certain crops. All these rents were probably full economic rents at the time they were originally fixed, but prices have risen since then by about 100 per cent, which has made them very light. In the large majority of cases they are the same now as they were when Major Cracroft first fixed them, except that, in a number of villages where the owners have been strong, certain customary deductions which used to be made for failed areas and areas left unsown have now been abolished. The increase due to this cause Mr. Butler estimated at about 15 per cent to 20 per cent†.

In the Sarwala circle 28 per cent of the cultivated area is held by occupancy tenants. 20 per cent pay at batai rates and the remaining 8 per cent pay cash rents. The batai rents are mostly found in the southern part of the circle and the cash rents in the villages bordering on the Chhachh. The latter are generally similar to those found in the Chhachh. The usual batai rate paid by occupancy tenants in the Sarwala is  $\frac{1}{2}$ , though  $\frac{2}{3}$  is sometimes found. Except on irrigated land, the straw taken is generally limited to a bullock-load or so per plough.

In the Nala circle 34 per cent is now cultivated by occupancy tenants. On 27 per cent out of this 34 per cent batai rents are paid. The rates vary very considerably. In the sandy land in the north-west corner of the circle where it adjoins the Chhachh and Sarwala circles  $\frac{1}{4}$  is often found. Generally in the Trer villages to the west the rate is  $\frac{1}{2}$ . Coming further east we find  $\frac{2}{3}$  and  $\frac{3}{4}$ , though the better land near the village often pays  $\frac{1}{2}$ . Still further east  $\frac{1}{2}$  is always paid on nahri and usually on all classes of barani. In this circle the wheat and bajra straw is not usually shared. The straw of moth is generally shared only when it is grown for fodder. Jowar is nearly always grown for chari and is shared in the same way as the grain. The owners, however, frequently take dues of some kind, instead of their share of the bhusa. In some villages this takes the form of one bullock-load of bhusa per cultivated holding or plough. In others a share of maize or bajra straw has been replaced by a fixed cash payment of one rupee per plough.

71. The mukarraridari tenure is peculiar to the Attock district. In this tahsil the mukarraridar in almost all cases obtained his rights by sinking a well. The position will be made clearer by taking a couple of typical instances—

Mukarraridars.

(i) A is a Maliar, who by industry and thrift has saved up some money and wishes to secure some permanent rights in the land; or he is an Awan tenant-at-will who has been on service. B is a land-owner with plenty of land, but, owing to his extravagant habits or lack of enterprise, he is unable or unwilling to sink a well himself. An agreement is struck between the two with the following conditions: A sinks a well entirely at his own expense and is responsible for its upkeep and all the cost of cultivation. He also pays B a lump sum down, or "pagri", of Rs. 150 and binds himself to pay rent for ever after at the rate of Rs. 16 per acre as soon as the land becomes irrigated. This class of cases is very common in the Sarwala circle, especially in the villages near Campbellpore. A benefits by getting a permanent interest in the land, which he never had before, and a good investment for his money. B gets a largely increased rent and also gets the benefit of the protective lease allowed by Government on the well.

(ii) A is a money-lender who has got B, a small land-owner, into his clutches. A suffers from the greed common to his class, but is prevented by the Alienation Act from obtaining possession of B's land. They come to an

\* Vide paragraph 867 of Major Cracroft's Settlement Report of the Rawalpindi district.

† Paragraph 29 of Mr. Butler's Final Settlement Report of the Attock tahsil.

agreement. *A* sinks the well and obtains mukarraridari rights. He pays *B* a fixed rent which is usually much smaller than in (i). Frequently it is not more than Rs. 8 per acre. The "pagri" he pays is probably large and may amount to Rs. 600 to Rs. 800, but it is really a debt of doubtful value consisting largely of accumulated interest. These cases are not uncommon in the villages round Hazro, where holdings are small and money-lenders numerous and rapacious. The amount of the "pagri" paid is nearly always concealed, and it is not always easy to obtain the sanction of the Collector required by the Land Alienation Act. The amount of the "pagri" paid varies very considerably, as also do the rents agreed upon. Thus in Akhori, an average village in the west of the Nala circle, a Hindu in 1912 paid Rs. 200 for mukarraridari rights in about 8 kanals of land, the rent being fixed at Rs. 24 per acre per annum. In addition to this, he had to construct a jhalar, which was expensive. Early this year he bought mukarraridari rights in 11 kanals 11 marlas more land on the same jhalar for a further sum of Rs. 400, agreeing to pay Rs. 32 per acre rent. In the same village a Maliar recently obtained mukarraridari rights in 21 kanals by constructing a jhalar which cost about Rs. 1,200 to Rs. 1,500 and he now pays a rent of Rs. 32 per acre. These rates, however, are above the average. A great many new mukarraridars have come into existence by sinking wells near Campbellpore. There the usual rate of rent fixed is about Rs. 20 per acre. Pagris vary.

In the Nala circle mukarraridars are less common. Where they exist they are usually old tenants-at-will, tarkhans, nais, mochis, maliars, awans, etc.—and are hard-working and good cultivators.

72. The exact legal position of the mukarraridar has always been a difficulty. His status is superior to that of an occupancy tenant under section 5 or 6 of the Tenancy Act because he has the power to alienate his rights without consulting the owner, and when he dies the rule of succession in regard to them is the same as in the case of proprietary rights. Whether his rent could be enhanced or not, and, if so, to what extent, was a very debatable point. The matter was referred to the Financial Commissioner, who decided that a mukarraridar is really an occupancy tenant under section 8 of the Punjab Tenancy Act who, by virtue of a special agreement, either expressed or implied, is exempt from the provisions of chapter V of the Tenancy Act, such agreement not being barred by the provisions of section 10. It was recognized before that, even though the mukarraridar had agreed to pay a certain fixed rent for all time, the rate agreed upon could be modified in the event of a change in the land revenue assessment by a regular suit under section 34. The Financial Commissioner has now held that such rents can also be adjusted under section 17 of the Act.\* Mr. King's decision was summed up in the following words: "A mukarraridar is a tenant under section 8 of the Punjab Tenancy Act, enjoying in most cases special privileges under the agreement which created the tenancy. Such special privileges are ordinarily connoted by the term 'mukarraridar', and commonly include:—

- (a) a right to alienate his rights in the land without the permission of the landlord;
- (b) a right of descent similar to that possessed by all land-owners unrestricted by the provisions of section 59; and some times
- (c) a protection from enhancement to the full amount permitted by section 22, but not an exemption from adjustment under section 27".

73. Tenants-at-will cultivate 30 per cent of the land in the Chhachh, 40 per cent in the Sarwala and 40 per cent in the Nala. Zabti rents are rare. On barani land the batai rents paid by them are in many cases the same as those paid by occupancy tenants. In the Chhachh they are recorded as cultivating 15 per cent on batai. In the west towards Attock the usual rate is  $\frac{2}{3}$ . In the centre and east of the Chhachh  $\frac{1}{2}$  is

Tenants-at-will—batai rents on barani land.

\*Financial Commissioner's office letter No. 16611, dated 13th December 1924.

nearly always taken, except on the poor land near the river which was damaged by the flood of 1841. There the rate is  $\frac{1}{3}$  or  $\frac{1}{4}$ . These latter rates are also found in some of the sandy land in the south-east corner on the slopes of the ridge bordering on the Nala circle. In the Chhachh the owner almost invariably takes the same share of the straw as of the grain.

In the Sarwala circle the prevailing rate on barani land is  $\frac{1}{4}$ ,  $\frac{2}{5}$  and occasionally  $\frac{1}{2}$ , are found in the better land in the north of the circle where it adjoins the Chhachh and also in one or two villages near Campbellpore. On the top of the sandy ridge which runs through the middle of this circle we find  $\frac{1}{4}$  and  $\frac{1}{5}$ . This is the worst land in the tahsil and it is so far from any human habitation that it is difficult to find tenants for it. A good deal of it has fallen out of cultivation since last settlement. In the Nala circle the barani rents are similar to those paid by occupancy tenants and are generally higher than in the Sarwala circle. Here again we find that the land further from the abadi, even though of good quality, frequently pays at a much lower rate than that which is more easy of access. In the villages where owners are strong we find much of the land cultivated by tenants-at-will paying a higher rate than in the case of occupancy tenants. In other villages the tenants-at-will sometimes pay rather lower rates, as the best land was taken up by the occupancy tenants originally.

The proportion of the grain paid by tenants-at-will on barani land in the three circles, worked out in the usual way, from the figures in statement VII-A is as follows: -

<i>Chhachh.</i>	<i>Sarwala.</i>	<i>Nala.</i>
.47	.84	.41

These figures represent the owner's share of what is left of the common heap after the dues of the artisans and menials have been paid.

71. In the case of sailab, the owner's share works out at practically  $\frac{1}{2}$ , both in the Chhachh and in the Nala. In Sarwala it comes to .42. For nahri the rate comes to .495, so I have taken  $\frac{1}{2}$ . These ratios have been employed in calculating the owner's share in the produce estimate.

75. On chahi land  $\frac{1}{2}$  batai is paid by the tenants-at-will in the very large majority of cases throughout the tahsil. The owner also takes his share of all the straw and no free areas for the tenant's cattle are allowed. On the other hand, the owner pays half the cost of the manure, seeds, well-rope and pots for the well wheel. Ordinary petty repairs are done by the tarkhan or lohar, who gets his share of grain from the common heap, the tenant supplying the wood. The owner is responsible for the larger repairs and renewals. Occasionally in some of the poorer villages the owner does not provide his share of the manure, in which case he takes no share of the straw. This arrangement is fairly common in the Nala where manure is cheap, but in the Chhachh the owner always has to help. In the eastern part of the Chhachh and also in the Nala two other systems are found. In the first the tenant pays  $\frac{2}{3}$  batai of everything and the owner is responsible for all the manure and seed and all the petty repairs to the well-gear. Sometimes also he arranges for the plough. The tenant only has to provide cattle for the well and arrange for the cultivation. The second system is for the owner to bear all the expenses, including the cattle for the well, and to take  $\frac{1}{4}$  batai of everything. The tenant provides nothing but his labour. In the Haro villages of the Nala circle the usual practice is for the owner to take  $\frac{2}{3}$  of the grain and all the straw and bear all the expenses. The land in such cases is shown as *khudkasht* as the tenant is really only a *hali*.

There is a keen demand for good tenants for chahi land and some of the bigger landlords sometimes give them advances for bullocks and seed when they first engage them. When the owner or mukarraridar is a money-lender, he also advances the cost of the tenant's share of the manure—a large item when snuff tobacco is grown—and recovers it, with interest at a privileged rate of 12 per cent per annum, when the crop is cut and sold.



76. The recorded rents paid by tenants-at-will on chahi land in the Chhachh are most perplexing. They vary from about Rs. 5 per acre to Rs. 180 per acre and even more. It is often exceedingly difficult to

Cash rents paid by tenants-at-will on chahi land—Chhachh circle.

disentangle those which are genuine economic rents from those which are not. The average rents for each circle according to the entries in the Circle Note Books have been given in statement No. VIII, but the village inspections showed conclusively that these figures were either quite wrong or were very largely affected by a great many rents which were not true competition rents at all. Thus, to take a single instance, the cash rents, according to a statement made out from the last jamabandi in the village of Harun, one of those lying along the Indus, shows 48 acres of chahi land paying an average of Rs. 11 per acre, which is less than the average rate paid by mukarraridars. On enquiries being made it was found that nearly the whole of this area was made up of numerous small plots owned by men other than the owner of the well from which they were irrigated. What appears to have happened is this. An enterprising tenant sunk a well and obtained mukarraridari rights in a small area. He then got small plots of barani land on lease from the owners of the neighbouring land and irrigated them from his well. These plots could not be irrigated by the owners and would fetch a much lower rent as unirrigated land, so the rent paid by the mukarraridar was somewhere between the two rates. Enquiries showed that the true competition rate in this village varied from Rs. 20 to Rs. 40 per acre. Such instances are by no means uncommon. In a number of villages it was found that a great many of the tenants-at-will had been cultivating the same land and paying the same cash rent for generations. Sometimes the owners were too weak to attempt to raise the rent or turn them out. In other cases, owing to their very old possession, the tenants considered themselves to be occupancy tenants and would certainly have contested the owner's right to eject them or raise the rent. The owners being rather shy of litigation with its attendant heavy expenditure and bitterness, preferred to leave things as they were. In other villages where the owners have been strong, rents have been forced up in many cases probably to the true economic limit. In some cases, owing to the fall in prices of the last year or two, they had to be reduced. There seem, however, to be no signs anywhere of rack-renting. With the large increase in wells there is such a keen demand for good tenants and there are so many other ways in which they can earn a living in this tribal that an owner who has secured one prefers not to risk losing him by pushing the rent up too high. In view of the above considerations, I have decided to discard the Circle Note-Book figures entirely.

77. During village inspections an attempt was made to eliminate rents which were not true competition rents but, owing to the extraordinary number and minuteness of the holdings, it was not always possible to carry this out satisfactorily in the time available. Moreover, the new measurements of nearly half the villages had not been completed and in such cases it is not safe to rely on mere extracts from the jamabandis. Figures were tabulated for all the villages in which the new measurements had been completed, but I found that the cash rents on chahi land in these comprised less than 1 per cent of the chahi land of the whole circle. With rents varying so enormously in different parts of the circle, to rely on any average worked out on such a small proportion of the whole chahi area would be apt to be extremely misleading. In view of these difficulties, I have had to fall back on estimates based on a general knowledge of the tract, supplemented by detailed enquiries made during village inspections. As has already been explained, Mr. Butler found it necessary to divide the villages in each circle up into groups for the purposes of his village assessments. So great are the differences in the quality of the chahi land between the different groups that the only possible way of arriving at a fair estimate of what the average rent for the whole Chhachh circle is seems to be to estimate the rate for each group separately. In such matters a mere personal opinion by itself can carry little weight, so it will be better to give reasons in support of the rate assumed in each case.

*Group I.*—This lies along the Indus at the extreme west end of the circle. The wells grow a little sugarcane and melons, but no tobacco. The

chahi land does not vary very much within the group. In Jabbar the ordinary rate appeared to be Rs. 32 per acre. The batai rate there is  $\frac{1}{2}$  and the owner as usual has to provide half the manure and seed and half the cost of the well rope and pots. The zamindars told me that an owner who had plenty of cattle and could provide his share of the manure without having to purchase any from outside found the batai rate paid him better. The landlord who has few cattle and has to purchase manure prefers the cash rate. In another village of this group, Shadi Khan, the average rent paid on 24 acres of chahi works out at Rs. 39-6-0. On one well the owner admitted he had been getting Rs. 64 per acre two or three years back, but now, owing to the fall in prices, he had had to reduce it to Rs. 40. The wells of Shadi Khan are in no way better than the others in the group and are inferior to those of some villages, but the owners are strong. In other villages of this group I often found a rate of Rs. 40 per acre. It is true that the average worked out at a good deal less, but there were a great many cases of rents which were obviously not true competition rents, though it was not always easy to discover the reasons for their being abnormally low. I have taken the rate for this group at Rs. 32 per acre.

*Group II.*—This group lies to the east of group I and away from the Indus. It therefore escaped the floods of 1841. A little sugarcane is grown and in some of the villages a little tobacco. Shamasabad is in the group. The wells are generally similar to those of the last group, but are on the whole rather better as the soil is not quite so sandy. True competition rents are somewhat rare. In Shamasabad some of the chahi land is leased out at a rent consisting of one maund of wheat per kanal in the rabi and one maund of maize per kanal in the kharif. At the commutation prices this represents Rs. 4-8-0 per kanal per annum, i.e., Rs. 36 per acre. At present prices the rent would come to about double this. A little chahi land in this village pays ordinary cash rents, the average of which works out at Rs. 25-1-0 per acre, but some of these seem to be cases of old tenants who have been paying the same rate for a generation or more. I have taken Rs. 35 per acre as the rate for this group.

*Group III.*—This group lies to the east of group II. It extends from the famous vegetable-growing village of Kala Kalan up to, and just beyond, Hazro. Most of it gets the Gandgarh spill. In half the villages of the group tobacco is over 50 per cent of the chahi-rabi and in a few we find paundha cane. Where there is less tobacco there are more vegetables. Taking only those villages in which the new records have been completed, the average rent paid by tenants-at-will on chahi lands works out at Rs. 68 per acre. Round Hazro it is probable, however, that rents have been deliberately concealed. In one case which I verified personally the tenant was paying Rs. 180 for one acre of chahi land near the city. Rs. 12 per kanal, i.e., Rs. 96 per acre, is paid on some of the new wells near the rest-house, which is about a mile from the city. When some land about a mile to the east of Hazro was taken up by the municipality for the drainage channel referred to in paragraph 4 above, the rate paid for chahi was Rs. 3,860 per acre. It is very difficult to fix a fair rate for this group. I have taken Rs. 90 per acre.

*Group IV.*—This group grows the best snuff tobacco in the tahsil as there is some kalar in the soil. There is also some paundha cane. The average of the cash rents recorded in those villages whose measurements have been completed comes to Rs. 94 per acre. In Khagwani, just to the south of Hazro, one tenant was found who had taken  $10\frac{1}{2}$  kanals of chahi land on a 5-years' lease at a rate of Rs. 138 per acre. The ordinary rate on the good wells seems to be Rs. 120 per acre, but on a few of the poorer ones near the chel where the water-level is close to the surface only Rs. 40 is paid 89 per cent of the chahi rabi in this village is tobacco. In Shah Dher, another village of the group, the highest rent found was Rs. 170 per acre. The average for a number of small plots most of the rents of which I checked personally, came to Rs. 102 per acre. In Garhi Alizai Rs. 152 per acre is paid on the best chahi. In Sarwana the average works out at Rs. 86 per acre. In all the villages of this

group, except one, tobacco constitutes two-thirds or more of the chahi rabi. An average rate of Rs. 10 may be assumed.\*

*Group V.*—The wells in this group are nearly all within a few miles of Hazro. The soil is not quite so good as that of groups III and IV and there is no snuff tobacco. Ordinary tobacco averages between 40 and 50 per cent of the chahi rabi and some of the chahi land gets the Gandgarh spill. The rate I have taken here is Rs. 60 per acre.

*Group VI.*—This group lies to the north of Hazro and to the west of group V. A good deal of the chahi land gets the Gandgarh spill. In half the villages tobacco is more than 45 per cent of the chahi rabi, but very little snuff tobacco is grown. The same rate may be taken as in the last group, i.e., Rs. 60 per acre.

