

ASSESSMENT REPORT
ON THE
ATTOCK TAHSIL
OF THE
ATTOCK DISTRICT

BY
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Settlement Officer.
MAY 1925.



(41)

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No. 601-Finl., dated Rawalpindi, the 28th August 1925.

From—H. CALVERT, Esq., C.I.E., I.C.S., Commissioner, Rawalpindi Division,

To—The Senior Secretary to the Financial Commissioners, Punjab

SUBJECT :—*Assessment Report of the Attock Tahsil.*

I HAVE the honour to forward the Assessment Report of the Attock Tahsil of the Attock District, by Mr. C. B. Barry, I.C.S., and to submit my remarks thereon.

2. The Attock Tahsil is one of the most difficult in the Province to describe ; its topographical features vary in bewildering fashion ; the soil, the means of irrigation, the cropping and the miscellaneous factors that require consideration, exhibit unusual diversity. As a result the economic conditions do not lend themselves to description on broad lines, and this must be Mr. Barry's excuse for a report of almost twice the usual length. A mass of interesting material has been collected and included in the report, but it has obviously been difficult to escape the presentation of too much detail, and it is desirable to make some attempt to restore a proper proportion. A personal acquaintance with the tract and its main features, acquired as Deputy Commissioner, enables me to sympathise with Mr. Barry in the difficulties of his task and to appreciate the great industry he has put forth to master the confusing variety of economic factors. It is unnecessary to follow Mr. Barry in attempting to summarise the topographical features ; he has appended a useful map to illustrate his description, and this should be kept well in view when reading his report.

3. The diversity of economic features may be exemplified by the facts that the tract includes land paying as much as Rs. 260 per acre, near Hassan Abdal, Rs. 180 per acre and more in the Chhachh, and other land so poor that it appears to be going out of cultivation. In between these extremes there is a considerable variety, and it should be noted at once that plots which represent but a very small proportion of the whole have been considered of such importance that they have claimed and received special attention in the report. The first result emanating from this diversity is that orders on the report must be passed in general terms, as great latitude and discretion will have to be left to the Settlement Officer in distributing the new assessment. It will be seen that the extremes in rents are so wide apart, that a mere arithmetical average means little, and an acreage rate for the new demand will consequently serve only as a very rough guide to the Settlement Officer in determining the revenue to be taken from individual owners or even communities.

4. The expiring assessment has proved lenient, and easy of collection. Mr. (now Sir Montague) Butler was able to increase the demand of his predecessor by assessing new areas brought under cultivation, and new wells, etc., while leaving most of the acreage rates either untouched or only moderately increased. In spite of the assumed effective rise of prices of 17 per cent., an assumption which was clearly on the cautious side, only on irrigated land was any considerable increase imposed. Suspensions have been small (averaging 5 per cent. per annum), and remissions practically negligible. Against about 20,000 owners and shareholders, it may be said that, during the last twenty years, it has hardly been necessary to issue coercive processes. The large miscellaneous income may have been a factor in favour of easy collection, but it cannot have been the chief cause. Such sales as have taken place, would appear to have been due to extravagance and dissipation on the part of owners and to the accumulation of savings in the hands of buyers. What is more important as throwing light on the character of the assessment is the fact that the average price per cultivated acre has risen from Rs. 177 in the quinquennium ending 1906-07 to Rs. 409 in that ending in 1921-22. It is the absence of sales or sales at falling prices that give warning of danger.

Mortgages, as we now know, have nothing to do with the revenue, but the readiness with which mortgagees come forward with increasing loans per acre points to a rise in the income from the land, which could only be possible

under a moderate assessment. The owner here, as in the Province generally, has been steadily improving his position, and although the total amount of secured debt in rupees seems to be rising, the area mortgaged to non-agriculturists is declining. Judging from investigations elsewhere, it is probable that a very small area now remains under mortgages executed prior to 1901, so that most of the contracts now in force are either between agriculturists or are automatically terminable. One fact that emerges is less welcome, namely, the steady increase in the money per transaction. For the four quinquennial periods of the Settlement, the average sum has been :—

		Rs.	Rs.	Rs.	Rs.
Mortgages	...	85.4	151.2	173.6	292.8
Sales	...	284	203	271	450

As these transactions are seldom for productive purposes, the figures indicate a tendency towards increasing extravagance facilitated by increasing savings seeking investment. As the transferees are now mostly agriculturists, the savings can be located with confidence in their hands.

The fact that in this tahsil, as in the Province, there are far more people willing to buy land than there are owners willing to sell, must be borne in mind when considering these figures. A special investigation into the reasons why owners sell would be useful. I do not think the land revenue demand would figure amongst them.

5. Of unsecured debt, Mr. Barry says little as he did not trust the figures collected by his staff. This is to be regretted as Mr. Darling, in his brilliant work "The Punjab Peasant in Prosperity and Debt", has described the district as heavily in debt, and suggests that the insecurity in the tract, from the agricultural aspect, is responsible. Mr. Barry more than once refers to this insecurity, the high proportion of *kharaba*, and the widespread failure of *gram*, the inadequacy of the monsoon rainfall and other factors, so this, with the extravagance of the owners, especially on occasions of ceremony, would appear to be sufficient to account for the debt. Debt alone has no connection with revenue; but where it is due, even in part, to agricultural insecurity, it must be taken into consideration when calculating the income from land, Mr. Darling's figures of debt as Rs. 12 per cultivated acre, and Rs. 25 per head of the rural population, which figures include both secured and unsecured debt, are not alarming.

6. In order to get a clear perspective of the relative importance of the classes into which the land is divided, it may be mentioned here that of the total cultivated area, *barani* forms 87 per cent. and is to bear 47.3 per cent. of the proposed assessment; *chahi* forms 7 per cent. and is to bear 41.3 per cent. of the assessment; *nahri* forms 4 per cent. and is to bear 5.4 per cent.; *abi* forms .6 per cent. and is to bear 4.5 per cent., while *sailab* forms one per cent. and is to bear one per cent. of the demand. This will assist in concentrating attention on the more important points. It is clear that the chief problem is the assessment of the *chahi* lands.

The lengthy discussion of the value of the produce to be adopted as a basis for the net asset standard can be summarised by comparing the rate per acre proposed by Mr. (Sir Montague) Butler and Mr. Barry with their estimates for gross produce per acre, thus :—

				Rate.	Percentage of gross produce.
				Rs. A. P.	Rs. A. P.
<i>Cāhacāh Circle.</i>					
Chahi	{	Expiring Settlement	...	8 0 0	Being 10.4 per cent. of 87.7 0
		Proposed	...	10 0 0	" 6.5 " " 158 0 0
Sailab	{	Expiring Settlement	...	1 8 0	" 8.3 " " 18 0 0
		Proposed	...	2 0 0	" 11.8 " " 17 0 0

				Rate	Per cent of gross produce.			
				Rs. A. P.	Rs. A. P.			
Ohhachh Circle—conold.								
Barani ...	{	Expiring Settlement ...	...	1 1 9	Being 10·2 per cent. of			8 4 0
		Proposed ...	...	1 8 0	„ 11·	„	„	13 7 0
Sarwata Circle.								
Chahi ...	{	Expiring Settlement ...	...	4 8 0	„ 11·	„	„	40 0 0
		Proposed ...	..	7 0 0	„ 6·6	„	„	105 0 0
Abi ...	{	Expiring Settlement ...	...	4 0 0	„ 12·	„	„	32 0 0
		Proposed ..	...	7 0 0	„ 13	„	„	87 0 0
Sallab ...	{	Expiring Settlement ...	..	1 8 0	„ 9	„	„	16 8 0
		Proposed ...	...	2 0 0	„ 11·	„	„	18 0 0
Barani ...	{	Expiring Settlement ...	...	0 6 2	„ 9	„	„	4 8 0
		Proposed ...	..	0 8 3	„ 10·	„	„	5 0 0
Nala Circle								
Chahi ...	{	Expiring Settlement ..	..	4 8 0	„ 10·	„	„	44 0 0
		Proposed ..	...	8 0 0	„ 7·5	„	„	106 0 0
Abi ...	{	Expiring Settlement ..	..	4 0 0	„ 8·	„	„	47 0 0
		Proposed ...	...	13 0 0	„ 10·5	„	„	113 0 0
Nahri ...	{	Expiring Settlement ..	...	1 10 0	„ 18·	„	„	12 8 0
		Proposed ..	...	2 4 0	„ 13·3	„	„	17 0 0
Sallab ...	{	Existing Settlement ...	...	1 8 0	„ 10·	„	„	14 4 0
		Proposed ..	...	2 0 0	„ 12·	„	„	17 0 0
Barani ...	{	Existing Settlement ...	...	0 10½ 0	„ 11·	„	„	5 9 0
		Proposed ..	..	0 12½ 0	„ 9·	„	„	8 0 0

7. The above figures show that although Mr. Barry has arrived at higher rates for gross produce per acre cultivated than did Mr. (Sir Montague) Butler, he has in most cases taken a less proportion of this. It is clear from the table that his proposals for rates on *barani*, *nahri*, *sallab* and *abi* require little argument in support, and I need not repeat what he has written. The *nahri* is only 4 per cent. of the whole cultivated area, the *sallab* is 1 per cent., and the *abi* is 6 per cent., so that these areas are not of great importance. I would accept Mr. Barry's proposals concerning these three classes. If his rates for *abi* seem high, it must be remembered that no royalty is taken on the water.