*Group VII.*—This group lies along the Indus to the east of group I and the soil is sandy, as much of the land was damaged by the floods of 1841. In a few villages to the east some of the wells are better than any of group I and grow a little tobacco, but in the majority of cases the soil is too light and sandy for it. In Harun, the village discussed in paragraph 76 above, which is about an average village for the group, the rate for competition rents vary from Rs. 20 to Rs. 40 per acre. I have taken Rs. 20 for the group.

*Group VIII.*—This is a small group lying along the Grand Trunk Road to the west of Shamasabad and to the south-east of group I. I have taken the same rate as in the case of group I, i.e., Rs. 32 per acre.

78. The average rate for the whole circle can now be readily calculated from the above rates as in the statement below:—

Group No.	Percentage on total chahi area of circle.	Average rent.	Product of columns 2 and 3
I	20	Rs. 32	640
II	14	35	490
III	11	90	990
IV	6	100	600
V	7	60	420
VI	17	60	1,020
VII	20	25	500
VIII	5	32	160
Total	100	48 2	4,820

When cash rents are paid, the well-rope and pots are sometimes provided by the owner and sometimes by the tenant. If we allow for half the cost of the well-rope and pots the owner's expenses will come to the same as in the case of paragraph 121 below, i.e., Rs. 27 per well. The average chahi area per well or jhalar in the Chhachh is 5.2 acres so that the owner's expenses work out at about Rs. 5.2 per acre. Deducting this from the average rent worked out above, we get Rs. 12 per acre as against a rate of Rs. 36.2 given by the produce estimate. The explanation of this difference is probably this. The rates I have taken for each group are intended to represent competition rents as they are to-day, whereas the produce estimate is based on prices which are much lower than those obtained in recent years.

79. In the Sarwala circle also the figures entered in statement VIII of the Circle Note Book were found to be quite wrong. Here again true competition rents are rare, except in the neighbourhood of Campbellpore. A great many of the wells there, especially the new ones, are cultivated by tenants-at-will paying cash rents. The usual rate is Rs. 6 per kanal, i.e., Rs. 48 per acre. I have verified this by personal enquiry. In the case of wells nearer the city, the rate is higher, while on the more distant ones somewhat lower rates are paid. Last year the leases of the wells in the cantonment were auctioned. Prices varied considerably. Some leases were pushed up to

\*In case it is thought that these rates are very abnormal I would point out that Mr. Kitchin found rents varying from Rs. 120 to Rs. 192 per acre (probably he meant Rs. 80 to Rs. 128 per acre, as he mentions Rs. 10 to Rs. 16 per kanal) near Rawalpindi 20 years ago,—vide paragraph 51 of his Assessment Report on the Rawalpindi tahsil.

ridiculous figures owing to the bidders getting excited, while others went for much below their market value. The average works out at Rs. 66 per acre. About 25 per cent of the chahi area of the circle is within a couple of miles of Campbellpore. There is an excellent market for vegetables there. A fair amount of tobacco is grown and manure is cheap. I think Rs. 40 per acre would be a fair rate to assume for the chahi cash rent for these villages. In the north-east corner of the circle the village of Sherani is really practically Chhachh. Tobacco is 83 per cent of the chahirabi and some of it is snuff tobacco. In the three villages to the west of it there is not so much tobacco, and, though some of the wells in the extreme north are quite as good as those of the neighbouring villages of Hazro and Khagwani, others are inferior. The chahi area of these four villages is 13 per cent of that of the whole circle. A fair rate to assume for them will be Rs. 50 per acre. 50 per cent of the chahi land is found in other villages in the north of the circle lying along the Grand Trunk Road. The soil is rather sandy, but a little tobacco is grown. The wells are not quite so good as those in the adjoining groups II and VIII of the Chhachh just to the north of the road, but they are better than those of group VII. I would put the rate at Rs. 30 per acre. The remaining 12 per cent of the chahi is scattered about in the villages further to the south. Some near the Indus is good. The rest is inferior and a fair amount is jhalari land along the Haro and its tributaries. Rs. 20 will be a high enough rate to take for this. Calculating the average in the same manner as was done in the Chhachh the result works out as shown below :—

	Percentage on total chahi area of the circle.	Average rent.	Product of columns 2 and 3.
		Rs.	Rs.
Campbellpore villages	25	40	1,000
Sherani, etc.	13	50	650
Other Grand Trunk Road villages	50	30	1,500
The rest	12	20	240
Total	100	83.9	3,390

In the Sarwala circle the average cultivated area per well is about 3 acres, so the owner's expenses at Rs. 27 per well come to Rs. 9 per acre. Deducting this from the average rent, we get Rs. 24.9 as compared with Rs. 26.3 given by the produce estimate.

80. A large number of wells have been sunk by mukarraridars. In their case, I have had no difficulty in finding out the true rents paid, and we are thus on surer ground. In the case of practically all the wells sunk within the last 10 or 15 years, the rate is between Rs. 16 and Rs. 20 per acre. Along the Grand Trunk Road the usual rate is Rs. 18, though, where the owners are weak, Rs. 16 is more common. The amount of "pagri" paid varies with the keenness of the would-be mukarraridar to acquire his new rights and the extent of the embarrassment of the owner. If we take Rs. 100 as a rough average and add on Rs. 800 for the cost of sinking the well, the mukarraridar thus has to pay Rs. 900 before he gets any return at all. The average area irrigated per well in the Sarwala circle is 3 acres. In the case of the new ones, it is probably rather less. The would-be mukarraridar thus pays at least Rs. 300 per acre. Even allowing for the fact that these people are content with an extremely low rate of interest when they acquire a permanent right in the land which they never had before I do not think an average man would be prepared to invest practically his whole capital in such an undertaking unless he thought he would get a return of at least 4 per cent. This means Rs. 12 per acre as interest on his capital. Adding on Rs. 18 per acre as the rent he has to pay to the owner, the chahi land must give him Rs. 30 per acre over and above the cost of upkeep before he makes any profit at all. Looking at the matter from another point of view and taking the net receipts from such a well as Rs. 25 per acre, the mukarraridar after paying Rs. 18 to the owner has only Rs. 7 left. This represents the interest on his capital investment of Rs. 900 and is only 1 per cent. When we consider, moreover, that there is always a certain amount



of risk that the well may turn out a poor one and give very little water, that in any case the land on these new wells produces very poor crops for the first year or two during which the mukarraridar has to live somehow, yet, in spite of these drawbacks, the supply of mukarraridars seems to be inexhaustible and the "pagris" demanded by the owners are steadily increasing. It will, I think, be admitted that the estimate I have taken for the average chahi rent of the circle is, if anything, on the low side.

81. In the Nala circle, as in the other two circles, we constantly find very old tenants-at-will paying the same rents as they did 40 or 60 years ago. These rents seem to have been fixed by Major Craicraft at the first regular settlement. Some of the tenants were given occupancy rights and others not, but no distinctions were made in the rents paid. Theoretically the rents paid by tenants-at-will could now be enhanced, but they have paid them so long that they have become customary and they consider themselves practically occupancy tenants. Such being the case, the figures given by the Circle Note Books have had to be discarded altogether and I have had to rely on my enquiries into the cash rents paid at the time the detailed village inspections were carried out.

82. According to the figures for 1923-24, the Nala circle contains 2,305 acres of chahi land, including 64 acres of chahi-nahri and 471 acres of chahi-jhalari. In the produce estimate all these have been lumped together with the pure chahi. The Saggarr tract contains 55 per cent of the pure chahi land and 19 per cent of the chahi-jhalari. The wells here are excellent. They usually cost about Rs. 400 to Rs. 800 to make. The water-level is close and manure is fairly plentiful owing to the proximity of the extensive grazing-grounds of the Kherimar range, etc. Tobacco varies from about 15 per cent to 30 per cent of the chahi rabi. True competition rents paid by tenants-at-will are rare. In Burhan, the best village of the group, I found some paying Rs. 48 per acre. In a few cases lump grain rents consisting of one maund of wheat per kanal in the rabi and one maund of maize per kanal in the kharif are paid, as in the case of Shamasabad. At present prices this works out at about Rs. 70 per acre or more. Throughout this tract a great many new wells have been sunk by men who have been given occupancy rights in the same way as in the Chhachhi and Sarwala mukarraridari rights have been granted. The owners here prefer to make occupancy tenants, instead of mukarraridars, because they say if the occupancy tenant dies without issue, his rights revert to the owner, whereas, in the case of a mukarraridar, they go to collaterals. The rents and "pagris" paid by these new occupancy tenants are the chief guide to the rentable value of the land. The usual rent paid in such cases is from Rs. 16 to Rs. 22 per acre. In the case of most of the wells sunk during the last 10 years, the tendency has been to fix the rate at Rs. 20 or thereabouts. Pagris vary a great deal and are on the increase. In Burhan from Rs. 750 to Rs. 1,100 per well has been paid. In the other villages where they were paid the rate was usually about Rs. 20 per kanal. In a few cases, mainly those in which the well was sunk 15 or 20 years ago, no pagri was paid. Rs. 25 per kanal may be taken roughly as the normal now. In Burhan the wells now-a-days cost about Rs. 500 to sink. In other villages they are sometimes rather more expensive. Taking Rs. 600 as the normal and 3 acres as the average area in which occupancy rights are obtained, the total cost would thus come to Rs. 1,200 per well, say Rs. 400 per acre. 4 per cent on this is Rs. 16. Adding this to the rent of Rs. 20, we get Rs. 36 per acre as the minimum net receipts which a well-sinking occupancy tenant expects to get from the land. This is higher than in the Sarwala, partly because the land is better and, perhaps, partly because occupancy rights, with their limitations as regards right of transfer, etc., are not as valuable as mukarraridari rights.

83. With the exception of a little in two or three villages near Wahi, the chahi land in the rest of the circle is not so valuable. In Kandharipur the rents paid for chahi and chahi-jhalari by tenants-at-will are Rs. 40 to Rs. 48 per acre. This village is close to Hasan Abdal. The water-supply is good and large quantities of vegetables and spices are grown. In some of the Haro villages the wells have been sunk by occupancy tenants in their own land. When the land was barani they paid  $\frac{1}{2}$  batai. This rate, without any

assistance from the owner in the way of manure, would not pay when the land became chahi, so an arrangement was usually come to between the parties substituting a cash rent for the batai. Thus in Kacha five new wells were sunk by such occupancy tenants. They pay Rs. 15 or Rs. 16 per acre rent. In order to induce the owner to agree to their conditions, they usually had to pay a pagri of Rs. 100 per well. The wells cost about Rs. 300 each to sink as they are near the Haro and the water-level is close. Near Sultanpur a few cash rents were found which seem to be approximately true competition rents. There the rate is Rs. 32 per acre, the cost of the well-rope and pots being found by the tenant. The same rate is paid on jhalari. In some cases, this rate had been paid over since settlement, so it is almost certainly below the market rate now. In the Panjkatta tract and the east of the Khatar tract wells are rare. In the south and west of the Khatar tract they are variable. In the Trer villages some new wells have been sunk by mukarraridars, the rates being generally much more favourable to the sinker than any in the Saggar tract. This is largely owing to the embarrassment and improvidence of the owners. Farther west again in Akhori, where the owners are strong and the comparative proximity of Campbellpore tends to raise prices, Rs. 24 and Rs. 32 per acre are common rates for mukarraridars on both chahi and jhalari land. This is remarkable as some of the jhalars were very expensive to construct as they were on a cliff high up above the bed of the Nan'na Kas. One or two cases have already been referred to in paragraph 11 above.

84. Calculating the average rent in the same way as has been done in the other two circles, the figures work out as follows :—

				Percentage on total chahi area of circle.	Average rent.	Product of columns 2 and 3.
					Rs.	Rs.
Saggar tract	...	...	...	55	42	2,310
Har villages	...	...	...	24	32	768
The rest	...	...	...	21	25	525
Total				100	30	3,603

The average irrigated area per well is about 3 acres. The owner's expenses thus work out at Rs. 9 per acre as in the case of the Sarwala circle. Deducting this from the cash rent, we get Rs. 27. In this circle there are a large number of jhalars, so calculations must be made for them separately. The average irrigated area per jhalar is about  $2\frac{1}{2}$  acres. In paragraph 121 below Rs. 32 per jhalar has been allowed for the owner's expenses, which gives Rs. 14 per acre. The jhalari land is scattered about in the different groups. That in the Saggar tract, 19 per cent of the whole jhalari land, is practically as good as the chahi and the water-supply is fairly permanent as the Saggar stream never seems to dry up. Other good jhalari land is to be found on the Jabbi stream to the north of Sultanpur, on the Jhablat near Hasan Abdal and in Akhori, already mentioned. A fair rate for the whole circle will be Rs. 30 per acre. Deducting the owner's expense from this, we get Rs. 16. The pure chahi and the chahi-nahri together are approximately  $\frac{1}{2}$  of the chahi land and the chahi-jhalari  $\frac{1}{2}$ . The average rent for all the different kinds of chahi in the circle thus works out as follows :—

	Rs.
80 per cent at Rs. 27 per acre	... 2,160
20 per cent at Rs. 16 " " "	... 320
Total 100 per cent at Rs. 24-8	... 2,480

85. In the Chhachh 11 per cent is cultivated by tenants-at-will paying cash rents, but true competition rents are rare; and, where we do find them, they are useless for the purposes of a half-net assets statement as the land on which they are paid is not representative of the circle. When the first regular settlement was undertaken by Major Cracroft, a great many of the tenants

(Cash rents on barani land.)

were given occupancy rights. The land they held was generally a good deal better than that which was subsequently brought under cultivation. The latter was usually further from the village site, and away towards the river, where the soil is much more sandy and often stony. It is practically only on this land that true competition rents are found, and even here there is a tendency in many cases for them to be merely customary. In the huge villages of Ghurghushti and Malak Mala we find large areas cultivated by tenants-at-will paying the same cash rents as the occupancy tenants. The reason for this is that they were in possession at the time of the first regular settlement; but, though they are unable to prove long enough possession to establish a claim to occupancy rights, they usually remained on paying the same rents as were fixed then. These rents by lapse of time have tended to become crystallized. Obviously therefore they are useless for the purposes of determining what the true rentable value of the land is.

It will, however, afford some indication of the quality of the better land of the circle if some account is given of the rates paid by these occupancy tenants. As already stated, they pay these rents on 26 per cent of the cultivated area of the circle. The rates vary a good deal from village to village and group to group. I have had them tabulated and plain unweighted averages worked out for each group. These are not of course true averages as they have not been weighted by the area on which each rent is paid, but they will serve to give a general indication of what was considered a fair rent 60 years ago. The figures are shown below:—

Group No.	AVERAGE OF THE DIFFERENT RATES PAID BY OCCUPANCY TENANTS ON MAIRA LAND PER ACRE SOWN.	
	Kharif.	Rabi.
	Rs. A. P.	Rs. A. P.
I	1 7 0	1 8 0
II	1 11 0	2 9 0
III	2 11 0	3 2 0
IV	1 6 0	1 6 0
V	2 1 0	3 4 0
VI	2 9 0	3 13 0
VII	1 15 0	2 15 0
VIII	2 8 0	2 11 0

On *las* the rates are usually higher and go up to Rs. 5 in the rabi and Rs. 5-2-0 in the kharif in Momar Pur (group VI) and Rs. 6 rabi and kharif in Sarwana (group IV).

In the Sarwala and Nala circles only 1 per cent is cultivated by tenants-at-will on cash rents and a good deal of this is *chahi* or *abi*.

86. In the very rich *abi* lands of Hasan Abdal rents run very high. This land was divided into four classes for the purposes of the *bachh* and on the best class as much as Rs. 30 or Rs. 35 per *kaua* rent is sometimes paid. A fair amount of this land, as well as the *abi* II, consists of gardens. All of it lies just below the town and much of it gets the benefit of the flood water from the streets. Most of the *abi* II is just to the south of the Grand Trunk Road and a little further from the town. The *abi* III is to the west of this and the *abi* IV is still further to the west, and consequently

Cash rents on *abi* land in the Nala and Sarwala circles.

less favourably situated for the water from the springs. The rents according to the entries in the jamabandi of 1919-20 are shown below :—

					Number of holdings on which cash rents are paid.	Area in acres.	Rate per acre.	Total area.	Product of columns 4 and 5.
							Rs.		Rs.
Abi I	...	...	...	...	12	4	211	38	8,018
Abi II	...	...	...	...	4	2	121	40	4,840
Abi III	...	...	...	...	9	6	96	55	5,280
Abi IV	...	...	...	...	11	6	80	111	8,880
Total					...	...	...	244	27,018

The average thus works out at Rs. 111 per acre. This is very high, but I think the rates are correct. I verified a few, and, though it is possible that in some cases they were swollen by the very high prices existing in 1919-20, even the banias who owned most of the abi I land admitted that Rs. 160 per acre is a common rate there now. Other people told me that much higher rates are paid. Half of the abi I and nearly  $\frac{2}{3}$  of the abi II is sown with paundha cane. The rest mostly produces vegetables, spices and gardens. On the abi III and abi IV hardly any cane is grown, but there is a little tobacco and vegetables. The rest is nearly all wheat and maize, and there is a good deal of double cropping. Seeing that there is no cost of keeping up a well, that the maintenance of the water channels is a negligible item and that the springs never fail, the high rents are really not to be wondered at with this type of cultivation.

87. In Wah we get a similar type of abi cultivation, but the land is not so rich and the rents are much lower. The average works out as shown below :—

				Area in acres on which cash rents are paid.	Rate per acre.	Total area	Product of columns 5 and 4.
					Rs.		Rs.
Abi I	...	...	...	33	47	66	3,102
Abi II	...	...	...	6	33	15	495
Abi III	...	...	...	29	26	56	1,456
Total				...	...	137	5,053

this gives an average of Rs. 37 per acre.

88. In the rest of the circle cash rents on abi land are rare. In Babraki near Wah the rate paid is Rs. 32 per acre. In Dallo close by it is Rs. 48. In this village some occupancy tenants who had apparently previously paid batai got the rents converted into cash (chakota) rents by agreement at last settlement as there was some dispute about the matter. The average works out at Rs. 34 per acre in one case and Rs. 40 in another. In the west of the Khatar tract the rate of Rs. 32 per acre is found in the two villages of Sanjwal and Dhok Tarbethi. In the Haro tract most of the abi is that lying along the river. That which is just below Sultanpur is irrigated by means of cuts taken out from the Haro. These require rather a lot of keeping up and the bonds at the heads have to be constantly renewed. Further down the irrigation is from some of the springs which issue from the Bajar and Paur Miana hills. All this land is good. In Bai occupancy tenants pay Rs. 18 per acre, which was fixed in Major Oracroft's time. In Lab Thathu the rate is

\*excluding the Government encamping-ground, which has not been cultivated for the last two years.



Rs. 24, and appears to have been fixed at the same time. I think that, making allowance for the cost of keeping up the channels, a fair average to take would be Rs. 32 per acre. The average for the circle thus works out as follows:—

			Area of abi in acres.	Total rent. Rs.
Hasan Abdal	...	...	244	27,018
Wah	...	...	137	5,053
The rest	...	...	606	19,392
Total			987	51,463

This gives an average for the whole circle of Rs. 5<sup>1</sup> per acre.

In the Sarwala circle cash rents on abi land are rare. Where they are found, they are usually customary and a good deal lower than those of any of the villages of the Nala circle.

#### PART VI.—HALF-ASSETS ESTIMATES AND DEDUCED STANDARD RATES.

89. The rates of outturn of the various staples assumed by Mr. Butler at last settlement will be found in paragraph 32 and appendix III of his report. Mr. Steedman had given much personal attention to this question, and in most cases his successor was able to accept his figures. In appendix IV of Mr. Butler's report a useful table is given in which the rates he proposed are compared with the yields assumed for similar land in adjoining districts and with the results of his crop experiments. As Mr. Butler explained, however, the enormous difference in quality between land of the same class in different parts of the same circle, together with the great variations in the barani outturns due to the uncertain rainfall, render the estimation of yields in this tahsil largely a matter of conjecture. He was inclined to think that his yields on irrigated land were possibly too low and those on unirrigated too high\*, a view which was shared by his staff. The Settlement Commissioner, Mr. Douiet, reduced the yield of chari to Rs. 12 per acre, that of barani wheat and gram in the Sarwala to 3 and 4 maunds, respectively, and that of barani wheat and bajra in the Nala to 5 and 4 maunds, respectively. The yields on irrigated land he left as they were.

90. The results of the crop experiments carried out at last settlement are given in Appendix IV of Mr. Butler's report. A few have been carried out since 1917, but in a good many years none were done at all as, owing to failure of the rain or late sowings, the crops were much below normal. A number have been carried out during the present settlement—vide appendix E. The different classes of land are so numerous that the number has been less than could have been desired. A careful examination of various zemindari accounts has been made by the Settlement Tahsildar, Malak Ali Yar Khan, an officer with great experience of settlement work. The most reliable, as well as the most detailed, accounts seem to be those of Khan Bahadur Malik Muhammad Amin of Shamasabad, who again placed them at the disposal of the settlement staff. The entries over a series of years, usually about six or eight, were compared with the results obtained by applying the yields assumed at last settlement to the matured areas as recorded in the Khasra Girdawari. A number of other accounts of big zemindars in the Sarwala circle were also examined, but the series of years over which they were available was usually very limited. In the Nala circle the only regular accounts available were those of the village of Dhok Tarbethi, which has been under the Court of Wards for three or four years. In the case of the important staples, I have supplemented these sources of information by extensive enquiries from zemindars and others, as well as by personal observation of the crops while on tour. The proposed yields have also been discussed with the settlement staff.

\*Paragraph 81 and appendix VII of his Assessment Report.

†Paragraph 116 of the Settlement Commissioner's Review.

91. In the Chhachh nearly half of the chahi land is in the neighbourhood of Hazro and a great deal of it gets the benefit of the Gandgarh spill. It is mostly double-cropped. Wheat is nearly always manured and is grown in rotation with maize and other kharif crops. In the Nala circle the soil is firmer, and the yield on the chahi land in villages in the Saggar tract is probably very nearly as high as that of most of the wells near Hazro. The circle average, however, is lowered by the fact that a good deal of the land is jhalari. In dry years there is always a shortage of water in the streams which feed the jhalars and this affects the outturn considerably. In the Sarwala circle the wells in the north along the Grand Trunk Road produce as good wheat as those in the west of the Chhachh, but the outturn of the lighter soils elsewhere is probably rather less, in spite of the fairly heavy manuring round Campbellpore. The rates now proposed are compared below with the various data available. The figures represent seers per acre :—

		Chhachh.	Sarwala.	Nala.
Assumed at last settlement	...	400	400	400
Experiments, 1902	...	367	...	392
Do. 1903	...	554	529	579
Do. 1917-24	...	451	...	...
Shamasabad account.	...	431	...	...
Now proposed	...	440	400	420

92. In the Sarwala circle the area of abi wheat is small, and no experiments have been carried out. The quality of the land is about as good as that of the better class of chahi, but the water-supply, which comes from petty springs, is more uncertain. In the Nala circle Mr. Butler's experiments gave 265 seers in 1902 (a year of very poor rainfall) and 460 in 1903. The water-supply is good in Hasan Abdal and Wah, but elsewhere it is unreliable. Mr. Butler's yield of 400 in the latter circle and 360 in the Sarwala may be retained.

93. In the firm loan of the Panjkatta tract wheat requires a good deal of water to mature it properly. The yield is practically governed by the amount of water the crop gets. Wheat is sown when the land has been fallow for one, or, where the do-fasli do-sala system has been followed, two, harvests. During this time it has been ploughed regularly. It is not usually manured, except in the case of the do-fasli land, which is only a small proportion of the whole. The kharaba figures are high, and in the villages towards the tails of the cuts they are nearly as high as those of barani land. Such being the case, it is very difficult to ascertain the true average yield. Mr. Butler assumed 280 seers. His experiments in 1902 gave 229 for ek-fasli and 347 for do-fasli. The year was a poor one. In 1903 no experiments seem to have been carried out. The experiment carried out during this settlement gave 160, but I am doubtful in regard to its correctness as the crop looked as if it ought to produce much more than this. With so little data to go upon, it will be safer to retain Mr. Butler's yield of 280, which, taking everything into consideration, seems reasonable.

94. The area of sailab wheat is small in all three circles. Mr. Butler's rates were 800 for the Nala and 280 for the Chhachh and Sarwala. These may be retained.

95. In all three circles the area of las, lipara and rakkar is small compared with that of maira. The outturn on las and lipara is rather higher than that on maira, while on rakkar it is of course lower. No separate rates were worked out for these different soils at last settlement, but an all-round rate was taken. This procedure I propose to follow. In the Chhachh Mr. Butler took 240 seers for barani wheat. His crop experiments gave 152 in 1902 (a very bad year) and 256 in 1903. The average of seven years for the Shamasabad accounts is 241. The maira in this circle is extraordinarily variable. Along the Indus there is a good deal of very light, sandy land, often covered with stones, which probably does not produce more than 140 seers per acre. Then again in the south-east corner there are wide stretches very similar to the sand of the Sarwala circle, where 120 seers has been taken. At the other extreme we get the excellent las lard (between  $\frac{1}{3}$  and  $\frac{1}{2}$  of the total barani) which produces probably from 280 to 320 seers. The majority of the maira is the soft, rich loam such as is found in the neighbourhood of Shamasabad. Taking everything into consideration, I think Mr. Butler's all-round rate of 240 is a very fair one and may be retained.

96. In the Sarwala the area of las is negligible and the rakkar is higher. The only good land is the area near the Grand Trunk Road, where the yield in the better parts is probably about 200 seers. Near the Haro and to the south of it the soil is firm and in years of fair rainfall the yield is probably between 120 and 160 seers, but the soil is thirsty and kharaba is rather high. There remains the sandy ridge in between these two, which constitutes by far the largest portion of the circle. Mr. Butler proposed 160 seers, but the Settlement Commissioner reduced it to 120. His experiments gave 127 in 1902 and 228 in 1903, but experiments are not of very great value in a tract like this with such a high rate of kharaba. Extracts from accounts of zemindars in the Sarwala circle obtained by the Settlement Tahsildar for four different years and seven or eight different villages gave an average of 121 seers. The heavy gram failures of recent years have resulted in a diminution of the area of gram sown, which tends on the whole to depress the wheat outturn, especially in the light soil of this circle, which cannot retain such little fertility as it has without regular rotation of crops. On the other hand, the area which has gone out of cultivation is all the worst and the sandiest. Taking all these circumstances into consideration, I think it will be safe to retain the Settlement Commissioner's figure, i.e., 120 seers. Mr. Kitchin took 140 in the Jandal circle of the Fatehjang tahsil, which is very similar to the Sarwala. I have seen both, and I think the Jandal is rather the better of the two.

97. In the Nala circle Mr. Butler's rate of 240 was reduced by the Settlement Commissioner to 200. Experiments gave 175 in 1902 and 150 in 1903. More recent ones give an average of 238. In this circle, more so even than in the Sarwala, experiments are of little value owing to the very high rate of kharaba. The firmer soil of the Nala circle requires much more rain than that of either of the other two, while, so much of the land being sloping and intersected by ravines, it does not retain its moisture. The Court of Wards' accounts of the village of Dhok Tarbethi, which is in the extreme west of the circle and below the average, give an average of 232 seers in 1922, 196 in 1923 and the same in 1924. All these years were fairly good, especially the first, as the fields had been given a long rest then owing to the famine of 1920-21. There is no doubt that in even fair years a great deal of the land produces more than 200 seers per acre, but the higher and more sloping lands are so quickly affected by any prolonged break in the winter rains that I think it will be safer to retain Mr. Douie's figure of 200. This was adopted by Mr. Kitchin in the Nala circle of the Fatehjang tahsil, which is very similar to the southern half of the Nala circle in the tahsil.

98. This is grown only on barani land and is practically confined to the lighter soils. In the Chhachh Mr. Butler took 240 seers. The Shamasabad accounts gave 183, but the gram was probably grown in the land in the southern part of

the village, which is really Sarwala. The gram failures mentioned in paragraph 68 above have been just as serious in the Chhachh as in the Sarwala, the crop being sometimes practically wiped out in years of good rainfall. For this reason it will be safer therefore to reduce the yield to 200. With so many bad harvests there is always a danger of the kharaba being underestimated. This is the same as that taken by Mr. Kitchin for the maira of the Jandal circle, which is probably about as good as the land in which gram is grown in the Chhachh. In Tallagang Mr. Talbot took a higher rate, *i. e.*, 300, but the fungus, or whatever it is that attacks the gram, is not so active there.

In the Sarwala circle the Settlement Commissioner reduced Mr. Butler's yield from 200 to 160. Here again, with so high a rate of kharaba, crop experiments are only misleading. Extracts from accounts obtained by the Settlement Tahsildar for the years 1915 and 1924 in three villages give 116 seers as the rate over a large area. In view of the disastrous failures to which this crop is subject, I was inclined to reduce the yield still further, but it is already so much lower than that of neighbouring tracts in this and other districts that it will be better to let it stand.

In the Nala circle no gram is grown in the firmer soils. It is only found in the north-west corner where this circle touches the Chhachh and Sarwala circles. For the reasons that have been given in the case of Chhachh I think Mr. Butler's rate of 240 should be reduced to 200 here also.

99. Except in parts of the Nala, taramira is usually grown on the poorest soils, but it is never grown where it is sandy. Taramira. Stony and sloping rakkar will sometimes produce a fair crop of taramira in years of poor rainfall when nothing else would grow at all. Mr. Butler's figure was 120 in the Chhachh. His experiments gave 119 and 231. The Shamasabad accounts give 92. The crop is not infrequently merely used for fodder, especially when it is a poor one. Mr. Butler's figure of 120 is the same as that assumed in the Tallagang tahsil and may be retained. In the Sarwala circle it is grown in the stiffer soil near, and to the south of, the Haro; 100 is quite high enough for this. In the Nala the practice mentioned by Mr. Butler of sowing it in amongst the bajra when the latter is sprouting is still popular. If the monsoon rains are good and the bajra matures, the taramira comes to nothing. Seed being cheap, this does not much matter. The crop is also a favourite one with those batai-paying occupancy tenants who devote most of their time to the carrying trade as it requires so little ploughing. As it is often grown in the better land in this circle, the higher yield of 160 assumed by Mr. Butler seems justified.

100. "Other oil-seeds" are mainly sarshaf. A certain amount of this is grown in the Nala circle, but very little in the other two. It is usually grown in fairly good land as it does not thrive in the rakkar like taramira. In the Chhachh it is not infrequently grown in the las so I think the yield assumed there should be at least as high as that taken in the Nala. Mr. Butler took 120 seers in the Chhachh, 100 in the Sarwala, and 160 in the Nala. I would retain his figures for the two latter and raise the Chhachh yield to 160. As the crop is so little grown, it is not included in those for which commutation prices were sanctioned. The 20-years' average taken from the Circle Note Books, after excluding the same years, as was done in the case of the other staples, works out at 73 annas per maund. For the commutation price 64 annas per maund may be taken.

101. Barley is mostly grown on irrigated land. It has been largely replaced by wheat during the last 20 years. It is sown later, and reaped earlier, than wheat, but is of course less valuable. Mr. Butler's rates for chahi barley were 480 in the Chhachh and Nala and 400 in the Sarwala. His experiments on the whole support these figures. None have been carried out since. The Shamasabad accounts give 425. In the Nala of the Fatehjang tahsil Mr. Kitchin took 480 and in the Sil Soan circle 440. In the Swabi tahsil Mr. Dane's rates were somewhat higher. In some villages it is said that barley is grown



on the poorer well lands. Whenever it is grown, it is usually grazed or cut once or twice for fodder. Taking everything into consideration, I think Mr. Butler's yields may be retained.

On *abi* also barley is less popular than wheat. The system of cultivation is generally similar to that in the case of *chahi* barley. Here also Mr. Butler's figures may be retained. In the case of *sailab* and *nahri*, there is a fair amount of *kharaba*, and Mr. Butler's yields are quite high enough.

On unirrigated lands barley is comparatively unimportant. The general opinion of *zamindars* is that it gives a higher rate of outturn than wheat. Most of them put the difference at between 20 per cent and 40 per cent. It certainly seems to do fairly well on rather poor land which can hardly grow wheat at all. Mr. Butler took 240 in the *Chhachh* and *Nala* and 180 in the *Sarwala*. I would raise the *Chhachh* figure to 250 and let the other two stand.

102. Tobacco is in some ways the most important of the crops grown on irrigated land. The seeds are sown in the autumn in small beds which have been very carefully prepared and manured for the purpose. When the seedlings begin to come up, they are protected from the cold north winds and frost by palisades made of maize stalks or *Sarkana* grass. About March they are planted out. The land in which tobacco is grown has been ploughed and manured carefully after the reaping of the *kharif* crop. The most common rotation is maize and tobacco in alternate harvests. Very occasionally it is sown after barley, but the arrangement is unsatisfactory and the yield suffers. The outturn of the tobacco depends very largely on the amount of manure the cultivator can afford to put down. For snuff tobacco sheep and goat manure is essential. For ordinary tobacco the *zamindar* uses the manure produced by his own cattle, which is stacked in a corner of the compound or on the outskirts of the village and carefully kept. Mr. Butler put the yield of ordinary tobacco at 24 maunds per acre. One experiment was carried out last spring and gave a yield of just under 70 maunds per acre. I have seen the land, which is quite close to Hazro town, and would be *lipara* if it were not irrigated. So favourably situated was it, in fact, that the tenant, who incidentally paid a rent of Rs. 180 per acre, said he grew this particular crop without any manure. I have made very careful enquiries into this question, and I am convinced that, whatever may have been the case at last settlement, Mr. Butler's figure is far too low now. The yield he assumed is quite inconsistent with the very high cash rents found everywhere where tobacco is grown. Mr. Steedman assumed a cash rate of Rs. 24 per acre, but his report does not say what the market price of tobacco was then, and it was not much grown. The best wells in the villages round Hazro which get the *Gandgarh* spill produce 48 to 56 maunds per acre. On others further from the *abadi* the yield is 44 to 48 maunds. Going further west near *Shamasabad*, it is not more than 36 to 40 maunds. This village is almost the extreme limit of the tobacco-growing area. The figure I propose to take for the *Chhachh* is 44 maunds. This is a very big increase on Mr. Butler's estimate and is far higher than what Mr. Dane assumed in the *Swabi* *tahsil* (about 26 maunds), but I think it is justified. It must be remembered that the tobacco is grown mostly on the best *chahi* land. The rural population round Hazro is very dense and the majority of the wells are in land which would be *lipara* if it were not irrigated. I am inclined to think also that the crop is rather more heavily manured now than it used to be; 89 per cent of the tobacco is in the four groups of villages round about Hazro, which get the benefit of the *Gandgarh* spill; 7 per cent is in villages further to the west, parts of which also occasionally benefit by it. I do not think therefore my estimate is at all too high.

103. In the *Sarwala* circle the tobacco grown in the villages of *Musa Kadlathi*, *Sherani*, etc., whose northern portions are quite close to Hazro, is quite as good as that of the centre of the *Chhachh* and the yield is quite as high. Further west the land is more sandy and the tobacco not so good, while round *Campbellpore* the yield is probably still lower. For ordinary

tobacco a yield of 30 maunds per acre may be taken. In the Nala circle the villages of the Saggar tract grow more than a fifth of the tobacco of the whole circle. Manure there is fairly plentiful, though there is not the same intensive cultivation as there is in the Chhachh, and the yield is probably 40 maunds per acre or more. The rest of the chahi tobacco is grown in a number of villages spread over the circle, and usually the manuring is not very heavy. The land being firmer, a higher yield should be assumed than in the Sarwala circle. I have taken 35 maunds per acre. In the case of abi, 30 maunds will suffice as the water-supply is rather uncertain in dry years.

104. Snuff tobacco is grown in the best land in the villages close to Hazro. Some of the wells in the villages in the north-east corner of the Sarwala circle which border on the Chhachh also grow excellent snuff tobacco. This kind of tobacco, as well as the ordinary tobacco, seems to do best in land in which there is a certain amount of kalar. The yield varies according to the amount of manure put down. The ordinary Pathan of the Chhachh can very rarely afford to grow snuff tobacco owing to the heavy initial outlay required for purchasing the necessary sheep and goat manure. This is brought in from the Kala-Chita hills and elsewhere on camels, and there is a regular market for it at Hazro. The large majority of the wells on which snuff tobacco is grown are in the hands of Hindu owners or mukarraridars, who put down the whole cost of the manure and recover half with interest at a privileged rate of one rupee per cent per mensem from the tenant when the crop is sold. I have made enquiries from a good many people, and the opinion of those who seem to be reliable put the yield as varying from 64 to 96 maunds per acre according to the amount of manure used. Mr. Butler's figure was 10 maunds for the very best wells and 32 for others. I am convinced that these figures are much too low now; 64 maunds to the acre would, I think, be a safe figure to take, and certainly not too high.

The amount of snuff tobacco grown in the Nala circle is negligible. In the Sarwala some excellent stuff is grown in the villages near Hazro, which is quite as good as that of the Chhachh. The same rate has been assumed for them.