The *barani* area represents 87 per cent. of the whole, and accordingly it would appear to deserve more careful consideration. But as Mr. Barry in the Sarwata and Nala Circles only proposes to raise the assessment by about two annas an acre, it seems unnecessary to discuss the matter at length. The assumed gross-produce values are so low that even in such an insecure tract with so much poor soil, I think, they may be accepted as safe. At the same time, I would not go higher. There is a tendency for the poorer blocks of land to go out of cultivation; the gram has suffered from disease with disastrous results; according to the report, there is no good soil left which is likely to come under the plough, so that any assessment now fixed will not be lightened by extensions of cultivation.

8. In the Ohhachh, Mr. Barry proposes to raise the demand by 50 per cent. on *barani* land, bringing out an all-round rate of Re. 1-8-0 as compared with Re. 1-1-9 taken by his predecessor. This is rather higher than has been taken lately in other districts, but it is hardly worth while varying such a rate by a couple of annas an acre. I would, however, give Mr. Barry authority to reduce his proposed soil rates in the course of distribution if he finds this to be necessary, provided that the all-round rate is not less than Re. 1-6-0 per acre.

The *barani* land of the tahsil is chiefly used for the production of food and fodder for which there is a full local market. Actually, food grains are imported so the existence of a large miscellaneous income accruing to residents in the tract serves to bring about local consumption, thus saving the costs of distribution in distant markets. This is important, as it means that the growers are able to get higher prices than they would if they had to export their produce, and the defects in communications are less of a handicap.

9. The difficult problem of the Settlement of this tahsil really consists in discovering the most suitable rate for *chahi*. As indicated in paragraph 6 above, Mr. Barry proposes to raise the existing rates by more than thirty per cent. He justifies this by pointing out that the previous assessment omitted the value of maize straw and was based upon a very low estimated outturn of tobacco. It will simplify the case if attention is confined to tobacco. The *chahi* area is only 7 per cent. of the whole, and the cash rents on *chahi* only extend to 4 per cent. of this, or .28 of the whole; but it is on these cash rents that Mr. Barry has concentrated most of his argument, and it may be admitted at once that he has collected so much detailed information and marshalled it with so much skill that it is difficult to avoid his conclusions without discarding his material. And herein lies the difficulty. For snuff tobacco on Chhachh wells, Mr. Barry assumes a gross yield of Rs. 512, which is obtained by the use of manure to the value of Rs. 272, leaving Rs. 240 for other expenses and profits. Rents vary from Rs. 170 to Rs. 20, and the average taken is Rs. 48. The landlord pays half the manure, and this reduces his rents to a much smaller figure; indeed, in the extreme case where the landlord receives Rs. 170 and pays Rs. 136 for manure, his net rent is only Rs. 34. The produce estimate for *chahi* works out at Rs. 36. For the whole *chahi* of the Chhachh the average cash rent is taken at Rs. 48, but this apparently includes what the landlord has to spend in manure. The net result is a real rent which seems to be much lower than what we know to be paid for lands in the vicinity of towns, that is to say, for lands under intensive cultivation. Mr. Macnabb in another connection informs me that, generally speaking, it may be taken that a fair rate of rent for agricultural land, which can be used for the production of sugarcane and vegetables in the neighbourhood of Bhalwal, (Shahpur District) is Rs. 2,500 per square or Rs. 100 per acre. These are rates received by the local body, and are not subject to deduction for manure.

Although then I doubt whether the average annual recurring cost of manure is as great as Mr. Barry states, and it is also open to doubt whether the outturn assumed is not too high, I see no reason to reject his conclusion as to the landlord's income being round-about Rs. 36 per acre. On this, it is proposed to assess Rs. 10, as compared with Rs. 6 to 6½ at last settlement. I am inclined to think that the rise is somewhat too great, and I would take Rs. 8½ to Rs. 9. Even this will necessitate fairly heavy assessments on the land in group IV.

I do not suggest that the rates proposed by Mr. Barry are excessive for the land to bear. They work out at Rs. 5-4-0 per acre cropped, which is certainly not too high; also it must be remembered that the soil of the Chhachh seems to possess those nitrates which are essential for good tobacco. Tobacco is a certain crop and complete failure is rare, and, as Mr. Howard points out, there is usually a steady local demand at good prices. The same authority has other remarks of considerable pertinence which deserve consideration when assessing land bearing this crop. The cost of production may be reduced by green manuring. Greater profit would accrue if the growers could combine and construct a curing barn on modern principles. On the other hand, there is the very important change taking place in favour of cigarettes; it may be that this new fashion may alter the demand for *hookah* tobacco, or the Chhachh growers may discover and adopt a good type of cigarette tobacco.

It would appear that a certain amount of caution is called for in dealing with this crop, as its prospects may undergo considerable alteration if the cigarette habit spreads rapidly during the next twenty years.

10. It is not necessary to follow Mr. Barry in his discussion of *chahi* lands in the Sarwala and Nala Circles. In the Sarwala the increase of wells from 386 to 674 suggests that the assessment is no deterrent to improvements.

The net rent is estimated at about Rs. 25 an acre, and on this it is proposed to assess Rs. 7 as compared with Rs. 4-8-0 at present. The rise here too is somewhat high, and I would assess at Rs. 6.

11. In the Nala, the same remarks apply. There has been an increase of 203 wells, and for the reasons given I would take Rs. 6 instead of Rs. 7-8-0 proposed by Mr. Barry.

If it be thought that these suggested reductions of proposals so carefully thought out as those under discussion, seem arbitrary, I think it is relevant to point to recent assessments on *chahi* land in other districts. Apart from the Chhachh, it would hardly be argued that well-cultivation here is more productive than elsewhere, in Jullundur or Gujranwala, for instance; and I do not think we should exceed rates which have been accepted for more prosperous districts without deep consideration. I think the rates now advocated by me are sufficiently high.

12. I see no reason to differ from Mr. Barry's proposal to omit water-mills from the assessment, and recommend it for acceptance. It is a very minor affair. Arrears of suspended revenue should be remitted. There will be very little left this Kharif.

13. Mr. Barry proposes that the maximum periods for protective leases for wells shall be 20 years for the Chhachh and Nala Circles, and 25 years for the Sarwala. It is no part of the policy of Government to tax improvements, while it is part of that policy to encourage well-sinking; I would accordingly accept the proposals for which adequate reasons are given.

14. Mr. Barry suggests that the period of settlement be fixed at about 25 years. The need for revision of the maps and records alone must prevent a longer period being favoured. I do not accept his opinion that "nearly all the land which is worth cultivating has now been brought under the plough." Such a forecast has been falsified before and may be again. Capital and enterprise are beginning to turn towards agriculture, and almost any surface exposed to the elements can be turned to profitable use where skill is available. Moreover, the question of prices presents difficulties. During the war, the rupee note remained convertible, but the great increase of the note issue was accompanied by inflation of prices. It would appear from the investigations of Professor Myles that prices in the Punjab have responded to changes in currency policy, and now that the question of linking the rupee to gold again at a fixed ratio is under discussion, we must be cautious in attempting to forecast prices. The upward tendency that has been such a marked feature of the last forty years, may not continue. Punjab prices will be more dependant on world prices in the next twenty years than they were in 1900; the demand for cultivators in Sindh and other new colonies may tend to throw the less good land out of cultivation, necessitating relief to the large *rakkar* area. On the whole, I would recommend that the period do not exceed twenty years.

15. Mr. Barry deserves credit for the great industry and ability he has brought to bear, but I think that in places he has introduced irrelevant matter. The land revenue is based on ownership; for convenience it is assessed on owners' income, not profits. Actually, it is immaterial whether the owner derives any income or profits or not, as it is ownership that forms the basis. It is thus irrelevant to introduce considerations that have no connection with ownership. Miscellaneous income is a difficult factor to place. In drawing a picture of a rural tract the income from salaries and pensions and other non-agricultural sources must be not added but deducted in order to get a true idea of agricultural prosperity. They may give quite a false idea of the lightness of the assessment, and may be responsible for the readiness with which it has been recovered. Profits from carts are taken into account when adopting commutation prices below those in the chief markets. The difference in prices supplies the earnings of cartmen. If the cartmen are not owners, their income or profits is not relevant to the assessment of land revenue. Similarly, the profits from goats and sheep should not be added to the tale of agricultural income if they are owned by tenants.

16. The interesting calculation of the consumption of food-grains has no connection with the assessment of ownership. The small military population probably accounts for much of the deficiency, and, in any case, the

cultivation of special or " money " crops is usually, as in Berar, accompanied by import of foodstuffs. The miscellaneous income also helps to account for imports, and assists the cultivator by providing a market for his produce within his village or immediate neighbourhood. In a tract where only 27 per cent. of the cultivated area is cultivated by owners, there may be a decline in prosperity amongst the mass of the people accompanied by an increase in the income of the owners. For pressure of population may force the cultivators to more intensive cultivation, and this may serve to raise the rents paid ; while the resulting increase of produce may be less than the increase of mouths ; thus diminishing the prosperity of the mass while enhancing the income of the owners. In this tahsil, the decrease in the proportion of the area cultivated by owners may be due to the rise in the value of rents which permits of more owners living in idleness.

17. The slight decrease of cattle, noticed by Mr. Barry, may be due to a diminution of the excess number ; there is an ample number for the annual sown area. I find that my recent inquiry into the size of owners' holdings gave the following results :—

	Nala.	Sarwala.	Chhachh.
	Per cent.	Per cent.	Per cent.
Under one acre	12	17	16
One to under 3	30	19.4	24.5
Three to under 5	9.5	10.9	11.5
Five to under 10	13	12.7	22
Ten to under 15	8.5	9	8
Fifteen and over	26	30.5	16

I have not got figures for cultivator's holdings, but it will be clear that it cannot really pay a large number to keep a pair of bullocks. Mr. Barry notes that there are 35 head of horned cattle of all kinds to 100 acres of cultivation, but there is a pair for every 5½ acres sown, which is ample, even allowing for wells.