105. The price of snuff tobacco is subject to considerable fluctuations. In the spring of 1924 it was between Rs. 13 and Rs. 15 per maund at Hazro. Some of the finer grades fetched even more. After the war, the price was much higher even than this. The harvest prices for this commodity are not entered in the Circle Note Books so the average of a series of years cannot be worked out. Zemindars complained that the prices had fallen owing to the large amount grown in the Peshawar district, which they said was due to the extension of canal irrigation. I have obtained figures from the Settlement Officer of Peshawar and find that the tobacco in that district is almost entirely confined to chahi land. Apparently canal irrigation is not sufficiently regular or reliable for growing it. It is true that in 1924 the area of tobacco grown was considerably in excess of that of the previous year, but the figures showed that it varied considerably, apparently according to what the zemindar thought the harvest price was likely to be. The cost of manure would also rise considerably if much more were grown. Taking everything into consideration, I think we can safely say there are no grounds for assuming that tobacco cultivation will increase so much in the Peshawar district as to ruin the prices. The rate I have taken for snuff tobacco in the produce estimate is therefore Rs. 8 per maund.

From the figures given above it will be seen that the gross value of ordinary tobacco on chahi land works out at Rs. 165 per acre in the Chhachh and Rs. 112-8-0 per acre in the Sarwala. In the case of snuff tobacco, the gross value is Rs. 512 per acre in both circles. To avoid an extra column in the produce estimate, it will be best to calculate the gross value of the chahi tobacco in these two circles separately. Unfortunately in the Village and Circle Note Books the snuff tobacco is all lumped together with the ordinary tobacco. As the result of enquiries made, I have put the area of snuff tobacco

in the Chhachh at 250 acres and in the Sarwala at 30 acres. These figures are only rough estimates. The total value works out as in the table below :—

*Gross value of tobacco grown on chahi land in the Chhachh and Sarwala Circles.*

Circle.	ORDINARY TOBACCO.			SNUFF TOBACCO.			Total gross value of both kinds of tobacco.	
	Area in acres.	Value per acre.	Total value.	Area in acres.	Value per acre.	Total value.		
		Rs. A. P.	Rs.		Rs.	Rs.	Rs.	
Chhachh	...	1,867	165 0 0	3,08,555	250	512	1,28,000	4,36,555
Sarwala	...	431	112 8 0	48,487	30	512	15,360	63,747

In the Nala circle and on abi and nahri land generally there is only one kind of tobacco so the calculations in the produce estimate for it in these cases have been worked out in the ordinary way.

106. "Fruits and vegetables" in column 11 of statement II and column 8 of statement III includes a very small area under gardens and a much larger area under onions, cauliflowers, cabbages and other green vegetables. "Others" includes melons and water-melons, carrots, turnips and radishes, garlic, pepper and coriander, etc. All these crops are grown almost exclusively on chahi land or on the rich abilands of Hasan Abdal and Wah and are exceedingly valuable. They are very carefully cultivated and highly manured. Details of the areas according to the 10-years' average for the three circles are given below :—

*Details of different chahi crops included under heads "Fruits and Vegetables" and "Others" in statement III.*

	CHHACHH.		SARWALA.		NALA.	
	Rabi.	Zaid Rabi.	Rabi.	Zaid Rabi.	Rabi.	Zaid Rabi.
Fruits ...	4	1	3	...	4	3
Cauliflowers, cabbages and other green vegetables.	59	56	6	28	2	7
Onions ...	3	76	...	29	1	20
Melons and water-melons ...	...	853	...	110	...	112
Carrots, turnips, etc.	12	...	2	...	...	...
Pepper, coriander and other spices	61	2	3	...	46	...
Miscellaneous ..	21	84	3	1	2	1
Total ...	160	1,022	16	168	55	143

The above figures have been taken from the Circle Note Books, but they are not quite accurate as the classification of the different vegetables by different patwaris has not been uniform. Thus in the Sarwala, and possibly also in the other two circles as well, most of the carrots and turnips seem to have been put under "Green Vegetables".

No crop experiments have been carried out with any of the above. Their value varies considerably with supply and demand. One year onions may be selling very well and another year high prices may be obtained for carrots and turnips. The price of potatoes in particular is very variable, but they are very little grown. For the wells near Campbellpore the new town and cantonment provide a good market for vegetables. Cauliflowers sell usually at about Rs. 40 or Rs. 45 per kanal. Onions, carrots and turnips fetch rather less. Near Harro the prices obtained for vegetables are possibly

a little lower, but the land is much richer and the outturn is higher. In the Nala most of the vegetables and spices are found in the rich abi lands round Hasan Abdal and Wah, whence they are often exported to Rawalpindi. In these villages onions and cucumbers are often sown just before the sugarcane, in which case room has to be left between the lines for planting the latter, with the result that the yield is not quite so high. Most of the zemindars I have consulted have said that vegetables are generally rather more paying than ordinary tobacco, provided the zemindar does his own marketing, but less so than snuff tobacco. The price of melons varies greatly in different seasons, but in the long run they probably fetch rather less than vegetables. To be on the safe side, the gross value of the crops included in "Others" grown on chahi and abi land may be put at Rs. 20 per kanal in the Nala and Rs. 22-8-0 per kanal in the other two circles.

107. On nahri, barani and sailab land the area of crops under the head "Others" on unirrigated land "Others" is small, both in the kharif and in the rabi. The Circle Note Books do not, as a rule, give details of what these crops are, but merely class them as "Miscellaneous". In the rabi a fair proportion is probably melons and water-melons. An all-round rate of Rs. 6 per acre for all three circles may be taken for these crops. Some of the nahri *do-fasli* "Others" includes a few vegetables so Rs. 10 per acre may be taken for nahri.

108. Maize is by far the most important of the kharif crops on well land in all three circles. Mr. Butler took 880 seers in the Chhachh, 800 in the Nala and 640 in the Sarwala. In the Chhachh his experiments gave 833 in 1901 when the rainfall in July and August was extremely scanty and 1,063 in 1902 when the monsoon was good. The Shamasabad accounts give 631, but an experiment carried out in 1924 in Kalu Khurd, a village to the west of Shamasabad, gave 954. This crop is grown on all chahi soils, good and bad alike. In the Chhachh, however, 41 per cent of the chahi land lies in villages which get the Gandgarh spill. It is in these villages also that we find the very heavy manuring for tobacco, which is almost invariably followed by maize. I made a good many enquiries from zemindars and others, and the general opinion of those who seemed most reliable was that 32 maunds was an ordinary yield for maize grown after tobacco in the eastern Chhachh; 40 maunds is by no means unusual on the better land. In fact, many zemindars named a much higher figure even than this. This corresponds with Mr. Watson's experience of the Haripur tahsil, in parts of which the yield "runs up to 30 and 40 maunds an acre, and even more\*". In the western part of the circle 20 to 25 maunds seems to be about the normal, but there the soil does not get the Gandgarh spill and is lighter and the manuring is usually not so heavy. I have seen the maize crop on the ground, and though, as a rule, the plants do not have more than one cob each, they grow very thickly, and the cobs are fairly good. Taking everything into consideration, I think it will be fair to assume a rate of 25 maunds, i.e., 1,000 seers, in the Chhachh. Even this is below the rate given by Mr. Butler's experiments in 1902.

109. About half the chahi land of the Nala is in the Saggar tract, but the cultivation, even on the wells in Burhan, is not so intensive as in the Chhachh. The jhalari land, which represents one-fifth of the whole chahi area of the circle, also reduces the general average slightly as the streams are apt to fail when there is a drought. Mr. Butler's experiments gave 952 in 1901 and 987 in 1902. An experiment in Burhan in 1924 gave 1,078. I think his rate should be raised to 880. In the Sarwala the rate is a good deal lower, but most of the chahi land is of much poorer quality. Moreover, a great many of the wells are new and have been sunk in the rather light soil in the neighbourhood of Campbellpore. The land on these certainly does not give such a good outturn as that on the older wells which have been manured regularly for 20 or 30 years. For these reasons it will be safer to leave Mr. Butler's figure for the Sarwala as it stands.

\* Paragraph 17 of Mr. Watson's Assessment Report on the Haripur Tahsil.



110. There is no doubt that the rich abi lands of Wah and Hasan Abdal, which constitute 41 per cent of the total abi of the Nala circle, produce a good deal more than Mr. Butler's rate of 800, but the small areas of abi land dotted about in the nullahs of other villages of the circle or lying along the Haro probably produce less as the water-supply is not so certain as that of chahi. In the Sarwala the abi area is small. Mr. Butler's rates may be retained.

For nahri and sailab maize Mr. Butler took 400 and I think this may be accepted. The kharaba rate in the kharif is very high in the Panjkatta tract, which makes the yield very variable.

111. Mr. Butler assumed 280 in the Chhachh and 200 in the Sarwala and Nala circles. As this staple requires more rain than bajra, the amount grown on unirrigated land is comparatively small and the kharaba is high. The villages in which barani maize is found are mostly those in the north-east of the Nala circle where it touches the Hari-par tahsil. The kharif rainfall there is probably higher than anywhere else in the circle. In the absence of any reliable data, it will be safer to adhere to these figures.

112. The more valuable kind of sugarcane known as paundah is nowadays not used for the extraction of gur, but is cut up into pieces for chewing. Practically all the cane grown in the Nala circle is of this kind. Some of the best wells near Hazro also grow it, but in the rest of the Chhachh kahu is grown. In the Sarwala circle the amount of paundah cane is negligible. At last settlement Mr. Butler put the value of this crop in the Chhachh when sold standing at Rs. 200 per acre, and he allowed a deduction of Rs. 16 for seed, leaving Rs. 184. In the Nala circle he took Rs. 120 to allow a margin. Prices certainly seem to have risen a good deal since then. Ordinarily a kanal of paundah cane now sells for Rs. 60 to Rs. 70. Sometimes in the best land Rs. 80 or more is obtained. I propose to take Rs. 60 per kanal, i.e., Rs. 480 per acre.

The price in the Nala circle, as far as my enquiries go, appears to be about the same as that in the Chhachh. As practically all the cane is grown on the rich abi lands of Hasan Abdal and Wah, there is no reason why the Nala cane should be any less valuable.

Kahu cane is used mainly for the extraction of gur. Mr. Butler took a yield of 32 maunds of gur per acre. Kahu cane seems to do fairly well in the rather sandy chahi land of the western Chhachh. It is not grown at all in the Nala and very little in the Sarwala. The enquiries which have been made during the present settlement confirm Mr. Butler's conclusions and I have retained his figure.

The Circle Note Books do not give details of paundah and kahu cane separately. I would put the paundah cane in the Chhachh at about 10 per cent of the whole—say 91 acres out of the 891 given in statement II. The gross value of chahi sugarcane in the Chachh thus works out as follows:—

		Rs.
91 acres of paundah at Rs. 480 per acre	...	43,680
800 acres of kahu producing 32 maunds of gur per acre at Rs. 4	...	
per maund	...	1,02,400
Total	..	1,46,080

113. Bajra is very rarely grown on chahi or abi land. Being thus entirely dependent on the capricious summer rains, the kharaba runs very high. Crop experiments are therefore of very little value, and it is very difficult to estimate what the average outturn really is. It is almost invariably grown on the firmer soils so in years of regular rainfall the yield should be good. On the other hand, these soils do not retain their moisture so well as the lighter loam of the Chhachh, and a bad break in the rains is usually disastrous. As the question of the correct yield is so much a matter of conjecture, it will be safer to retain Mr. Butler's figures, as modified in the case of the maira of the Nala by the Settlement Commissioner.

114. The pulses are mung and moth. Both are grown a good deal less than they were 20 years ago. Mung is almost entirely confined to the Chhachh and is found mainly in the firmer portions, often in amongst bajra or jowar. Moth is grown more on the lighter soils. In the Sarwala circle I have often seen it grown along with bajra or chari. It is grown more often for fodder than for the grain, though the latter is frequently used for dal. I have retained Mr. Butler's figures.

115. The cultivation of cotton, which was small before, has decreased still further. In the Nala circle it is sometimes found on las, but elsewhere it is usually grown on irrigated land.

116. By far the most important fodder crop is chari. A good deal of this is grown in the Chel sailab of the Chhachh and Sarwala circles, where it does very well, provided there is not too much rain. Other fodder crops are shaftal (chiefly grown on chahi land), methra and senji. At last settlement Mr. Butler proposed an all-round rate of Rs. 20 per acre for fodder crops, in which he included jowar, as he found that it was nearly always grown for fodder. The Settlement Commissioner reduced this to Rs. 12, saying that, "We must be cautious as regards the value we put on a crop mainly consumed by the cattle"\*. Mr. Kitchin fixed different rates for different classes of land in the different circles of the Pindigheb and Fatehjang tahsils. On chahi his rates varied from Rs. 12 per acre in the Makhad circle to Rs. 25 per acre in the Sil soan. For maira and las he usually took Rs. 6 per acre. At present an acre of jowar-chari on sailab or good barani land in the Chhachh sells at about Rs. 40 per acre; that on chahi land fetches more; while the fodder crops produced by the other barani lands of the tahsil fetch rather less. The prices, however, vary a great deal. The Chhachh especially has very limited grazing-grounds in comparison with the number of cattle, and in years of deficient rainfall the price of fodder soars. The weekly cattle fairs at Gondal, etc., also provide a constant demand. Taking all these factors into consideration, I think it will be safe to assume Rs. 35 per acre for fodder on chahi land in the Chhachh, Rs. 25 on sailab and Rs. 15 on barani. Slightly lower rates have been taken for the other circles. Details of them will be found in the produce estimate. In all three circles practically nearly all the jowar is grown for fodder. Any grain which is extracted is usually kept for seed and very little is sold or eaten. I have therefore fixed the same cash rate for jowar as for fodder.

117. The question of fodder deductions and the valuation of the owner's share of the straw is always a difficult one and it is impossible to arrive at any accurate conclusions. On irrigated land the owner almost invariably takes the same share of straw as of grain throughout the tahsil. In the Chhachh this is also the case for un-irrigated classes of land as well. In the Sarwala circle his share is usually limited to one or two head-loads or bullock loads of straw per plough or per holding. The same is generally the case in the Nala, except that there he sometimes takes a share of both the straw and grain of moth, and sometimes a share of one of these only. At last settlement Mr. Butler omitted the value of the straw from the produce estimate altogether. In the Sarwala and Nala circles this was done apparently because the amount taken was so small, while in the Chhachh he put it as a set-off against the high estimated rate of batai rent†. The general principle of fodder deductions is discussed in paragraph 322 of the Settlement Manual. As far as I have been able to ascertain, the tenants in the Attock tahsil are not allowed any free areas of fodder by the owners. In the Chhachh, most of the landlords being small, cultivating owners have their own cattle to feed and are very careful to get everything they can from the tenant. If the tenant cuts any green wheat, etc., for his cattle, he has to give the owner a share. Even so, it is possible that, being always on the spot, the tenant is able to graze his cattle occasionally on the crops, without

\* Paragraph 14 of the Settlement Commissioner's Review.

† Paragraph 40 of Mr. Butler's Assessment Report.

the knowledge of the owner. Much of the taramira and sarshaf is also grazed, especially when the crop is a poor one, and the owner often does not bother to take a share of this. Taking everything into consideration, I think the fairest way will be to include the owner's share of the wheat and maize straw on chahi and abi land in all three circles. In the case of barani land, I would include only the owner's share of wheat straw in the Chhachh. The value of what is thus excluded is not great.

118. In the Fatehjang and Pindigheb tahsils Mr. Kitchin allowed the whole of the straw by way of a fodder deduction. In the Rawalpindi tahsil he included that of wheat, maize and moth\*. On chahi and abi he valued the maize stalks at Rs. 12 per acre in the Kharora circle, parts of which resemble the Nala circle, and Rs. 16 in the Kandhi soan. An estimate given me by the Settlement Tahsildar of the present market rate of maize straw in the Attock tahsil is Rs. 16 per acre. The yield is very high on the richly-manured chahi land of the Chhachh, and with the limited grazing-grounds there is always a keen demand for fodder. I would put the rate at Rs. 20 per acre for the Chhachh and Rs. 16 for the other two circles. For chahi and abi wheat straw Mr. Kitchin took Rs. 6 per acre in the Kharora and Rs. 5 per acre in the Kandhi soan. The crop experiments show that the amount of bhusa produced by chahi wheat is usually about 50 per cent more than the grain. It seems, however, to vary a good deal, and I doubt the reliability of the figures as bhusa is very often not weighed carefully. I think a fair estimate will be 16 maunds per acre. The price also varies a great deal. In the winter of 1923-24 it was about 8 annas per maund as the previous rabi had been a very good one. This year it was about one rupee per maund, with a tendency to rise in February. The actual price the landlord gets for it is not great as he very seldom has a surplus to sell, except in good years, when the demand is small and the price low. 8 annas a maund will be a quite high enough price to assume. I propose therefore to take Rs. 8 per acre for the Chhachh and Rs. 7 per acre for the other two circles. In the case of barani wheat in the Chhachh, the experiments show that the weight of bhusa exceeds the weight of the grain by rather more than 50 per cent. The yield assumed for grain is 6 maunds, and I propose to take 10 maunds for straw, giving a cash value of Rs. 5 per acre.

The figures for the different circles work out as follows :—

<i>Chhachh—</i>		Rs.
Chahi maize straw—7,183 acres at Rs. 20 per acre	...	1,43,760
Chahi wheat straw—2,991 acres at Rs. 8 per acre	...	23,928
Total for chahi land	...	1,67,688
Barani wheat straw—24,662 acres at Rs. 5 per acre	...	1,23,310
<i>Sarwala—</i>		
Chahi maize straw—1,580 acres at Rs. 16 per acre	...	25,280
Chahi wheat straw—675 acres at Rs. 7 per acre	...	4,725
Total for chahi land	...	30,005
Abi maize straw—115 acres at Rs. 16 per acre	...	1,840
Abi wheat straw—43 acres at Rs. 7 per acre	...	301
Total for abi land	...	2,141
<i>Nala—</i>		
Chahi maize straw—1,929 acres at Rs. 16 per acre	...	30,864
Chahi wheat straw—779 acres at Rs. 7 per acre	...	5,453
Total for chahi land	...	36,317
Abi maize straw—766 acres at Rs. 16 per acre	...	12,256
Abi wheat straw—304 acres at Rs. 7 per acre	...	2,128
Total for abi land	...	14,384

\*Paragraph 50 of Mr. Kitchin's Report on the Pindigheb and Fatehjang Tahsils and paragraph 48 of his Report on the Rawalpindi Tahsil.

119. The commutation prices sanctioned by the Financial Commissioner are given below\*. The prices sanctioned for last settlement have been added for comparison, and, in the case of the four most important grains, the average tahsil harvest prices and the average *Gazette* prices for Campbellpore, Rawalpindi and Jhelum, where available, have also been given. For the latter, the retail prices for wheat and gram in the last fortnight of June, and for bajra and maize in the last fortnight of November, have been taken. The figures in columns 2 to 5 are the average for the 20 years, 1904 to 1923, excluding kharif 1907, rabi 1908, kharif 1915 and rabi 1916, which were all seasons of severe scarcity, and the five years of abnormal war prices 1918 to 1924:—

1	2	3	4	5	6	7
Staple.	Tahsil harvest prices	AVERAGE OF <i>GAZETTE</i> HARVEST PRICES.			COMMUTATION PRICES.	
		Campbellpore.	Rawalpindi.	Jhelum.	Last Settlement	Now.
Wheat ... ..	49	53	52	50	30	40
Gram .. ..	42	42	42	41	25	32
Bajra ... ..	41	44	45	46	24	31
Maize ... ..	39	42	...	..	24	32
Jowar ... ..	35	...	..	...	20	28
Moth ... ..	49	.	...	...	26	40
Mung ... ..	60	...	...	...	36	45
Cotton ... ..	} Incomplete.	...	...	...	64	90
Gur ... ..		...	...	...	56 & 64	64
Barley ... ..	32	...	...	...	18	26
Taramira ... ..	57	...	...	...	32	50
Tobacco (Ordinary) ..	57	...	..	...	40	60

The grounds on which the prices recommended for sanction were based were discussed in detail in the report on the subject and have been dealt with more briefly in the Assessment Report on the Tallagang Tahsil. Due allowance† was made for the fact that in good years, when the small zemindar has a surplus to dispose of, prices are usually low, whereas years of high prices are usually years of scarcity, when the small man consumes all his grain and has nothing to sell. The prices proposed were also compared with the actual prices which prevailed during the last 20 years in order to see on how many occasions the latter fell below the former. The commutation prices sanctioned for this tahsil are considerably higher than the Tallagang prices. The reason for this is that nearly the whole of Tallagang is a long way away from the railway and the grain markets and communications are bad, while the Attock tahsil, on the other hand, is nearly all close to the markets and communications for the most part are good.

120. The general rise of prices has been calculated according to the method prescribed by paragraph 376 of the Settlement Manual. Details of the calculations are given in appendix C. It will be seen that comparison has been made between the commutation prices of the present settlement and those sanctioned for the last. The yields assumed are generally those sanctioned for the last

\* Financial Commissioner's office letter No. 92-1-22-6-15231, dated 21st November 1924.

† Cf. Settlement Manual, paragraph 336.



settlement. The general rise for the different circles thus calculated works out as follows :—

<i>Chhachh.</i>	<i>Sarwala.</i>	<i>Nala.</i>
34.1	33.8	34.8

The all-round rate for the whole tahsil thus comes to approximately 34 per cent. In paragraph 376 of the Settlement Manual it is also stated that the general rise of prices should be calculated by comparing the average *Gazette* prices for a few years before settlement with those obtaining for a few years before the previous settlement. No useful purpose would be served by this comparison in the present case as the prices during the five years 1918 to 1922 were quite abnormal owing to war conditions. In his letter\* forwarding the Forecast Report the Commissioner calculated the rise of prices by comparing the average prices of the 20 years 1903 to 1922 (excluding famine years) with those of the ten years ending 1905 (also excluding famine years). The result gave a general rise of 33 per cent as compared with 34 per cent, as worked out above.

121. As has already been explained in paragraph 75 above, the usual rate for chahi land when cultivated by tenants-at-will is one-half batai, the cost of the manure, seed, well-rope and pots being shared half and half. Ordinary petty repairs to the well gear are done by the lohar or tarkhan, who gets his allowance of grain from the common heap. The wood for petty repairs is provided by the tenant-at-will; that for the rest of the well-gear is found by the owner. The cost of a good Persian-wheel complete with axle, etc., is nowadays about Rs. 120. I have received most conflicting opinions in regard to the average life of the wheels, but I think it would be safe to take it at 12 years. This means an average annual cost of Rs. 10. The well-rope costs about Rs. 2. It has to be changed four to six times per annum. The annual cost may be taken at Rs. 10. Practically all the wells, being single-bullock ones, usually only about 55 or 60 pots are tied on to the rope, but breakages are numerous and anywhere from 150 to 250 are used in the year. In some villages the kumhar provides these free of charge and gets his allowance of grain from the common heap, but this is the exception, and in the Chhachh especially the pots nearly always have to be bought. Three or four can be had for an anna. The annual expenditure on pots thus comes to about Rs. 4. In addition to this, the owner has to incur other miscellaneous expenses for keeping the cylinder of the well and the platform, etc., at the top in repair. In some of the wells in the Chhachh sand has a way of coming in at the bottom, and special repairs then have to be undertaken, which are apt to be costly. On the whole, I think Rs. 10 per annum should cover all such miscellaneous expenses. The share of the expenses of working the well which the owner has to find thus works out as follows :—

	Rs.
Half the cost of well-ropes ... ..	5
Half the cost of pots ... ..	2
Cost of renewing Persian-wheel, etc. ... ..	10
Other miscellaneous repairs to the well ... ..	10
Total ..	27 per annum.

In addition to the above, another Rs. 5 may be added for each jhalar to allow for the help occasionally given by the owners in the maintenance of the *bands*, water-courses and tunnels. To calculate the deductions to be made on account of the above expenses in any circle, we have only to multiply the total number of wells by 27 and the number of jhalars by 32. The average number of wells in use, or fit for use, is given in statement I. The number of jhalars is not shown separately, but kacha wells and dhenklies are rare. I have therefore included them in jhalars. The total amount which the owners have to pay in each circle for the upkeep of the wells and jhalars thus works out as follows :—

<i>Chhachh Circle.</i>				
	...	...	...	Rs.
1,850 wells at Rs. 27	...	...	...	49,950
62 jhalars at Rs. 32	...	...	...	1,984
Total				51,934

\* No. 96-Finl., dated 17th February 1923, to the Senior Secretary to the Financial Commissioners.

*Sarwala Circle.*

619 wells at Rs. 27	..	...	...	...	Rs. 16,713
55 jhalars at Rs. 32	...	...	...	...	1,760
Total					18,473

*Nala Circle.*

563 wells at Rs. 27	...	...	...	...	Rs. 15,201
217 jhalars at Rs. 32	...	...	...	...	6,944
Total					22,145

122. The cost of manure for the irrigated land in this tahsil is such an important item that it has been necessary to go into the question in some detail. It varies considerably in different tracts. Where there is little irrigated land and cattle are plentiful, it is cheap. Where wells are numerous and highly cultivated, especially if the lack of grazing-grounds makes it expensive keeping a lot of cattle, manure is dear. For the whole of the tahsil, except the portion bordering on the Kala-Chita range, there is a permanent shortage of fuel. So great is the demand for it in the Chhachh that the people dig up the dried roots of the maize and jowar in the winter and stack them for burning. As has already been explained, Mr. Butler, for the purposes of his village notes and assessments, divided each circle up into groups. The eight groups of the Chhachh are shown in one of the maps at the end of the report. Groups III to VI are the las groups. Broadly speaking, they are the villages in the neighbourhood of Hazro which get the benefit of the Gandgarh spill; 89 per cent of the tobacco of the circle is grown in them. Groups I and VII lie along the Indus. Their soil is mostly light and sandy as these villages have in most cases been damaged by the great floods of 1841. Groups II and VIII are intermediate, both as regards position and the quality of the land between the Indus groups and the Hazro block. Manure is usually stacked inside or around the village abadi and is then taken out to the well land on bullocks. A very wide, open, shallow sack is used, which is put on the bullock's back, and contains a maund to a maund and a half of manure. I have found it convenient to take one sack-load as the unit for working out the price. In the Hazro villages the present price of ordinary cattle manure is from  $2\frac{1}{2}$  sacks to 3 sacks per rupee according to the quality, the older stuff being better and more expensive. In the rest of the Chhachh the price varies from about  $4\frac{1}{2}$  to 6 sacks per rupee. In the Sarwala circle the price of manure in the villages in the north-east corner bordering on the Chhachh is about the same as that of the Hazro villages. For the chahi land along the Grand Trunk Road it is rather less, being about 5 or 6 sacks per rupee. Round Campbellpore it is still cheaper. The cantonment there usually contains a battery and the whole or part of a divisional ammunition column. Though the land on the wells near Campbellpore is heavily manured, the area is not very large, so there is never a shortage, and the price is about 10 sacks per rupee. Coming to the Nala circle, the Saggar tract is the only part where wells are abundant. The villages there, however, have extensive grazing-grounds and large herds. The price of manure is about the same there as in the west of the Chhachh, i.e.,  $4\frac{1}{2}$  to 6 sacks per rupee. For the rest of the Nala circle 10 sacks per rupee may be taken. Hasan Abdal is the only place where there is a large demand for it, and there the weekly cattle fair and the large number of bullock carts always found resting by the roadside increase the supply. If there is any deficiency, plenty can be obtained from the surrounding villages, which have good grazing and very little irrigation.

123. The quantity of manure used for different crops varies of course very considerably, and it has not been easy to arrive at any accurate conclusion as to the actual amount. The inherent mendacity of the average zemindar when questioned about agricultural matters during settlement is nowhere more marked than in his statements about the amount of manure he uses. Fortunately the village inspections were carried out when the manure was actually being put down and I was able to measure up roughly a considerable number of fields and

count the heaps on them. These personal observations were also supplemented by the usual enquiries, and in some cases I think fairly reliable estimates were

Manure for snuff tobacco.

given to me. For snuff tobacco, and frequently also for paundah cane, the ordinary cattle manure is not rich enough, and sheep and goat manure has to be imported. Some of this comes from the hamlets on the slopes of the Gandgarh mountain, which possess large herds. The rest is mostly imported from the Kala-Chita villages on camels and sometimes comes even from the Patehjang tahsil. The price varies with the price of snuff tobacco. It is cheaper this year than it was last owing to the slump in tobacco prices generally. Usually a camel-load costs about Re. 1-8-0 or Rs. 2. I saw it on the ground in many fields in the Hazro villages and made numerous enquiries into the cost. Excluding those which were obviously unreliable, the average of the others works out at Rs. 34 per kanal, or Rs. 272 per acre, which figure I have decided to adopt.

124. The mean of a number of personal observations and enquiries in

Manure for ordinary tobacco

regard to the amount of manure used for ordinary tobacco sown after maize and usually followed by maize works out at 37 sacks per kanal in the Chhachh. The cost of this at the rates mentioned above comes to approximately Rs. 120 per acre in the Hazro villages and Rs. 70 in the rest of the Chhachh. As nine-tenths of the tobacco in the Chhachh is grown in the former, the average for the whole circle will thus come to Rs. 115 per acre. In the other two circles the manuring is not quite so heavy. Thirty sacks per kanal may be taken as the average. In the Nala circle this gives an average cost of Rs. 48 per acre for the Saggar tract and Rs. 24 per acre for the rest. About two-fifths of the chahi tobacco of the Nala circle is grown in the Saggar tract so the all-round rate for the circle works out at about Rs. 33 per acre. In the Sarwala circle the average worked out in the same way comes to about Rs. 42 per acre.

125. Paundah cane is grown only in the richest lands in the Chhachh

Cost of manure for sugarcane

and in the villages of Hasan Abdal and Wah. Usually onions and cucumbers are sown in January or February, room being left between the lines for the cane. Just before the vegetables are ready the cane is put in. For these two crops the manuring has to be heavy. I have put it at Rs. 160 per acre in the Chhachh and Rs. 80 in the Nala. For kahu cane about 30 bags of ordinary manure per kanal are used. This costs about Rs. 10 per kanal in the eastern Chhachh and Rs. 6 per kanal in the western, with an all-round rate of Rs. 60 per acre.

126. For wheat (or barley) the usual practice is to put down the manure

Cost of manure for wheat and maize on chahi land.

in January just as the crop is coming up. This usually suffices for the wheat and the maize or chari grown after it, if any. In the case of maize grown after tobacco, no extra manure is required. The average cost of manure for wheat comes to Rs. 40 per acre in the Chhachh, Rs. 28 in the Sarwala and Rs. 24 in the Nala.

127. "Others" being practically all vegetables, melons and spices, the

Cost of manure for vegetables, etc

cost of the manure is about the same as in the case of ordinary tobacco.

For the sake of convenience, these rates are collected in the table below:—

Crop.				AVERAGE COST OF MANURE PER ACRE FOR DIFFERENT CROPS GROWN ON CHAHI LAND BY ASSESSMENT CIRCLES.		
				Chhachh.	Sarwala	Nala.
				Rs.	Rs.	Rs.
Snuff tobacco	...	...	...	272	272	...
Ordinary tobacco	...	...	...	115	42	33
Paundah cane	...	...	...	160	...	80
Kahu cane	...	...	...	60	42	...
Wheat or barley	...	...	...	40	28	24
"Others"	...	...	...	100	40	33

Generally the rates I have taken for abi are the same, though in some cases I have adopted a slightly lower figure. Details will be found in appendix F.

128. As has already been explained, the cost of seed on irrigated lands is usually shared between the owner and tenant in the same proportion as the crops. In the large majority of cases, that is, the cost is borne half and half. For wheat about 20 seers of seed are used per acre, the cost of which at the price sanctioned for the settlement comes to Re. 1-7-0. For barley the amount used is rather less, say 25 or 26 seers, costing one rupee per acre. For maize 16 seers of seed are sufficient, the cost being Rs. '8 per acre. For cotton 12 seers are required. No commutation price has been sanctioned for cotton seed, but about Rs 4 or Rs 5 per maund should be fair. This will give about Re. 1-1-0 per acre. For tobacco and vegetables the zemindar nearly always keeps his own seed. Even if he has none, the cost is very small. For fodder also he nearly always has his own supplies. Most of the fodder is chari, and he usually cuts off enough of the heads to give him the seed he wants for next year. For sugarcane the cost of seed is a heavy item. In the case of paundah, if it is purchased, the cost is about Rs 8 per kanal. More often the cultivator retains a certain portion of the cut crop, stacks it and heaps earth on it. It is then ready for use as seed when the time comes. The amount required is usually about one to two marlas per kanal, i.e., Rs. 3 to Rs. 6. An allowance of Rs. 7 per kanal, i.e., Rs. 56 per acre, should thus be ample. In the case of kahu cane, the cost of seed comes to about Rs 24 per acre.

For kahu cane a deduction also has been made for the cost of extraction of the gur. Mr. Butler put this at Rs. 18-8-0 per acre. Wages, etc., have risen a good deal since then, and enquiries made now show that the cost is about Rs. 40 per acre. This also is generally shared between the owner and tenant.

129. The menials and artisans of the village all get a share of grain, etc., out of the common heap. The two most important are the tarkhan and the lohar. In most villages one man, i.e., the tarkhan, does the work of both, and no separate due is recorded for the lohar. The muhassali, or watchman for the threshing-floor, occasionally receives a share on barani land, but not on irrigated land. The dues are expressed in terms of various local measures the corresponding weights of which have been entered in the records in seers. For chahi land I have had the dues thus converted into seers and tabulated them for 26 villages in the Chhachh. The average works out as shown in the table below. In many cases where the entry is "Wheat or barley" I have simply taken 'wheat' to simplify the calculation. The rate in each case is per Persian-wheel so that a well with two wheels will of course pay double. The prices are the commutation prices sanctioned for the settlement:—

			Rs.	A.	P.
Maize 23 seers at 32 annas per maund	..	...	1	2	5
Wheat 12 seers at 40 annas per maund	...	...	0	12	0
Onions 1½ seers at 1 anna per seer	..	...	0	1	6
Tobacco 3 seers at 60 annas per maund	...	...	0	4	6
Total			2	4	5

To allow a small margin, the rate may be taken as Rs 2-8-0 per well-wheel. The rate for jhalars is usually the same. Figures are not available to show exactly how many of the wells in each circle have two wheels, but I have seen very few. I would put the number at 50 in the Chhachh, 20 in the Sarwala and 10 in the Nala. To calculate the menials' dues on chahi land, the number of wells and jhalars given in columns 15 and 16 of statement I will have to be increased by these amounts. The figures work out as shown below:—

*Menials' and artisans' due on chahi land.*

<i>Circle.</i>	<i>Number of wells and jhalars.</i>			<i>Total dues.</i>
				<i>Rs.</i>
Chhachh	...	...	1,962	4,805
Sarwala	...	...	691	1,785
Nala	...	...	799	1,975



130. The dues payable to the tarkhan and lohar on barani land for the same 26 villages have been worked out in the same way. In this case, the unit is the plough. The total comes to 29 annas. For seven villages in the north-east of the Nala circle the value of the dues paid comes to 41 annas. In all these latter villages the muhassali takes something, usually 8 seers of grain per threshing-floor. Figures were worked out by the Extra Assistant Settlement Officer for 16 villages all over the tahsil. The average of these came to 96 seers of grain of different kinds, say about Rs. 5 per plough, but his figures were swollen by a couple of villages in which the dues shown are quite abnormal. I think they probably include some payments for the extraction of lime. From statement IX it will be seen that there is on an average about one plough to every 13 acres. The figures for ploughs in the village and Circle Note Books are not of course absolutely reliable, but I do not think the error in accepting them will be great. From the figures given above, it will be seen that the dues on barani land work out at between Rs. 2 and Rs. 3 per plough. In actual practice, probably rather more is given as in good years the zemindar is usually liberal. Taking everything into consideration, I think an allowance of Rs. 2 per acre will probably be fair for all three circles. This rate has been taken for all classes of land other than chahi.

In addition to the tarkhan and lohar, it is the usual practice to give the nai and mochi a share out of the common heap. In many villages also the Imam of the mosque gets a similar allowance. I have made no deductions for these as they are not agricultural menials. The payments, however, are necessary ones and must not be lost sight of. In many settlements an allowance is made for the hire of reapers. I have made a good many enquiries about this, and the reply nearly always given me has been that the tenant is responsible for cutting the crop, and that, if he requires assistance, he has to pay for it himself. I think this probably represents the true state of affairs—at any rate in the Chhachh and Nala—and I have accordingly made no deduction for reaping charges. In the Sarwala occasionally, if the cultivator is ill or if the crop is a very big one, labourers are hired for cutting the wheat and gram, but this is the exception. The hired reaper gets one bundle out of every 20 he cuts. This is a deduction from the common heap. I have not made any allowance for it in the produce estimate as I have recently discovered that some of the batai rates round Campbellpore are really higher than those shown in the records. This will balance the very occasional expenditure incurred by the owner on hiring reapers.