18. It would appear that a little clear thinking is required when we come to the general considerations affecting assessment. The basis is ownership, but the assessment is really made on acres, and not on holdings. Pressure of tenants on the soil, smallness of holdings, especially of those of occupancy tenants, and similar matters are hardly relevant. I hope much of this valuable material will find a place in the Gazetteer, several statements in which have clearly been falsified by time.

The assessment of land revenue may justly be used to provide some stimulus to better cultivation, and where so much of the area is cultivated by tenants, it is permissible to bring pressure to bear upon the owners to improve their administration. It would appear that in the Chhachh about 62 per cent. of the land is held by owners owning more than ten acres, and as only 36 per cent. in all is cultivated by owners, most of this must be in the hands of tenants. From the point of view of the economic development of the Province, it is not good that the profits of landlordism should be so high as to encourage tenancy to this extent.

19. A number of objections have been received, and these have been noted on by the Officer in-charge of Settlement Operations. In all cases, Mr. Barry has anticipated and met them. In no case is any fresh light thrown on the solution of a difficult problem. I do not deem it necessary to comment on them at length, but submit* them for perusal of the Financial Commissioner.

*Not printed.

H. CALVERT,

Commissioner, Rawalpindi Division.

Memo. No. 220-R.

Dated Lahore, 26th January 1926.

Order of the Governor in Council.

THE following orders of the Financial Commissioner have received the previous approval of Government.

C. M. KING,

*Financial Commissioner and Secretary to
Government, Punjab, Revenue Department.*

**Orders of the Financial Commissioner on the Assessment Report of the Attock
Tahsil of the Attock District.**

IN his review of Mr. Barry's comprehensive and interesting report, the Commissioner has focussed attention on the following main proposals of the Settlement Officer :—

- (1) To raise the demand on *barani* land in the Chhachh Circle by 50 per cent. bringing out an all-round rate of Re. 1-8-0 per acre.
- (2) To raise the existing rates for well cultivation in the Chhachh by 55—60 per cent.
- (3) To raise the rate on *chahi* land in the Sarwala from Rs. 4-8-0 to Rs. 7.
- (4) To raise the rate per acre on *chahi* land in the Nala Circle from Rs. 5 to Rs. 8.

2. The result of Mr. Barry's proposals (paragraph 169) is to raise the assessments of the three Circles, into which the tahsil is divided, by 64 per cent. in the Chhachh, 48 per cent. in the Sarwala and 55 per cent. in the Nala Circle, and the total assessment of the tahsil by 58 per cent. There has been an increase of 33 per cent. in the number of wells working in the tahsil, and an increase of 3,054 acres (27·8 per cent.) of *chahi* cultivation. But little extension of the total cultivated area has taken place : the increase is only 3,600 acres or less than 2 per cent. The rise in prices since last settlement is calculated at 34 per cent. (paragraph 120).

A great part of the increase proposed by Mr. Barry is based on the difference between the yields of important crops as calculated by him and those adopted by Mr. (now Sir Montagu) Butler at last settlement. Mr. Barry also considers that his predecessor attached too little weight to the improvements in the class of crops grown, such as the substitution of more valuable wheat crops for barley and the extended cultivation of tobacco (paragraph 137), and is inclined to doubt the accuracy of Mr. Butler's estimate of nett assets based on cash rents (paragraph 138). Mr. Barry criticises the period selected at last settlement for the basis of the produce estimate as containing too large a proportion of bad years, and points out Mr. Butler's omission to include in the produce estimate any value accruing to the owner from the share of straw (paragraphs 117 and 118).

In short, Mr. Barry considers the current assessment unduly lenient and has fearlessly put forward proposals which, in his opinion, represent a full and fair assessment. It is, therefore, for consideration whether these proposals are justified by facts and calculations, and, if so, whether it is advisable to take the very considerable increases in the existing demand which Mr. Barry advocates.

3. To turn to the details of the proposed enhancement, the area of the *barani* soils of the Chhachh Circle together with the current rates are compared below with the corresponding areas and rates given by Mr. Barry (paragraph 149).

				Las.	Lipara.	Maira.	Rakkar.	Total.
Area in acres	At last settlement	...	...	8,808	861	85,703	2,329	47,296
	Now proposed	...	..	8,808	579	34,426	2,235	35,848
Rates in rupees	At last settlement	...	...	2 0 0	1 8 0	0 12 6	0 4 0	All round rate, Re. 1.
	Now proposed	...	..	3 0 0	2 4 0	1 3 0	0 6 0	1 8 0

Mr. Barry's rate for *barani* land in the Chhachh, as given by his one-third assets estimate, works out at Rs. 2.08, so that the all round rate proposed is well below the standard as calculated by him. At the same time, the proposal involves a very large increase on the rate of last settlement, and Mr. Barry justifies it (paragraph 147) partly by his view that there was a miscalculation in the cash rent estimate at last settlement, and partly by the omission of Mr. Butler to include in the produce estimate the landlord's share of straw, an omission which Mr. Barry has now remedied. Mr. Barry does not consider that the cash rents paid by tenants-at-will in the *barani* area of the Chhachh give any indication of the landlord's assets. Such rents are either paid on land which is not representative of the circle, or by tenants-at-will whose rents were originally the same as those of occupancy tenants and have never been changed. Consequently no one-third nett-assets rate based on cash rents is shown in the table in paragraph 168 of Mr. Barry's report. He has, however, tabulated (paragraph 85) the rents paid by occupancy tenants, which were fixed 60 years ago. The result shows rents ranging from Re. 1-8-0 to Rs. 3-13-0 per acre of *Maira* land, so that his rate of Re. 1-3-0 for *Maira* land cannot be regarded as an over-estimate. Similar rents for occupancy tenants of *Las* were fixed 60 years ago as high as Rs. 5 and Rs. 6, which would appear to justify Mr. Barry's present proposal of Rs. 3 per acre for this class of soil.

Mr. Butler in paragraph 40 of his Assessment Report set off the landlord's share of the fodder against the high rate of *batai* taken by him in preparing the produce estimate. In the Rawalpindi Tahsil which was assessed shortly after Attock, the landlord's share of wheat, maize and *moth* was included in the nett-assets estimate (paragraph 48 of the Rawalpindi Assessment Report), and it seems probable that the value of this item was inadequately represented in similar calculations for the Attock Tahsil.

The Commissioner, however, in paragraph 8 of his review evidently doubts the desirability of taking the enhancement proposed by the Settlement Officer, and would allow him to reduce his rate to not less than Re. 1-8-0 per acre.

We may agree with Mr. Barry in thinking that the *barani* soil of the Chhachh was treated leniently at last settlement. But it must be remembered that his produce estimate, apart from the rise in prices, depends for its increase largely on an estimate of the value of the landlord's share of straw, which however carefully worked out (paragraphs 117 and 118), is still only an estimate. The conclusions from *batai* rents are, moreover, unsupported by any

definite evidence obtainable from competitive cash rents. The produce of the land in question after all depends on rainfall and the insecurity of its harvests tends to be obscured by the heavy double cropping of the circle as a whole (paragraphs 59 and 60). Along with other parts of the tahsil, the value of the *barani* soil of the Chhachh has been greatly affected in recent years by the peculiar disease which has attacked the gram crop (paragraph 68). In view of these considerations, Mr. Barry should be instructed to limit the all-round rate on *barani* lands in the Chhachh Circle to Re. 1-4-0 per acre, an increase of 25 per cent. on the average incidence of 15 annas and eleven pies yielded by Mr. Butler's rates as shown in paragraph 149 of Mr. Barry's Report. Owing to the slight decrease in the area assessed the actual increase in the demand will be only 21 per cent.

4. Mr. Barry's proposed rates for *barani* land in the Sarwela and Nala Circles are moderate and are accepted.

5. We now come to the chief problem of the present re-assessment, the rate to be taken on *chahi* land in the Chhachh. Mr. Barry's proposals involve an increase of 55—61 per cent. (not 30 per cent. as noted by the Commissioner), as against an all-round increase in prices of 34 per cent. and an increase in the number of wells of 362, or 23 per cent. with a corresponding increase in the *chahi* cultivated area of 1,610 acres or 19.5 per cent.

The Commissioner has pointed out (paragraph 6 of his Review) that whereas Mr. Butler estimated the gross produce of an acre of *chahi* land in the Chhachh at Rs. 57-7-0, Mr. Barry has increased this estimate to Rs. 153. Apart from the increase given by the rise in prices, and the inclusion in the produce estimate of the landlord's share of straw, which has been discussed already, Mr. Barry has raised the yield of ordinary tobacco from 24 maunds per acre to 44 maunds, of snuff tobacco from 32—40 maunds to 64, of maize from 22 maunds to 25 maunds, and of wheat from 10 maunds per acre to 11 maunds.

The Commissioner has quite correctly confined his attention to tobacco, and finds it difficult to resist Mr. Barry's conclusions drawn from the cash rents as to the letting value of land devoted to this crop. The Commissioner in his calculations has deducted half the cost of manure paid by the landlord from the cash rent. Mr. Barry, however has subsequently pointed out that this deduction in the case of cash rents is not justified by facts. Where the land is cash rented, the landlord pays no share of the cost of manure.