131. The arrangement of the produce estimate and the calculation of the net assets based on batai rents follow the usual lines. On chahi and abi land the batai rate has been taken as  $\frac{1}{2}$ , except in the Sarwala,

where it is  $\frac{1}{4}$ . The expenses which are shared, *i.e.*, the cost of manure and seed and the expenditure on renewals of the well-rope and pots, have been worked out separately in appendix F. In the case of kahu cane, the cost of extracting the gur has also been added. The totals for the shared expenses for each staple worked out in this way have been entered up in the produce estimate and deducted from the gross value of each staple. It will be seen that in a few cases, *e.g.*, wheat and barley, the balance is shown as negative. The reason for this is that the cost of the manure for wheat followed by maize, *etc.*, has been shown entirely under wheat, while the value of the straw has been included in column 23. The deductions entered in column 25 on account of the dues of artisans and menials are those worked out in paragraphs 129 and 130. Column 26 gives the balance after this deduction has been made, while column 27 shows the value of the landlord's share calculated at the rates worked out in paragraphs 73 to 75. From it, in the case of the chahi land, has been subtracted the cost of the upkeep of the well, which is borne by him alone.

The yields assumed have already been discussed in detail. In the case of sugarcane, where only one kind is grown, *e.g.*, in the Sarwala circle, the cash rate has been given. Where both kinds are grown, only the gross value, as worked out in paragraph 112, has been entered. The same remark applies to the case of tobacco.

132. The last column of the produce estimate, as explained above, shows the owner's net share after deducting all expenses, i.e., the "net assets". To work out rates from these figures the total in each case has been divided by the area of the class of land in question, as shown in statement I. Obviously, to get a correct result, the ten-years' average must be taken. The result for the different circles works out as shown below :—

	Area in Acres.	Net value of owner's share.	Rate per acre.
<i>Chhachh</i> —		Rs.	Rs.
Chahi ...	9,845	3,56,475	36.2
Sailab ...	193	1,502	7.78
Barani ...	46,649	2,91,820	6.25
Total ...	56,687	6,49,797	11.45
<i>Sarwala</i> —			
Chahi ...	2,048	53,806	26.3
Abi ...	151	4,355	28.8
Sailab ...	1,100	7,627	6.88
Barani ...	51,767	80,951	1.56
Total ...	55,066	1,46,742	2.65
<i>Nala</i> —			
Chahi and chahi-nabri	2,182	71,889	32.9
Ali ...	1,058	47,590	44.75
Nabri ...	7,890	65,136	8.29
Sailab ...	667	5,243	7.86
Barani ...	71,706	2,37,196	3.17
Total ...	83,503	4,27,157	4.95

A comparison of the rates thus ascertained with those worked out by Mr. Butler in paragraph 43 of his report at last Settlement shows generally a very big increase in the case of chahi and abi and a much smaller one in the case of the other classes of land. The increase in the case of the irrigated classes is partly due to the fact that I have included the straw of wheat and maize in the produce estimate and partly to the much higher yield assumed for tobacco. As a matter of fact, no strict correspondence between the two sets of rates is really to be expected as the methods adopted have been different. Thus, to take only one point, Mr. Butler's half-net assets' rate has been worked out by dividing the Government share, i.e., the half-net assets of each class of land by the cultivated area for that class in 1902-03. In the case of chahi, where there has been a considerable increase owing to the number of new wells sunk, this must give too low a result. Then again the seven years' selected for the produce estimate for last Settlement seems to have been below normal, period at any rate in the Nala circle.

133. In the case of chahi and abi land, the net assets calculated from the produce estimate may now be compared with the average cash rents worked out for each circle in paragraphs 76-88 above. The results in the case of chahi are shown below :—

	<i>Chhachh.</i> Rs.	<i>Sarwala.</i> Rs.	<i>Nala.</i> Rs.
Net assets per acre calculated from the produce estimate.	36.2	26.3	32.9
Average cash rent	43	24.9	24.8

It will be seen that the differences are considerable. As has already been explained in paragraph 78 above, if the cash rents are true economic rents, we should expect them to be higher than the net assets worked out from the produce estimate as the commutation prices are a good deal lower than the prices actually obtained during recent years. In the

case of the Chhachh, this is the case, though the difference is perhaps hardly as large as might be expected. In the other two circles, however, the average cash rent comes to less than the produce estimate rate. This is almost certainly due to one of the following three causes :—

- (a) the yields assumed in the produce estimate are too high ;
- (b) the deductions for seed and manure are insufficient ; or
- (c) the average cash rents worked out are too low.

I have considered the different possibilities carefully, and have come to the conclusion that the real explanation is probably the last. As will be seen from the paragraphs dealing with the cash rent estimates in the Sarwala and Nala circles, the information on which they were based was extremely meagre, and true competition rents are very rare. The rates of rent and the *pagris* paid by mukarraridars and new occupancy tenants suggest higher rates. I think the reason for the low cash rents actually found is chiefly this. During the last 40 years prices have, apart from fluctuations depending on the character of the season, shown a general tendency to a steady rise, and cash rents always tend to lag considerably behind any rise in prices. In the Nala especially we have seen that they are generally customary. The owners are usually men who have a good deal of other land and plenty to live on so they do not take the trouble to try and raise the rent in every case to its economic limit. To do so might lead to their losing a good many tenants. It must also be remembered that prices have fluctuated very violently during the last ten years. No tenant is willing to engage himself to pay a high rate of rent when he knows that a sharp fall in prices may mean his having to borrow money to pay it. He would prefer to pay a relatively higher rate of *batāi*. In the Chhachh most of the landlords are small men, while their tenants are often themselves landowners, who want to take on a little bit more land as they have not enough for themselves. The small self-cultivating proprietor is almost invariably the hardest landlord. He will almost certainly obtain a much better rent for the little he cannot cultivate himself than the big owner with many tenants. In the Nala and Sarwala many of the tenants do not own land themselves, and, if the owner tries to extort a high cash rent, they go elsewhere. It is probable therefore that in the two circles the average cash rents worked out represent very much less than what the self-cultivating owner gets out of the land.

In the case of the *abi* rents of the Nala, the produce estimate rate works out to Rs 44-12-0 as against an average cash rent of Rs. 52. These rents are very largely influenced by the rates obtained in Hasan Abdal and Wah. In the case of the former, much of the cash rented land is held by Hindu capitalists, and they are always careful to take a full rent. This accounts for the fact that the average cash rent worked out for *abi* is higher than the produce estimate rate.

The conclusions to be drawn from the considerations detailed above seem to be that the net assets rate calculated from the produce estimate is a fair guide to the real profits obtained from the *chahi* and *abi* land, and that, where the average cash rents worked out are low, this is due to the fact that they are rare, and, where they are found, are not true competition rents.

134. Before discussing the proposed assessment it will be as well to see what light the produce estimate throws on the economic position of the different circles. With the report on prices a note was submitted on the rates of food consumption in the Tallagang tahsil. The all-round rates worked out were 5·37 maunds of grain per head per annum for zamindars and 4·31 for non-zamindars. In the former were included menials, artisans and others doing manual labour. Non-zamindars consisted mainly of people of the shop-keeping and money-lending classes who lead sedentary lives. The rates were worked out on the basis of wheat, bajra and gram, these three grains being all taken as of equal value from the food point of view. The food value of barley is slightly less, but it is grown very little in Tallagang so it was lumped together along with the wheat. The same rates may be assumed for the Attock

Production and consumption of food-grains.

tahsil. The population figures for this tahsil according to the census of 1921 are as follows :—

Muhammadans	...	...	...	...	158,313
Hindus	..	...	...	...	11,203
Sikhs	...	...	...	...	3,428
Christians and Others	..	...	...	...	528
Total					173,472

The Hindus, and one-half to two-thirds of the Sikhs, nearly all have sedentary occupations and may be classed as non-zamindars. The remaining one-thirds of the Sikhs are mostly carpenters, fitters, etc., and for the purposes of grain consumption they may be classed with the Muhammadans, who are nearly all zamindars or labourers. Ninety-two per cent of the population of the tahsil thus comes under the head "zamindars" and the remaining 8 per cent under "non-zamindars." Taking the rates referred to above, the all-round rate for the tahsil thus works out as follows :—

92 per cent at 5.37 maunds	...	...	...	= 194.04
8 per cent at 4.31 maunds	...	...	...	= 34.48
Total				528.52

This gives an all-round rate per head of 5.2852, say 5.3, maunds, per annum. Applying this rate to the census figures for 1921 for the three circles (paragraph 37 above), we get the total annual consumption of food-grains. The total produce can be worked out easily by merely adding up the entries in the produce estimate (appendix G) relating to the gross produce in maunds for each of the five staples in question. In the case of barley and maize, one-sixth of the total has been deducted as, according to the Jail Manual, the food value of each of these grains is only five-sixths of that of wheat or gram. No account has been taken of mung and moth as these are mainly grown for fodder. What little is eaten by the people is consumed in the form of *dal*, and does not affect the consumption of the grains. Jowar is practically never eaten, the little true jowar which is grown being used for seed. Further, no account has been taken of the amount of gram consumed by the tonga ponies, the battery horses and the bullocks which are used for carts, ploughing, etc. The figures for consumption only relate to the consumption of the people. The amount used for seed has been worked out on the basis of rates per acre ascertained by local inquiry and deducted from the gross produce. The result is shown below. The figures are in thousands of maunds :—

	Chhachh.	Sarwala.	Nala.	Tahsil.
Gross outturn of food-grains	8,71	1,81	3,10	8,12
Deduct for seed	28	37	37	92
Balance	3,43	1,04	2,73	7,20
Consumption	3,96	2,34	2,89	9,19
Normal deficit	53	1,80	16	1,99

135. From the above table it will be seen that the Nala circle is self-supporting, or nearly so. The Chhachh has a small deficit, while the Sarwala circle has a much larger one. As a check on these conclusions, I have worked out the figures from the printed statistics published by the North-Western Railway. The statement below shows the net annual imports for each of the five years 1919-20 to 1923-24 for the only four railway stations in the tahsil from which the exports or imports are appreciable.

Import and export of food-grains by rail.



The figures are in thousands of maunds, and the years are the financial years ending the 31st March :—

Railway Station.	1919-20		1920-21.	1921-22.	1922-23.	1923-24.
	Net imports.	Net exports.	Net imports	Net imports.	Net imports.	Net imports.
Attock	4	...	16	3	1	4
Campbellpore	151	...	191	129	83	70
Lawrencepur	1	...	25	13	6	12
Hasan Abdal	..	18	148	135	49	54
Total	156	18	380	281	142	140

Average net imports for quinquennium = 2.16 per annum.

The figures for 1919-20 would of course be affected mainly by the rabi of 1919. This was about average in the Chhachh, slightly above in the Nala circle and much below in the Sarwala. Hasan Abdal was thus able to export a little, while Campbellpore had to import a good deal, though not quite as much as one would expect from the poorness of the harvest and the fact that the previous kharif had been a bad one. Going on to the next year, rabi 1920 was poor and the following kharif very bad. All the stations accordingly imported much more than they exported. The following rabi was a disastrous one, and again very heavy imports were necessitated. The imports during 1922-23 were probably partly for the purposes of replenishing the reserves which had been seriously depleted during the previous year.

136. Unfortunately I could not obtain detailed figures from the railway prior to the 1st April 1919, and those for 1924-25 have not yet been tabulated. This period of five years is hardly long enough to afford any real check on the yields as the disturbing element of the unknown "carry over" at the beginning and end of the period comes in. From the agricultural point of view the period was below average in the Chhachh and Sarwala and slightly above it in the Nala. The actual imports are thus probably slightly above average. They thus agree very fairly well with the normal deficit as worked out in paragraph 134 when allowance is also made for the fact that the grain consumed by horses and cattle has been omitted from the calculations. There is nothing in these statistics therefore to indicate that the yields assumed are at all too high.

#### PART VII.—REVENUE RATES AND FINANCIAL RESULTS.

137. Mr. Butler's assessment seems on the whole to have been a lenient one. On paper at any rate it would appear to have been more lenient even than the figures warranted. As has already been explained in paragraph 24 above, Mr. Butler calculated his new assessment by applying Mr. Steedman's rates to the new areas and raising the result by 17 per cent. This 17 per cent was his estimate of the effective rise of prices as far as it concerned the zamindar. As will be seen, however, from what he says in paragraph 37 of his report, the actual rise in prices amounted to 23 per cent according to the *Gazette* figures (excluding maize and taramira) and 34 per cent when the calculations were based on the prices in the dealers' books. Mr. Watson, in his forwarding note, thought 17 per cent was too low a figure and suggested its being raised to at least 25 per cent. The Settlement Commissioner, in paragraph 17 of his review, calculated the rise at 27½ per cent, but held that he was not justified in going above Mr. Butler's figure as the tahsil was not self-supporting as regards food, and an increase in the price of food-grains meant little or nothing to the landowner. The question of

principle here involved is really more or less the same as that already discussed in the first section of the Prices Report of the present Settlement. The Financial Commissioner's opinion on the point then raised is contained in paragraph 4 of his note on the report\*. He laid down that commutation prices must not be considered as absolutely accurate and are at best only a rough estimate of the prices ruling in the markets and villages in which grain is sold. "Any attempt to treat these commutation prices as the result of a mathematically exact calculation, and consequently to trust implicitly to the results brought out by them, is sure to result in failure." Looking at the question from a purely theoretical point of view, Government is entitled to a certain definite share of the net profits from the land. If these profits take the form of a fixed portion of the gross produce, as is usually the case, we are therefore entitled to take into account the rise in prices of all staples a share of which the landlord takes from his tenant. This is also justified by the fact that under native rulers Government frequently took a fixed share of the gross produce. If this principle is accepted, Mr. Butler's method of basing his assessment on an assumed rise of 17 per cent obviously gives too low a result. On Mr. Douie's figures the rates might have been raised by 27 per cent, instead of 17 per cent. The reasons why Mr. Butler adopted the lower figure were probably because the new land brought under cultivation was not so good as the old and a higher figure would have given too great an enhancement.

As pointed out by Mr. Watson in his forwarding note, "The soundness of the conclusions arrived at by Mr. Butler's method depends, firstly, on the old rates being neither too much above nor below the mark; secondly, on an approximately correct calculation of the rise in the prices". He might have added that it depended also on the methods of cultivation and the crops grown being generally the same as they were when the old Settlement was first introduced. No very great change had actually taken place, except perhaps in the case of chahi and abi land. Thus in the Nala at last Settlement barley on chahi land had largely been replaced by wheat, which is more valuable, while in the Chhachh the cultivation of tobacco had increased very considerably since Mr. Steedman's time.

138. An examination of the use made of the cash rent data at last Settlement also tends to show that the assessment, at any rate on irrigated land, was unnecessarily lenient. Mr. Butler dealt with these rents in paragraphs 44-46 of his report. The figures he relied on are those contained in columns 23 and 24 of his Statement No VII. He does not explain what steps were taken to eliminate rents which were not true competition rents, and, from what he says in the three paragraphs just mentioned, I am inclined to think that the figures included all cash rents paid by tenants-at-will without distinction. If this is so, there is little doubt that the true competition rate was considerably higher. The examination of cash rents carried out during the present Settlement (*vide* paragraphs 76 to 88 above) shows that a large number of them are merely customary. In the Chhachh the average rent per acre worked out by Mr. Butler came to between Rs. 17 and Rs. 18 per acre, and he wrote, "There is no reason to doubt that this represents the true facts". The average for the Chhachh now worked out comes to Rs. 48. This means a rise of nearly 300 per cent which is hardly possible when prices have only risen 34 per cent. Similar remarks apply, though to a lesser extent, to the other two circles. These cash rents were discussed by the Settlement Commissioner in paragraph 22 of his review, and it was doubtful if he quite realized how much the figures were vitiated by the inclusion of a mass of rents which were really customary or at obsolete rates fixed 40 or 50 years before. This would account for the comparatively low figures worked out by him for his half-net assets based on cash rents.

139. Again, to take the case of abi land, the Settlement Commissioner noted that the best lands at Hasan Abdal and Wah were rented at Rs. 32 per acre. The figures given in paragraphs 83 to 88 above show that the average rent on abi I land at Hasan Abdal is now Rs. 211 per acre, while the average

\*Financial Commissioner's office letter No. 92-1-22-6-15291, dated 21st November 1924.

for all the abi in this village works out at Rs. 111 per acre. As regards barani land, the reasons for the cash rents in the Chhachh, which is the only circle in which they are found to an appreciable extent, being abnormally low, have been discussed in paragraph 85. Those reasons were probably as true at last Settlement as they are now, and it will be seen that Mr. Donie's half-net-assets' estimate for barani based on cash rents was not much more than half that based on kind rents in the Chhachh. From this he concluded that his kind rents estimate for the Chhachh was probably too high. He considered cash rents in this circle a far better guide as regards the barani land; and it is clear, I think, from this that he did not realize that practically all the cash rents there are customary and those which are not are paid only on the worst land.

140. Another point which must not be overlooked is that the seven years selected as the basis of the produce estimate at last Settlement contained a large proportion of bad years in the Nala. In a tract where such violent fluctuations are found as in this circle it would be easy to select two periods of seven years out of the last 30 which would give entirely different results. In the table below I have compared the averages of the percentages of the total annual matured area on the total cultivated area for each circle for the selected years of last Settlement with the corresponding figures for this Settlement and the 29 years' average. These figures certainly point to the conclusion that the seven years on which Mr. Butler relied were a little below the normal in the Nala circle:

			Chhachh	Sarwala.	Nala.
			Rs.	Pg.	Rs.
Average percentage of the total matured area on the total cultivated area, 1894-97 to 1902-03			96	72	70
Ditto	ditto	for 1913-14 to 1922-23	98	68	77
Ditto	ditto	for 29 years ending 1925-24	97	69	74

141. The table below shows the assessment for each circle as finally announced by Mr. Butler\* with its percentage on the kind and cash half-net assets estimates worked out by the Settlement Commissioner in paragraph 23 of his Review:—

			Chhachh.	Sarwala.	Nala.
			Rs.	Rs.	Rs.
Assessment as finally announced	..	...	1,03,500	80,000	70,351
Percentage on the half-net assets based on kind rents	...	...	63	74	63
Ditto	ditto	cash rents	63	80	84

142. The chief factors which influence the question of the assessment of the Chhachh circle may now be summarized briefly for the sake of convenience. The reasons justifying an increase are as follows: Though the cultivated area is practically the same as at Settlement, the number of wells has increased by 23 per cent. The assessment at last Settlement, especially on the chahi land, was probably unnecessarily lenient. Prices have risen by 34 per cent. The circle is prosperous, especially the portion round Hazro, and a large number of new houses have been built, the land sold for them fetching very high prices. There

\* Paragraph 42 of Mr. Butler's Final Settlement Report.

is a very large miscellaneous income, chiefly from persons who have gone abroad. Most of the land is very fertile and everywhere the cultivation is good, the cultivators being industrious. The proprietary body, in spite of a certain amount of indebtedness, is on the whole strong. The normal winter rainfall, at any rate according to the statistics for the last 20 years, is high (11·4 inches) for the Punjab.