There can be no question as to the value of this *chahi* land whether used for tobacco, sugarcane or vegetables. Nor need there be much apprehension of any falling off in the demand for tobacco, which occupies 22 per cent. of the whole area of *Rabi* crops grown on the wells of the Chhachh. Both Pesbawar and Hazro, the two centres of the tobacco and snuff industry in these tracts, in addition to a steady local demand and established trade with other parts of India possess in the Kashmir Valley a large and increasing market for their produce. During the last 30 years the purchasing power of the Kashmiri peasant had increased enormously, and this fact is no doubt largely responsible for the increase in tobacco cultivation and in the prices obtained for the crop, which appear to have taken place since last settlement. Some of the great difference between Mr. Barry's estimate of the yield of tobacco and that of last settlement may be accounted for by an actual improvement in the productiveness of the plant and the heaviness of the leaf, the result of intensive cultivation by the Maliar, the most skilful cultivator of specialised crops in the Province. Some more of the difference may be due to under-estimates of last settlement and over-estimates now. But when all is said, the fact remains that the proposals involve an increase which requires the strongest and most definite justification.

The description of cash rents, given by Mr. Barry in paragraphs 76—78 reveals a variety of tenure which must be without parallel in the Punjab, and suggests that in spite of the care with which the Settlement Officer has worked out his calculations there may still be room for error. Mr. Barry has given

the most careful and detailed estimates of the expense to the landlord in providing his half share of the manure, seed, well-rope and pots for the well wheels (paragraphs 75 and 120—128). One can hardly expect, however, that such an estimate, however carefully prepared, would not be challenged by any landholder in the Chhachh. It is considerations of this kind which justify the cautious recommendations of the Commissioner that Mr. Barry's rate for *chahi* land in the Chhachh Circle should be considerably reduced. It will be sufficient if the existing rate of Rs. 6 is raised to Rs. 8.

6. The same considerations as in the case of the Chhachh Circle have led the Commissioner to recommend that Mr. Barry's *chahi* rate in the Sarwala and Nala Circles should be reduced from Rs. 7 and Rs. 8 respectively to Rs. 6. In the Sarwala Circle the rate sanctioned for *chahi* at last settlement was Rs. 4-8-0. The number of wells has increased from 386 to 674, an increase of 75 per cent., and the *chahi* area from 1,184 acres to 2,048 acres, an increase of 73 per cent. True competition rents are rare, except in the neighbourhood of Campbellpur. Twenty-five per cent. of the *chahi* area of the Circle is within 2 miles of that station (paragraph 79). The wells of some villages grow tobacco a little inferior to that produced on the wells of the Chhachh. In 62 per cent. of the *chahi* area, however, the rents are estimated considerably lower than in the villages near Campbellpur and those in which tobacco is grown.

7. In the Nala Circle conditions of *chahi* land are somewhat different from those obtaining in the Sarwala Circle. Mr. Barry's calculations (paragraphs 81—84) give a somewhat higher rent than in the Sarwala, and the current rate for *chahi* in the Nala is Rs. 5 per acre as against Rs. 4-8-0 in the Sarwala. On the whole, however, there is little reason for differentiating the *chahi* rate in these two circles. The real differentiation is between villages or groups of villages.

8. In all these calculations regarding well lands a margin has to be allowed for possible error in estimating deductions which the landlord has to meet. It is, moreover, all important to avoid even the appearance of assessing too heavily enterprises and improvements which secure the tract from the vicissitudes of the climate. The Commissioner's recommendation that the *chahi* rate in the Sarwala and Nala Circles should not exceed Rs. 6 is accepted.

9. As pointed out by the Commissioner (paragraph 9 of the review) the *chahi* rates proposed by Mr. Barry for the Chhachh work out at Rs. 5-4-0 per acre cropped. The rates now sanctioned work out for the matured acre as shown in the produce estimate at Rs. 4-5-3 for the Chhachh, Rs. 3-6-6 for the Sarwala and Rs. 3-8-8 for the Nala. In the Jullundur 'City Circle' the rate per cultivated acre of *chahi* lands imposed at the last settlement was Rs. 4-0-7, working out at Rs. 2-15-5 for the cropped acre. In view of the valuable crops grown on *chahi* land in the Attock Tahsil, the proportion which the Attock rates bear to those in other districts would appear to be suitable.

10. With regard to the other irrigated soils, Mr. Barry's proposal to increase the current rate of Re. 1-8-0 for *Sailab* in all circles to Rs. 2 is justified by the one-third nett-assets estimate and may be accepted.

In the Sarwala Circle Mr. Barry has raised the current rate of *Abi* land from Rs. 4 to Rs. 7 the same rate as he proposes for *chahi*. The area of *Abi* is only 150 acres: but this fact does not affect the proportionate increase in the rate for the individual owner. The *chahi* rate having been reduced to Rs. 6 the same rate may be adopted for *Abi* in this Circle.

On the same class of soil in the Nala Circle Mr. Barry has raised the current rate of Rs. 5 to Rs. 13 per acre, a very much higher rate than is proposed for any soil in the tahsil. In paragraphs 86—88 and 160, Mr. Barry explains that this is practically a special assessment for the rich lands of *Rasan Abdal* and *Wah*. But as the proposed *chahi* rate of Rs. 8 in the Nala Circle has been reduced to Rs. 6, there should be a corresponding reduction in the *Abi* rate to Rs. 9.

Nahri cultivation is only found in the Panjkatta tract of the Nala Circle and Mr. Barry has described the difficulty experienced in getting sufficient irrigation at certain times of the year. His proposed rate of Rs. 2-4-0 per acre as against the current rate 1-6-3 is accepted.

11 Mr. Barry's proposals for the assessment of village sites in the vicinity of Hazro are accepted. As regards the other points mentioned in paragraph 181 of Mr. Barry's report, his proposals in connection with water-mills (paragraph 172) are approved. A separate reference should be made in the ordinary way regarding the remission of arrears of suspended land revenue (paragraph 173). The reduction which has been made in Mr. Barry's proposals renders his arrangements for progressive assessments (paragraph 178) less necessary than before. The principles he proposes are approved, but he should submit revised proposals so far as they are required by the reduction in his proposed assessment now sanctioned.

The proposals regarding the term of settlement (paragraph 190) should be submitted at the close of settlement operations. Separate instructions have been issued on the subject of protective leases for wells (paragraphs 174-77). It is noted that a separate report is being submitted regarding urban assessments (paragraph 156) and forests (paragraph 179).

12. The financial results of the rates now sanctioned are as follows:—

1	2	3	4	5	6	7	8
Circle.	Mr. Butler's rate per a c e.	Assessment	Present area.	Rate now sanctioned.	New demand	Increase per cent. column 6 on column 5.	Percentage of nett assets as in paragraph 182 of Report.
CHHACHH.	Rs. A. P.	Rs.	Acre.	Rs. A. P.	Rs.		
Chahi ...	6 0 0	52,752	10,926	8 0 0	80,208	52	22
Sailab ...	1 8 0	308	182	2 0 0	364	20	24
	2 0 0						
Barani ...	1 8 0	47,372	45,845	1 4 0	57,810	21	19
	0 12 6						
	0 4 0						
Urban Assessment ...	...	...	...	...	720	..	...
Total ...	...	1,00,427	56,056	...	1,88,602	35*	21
SARWALA.							
Chahi ...	4 8 0	6,169	2,243	6 0 0	13,458	118	25
AM ...	4 0 0	408	156	6 0 0	936	100	21
Sailab ...	1 8 0	1,676	947	2 0 0	1,894	1	27
	1 0 0						
Barani ..	1 8 0	21,929	45,230	0 8 4	25,120	16	31
	0 6 6						
	0 8 0						
Total ...	...	30,443	51,576	...	41,408	36	28

*As the actual existing demand (for 1923-24) was Rs. 1,09,457 the real enhancement is only 33 per cent.

1	2	3	4	5	6	7	8
Circle.	Mr. Butler's rate per acre.	Assessment.	Present area	Rate now sanctioned.	New demand.	Increase per cent. column 6 on column 5.	Percentage of nett assets as in paragraph 133 of Report.
NALA.	Rs. A. P.	Rs.	Acres.	Rs. A. P.	Rs.		
Chahl	5 0 0	8,875	2,805	6 0 0	13,880	56	19
Abi	5 0 0	5,800	1,034	9 0 0	9,306	60	20
Nabri	1 10 0	12,980	7,721	2 4 0	17,372	34	27
Saialab	1 8 0	1,248	667	2 0 0	1,334	7	25
Barani	1 0 0	40,575	74,148	0 12 6	58,391	44	25
	1 8 0						
	0 8 6						
	0 4 0						
Total ... ..	...	69,478	85,875	...	1,00,238	44	28
GRAND TOTAL ... ..	...	2,00,847	1,93,507	...	2,80,248	40	28

It will be observed that the percentage of nett-assets taken in each circle is well below the standard of $33\frac{1}{3}$ per cent.

13. The question of the assessment of the land occupied by the cement works at Wah and limestone works at Hasan Abdal should be made the subject of a separate reference. In a recent case from another district an assessment was based on the landlord's assets in the ordinary way and half the rent was taken as land revenue, and in this case also there appears to be no reason for disregarding actual receipts and treating the land as ordinary cultivated land.

14. The new demand should be imposed with effect from Rabi 1926.

C. M. KING,

The 15th January 1926.

Financial Commissioner.

List of errata for the Attock Assessment Report, 1925.

Paragraph 21, line 5, for the full stop *substitute* a comma

Page 15, line 32, for " this " *read* " the ".

In paragraph 48, line 23, for " former " *read* " latter "

Page 19, last line but 3, *delete* " who ".

Paragraph 59, last line but 2, for " is good deal " *read* " is a good deal ".

In column 3 of the table in paragraph 60, for " 6.6 " *read* " 10.6 ".

Page 26.—The areas in the first two lines of the last paragraph of this page are 14,675 acres and 26,490 acres, respectively.

Page 28 in the first footnote, for " Nos. I-II " *read* " Nos. I-III ".

Paragraph 132, last line but 2, before " selected " *insert* " period ".

Paragraph 132, last line, *delete* " period "

Paragraph 138, line 14, for " rent " *read* " chahi rent ".

In the table in paragraph 140, *delete* " Rs. Rs. Rs. "

Paragraph 145, *delete* the comma *after* " rate " in the third line from the end

Paragraph 174, line 11, for " 505 and 505 " *read* " 505 and 506 ".

" " " 17, for " anend " *read* " an'end ".

" " " 18, *after* " time " *insert* " the ".

Paragraph 175, line 7, for " The maximum " *read* " Twice the maximum "

Statement I in the heading for " SAIWALA " *read* " SARWALA ".

In the first table in Statement No. IV-A, page xxiv, for $\frac{109+104}{29}$ *read* $\frac{99+104}{29}$.

In the second table for $\frac{128+170+152}{29}$ *read* $\frac{126+170 \times 7 + 152}{29}$.

Appendix D, page xxxviii, last line but 6, for $\int_0^2 a^2 Q$ *read* $\int_0^{2\pi} a^2 d\theta$

Appendix D, page xxxviii, last line, for " $\frac{2}{3}$ this " *read* " $\frac{1}{3}$ this ".

Page 41, line 10, for " are " *substitute* " were ".

ASSESSMENT REPORT

OF THE

ATTOCK TAHSIL.

PART I.—GENERAL DESCRIPTION.

1. The Attock tahsil at last settlement formed part of the Rawalpindi district and was transferred when the new Attock district was formed in 1904. It contains 196 estates, six Government reserves and one cantonment (Campbellpore). Two villages, Daftar Ghurghushti and Talqa Ghurghushti, which had the same topographical number before, have now been given different ones, while the land acquired by Government for the Civil Bazar at Campbellpore was constituted a separate estate after last settlement. This explains the increase in the number of estates by 2. The area of the estates is approximately 543 square miles. The tahsil is bounded on the west and north-west by the river Indus, which separates it from the Kohat and Peshawar districts. On the north and north-east it is bounded by the Hazara district, which contains the Gandgarh mountain which forms a projection into this tahsil between the Panjkatta and Haro tracts and the Chhachh. To the east lies the Rawalpindi tahsil, the boundary running just to the west of the Margala hills. The southern boundary of the tahsil follows roughly the southern slopes of the Kala-Chita range from the Indus for about 30 miles to Chak Fateh Khan where it turns northwards till it reaches the Kawagarh hill some 8 miles east-south-east of Campbellpore. It then goes eastwards again passing a couple of miles to the south of the Kherimar ridge and joins up with the boundary of the Rawalpindi district near Gujarwala. This eastern portion of it separates the Nala circle of the Attock tahsil from the Nala circle of the Fatehjang tahsil.

2. At both of the last two settlements the tahsil was divided into three assessment circles,—the Chhachh to the north-west lying along the Indus, the Nala to the east and south of it and the Sarwala to the south and west. These circles have been retained for the present settlement. Roughly the Chhachh is the basin of the Chel stream and the other two circles the basin of the Haro river. These two basins are separated by a high water-shed or ridge. The western end of this ridge consists of the Attock hills which extend from the Indus nearly up to the village of Haji Shah. From there it turns slightly to the south and runs for a few miles nearly parallel to the Grand Trunk Road. Turning slightly north again it runs through Lawrencepur railway station, and eventually joins up with the Gandgarh hills near the hamlet of Qibla Bandi in Malak Mala. The first part of this ridge lies wholly in the Sarwala circle. From Lawrencepur onwards it runs approximately along the boundary between the Nala and Chhachh circles.

3. The Chel is a narrow sluggish stream which rises in the lands of Musa Kudlathi and runs generally in a westerly direction till it meets the Indus about a couple of miles above Attock. The land lying along its banks is all low and swampy, and in most years a large jheel forms near Shamasabad, which remains throughout the winter owing to the water which percolates from the higher land to the south, and possibly also from the Indus, and oozes up out of the ground. It is usually impossible to cultivate it in the winter as most of it is too wet to plough till about May. Except in years of excessive rainfall it produces good kharif crops. After heavy rain the stream is swollen by the

floods from the Gandgarh hill. Some of the higher land near the Chel contains *kalar* which is brought to the surface by the moisture underneath and damages the crops.

4. In forming the Chhachh circle Mr. Steedman attempted as far as possible to make the Chel stream the southern boundary. The thriving mercantile town of Hazro is roughly the centre of the circle and the villages in its neighbourhood have the best land. The chief characteristic of the Chhachh is its excellent wells, of which there are 1,954 in use: the total area of *chahi* land being about 10,000 acres. Double cropping with heavy manuring and intensive cultivation is the general rule, especially in the case of the populous villages round Hazro. The soil here is a rich loam, easy to plough and very fertile. It owes its excellence mainly to the silt deposited by the spill from the Gandgarh hills to the east. There is a good deal of grazing there, and after heavy rain the floods bring down rich deposits which increase the fertility of the land. The land to the east of Hazro nearer the hills does not benefit so much, as the deposits there contain a large proportion of sand. Further west, however, the effect of the floods is most beneficial. The land is very flat and the water spreads over a very wide area. Recently, however, the municipality constructed a large channel to the east of Hazro to prevent flooding in the town. This enables the spill to pass off quicker and the higher ground will thus seldom be reached by it. A few miles to the south east of Hazro the soil becomes light and sandy, and is generally of poor quality. Further to the east it becomes stony and much cut up by ravines as it approaches the foot of the Gandgarh hills. To the west from Hazro the land retains its excellent quality for some distance, but from about Shamasabad onwards where the effects of the Gandgarh spill are no longer felt it tends to become lighter and poorer. As we go northwards towards the Indus the land generally deteriorates and becomes more sandy. A great deal of it is also strewn with round water-worn stones. These and the sand are said to have been deposited by the great flood of 1841 which inundated most of the north-western portion of the Chhachh. Along the river bank there is a certain amount of land which receives moisture from the river, but it is for the most part of inferior quality. There are a number of islands or *belas* in the river belonging to the villages of this tahsil. These are, as a rule, uncultivated, but they form a valuable grazing ground and yield a fair supply of timber. In a few places cuts have been dug from arms of the river and water-mills erected for grinding corn. One great advantage that the Chhachh has over the other two circles is that it is mostly flat. The soil being also rather light retains its moisture better than the firmer loam of the Nala or the sanier but more uneven Sarwala. Much of the soil of the Chhachh resembles in many ways the better parts of the east of the Tallagang tahsil, but it is, of course, more level and the water is much nearer the surface.

5. The Haro river rises in the hills near Murree and enters the Attock tahsil from the Rawalpindi district at a point on the boundary about 8 miles due east of Hasan Abdal. From there it flows for some 8 miles in a north-westerly direction to a point near Sultanpur where it meets the Jabbi stream which comes in from the direction of Haripur. It then turns west-south-west and pursues a winding course more or less in this direction till it meets the Indus some 7 miles due west of Campbellpore. The Haro contains a fair amount of water all the year round and after heavy rain in the hills it is in most places unfordable. A good deal of irrigation, however, is done from it in the Khanpur ilaqa of the Hazara district and in part of the Rawalpindi tahsil, with the result that when there has been a scarcity of rain the amount which comes down to the Nala circle is insignificant. In times of drought the part from the tahsil boundary to Sultanpur is practically dry. At Sultanpur the Haro gets the waters of the Jabbi which are perennial, while lower down it receives further assistance from various springs and tributaries. For the first 10 or 12 miles of its course in this tahsil the river for the most part runs in a shallow, stony bed through flat country. Soon after leaving Sultanpur it gets into the rather hilly country near the foot of the Gandgarh mountains. From there onwards till it finds its way into the Indus it runs nearly always in a deep ravine far below the level of the surrounding country. For some miles below Sultanpur this ravine is usually fairly wide

and at the bottom of it there are numerous stretches of fair, level or slightly sloping land. That nearest the river usually gets moisture by percolation from it and has been classed as sailab. Much of the rest is irrigated by springs and cuts from the river or by means of wells, the water being comparatively close to the surface. Following the Haro further down we find the ravine which contains it becomes narrower, its sides more precipitous and stony and the patches of cultivation at the bottom much smaller. By the time the Sarwala circle is reached, these latter are restricted to occasional small plots of rather inferior jhalari land.

From Sultanpur to the Indus the land in the neighbourhood of the Haro and its larger tributaries is very broken and most difficult to traverse. The soil is rather stiff and not infrequently has kankar nodules in it. Such cultivation as there is, is mostly in small patches on the tops or slopes of hills or at the bottom of a ravine where a rather precarious *bund* occasionally succeeds in arresting the onslaught of the surface drainage from above, and—while it holds—keeps a small area of rich soil reasonably moist.

6. With the exception of the Jabbi already referred to, the Haro has no important tributaries on its right bank. On its left bank the most important are the Jhablat which runs through Wah and Hasan Abdal, the Saggar which rises in the Kherimar range and passes close by Burhan, the Nandna, the biggest of all, which runs between the Kawagarh ridge and the Kala-Chita range and enters the Haro about 8 miles to the south of Campbellpore, and the Shakar Dara stream a little to the west of the Nandna. Such irrigation as is done from them is mostly by means of jhalars.