113. The grounds for keeping below the recognized Government standard are as follows: In spite of the increase in well irrigation, the number of cattle has decreased slightly since last Settlement. There has also been a slight decrease in the number of sheep and goats. The cost of the cattle required for ploughing and working the wells has increased considerably. The population, which was dense before, has slightly increased so that the pressure on the land has become greater. Proprietary holdings are generally very small. Those of occupancy tenants are also small. Transfers are rather high, though they do not generally indicate poverty. Most of the owners are rather improvident, and custom enjoins on them extravagant expenditure on weddings and funerals, which frequently lead to a heavy load of debt. The rates charged by money-lenders are most exorbitant, and a man who through carelessness or misfortune has once got into their clutches seldom extricates himself without mortgaging or selling a good slice of his property. The Co-operative Credit movement is as yet only in its infancy and few of the zamindars ever try and save money. Educational standards are low. In many villages the people are factious and much money is wasted in litigation. Though this circle is much more secure than either of the other two, 82 per cent is dependent on rainfall. Though the winter rains seldom fail altogether, the monsoon rains are usually insufficient. The normal winter rainfall according to the figures worked out by the Meteorological Department for Attock (8·3 inches) is much lower than the 20 years average for Campbellpore.

141. In view of the considerations discussed in the last paragraph, it is clearly useless attempting to work up to a half-net assets' standard in this circle. The rates now proposed for sanction will therefore be compared with the one-third net assets' standard. I understand there has been a movement in the Council to get this rate fixed as the standard so it will be as well to see how it would work in the present case.

145. Ohahi cultivation and the rents on ohahi land have already been discussed in detail. The one-third net assets based on batai rents comes to Rs. 12·1. One-third of the average cash rents comes to Rs. 14·3. Mr. Butler proposed Rs. 6, which is the same as the rate sanctioned for Major Cracroft's Settlement. The Financial Commissioner proposed Rs. 6½. The rate actually imposed by Mr. Butler was slightly less than Rs. 6½. It is clearly impossible to approach the one-third net assets' standard in this case as it would mean nearly doubling the present rate. I think Rs. 10 per acre is quite as far as it would be safe to go. This represents an increase of somewhere about 55 per cent on the present rate. As it is less than one-fourth of the average cash rent rate, it can hardly be considered unduly severe. It will, however, involve an average rate, of about Rs. 24 in group IV as against Rs. 12, which is the highest rate assessed on any well at present. As the rents on these wells go up to Rs. 180 per acre, this should not be any hardship.

146. Mr. Butler's rate for sailab was Re. 1½. The area of this class of land is small. The one-third net assets works out at Rs. 2·6. The rate I propose is Rs. 2, which is an increase of 33 per cent on Mr. Butler's as against a 34 per cent rise in prices.

147. The barani rates sanctioned at last Settlement varied from 4 annas per acre on rakkar to Rs. 2 per acre on las. The all-round barani rate was approximately Re. 1. The one-third net assets' rate is Rs. 2·1. As already explained in paragraphs 184-187 above, there are reasons for believing that the barani land was let off too lightly at last Settlement owing partly to the existing cash rents being treated as true competition rents and partly to the share of the straw being omitted entirely from the produce estimate. The rate now pro-



posed is Re. 1½. I think we should be justified in going even higher, but it is not desirable to take too large an increase all at once in a circle where the holdings are so small. The increase over Mr. Butler's rate is 50 per cent. It is difficult to estimate correctly the relative value of the different classes of barani, but Mr. Butler's distribution over the different kinds was, I think, very fair. His rates were Rs. 2 for las, Re. 1½ for lipara, 12½ annas for maira and 4 annas for rakkar. I therefore propose to take Rs. 3 for las, Rs. 2-4 for lipara, Re. 1-3 for maira and 6 annas for rakkar. On the figures for 1923-24 this will give an all-round barani rate of Re. 1-8 per acre.

148. According to the instructions contained in paragraphs 7 and 8 of appendix XV of the Settlement Manual, land previously assessed to land revenue which has become absorbed in the village site, or built over, though lying at a distance from the village, should ordinarily be assessed at the same rate as arable land in the neighbourhood, except in the case of small villages where land in the village site is of little value. There are a number of villages lying close to Hazro in many of which a large number of sites have been sold at high prices for houses and built over. A certain amount of cultivated land has also been utilized for brick-kilns with considerable profit to the owners. All these plots are valuable, and they should be assessed at a rate equal to the highest rate for cultivated lands in the village. A list of the villages in question is given below, together with the approximate areas which have been used for house-building or brick-kilns since last Settlement :—

				Houses.	Brick-kilns.
				Acres.	Acres.
Abdal	...	...	...	4	2
Hazro	...	...	...	2	4
Urtak	...	...	...	7	...
Pirdad	...	...	...	...	13
Bhangi	...	...	...	2	2
Shahdher	...	...	...	7	...
Total				22	21

The land which has been built over is mostly the rich land near the village site which, if it had remained chahi, as it usually was, would be assessed at anything up to Rs. 24 per acre, or even more. The area used for brick-kilns is generally further away and not so valuable. I would put Rs. 22-8-0 per acre on the area which has been built over and half this sum on the brick-kilns. The former figure represents a rate of 1 pice per *sarsahi*, or 2½ annas per marla, and will thus be easy for the patwari to apply to the numerous small areas he will have to deal with. The total assessment for land of these two classes will thus work out as follows :—

				Rs.
House sites—22 acres at Rs. 22-8	...	...	...	495
Brick-kilns—21 acres at Rs. 11-4	...	...	...	225
Total				720

I believe these rates are higher than those levied in many cases in the canal colonies, but circumstances are different there.

149. To calculate the total assessment for the circle the rates given in paragraphs 142 to 144 above will be applied to the areas for the year 1923-24. These include the measurements of the present Settlement in rather more than half the villages and the figures taken from the last Jamabandi in the case of the remainder. They do not differ appreciably from those given by the Circle Note Book for 1922-23, and will probably approximate fairly closely to the totals ultimately worked out when all the measurement work is complete.

The result will be seen from the table below. The figures\* for last Settlement have been added for comparison :—

MR. BUTLER'S ASSESSMENT.				NOW PROPOSED.		
Class of land.	Area (1902-03).	Sanctioned rate per acre.	Assessment.	Area (1923-24).	Rate per acre.	Assessment.
	Acres.	Rs. A.	Rs.	Acres.	Rs. A.	Rs.
Chahi ...	8,792	6 0	52,752	10,026	10 0	1,00,260
Sailab ...	202	1 8	303	182	2 0	364
Las ...	8,803	2 0	17,606	8,608	3 0	25,824
Lipara ..	861	1 8	1,291	579	2 4	1,803
Maira ..	35,703	0 12½	27,893	31,426	1 3	40,981
Rakkar ...	2,329	0 4	582	2,235	0 6	939
Total ...	56,990	1 77	1,00,427	56,956	8 02	1,69,479
Assessment sanctioned	...	...	1,05,000	Urban assessment	...	720
Actually announced	...	...	1,03,600	Grand Total ...	...	1,70,190
				Increase per cent	...	64
				Percentage of net assets	...	26

150. Most of the reasons justifying an enhancement of the land revenue demand in the Chhachh apply with equal force to the Sarwala circle, except that possibly the barani assessment was comparatively rather fuller in the latter circle than in the former. Other reasons for an enhancement are—

- the growth of the new headquarters has added considerably to the prosperity of the surrounding villages ;
- the holdings are generally fairly large and many of the owners are improvident and extravagant. Too light an assessment in their case only tends to encourage vice and further extravagance ;
- many of the owners have benefited considerably by having wells sunk for them by mukarraridars without incurring any expenditure themselves. They frequently also extracted *pagris* and now get rents of Rs. 16 per acre and upwards for land which before produced little or nothing ; and
- a certain amount of land has fallen out of cultivation, but this is the worst and poorest.

151. The arguments in favour of a moderate assessment are—

- there is a good deal of floating debt, and even the small owners are thriftless ;
- gram has suffered much more during the last 12 or 15 years than it did prior to last settlement. Whatever the reasons for this may be, the factor must not be overlooked. Gram has to be cultivated in this circle to revive the fertility of the land ; otherwise the outturn of wheat falls ; and
- less than 4 per cent of the circle is irrigated and it is much more insecure than the Chhachh. Kharaba is high.

152. The rate sanctioned for chahi land at last settlement was Rs. 4½.

The chahi rate.

The produce estimate works out at Rs. 26·8 per acre, one-third of which is Rs. 8·8. One-third of the average cash rent estimate comes to Rs. 8·3. The rate I propose to take is Rs. 7 per acre, which is an increase of 56 per cent on the present rate. The increase of 75 per cent in the number of wells in use as compared with last Settlement is a testimony to the extremely profitable nature of chahi cultivation in this circle.

\* Vide paragraph 41 of Mr. Butler's Final Settlement Report.

153. The abi area is only about 150 acres. The rate imposed at last Settlement was Rs. 4. The one-third net assets' estimate gives Rs. 9.6. I propose to take the same rate as in the case of chahi, i.e., Rs. 7 per acre. This is an increase of 75 per cent over the present rate.

154. In the case of sailab, the one-third net assets works out at Rs. 2.1 here as against Rs. 2.6 in the Chhachh. The chief reason for this difference is the lower batvi rate in the Sarwala, but the land is practically the same in both circles. The area of sailab in the Sarwala circle is only about 1,100 acres. The same rate may be taken as in the Chhachh, i.e., Rs. 2 per acre.

155. Mr. Butler's all-round barani rate came to 6.2 annas. This included Re.  $1\frac{1}{2}$  on lipara, Re. 1 on las,  $6\frac{1}{2}$  annas on maira and 3 annas on rakkar. The net assets' estimate gives a rate of Rs. 1.56 per acre. The one-third net assets' standard thus comes to approximately  $8\frac{1}{2}$  annas. It is not improbable that in this circle the barani yields are a little low. We may safely go up to the one-third net assets' standard, but, in the absence of more definite information in regard to the yields, it would be unwise to go higher. I therefore propose to take  $8\frac{1}{2}$  annas as the all-round barani rate. This is an increase of about 33 per cent. This increase I propose to distribute over the different classes of land in such a manner as to keep the proportions between the rates the same as at last Settlement. I may note here that I have not suggested any assessment on the banjar. Such an assessment was imposed at last settlement in the Tallagang tahsil and will probably be imposed again now. Most of the villages in the south of the Sarwala circle derive considerable incomes from keeping goats and sheep and from selling their manure in the Chhachh. I have not attempted to assess the profits from this business as very few of the herds belong to the proprietary body.

156. The Civil Bazar of Campbellpore has been built on land which was acquired by Government and constituted into a separate estate. The sites were sold, and when they were built over a low assessment was imposed on them. In addition to this, a good deal of land belonging to Kamalpur Saidan and the neighbouring villages has now been absorbed into the new headquarters town. Much of it was sold at a high price and good rents there obtained. The land in the Civil Bazar will have to be dealt with in accordance with the instructions contained in paragraph 9 of appendix XV of the Settlement Manual. This will involve a careful inquiry into the present letting value of the sites, apart from the houses on them. If a considerable increase is taken here, it will be only fair to impose a substantial assessment on some of the adjoining land of other villages which has risen enormously in value owing to the location of the district headquarters at Campbellpore. This problem is rather a big one, and will be dealt with in a separate report.

157. In the table below the rates now proposed, together with the total assessment for each circle (exclusive of the urban assessment), are compared with the rates sanctioned for last settlement :—

Class of land.	MR. BUTLER'S ASSESSMENT.			NOW PROPOSED.		
	Area (1902-03).	Sanctioned rates per acre.	Assessment.	Area (1923-24).	Rate per acre.	Assessment.
	Acres.	Rs. A.	Rs.	Acres.	Rs. A.	Rs.
Chahi ... ..	1,371	4 8	6,169	2,243	7 0	15,701
Abi ... ..	117	4 0	468	150	7 0	1,092
Sailab ... ..	1,251	1 8	1,876	947	2 0	1,894
Las ... ..	252	1 0	252	180	1 5	173
Lipara ... ..	735	1 8	1,102	519	2 0	1,038
Maira ... ..	48,882	0 $6\frac{1}{2}$	19,858	44,525	0 $8\frac{1}{2}$	23,664
Rakkar ... ..	3,823	0 3	717	3,056	0 4	764
Total ... ..	56,431	0 8.6	30,442	51,578	0 18.7	44,816
Assessment announced ...			Rs. 30,000	Increase per cent ...		48
				Percentage of net assets...		30

158. In the Nala circle there has been a very slight increase in cultivation. The number of wells in use has increased by 33 per cent. Population has increased slightly. The opening of the Cement Works at Wah and the Limestone Works close to them at Hasan Abdal has benefited the owners of these two villages, but has led to a good many of the tenants of this tract neglecting the cultivation of their lands for the more profitable daily labour the companies offer. The cultivation in this circle generally is probably less efficient than in either of the other two, and the maintenance of the *bands* for the *las* land in particular is very unsatisfactory. The holdings are large, but many of the owners are thriftless and lazy. The proprietary body is, generally speaking, not as strong as that of the Chhachh. The circle is rather more insecure than the Sarwala, but the soil is much stronger, and with fair rainfall produces very much better crops. The average percentage of the matured area on the total cultivated area in this circle for the last 29 years is 74 as against 69 in the Sarwala and 97 in the Chhachh. The kharif rainfall, at any rate of the eastern portion is higher than anywhere else in the tahsil.

159. The net assets' estimate on chahi (including chahi-nahri and chahi-jhalari) works out at Rs. 32.9 per acre, giving a one-third net assets' rate of Rs. 11. The average cash rent rate works out at Rs. 24.8, one-third of which is Rs. 8.3, as in the Sarwala circle. I have given reasons in paragraph 133 above for considering that this is probably rather a low estimate. The present revenue rate is Rs. 5 per acre. This could safely be raised to Rs. 8, which is less than one-fourth of the net assets calculated on batai rents. The wells in this circle should certainly pay higher than those of the Sarwala, where the soil is so much more sandy and the land very often requires so much preparation. The rate now proposed is 60 per cent higher than that sanctioned for last Settlement.

160. The produce estimate gives a rate of Rs. 44-12-0 on abi. The estimated average cash rent works out to Rs. 52. The rate sanctioned for last settlement was Rs. 5, but Mr. Butler actually went up to as much as Rs. 17 in Hasan Abdal in his village assessments. I think we could safely take Rs. 13 per acre. This is only one-fourth of the present cash rents and less than one-third of the produce estimate rate. It will mean putting Rs. 50 or more per acre on the best abi of Hasan Abdal, but some of this yields a rent equal to four or five times this amount, and it is mostly owned by capitalists, who could easily afford to pay more.

161. The total nahri area according to the 1923-24 figures is 7,721 acres, 2,065 being do-fasli and 5,656 ek-fasli. The produce estimate gives a rate of Rs. 8.3 per acre, one-third of which comes to Rs. 2.76. Mr. Butler's rate was Rs. 1-10, i.e., Rs. 1.63. This could safely be raised to Rs. 2½, i.e., an increase of 38 per cent on the present rate.

162. The sailab area is not large. The one-third net assets' rate comes to Rs. 2.6. The present assessment is Re. 1-8. I propose to take Rs. 2 as in the other two circles.

163. The barani assessment in this circle is a difficult problem. The produce estimate rate works out at Rs. 3.17, giving a one-third net assets' standard of just under 17 annas. The present rate is 9.1 annas. Mr. Butler considered that this circle had originally been assessed more leniently in comparison with the other two. Apparently he would have liked to raise it a bit more; but this would have meant too big an enhancement. In paragraph 44 of his Final Assessment Report he wrote, "With the Saggar and Haro villages paying annas 10 there is no doubt that the Panjkatta and Khatar should pay at least annas 12. The latter has had to be left until next settlement to be finally screwed up by its proper relative position." On the other hand, the



Settlement Commissioner considered that both Mr. Butler and Mr. Steedman had rather overestimated the strength of the Nala circle\*. In spite of its greater insecurity and its more slovenly cultivation, the barani of the Nala has a decided advantage over that of the Sarwala in that it can grow kharif crops as well as rabi. If the September rains fail and very little rabi can be sown, the deficiency can be largely made up by sowing a much larger kharif if the next monsoon is good. This is not possible in the sandy uplands of the Sarwala circle, which is thus dependent almost entirely on one harvest. Taking everything into consideration, I think an assessment of at least 12½ annas per acre is justified. As regards the rates on the different classes, the las is certainly of better quality than that of the Sarwala circle, but, as the *bands* are so badly kept up, I would put only Re. 1-4-0 on it. The lipara can go to Rs. 2-4-0, the maira to 12 annas and the rakkar to 5½ annas. This will bring out an all-round barani rate of 12-6 annas, representing an increase of 38 per cent on Mr. Butler's all-round barani rate.

164. About 100 acres of land, half of which was originally cultivated, has been leased by the owners of Wah to the Cement Works for 30 years for Rs. 20,285 per annum. In addition to rent for the land and hill occupied, this sum includes royalty on the stone taken out of the hill, right of way for the pipe-line which comes from a spring at some distance from the land leased and the use of the water from this spring. Besides this, the company have agreed to pay a further royalty of 6 annas per ton to any cement over 50,000 tons exported from Wah in the year. So far, this amount has not been reached. This lease money is apparently assessable to income-tax, though up to the present none has been paid on it as it is divided among many sharers and no single share has so far reached Rs 2,000. The right of excavating the stone is so very much more valuable than the site considered merely as agricultural land that it is impossible to say how much of the amount paid can be considered as rent. Paragraphs 7 and 8 of appendix XV of the Settlement Manual do not deal specifically with a case of this sort, but, on the lines of the general principles laid down in paragraph 8, I think it will be fair to assess this land at about the same rate as the maira land in the village. The latter will probably have to pay about 14 annas per acre. Some of it, however, is not as good as the land in the north of the village where the Cement Works lie. Taking everything into consideration, I think a fair rate would be Re. 1 per acre for all the land included in the lease, whether it was cultivated before or not. It is true that none of the banjar in the Attock tahsil is assessed to land revenue, but in the Tallagang tahsil it is, so I do not think it will be any injustice to put an assessment on the hill from which the stone is taken too, even though the profits from the business are assessable to income-tax.