7. Most of the villages in the Sarwala circle, especially those in the northern part, are long and narrow like those in the Chhachh. Their northern portions contain good well-land typical of the Chhachh, while their southern portions extend up on to the top of the ridge described in paragraph 2. The Grand Trunk Road runs roughly along the foot of this ridge as far as Hatti. Between Hatti and Lawrencepur it crosses it. To the south of the road the land rises steadily and deteriorates in quality. It is for the most part light, undulating and very sandy the drainage channels being shallow. It never yields anything but a poor crop but usually manages to produce something even in dry years when the crops on the firmer soils die altogether. Except for the Government reserve round about Attock the ridge is practically treeless. The monotony is only relieved by the Kamra hill (1,536 feet), a mass of rock rising suddenly out of the ground about 6 miles north-north-east of Campbellpore. From the ridge the land slopes southwards towards Campbellpore, but is still sandy and light with occasional out-crops of rock, in the neighbourhood of which it is usually stony. All this portion drains into the Haro and along the drainage channels there are a certain number of fairly good wells, especially in Campbellpore, Sarwala and Mirza. The land irrigated by them is inferior to the chahi of the Chhachh and to make it fit for intensive cultivation, heavier soil is often brought from elsewhere on donkeys and dumped down on the land. If this is not done it takes 3 or 4 years steady ploughing and manuring before it can produce good tobacco and sugarcane. As we approach the Haro the soil becomes firmer but the country is much more uneven. In places it is also very stony. Near the Haro the drainage channels deepen into steep ravines which intersect the whole country and leave very little land fit for cultivation. Between the Haro and the Kala-Chita range the soil remains rather firm but gets more stony as we get near the hills. It gives rather better crops than the light sandy soil but is much more dependent on a regular rainfall. On the whole it is poor in quality and much inferior to the similar soil further to the east in the Na'a circle.

8. The Nala circle is the largest of the three and contains a greater variety of land. The north-east portion is fairly level except for the small Budho, Bajar and Paur Miana hills which rise up abruptly as more or less isolated prominences out of the plain. This portion contains the Panjkatta tract which is irrigated

by means of a number of small cuts from the Haro river. Some 17 villages

The Panjkaita and Haro tracts

benefit in this way. They contain practically the only nahri land in the tahsil. The soil here is good, especially to the east near the Rawalpindi boundary where it is stiffer, but it requires a good deal of rain. Except in 3 or 4 villages the water supply is precarious and in dry years the nahri kharaba is nearly as high as that of the barani. To the west of this tract we find the broken land lying along both sides of the Haro river which has already been described in paragraph 5. A little irrigation is done from the river and also from springs coming out of the Bajar and Paur Miana hills. The land watered in this way is of good quality and is fairly well cultivated. As we follow the course of the Haro further west the country becomes more broken and the cultivation more scarce. The cliffs along both sides of the river here are mainly composed of clay. To the south of the Haro there are some very rich irrigated lands round Hasan Abdal and Wah which get water from the famous springs which issue from the hills there. To the west of this there is the Saggar tract which lies

The Saggar tract.

between the Kherimar range and the Haro river, Burhan being about the centre. This tract contains some low-lying, fertile land just to the south of the Grand Trunk Road with a number of good wells in it.

9. To the west of the Saggar tract across the Haro river we come to the high sandy country lying on both sides of the railway near Lawrencepur station. Here the soil is generally similar to that of the higher parts of the Sarwala circle but somewhat less sandy. To the south of this the land slopes down to the Haro and is stiffer but not of such good quality as that further to the east. There is a group of villages here inhabited by Trer Awans who are

The Khattar tract

poor cultivators and generally in debt. For generations they have had a reputation for criminality, which has stuck even to those who have mended their ways. In the lower land there are some fair wells and jhalars but in most cases the area irrigated is rather small and much levelling had to be done. In the south-west corner of the circle there are some large villages lying between the Kawagarh ridge and the Kala-Chita range, mostly owned by Khattars. The land there is better than the stiff soil to the south of the Haro in the Sarwala Circle, but is not up to the standard of that further east. The Nandna stream runs through these villages and some of the chahi and jhalari land on its banks is highly cultivated. The rest of the Khattar tract lies immediately to the south and south-east of the Kherimar range and adjoins the Nala circle of the Fatehjang tahsil, which it resembles in many respects. In the centre Khattars predominate while further east most of the villages are owned by Gujars. This part contains the best land of the circle. The soil is a good firm loam, somewhat stony in places, as for instance where it approaches the Kherimar range on the north. There are very few wells and drinking water is mostly obtained from the streams or by digging holes in the bottom of the ravines which intersect it. The northern part of this tract towards Pathargarh and Wah is very broken. To the east towards the Grand Trunk Road and the tahsil boundary it is much less so and most of the land there is cultivated.

10. The whole of the Nala circle probably gets a rather more plentiful

Soil of the Nala Circle

rainfall than the other two circles of this tahsil, as the rainfall tends to diminish as we go from east to west. With the exception of the sandy tract in the north-west corner, the soil of practically the whole of the Nala circle is a moderately stiff loam, usually of a reddish colour. It consequently requires more rain than the uplands of the Sarwala circle, but when it does get rain it produces very much better crops. The soil is generally superior to the rather stiff land in the south of the Sarwala circle, but inferior to the softer loam of the centre of the Chhachh. The circle contains 579 wells in use or fit for use and 232 kacha wells, dhinglis and jhalars. Most of the wells are in the Saggar tract but the Haro tract and the villages near Wah supply a fair number. The jhalars are mainly along the banks of the Haro and its tributaries.

11. At last settlement the figures were given for the rainfall at

Rainfall.

Attock. The average worked out by the Meteorological Department came to 18·4 inches, of which 10·1

was in the kharif (June to September) and 8.3 in the rabi (October to May). In May 1905 the tahsil headquarters were moved to Campbellpore. The figures for the last 20 years for the tahsil show an average total rainfall of 21.9 inches, of which 10.5 is in the kharif and 11.4 in the rabi. The rainfall in this tahsil is very capricious, sometimes one part being favoured and sometimes another. It will be seen from the map in appendix B that it tends to decrease as we go westwards and southwards from the Himalayas. The average rainfall for Haripur is 30.3 inches and as Panjkatta tract of the Nala circle adjoins the Haripur tahsil it is probable that the rainfall there is higher than in any other part of the Attock tahsil. Probably the whole of the eastern portion of the tahsil gets more rain in the kharif than the western as the normal kharif rainfall for Fatehjang (15.1) and for Rawalpindi (20.6) is considerably higher than that for Campbellpore. This would also partly explain the fact that much more kharif crops are usually sown in the Nala circle than in the two circles to the west of it.

12. The distribution of the rainfall is shown in the table below in which the figures for Campbellpore are compared with those for Tallagang. In each case the average for the last 20 years has been taken :—

Recording Station.	KHARIF.					RABI AND ZAID RABI.									Grand Total.
	June.	July.	August.	September.	Total.	October.	November.	December.	January.	February.	March.	April.	May.	Total.	
Campbellpore...	1.1	3	4.4	2	10.5	.3	.2	1.6	1.8	2.1	2.9	1.9	.6	11.4	21.9
Tallagang. ...	1.6	3.9	5.5	2.2	13.2	.5	.2	.9	.9	1.4	1.7	1.6	.9	8.1	21.3

Good rain is required in July for sowing the kharif, but in the last 20 years there have been 6 in which it has been less than 2 inches and 7 in which it has been between 2 and 3. To prevent the crop from withering, rain is required at fairly regular intervals in August. In 6 years out of the last 20 the total rainfall in August has been less than 3 inches. In 7 it has been between 3 and 5. The September rains are really the most important of the whole year as they are required for maturing the kharif and for sowing the rabi. In 8 years out of the last 20 the September rains have been less than 1 inch. In one of those years the rainfall in August had been heavy and the rabi sowings were fair. In 4 there was sufficient rain in the next three months to admit of a normal rabi crop being sown. The three remaining years were all years of serious failure of the rabi.* As will be seen from the figures in appendix B, Campbellpore comes off better as regards the winter rains than any of the neighbouring recording stations with the exception of Haripur. The winter rains seldom fail altogether, though occasionally they are late. In 6 out of the last 20 the total rainfall in December and January was less than 2 inches. This affected to a greater or lesser extent the rabi crops of 1909, 1913, 1914, 1916, 1917 and 1921. The rabi of 1913 had been sown under very unfavourable conditions and consequently did not recover. In 1917 and 1921 the rainfall in the months of February and March was also less than 2 inches and the crop in each case suffered heavily. In the remaining 3 years the rains in February and March were sufficient to prevent widespread failure.

To sum up the position, then, we may say that ordinarily the summer rains are insufficient. The rainfall in September is usually sufficient to enable the rabi to be sown but there is frequently a lack of moisture at sowing time from which the crop never quite recovers. If the seed germinates all right the winter rains are usually sufficient to bring most of the rabi on the lighter or more favourably situated lands to maturity. If they are late or if there

* Cf. Diagrams Nos. 2, 3 and 5.

is a prolonged break, the crops sown in the stiffer and thirstier soils suffer. In 3 years out of the last 20 the winter rains failed badly. In two or three others they were so heavy that they damaged the gram crop.

13. Sanction was obtained to the same classification of soils being followed as at last settlement. I will deal first with the irrigated classes of lands. These are chahi, nahri *ek-fasli*, nahri *do-fasli* and abi. Chahi means, as usual, land irrigated by wells, jhalars or dhinglis. The jhalars lie mostly along the banks of the Haro and its tributaries from which they draw water by means of channels or tunnels leading up to the usual well gear. In some of them the supply of water is rather uncertain, while in the case of those taking out of the Haro, the channels get silted up every time there is a flood in the river. In the case of the smaller streams small temporary *bands* are usually constructed to hold up the water for the jhalar. These require constant repairs. The land irrigated from each jhalar is usually small. Dhinglis are rare.

14. The term "nahri" has, as before, been restricted to the land in those villages which are irrigated from cuts from the Haro taking out above Sultanpur, i.e., practically the Panjkatta tract. This irrigation is very uncertain in dry years as the zamindars higher up the river in the Hazara district take practically all the water. When there is rain in the hills floods come down and for some days there is an ample supply for all. Sometimes the villagers of the Panjkatta manage to induce the Khanpur people to let more water come down, but when there is a shortage the position of their irrigated crops is always precarious. This nahri land varies in quality. That near the villages receiving manure is usually double-cropped. It has been classed as *do-fasli* when it has borne 3 crops or more in 8 harvests; otherwise *ek-fasli*.

15. The abi land includes all land irrigated from the Haro by means of petty cuts below Sultanpur (where the water supply is perennial) as well as land irrigated from springs or cuts from other streams. The richest abi land is that irrigated by the famous springs of Wah and Hasan Abdal. It is highly manured and the water supply is plentiful. The best abi lands of Hasan Abdal are rented at higher rates than any other land in the district. Apart from these two villages the abi land is usually in small patches, and is cultivated generally in the same way as the other irrigated land of the village in which it is situated. In years of low rainfall some of the springs from which the irrigation is derived occasionally dry up. In two or three villages it has been necessary for the internal distribution of the assessment to have two or more classes of abi, but in the large majority of the villages one class has sufficed.

16. In the Chhachh and Sarwala circles sailab means the low-lying land which is kept moist by the Chel stream to which reference has already been made in paragraph 3. There is a little land along the Indus which gets moisture from the river, but it is of very poor quality and very little of it is cultivated, so it has been classed as rakkar. In the Nala circle sailab means land along the banks of the Haro or its larger tributaries which has natural moisture owing to its proximity to the river. Some of this land during a spate becomes flooded.

17. Lipara lands are those lying round the village. They often receive the drainage water from the village after heavy rain and are always either directly manured or enriched by human ordure. When such land is irrigated it is called by the name of the irrigated class to which it belongs. In the Chhachh the tendency is for most of the lipara land gradually to become chahi. Lipara land is always carefully cultivated and is occasionally double cropped.

18. In the Chhachh las means land which is flooded by the spill from the Gandgarh range (*vide* paragraph 4 above). In addition to the rich deposits which continually replenish the soil, the land being rather low-lying and getting flooded every year retains its moisture long after the higher lands not reached by

the floods have dried up. Villages containing las are, therefore, much more secure and suffer much less in years of drought, while in normal years the yield of las land is considerably higher than that of the ordinary maira. At last settlement las was entered in 31 villages of the Chhachh (paragraph 14 of Mr. Butler's report) and the classification then adopted has in general been retained. In the Sarwala and Nala circles las means embanked land. This is usually in ravines or depressions and receives the surface drainage and a certain amount of moisture by percolation from the lands above. During heavy rain a good deal of silt is washed down into this las land and enriches the soil. The difficulty is, however, that the *bands* which retain the water frequently breach and require a good deal of labour to repair; when such a breach occurs the land becomes almost worthless as it is soon eaten away by the water running through the breach and in any case it loses its moisture. As long as the *band* remains this land is better than ordinary good maira, but not as good as the las of the centre of the Chhachh. Owing to the initial expense of making the *bands* and the constant labour of keeping them in repair it should ordinarily be assessed at only about the same rate as good maira land.

19. Maira covers all cultivated land which does not come into one of the classes mentioned above and is not so bad as to be classed as rakkar. In the Attock tahsil it is a light loam varying in consistency from the poor, very sandy soil of the higher parts of the Sarwala circle to the stiffer and much richer soil of the south-east of the Nala circle. Before last settlement there were two classes of maira land, but these were amalgamated. In villages where very marked differences in the quality of the maira in different parts of the village are found, such as those whose northern portions lie along the Grand Trunk Road, but whose southern portions extend into the typical sand of the Sarwala circle, two classes of maira were found necessary for the internal distribution of the assessment.*

20. Mr. Steedman's definition of rakkar was as follows :—

Rakkar.

" Rakkar is the poorest soil and is usually of one of three descriptions :—(a) very stony lands ; (b) hog-backed and sloping fields, where, after rain, the water flows off ; (c) shallow soils, with rock close to, or even cropping out, on the surface. Other poor soils, such as kallar (or soil that contains lankar nodules) are also included in rakkar. "

It is of course impossible to draw any hard-and-fast line between rakkar and the poorer classes of maira ; so I have ordinarily simply retained the classification of last settlement.

PART II--FISCAL HISTORY.†

21. In about 1813 A. D. the Sikh power was fully established all over the Attock tahsil. Prior to this administrative arrangements are shrouded in obscurity. The Sikhs divided the tahsil into five ilakas, namely, Haweli and Sarkani corresponding practically to the present Chhachh assessment circle. Sarkani corresponding to the present Sarwala assessment circle and the Nala and Haro ilakas which together made up practically what is now the Nala circle. The first two ilakas were first leased out for 7 years to a Chaudhri who collected by appraisement. He was succeeded by various *Kārdārs* who also collected by appraisement until 1835. After that moderate cash assessments were fixed. In the other three ilakas the demand was realized by appraisement from 1813 to 1832, after which a cash assessment was imposed. These various assessments were revised usually after a year or two and sometimes at slightly longer intervals. In most cases the leases were taken up by a very few proprietors, many whole villages often being leased to a single con-

*Cf. paragraph 15 of Mr. Butler's Assessment Report.

†Note.—Further information on this subject will be found in Part II of Mr. Steedman's Report, from which most of the above has been taken.

tractor. In 1847 new assessments were given out by Mr. Vans Agnew and Bhai Surjan Singh on behalf of the Regency. Some two years later these rates were slightly increased by General (then Lieutenant) John Nicholson who seems to have based his estimates on the papers of the Sikh agents. Both his assessment and those of the Sikhs seem to have been severe. The second and third summary settlements were carried out by Mr. Carnac in 1851 and 1853, respectively, and involved a reduction of nearly 30,000 rupees in the assessment. Both of his settlements are said to have worked very well.

22. The first regular settlement was carried out by Major Cracroft about 1857 to 1864 and he effected a still further slight reduction in the assessment. Major Cracroft took the five old Sikh ilakas as his assessment circles. The land he divided up into classes very similar to those adopted at last settlement and he then worked out rates for each class of land. These rates seem to have been calculated largely on the basis of inquiry from zamindars and others as to how they divided up the assessment over the different kinds of land. The jamas given by these rates were used as a standard of comparison and various other factors such as the tenure of the village, the tribe of the proprietors and cultivators, the population and cattle statistics, etc., were considered. The assessment seems to have been carried out with great care and the settlement, like those of Mr. Carnac, worked extremely well.

23. The second regular settlement was carried out by Mr. Steedman in about 1880—84. He replaced the five Sikh ilakas by the three assessment circles still in existence. He also made a few minor modifications in Major Cracroft's classification of land, chiefly in the direction of the sub division of classes. His method of working out the assessment was very much on the lines of the instructions now in force in the Settlement Manual. He made a careful inquiry into prices and yields and worked out a produce estimate based on batai rents from them. His assessment for the whole tahsil worked out at about Rs. 1,00,000 higher than Major Cracroft's. The incidence per acre of cultivation was actually lower than at the previous settlements. The chief differences between his assessment and that of the first regular settlement were in regard to rates. Mr. Steedman reduced Major Cracroft's rates for irrigated land in the Chhachh and Nala. For lipara Major Cracroft had rates varying from Re. 1-8-0 to Rs. 2-0-0 per acre. His successor fixed a rate of Re 1-8-0 for all three circles. Major Cracroft divided the other unirrigated land into two classes, namely, maira I and maira II, his rates for the former being usually double those for the latter. Mr. Steedman introduced the new class of las. He had only one class of maira but had a separate class for rakkar. Thus in the Chhachh Major Cracroft's rates for maira I and maira II were Re. 0-12-0 and Re. 0-6-0 per acre, respectively. Mr. Steedman fixed the following:—las Rs. 2-0-0, maira Re. 0-12-0, rakkar Re. 0-4-0. Again in the Sarwala Major Cracroft's rates were:—maira I, Re 0-8-0, maira II, Re. 0-4-0. Mr. Steedman fixed an all-round rate of Re. 0-5-0 for maira and rakkar in this circle. Mr. Steedman's settlement seems to have been carried out with great thoroughness and care and his report displays a very intimate knowledge of the tract, but his health broke down before he could complete it, with the result that the bachh was not well done. The settlement was probably lighter than any of the preceding ones and the rise in prices which took place during the next 20 years made it lighter still.

24. The third regular settlement was carried out by Mr. (now Sir Montagu) Butler, Assistant Settlement Officer, in 1901—04. On October 1st, 1900, the Attock tahsil was transferred to the Hazara district, and though it was retransferred on November 1st, 1901, on the formation of the North-West Frontier Province, both the preliminary Assessment Report and the main Assessment Report were submitted through Mr. Watson, the Settlement Officer of the Hazara district. The Final Settlement Report, however, was written by Mr. Kitchin, Settlement Officer of Rawalpindi—or, rather, he incorporated in a general report on the whole district a final settlement report which had been written by Mr.