165. The land occupied by the Limestone Works adjoins that leased to the Cement Works. A royalty, which usually comes to about Rs. 4,000 per annum, is paid to the owners of Hasan Abdal for the right of excavating the limestone. This land, if it is decided to assess it, might be charged at the same rate as in the case of the Cement Works, i.e., Re. 1 per acre. The area in question is about 17 acres.

166. The only town in this circle is Hasan Abdal. The population has expanded considerably since last settlement, and a certain amount of land which was previously agricultural has now been built over. The land here, however, is not nearly so valuable as that round Hazro and Campbellpore. Moreover, if the assessment I have proposed is sanctioned, it will involve a very big increase in the abi rate in this village. There is also the new assessment proposed for the land occupied by the Limestone Works. Taking all these factors into consideration, I think it will be better to impose no urban assessment in this circle at all.

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\*Paragraphs 15 and 28 of Mr. Doule's Review on the Attock Assessment Report.

167. The total assessment now proposed for the Nala circle, together with the rates mentioned above, are compared in the table below, with Mr. Butler's rates :—

Class of land.	MR. BUTLER'S ASSESSMENT.			NOW PROPOSED.		
	Area (1902-08).	Sanctioned rates per acre.	Assess- ment.	Area (1923-24).	Rate per acre.	Assess- ment.
	Acres.	Rs. A.	Rs.	Acres.	Rs. A.	Rs.
Chahi ...	1,775	5 0	8,875	2,305	8 0	18,440
Abi ...	1,160	5 0	5,800	1,034	13 0	13,442
Nehri ...	7,908	1 10	12,980	7,721	2 4	17,372
Sailab ...	832	1 8	1,248	607	2 0	1,234
Lan ...	2,615	1 0	2,913	2,622	1 4	3,277
Lipara ...	2,571	1 8	3,856	2,308	2 4	5,328
Maira ...	61,778	0 8½	32,820	64,215	0 12	48,161
Rakkar ...	5,143	0 4	1,286	4,943	0 5½	1,699
Total ...	83,800	0 13½	69,478	85,875	1 4½	1,09,053
Assessment announced ...			Rs. 70,651.	Land of Cement Works and Limestone Works ...		
				Grand Total ...		
				Increase per cent. ...		
				Percentage of net assets ...		

168. For the sake of convenience, I have collected together in the table below the rates now proposed for sanction and those sanctioned for last settlement. These are compared with the one-third net assets' standard based on batai rents and also, in the case of chahi and abi land, with that base on cash rents. In column 6 the incidence of the proposed assessment per acre of matured crops has been entered :—

1	2	3	4	5	6	7
	Rate sanc- tioned for last settle- ment.	ONE-THIRD NET ASSETS RATE.		Rate now proposed.	Increase per cent, on column 2.	Incidence per acre of matured crops.
	Rs.	Cash. Rs.	Kind. Rs.	Rs.		Rs.
<b>Chhaskh.</b>						
Chahi ...	6 to 6.5	14.3	12.1	10	55	5.41
Sailab ...	1.5	...	2.6	2	33	2.69
Barani ...	1	..	2.08	1.5	50	1.85
<b>Sarwala.</b>						
Chahi ...	4.5	8.3	8.8	7	56	3.97
Abi ...	4	...	9.6	7	75	3.63
Sailab ...	1.5	...	2.13	2	33	2.75
Barani ...	6 2 as.	...	8½ as.	8½ as.	34	12.7 as.
<b>Nala.</b>						
Chahi ...	5	8.3	11	8	60	4.6
Abi ...	5	17	14.9	13	160	8.3
Nehri ...	1.63	..	2.76	2.25	38	2.84
Sailab ...	1.5	...	2.62	2	33	2.23
Barani ...	9.1 as.	...	17 as.	12.6 as.	38	17.6 as.

169. In the table below I have given the assessment of each circle of the tahsil as announced at last settlement, the assessment as it stands now (1923-24) and the assessment proposed. I have excluded the fluctuating assessment on the Campbellpore Civil Bazar from the table for the Sarwala circle as this will be taken into consideration when the urban assessment is dealt with :—

Circle.	ASSESSMENT OF EXPIRING SETTLEMENT.		Now proposed.	Increase per cent of column 4 on column 3
	As announced.	1923-24.		
	Rs.	Rs.	Rs.	Rs.
Chhachh ... ..	1,03,600	1,03,457	1,70,190	64
Sarwala ... ..	30,000	29,998	44,316	48
Nala ... ..	70,651	70,578	1,49,170	115

This increase, it will be seen, is very much more than that anticipated in the orders on the Forecast Report, which seems to have been about 35 per cent for this tahsil.

170. As has already been explained in paragraphs 70 and 85 above, most of the occupancy tenants in the Chhachh pay cash rents, which usually take the form of a fixed rate per acre sown in the rabi and another rate per acre sown in the kharif. It has been ruled by the Financial Commissioner that rents of this kind cannot be adjusted under section 27 of the Punjab Tenancy Act.\* The increase in such cases will thus fall entirely on the owner. The Financial Commissioner, however, laid down that "the fact that the owner cannot invoke the help of section 27 of the Tenancy Act to have his rent adjusted is not, however, a good reason for keeping the land revenue of the holding lower than it would be, supposing it were not subject to this form of tenancy". In compliance with these instructions, I have therefore taken no account of this difficulty with which the thousands of petty landlords of the Chhachh will be faced. The only remedy for these men will be a regular suit for enhancement under section 31. I have already emphasized in the previous correspondence on the subject that this would be disastrous to the tahsil, and have recommended that section 27 of the Act should be amended so as to cover such cases. At the time of writing I understand the question is still under consideration.

In the case of ordinary cash rents, i.e., rents fixed according to rates per acre, as well as chakota rents, adjustment will be carried out under section 27, and the whole of the increase in land revenue and cesses will be passed on automatically to the tenant. The net profits accruing to the landlord from the land in such cases will thus be the same after the new assessment has been introduced as they are now. The fact that the whole of the increase will be borne by the occupancy tenant whose holding is always small must not be lost sight of when considering whether the enhancement I have now proposed is sufficient or not. In the case of wells sunk after last Settlement by mukarraridars, or by tenants who have been given occupancy right as a consideration for sinking the well, no such adjustment will be made.

For the sake of convenience relevant extracts from the correspondence which will show what orders have been passed by the Financial Commissioner in regard to the adjustment of these rents have been printed and added in appendix H at the end of this report.

\*Note received with Financial Commissioner's office letter No. 485-R., dated 9th April 1925.

171. The cesses now levied in this tahsil consist of the local rate at 12½ per cent on the land revenue and a lambar-dari cess of 5 per cent making a total of 17½ per cent altogether. Both these will of course remain in force when the new assessment is introduced

172. A lucid exposition of the whole question of assessing the water-mills in this tahsil will be found in Mr. Butler's note of the 6th May 1904\*. Although such an assessment was levied in the Tallagang tahsil and in some of the neighbouring districts of the Frontier Province, he was strongly opposed to the Attock mills being assessed. Mr. Watson and the Settlement Commissioner both agreed with him, the latter giving as his reasons the following:—

- “(a) that the reassessment of the tahsil has resulted in a very considerable addition to the Government revenue, and it is hardly worth while to claim also the insignificant increase which a mill assessment would afford. This applies with peculiar force to the case of Wah, where many of the most highly-rented mills are situated;
- (b) that a large number of the most valuable mills, those in Hasan Abdal, cannot be assessed to land revenue, and it would be hard to explain to the people why we exempted them;
- (c) that in Jassian the mills are, practically speaking, already assessed; and
- (d) that outside Wah, Hasan Abdal and Jassian the rental of the mills is a petty and fluctuating item of income”.

The position in regard to these mills is substantially the same now as it was when Mr. Butler described them, the only difference being an increase in the profits derived from those situated in Hasan Abdal, Wah and Jassian. Some of the mills in Hasan Abdal are owned by snuff merchants of Hazro, and a good deal of tobacco comes in from the Chhachh to be ground.

It is not necessary to recapitulate all the arguments put forward by Mr. Butler in the correspondence referred to above. Suffice it to say that I think these mills should be treated in the same way as at last settlement and excluded from the assessment. As before, a proviso should be made that, if ever the jagir in Jassian is resumed, the half rental received by the jagirdar should be considered as land revenue.

As possibly a long term may be fixed for the present settlement, it would be as well to have it publicly explained to the people that Government has only waived its claim to an assessment on the water-mills temporarily and may revive it at any time. If section 27 of the Tenancy Act is amended as I have recommended so as to admit of the adjustment of all kinds of cash rents paid by occupancy tenants and mukarraridars, it might be possible to pass on the whole of any land revenue and cesses assessed on the mills to the people who actually enjoy the profits from them. Here again, however, a legal difficulty might arise as it would be urged that the Tenancy Act does not apply to land under a water-mill.

#### PART VIII.—MISCELLANEOUS.

173. As the assessment I have proposed involves a very considerable enhancement, I think it will be advisable in the interests of justice, as well as of the administration, to remit all arrears of suspended land revenue in the tahsil which are outstanding at the time the new assessment is introduced. This was done at last settlement in Tallagang. At present Rs. 3,731 is outstanding in the Sarwala circle and Rs. 23,013 in the Nala. Some of this has been under suspension since 1920-21, and will probably be remitted shortly under the ordinary three years' rule. In the Nala more than half dates from 1921-22, while some was due to widespread damage by hail in the rabi of 1924. The villages in which these sums are outstanding are generally the poorest, and are the ones which will feel the enhancement most.

\*Vide correspondence ending with Punjab Government, Revenue Department, letter No. 214, dated 17th December 1904. Final orders were passed in Punjab Government letter No. 288, dated 3rd October 1906.



174. The periods of exemption from a chahi assessment in the case of land irrigated by new wells sanctioned at last Settlement\* were as follows :—

	Years.
Masonry wells and wells cut out of rock or sandstone	20
Wells built of hewn stone put together with mud	15
Wells built of unhewn stone and jhalars	10

Whenever it was found that an old well or jhalar had fallen in and an entirely new one been built, half these periods were sanctioned. No allowance was made for wells which had undergone ordinary repairs.

The existing rules on the subject of protective leases are contained in paragraphs 504-A., 505 and 505 of the Settlement Manual, as amended by correction slip No. 42, dated 27th March 1922. The Settlement Officer has to fix the periods of protection from irrigated assessment, subject to a minimum of 20, and a maximum of 40, years. The period has to be such that the extra net assets accruing from the well will be sufficient to recoup double the cost of constructing it. The maximum period allowed at last settlement was 20 years. All the protective leases then sanctioned will have to come to an end by the time new assessment is introduced, and, as this assessment will be a fixed one, new wells sunk after it will of course not be affected. We have thus only to consider the wells sunk during the 20 years between the last settlement and this.

175. In the Chhachh we have seen that the average net assets per acre on chahi land are Rs. 36.2. The figure for barani is Rs. 6.2, giving a difference of Rs. 30 per acre. Allowing 5 acres per well, the extra net assets thus come to Rs. 150. Wells in the Chhachh vary a great deal in cost. The cost of masonry ones runs up to Rs. 1,100, exclusive of the well-gear. I do not propose to take the latter into account as allowance has already been made for it in the produce estimate. The maximum capital cost of the well thus comes to Rs. 2,200. The minimum period admissible under the rules for a protective lease is 20 years, and Rs. 150 per annum for 20 years comes to Rs. 3,000. A 20-year period for the Chhachh will thus be liberal.

176. In the Sarwala the net assets work out at Rs. 26.3 per acre. The net assets for barani land are Rs. 1.56 per acre. The extra net assets from chahi due to sinking of the well thus come to approximately Rs. 25 per acre. Allowing three acres per well, this gives Rs. 75 per annum. In this circle also the cost of sinking a well varies very greatly. Those along the Grand Trunk Road are generally similar to the wells of the Chhachh, the maximum cost being about Rs. 1,100. Round Campbellpore the cost is usually rather lower, say about Rs. 900, but a good deal of money frequently has to be spent on levelling the ground and on digging up earth, bringing it along on donkeys and putting it down to improve the very sandy soil there. Allowing Rs. 300 per well for this, the total cost comes to Rs. 1,200. Double this is Rs. 2,400. At Rs. 75 per annum, this amount is recouped in 32 years. If, however, we take the prevailing cash rent round Campbellpore, which is Rs. 48 per acre, and deduct the expenses of upkeep at Rs. 9 per acre as before, we get Rs. 39 per acre as the net assets for such wells. The extra net assets due to the well thus come to Rs. 37½ per acre, or Rs. 112 for the whole well. Double the cost of the well would thus be recouped in 22 years. The wells along the Haro usually irrigate a smaller area, and the cultivation is not so good; but they are much cheaper to make. The water-level is very close, and usually unhewn stones taken from the river bed are used. These wells only cost Rs. 200 to Rs. 400. In one or two villages near the Indus the wells are better and the area irrigated per well larger. The cost there is not so high as near Campbellpur. Taking everything into consideration, I think a period of 25 years would be fair for this circle.

177. In the Nala circle about half the wells are in the Saggar tract. There they cost from Rs. 600 to Rs. 700. Along the Haro the cost is less. Elsewhere it is probably slightly more. We may take Rs. 600 as the average and Rs. 800 as the maximum. The net assets on chahi land in this circle come to Rs. 32.9 per acre. The barani net assets are Rs. 3.2 per acre,

\* Paragraph 47 of Mr. Butler's Final Settlement Report.

leaving a balance of Rs. 29·7. Allowing three acres per well, we get Rs. 89 per acre. In 20 years this would give Rs. 1,780, which is more than double the maximum cost of a new well. A 20 years' period in this circle will thus be liberal.

Tha jhalars in this tahsil cost rather less to make than wells. On the other hand, the tunnel or water-course which leads the water up to the bottom of the well gear requires a great deal of keeping up. In many cases also *bands* have to be made across streams to collect water. I think the same period might be allowed for jhalars as for wells.

As laid down in rule III of paragraph 505 of the Settlement Manual quoted above, no protective lease will be granted for kacha wells which are entirely unlined. For partially-lined wells it will be best to sanction an all-round period of ten years.

178. In the Chhachh the area irrigated by wells sunk during the last 20 years is about 1,200 acres, which will mean that some Rs. 12,000 will be deferred automatically owing to the protective leases. If this amount is deducted from the assessment proposed, the increase will still be about 54 per cent, which is too much to take all at once in a circle where the holdings are so small. I recommend therefore that in any village where the new assessment (after deducting the total amount of the protective leases) exceeds the present assessment by 10 per cent or more a portion of it should be deferred according to the scale below. This scale has been devised in order to facilitate the calculations in the *bachh* :—

Percentage increase of new assessment on old (exclusive of the amount under protective leases).	PORTION OF THE NEW ASSESSMENT IN ANNAS PER RUPEE TO BE DEFERRED.	
	For five years.	For ten years.
Less than 40	...	..
40 and less than 50	1	..
50 and less than 60	2	..
60 and less than 80	3	...
80 and over	4	5

In the table below I have shown how this scale would work out in the case of various enhancements, the present assessment in each case being taken as Rs. 100. It will be seen that the increase taken at once will ordinarily be between 30 and 40 per cent :—

New assessment	AMOUNT TO BE DEFERRED		AMOUNT PAYABLE.		
	For five years.	For ten years	At once.	After five years.	After ten years
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
130	..	..	180	130	180
140	0	...	131	140	140
150	19	...	181	150	150
160	30	..	180	160	160
170	32	..	188	170	170
180	45	22	135	157	180
190	48	24	142	163	190
200	50	25	150	175	200

In the Sarwala circle the total amount of the protective leases will come to about Rs. 6,000. The increase proposed, exclusive of the urban assessment, is Rs. 14,312. Deducting Rs. 6,000 from this, the increase which will immediately be taken is only about Rs. 8,300, or 28 per cent. The holdings in the Sarwala circle are mostly large and the owners have benefited very considerably by the expansion of the new headquarters so I do not think any progressive assessment is called for here. The whole amount, apart from that on wells under protective leases, should be taken at once.

In the Nala circle only about Rs. 4,000 will be deferred on account of protective leases. The enhancement, which would come into force at once, would thus be about 51 per cent. In this circle also I think a progressive assessment is called for. The scheme for this may be the same as in the Chhachh.

179. The rakhs, or reserved forests, in this tahsil are chiefly in the Kala-Chita range. These ones are managed by the Forest Department. There are other smaller ones on the Kherimar and other ranges which are usually managed by the Deputy Commissioner. All these, as well as the "guzaras", or rakhs, in which the villagers have certain ancient rights, will be dealt with in a separate report.

180. Nearly all the land in this tahsil which is worth cultivating has now been brought under the plough so any substantial increase in the area under cultivation is impossible. With the increase in population, however, it is probable that the sinking of new wells will continue. As these would in any case be given protective leases for at least 20 years, a new settlement at the end of 25 or 30 years would be sufficient to catch most of them. The communications and markets already are good, and it is unlikely that they will improve materially in the near future. The only thing likely to render the assessment now proposed excessively lenient or unduly severe is thus a considerable change in prices. It is useless trying to attempt to forecast the future in this respect, but, to be on the safe side, both from the point of view of the zamindars and of Government, it would be unwise, I think, to fix a period of more than 25 years for the settlement. Another point for consideration is the records. In the Chhachh especially the maps are exceedingly complex. Frequently the fields are so minute that a portion of the map has to be reproduced on a larger scale in the margin. The sinking of new wells, the partition of family lands and the constant buying, selling and mortgaging of shares of joint holdings all render the existing map, or portions of it, obsolete in the course of time. It is true that, when changes occur, extracts are prepared periodically and filed with the quadrennial jamabandis, but these are never quite so reliable as the maps prepared at settlement. A succession of such extracts in time reduces the settlement map to a piece of patchwork and makes an accurate girdawari very difficult. The revision of the records and the preparation of complete new maps will therefore certainly be necessary at the end of 25 years, if not earlier.

181. Orders are required on the following points:—

- (1) the proposed rates and assessments detailed in paragraphs 149, 157 and 167;
- (2) the proposals in connection with water-mills (paragraph 172);
- (3) the proposal to remit arrears of suspended land revenue (paragraph 173);
- (4) the periods proposed for protective leases in paragraph 174;
- (5) the proposals for progressive assessments in paragraph 178;
- (6) the term of settlement (paragraph 180);
- (7) the question of the amendment of section 27 of the Tenancy Act (this has been referred separately).

C. B. BARRY,

May 1925.

Settlement Officer, Attock District.