Butler. Before discussing the last settlement in detail I give below a statement showing the assessments at the different settlements mentioned above :—

Settlement.	Approximate year.	Amount.
		Rs.
Sikh Settlements ...	1840	1,36,570
	1843	1,38,341
Regency	1847	1,53,729
Lt. John Nicholson (1st summary) ...	1849	1,59,197
Mr. Carnac's (2nd summary) ...	1851	1,38,255
Mr. Carnac's (3rd summary) ...	1853	1,30,622
Major Cracroft's (1st regular) ...	1857—64	1,29,050
Mr. Steedman's (2nd regular) ..	1880—84	1,59,290
Mr. Butler's (3rd regular) ...	1901—04	2,04,251

On the whole Mr. Butler followed his predecessor's method closely. He made a few minor alterations in the classification of soils, chiefly in the Nala circle, and varied the rates somewhat. A substantial increase in cultivation and well irrigation had taken place since Mr. Steedman's time and there had also been a rise in prices which appears to have amounted to about 25 per cent. The effective rise as far as it concerned the zamindars in this tahsil Mr. Butler put at 17 per cent, though how he arrived at this figure is not clear from his report. He calculated the enhancement he proposed to take by applying Mr. Steedman's rates to the new areas and raising the result by 17 per cent. He also made a lump reduction of one per cent to allow for the fact that the old method of calculating areas (by "lampet") gives slightly too high a result. In the Chhachh and Sarwala circles he practically took the whole enhancement thus calculated. The Nala he considered had been assessed comparatively more heavily at the previous settlement than the other two circles. He accordingly took some Rs. 10,000 less than the figure calculated according to the method adopted for the other two.

The figures are given in the table below :—

	Mr. Steedman's Assessment.	Amount given by applying old rates to new areas and raising by 17 per cent.	Mr. Butler's Assessment (as announced).	Increase per cent.
	Rs.	Rs.	Rs.	
Chhachh ...	76,138	1,05,908	1,03,600	36
Sarwala ...	22,295	29,875	30,000	34
Nala ...	60,857	80,601	70,551	16
Total ...	1,59,290	2,16,442	2,04,251	28

(N.B.—The above figures are taken from paragraphs 49—63 of Mr. Butler's Assessment Report and paragraph 42 of his Final Settlement Report.)

25. The rates proposed by Mr. Butler in his settlement report and those adopted by Mr. Steedman are compared in the tables below :—

Rates adopted at the last two settlements.

			CHHACHH.		SARWALA.		NALA.	
			Mr. Steedman	Mr. Butler.	Mr. Steedman	Mr. Butler.	Mr. Steedman	Mr. Butler.
			Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Chahi	...	...	5 0 0	6 0 0	4 0 0	4 8 0	4 0 0	4 8 0
Abi	...	...	...	...	3 0 0	4 0 0	2 8 0	4 0 0
Nehri	{ ek-fasli	...	...	...	...	...	2 8 0	} 1 10 0
	{ do-fasli	...	...	...	...	...	1 2 0	
Sailab	...	...	1 8 0	1 8 0	1 8 0	1 8 0	1 8 0	1 8 0
Lipara	...	...	1 8 0	1 8 0	1 8 0	1 8 0	1 8 0	1 8 0
Las	...	...	2 0 0	2 0 0	1 0 0	1 0 0	1 0 0	1 0 0
Maira	...	...	0 12 0	0 12 6	} 0 5 0 {	0 6 6	0 10 0	0 10 0
Rakkar	...	...	0 4 0	0 4 0		0 3 0	0 4 0	0 4 0

It will be seen from the above that in the Chhachh and Sarwala Mr. Butler raised the irrigated rates. He also raised the maira rates very slightly and left the other rates practically as they stood. In the Nala though Mr. Steedman's sanctioned rate for abi was only Rs. 2-8-0, in practice he had to raise it to about Rs. 4 as he found the maira rate of Re. 0-1-0 was too high.

26. The distribution of the revenue over the different villages was a matter of great difficulty owing to the great variations in the quality of land of the same class in different parts of the same circle. To assist him in this distribution Mr. Butler divided the villages of each circle up into groups. In the Chhachh there were 8 groups, in the Sarwala 5 and in the Nala 6. His volumes of village notes contain separate notes for each group in which the main features which distinguish the group from the neighbouring ones are discussed. This group system I have found extremely useful and have accordingly retained it. The distribution of the revenue over the estates was done very carefully and with excellent judgment.

27. Though cultivation has been practically stationary during the last 20 years the assessment was rendered easier by the steady rise in prices which took place after it came into force. In the Chhachh circle no suspensions were necessary. Except for a small sum in rabi 1917 owing to damage by hail there have been no remissions. The suspensions in the other two circles since settlement are shown in the table below :—

					Sarwala		Nala	
					Kharif	Rabi	Kharif	Rabi.
					Rs.	Rs.	Rs.	Rs.
1906-07	...	...	...	...	...	...	124	...
1907-08	...	...	...	...	...	...	349	1,754
1911-12	...	...	...	...	648	...	3,412	...
1912-13	...	...	...	...	205	1,128	1,708	7,701
1913-14	...	...	...	...	...	...	470	...
1915-16	...	...	...	...	1,066	48	1,446	498
1916-17	...	...	...	...	...	159	...	1,698
1920-21	...	...	...	...	3, 81	6,866	12,128	25,905
1921-22	...	...	...	...	3,59	...	16,573	...
1922-24	...	...	...	...	...	...	...	2,928
Total					7,658	8,009	26,260	41,409
Total Assessment (1905-06)					80,000		70,661	

In the Sarwala circle with its light sandy soil which requires little rain, the rabi, which is by far the most important crop, seldom fails entirely, and it will be seen that, apart from the famine of 1920-21, things were never so bad as to necessitate large suspensions. In the Nala, much of which is undoubtedly more insecure, the total suspensions since settlement amount to rather more than one year's land revenue demand. The average annual amount suspended in this circle thus works out at just over 5 per cent of the assessment, as compared with 8 per cent in the Tallagang tahsil. Nearly three-fourths of the amount suspended during the last 20 years was due to the famine of 1920-21.

In the Sarwala circle Rs. 25 was remitted in one year owing to damage by hail. The Nala circle sustained similar damage twice and the total remissions granted on this account came to Rs. 2,045. In rabi 1916 Rs. 505 and in rabi 1921 Rs. 560, which had been under suspension for three years, were also remitted.

Details of the land revenue now under suspension at the end of kharif 1924 are as follows:—

<i>Chhachh.</i>	<i>Sarwala.</i>	<i>Nala.</i>	<i>Total.</i>
Rs.	Rs.	Rs.	Rs.
<i>Ail</i>	3,731	23,013	26,744

28. The total number of coercive processes issued in the tahsil during the last 10 years is 1,129, or an average of 113 per annum. Figures for the different circles are given below. In each case the annual average of the 10 years ending 1923-24 has been taken:—

	ISSUED AGAINST LAMBARDARS.			ISSUED AT THE REQUEST OF LAMBARDARS.		
	<i>Chhachh.</i>	<i>Sarwala.</i>	<i>Nala.</i>	<i>Chhachh.</i>	<i>Sarwala.</i>	<i>Nala.</i>
Kharif ...	13	9	20	24	4	30
Rabi ...	6	8	9	13	7	13
Total ...	19	12	29	37	11	48

It will be seen that the greatest number of processes has been required in the Nala circle. This is due partly to the fact that it is the most insecure of the three and partly to the difficulty of getting the Trer Awans and the Tarkheli Pathans to pay up. Considering the very large number of small holdings in the Chhachh, the numerous factions and feuds and the improvidence of many of the land-holders, the number of processes issued has been surprisingly small. A great many more have been necessary in the kharif than in the rabi which points to the necessity of making the kharif instalment smaller than that of the winter crop.

29 No important revisions or reductions have been found necessary during the currency of the settlement. Changes in the demand. The figures below (which include the assessment on wells having protective leases) show a net increase of Rs. 340 in the total demand:—

	<i>Khalsa.</i>	<i>Jagir, Muqfi, etc.</i>	<i>Total.</i>
	Rs.	Rs.	Rs.
Last Settlement ...	1,93,742	11,509	2,04,251
1923-24 ...	1,91,347	13,244	2,04,591
Increase or decrease ...	-1,395	+1,735	+340

Details of the increases are as follows : —

	Rs.
Land sold in Campbellpore New Civil Bazar ...	523
Miscellaneous (chiefly consists of land revenue from waste land which has been leased or granted to zamindars and other land which was acquired originally for the railway and subsequently given back) ...	78
Total	596

Details of the decreases are as follows : —

	Rs.
Land acquisition ...	129
Wells out of use ...	66
Other causes ...	61
Total	256

PART III.—GENERAL STATISTICS.

30. The cycle of years which the Financial Commissioner ordered* to be taken as the basis for the produce estimate is the series of 10 years from 1913-14 to 1922-23.

23. The whole question of the choice of cycle and the character of the harvests included in it was discussed at length in my report submitted on the subject. The 20 harvests in the period selected may be classified as in the statement below. Their general character can also be seen from the graphs in diagrams 2-6 at the end of this report : —

				<i>Khari</i>	<i>Rabi</i>
1913-14	...	...	...	Medium	Good
1914-15	..	..	..	Medium	Good
1915-16	...	...	...	Bad	Medium
1916-17	...	...	...	Good	Poor
1917-18	...	...	...	Very good	Good
1918-19	...	...	...	Bad	Poor
1919-20	...	...	...	Medium	Poor
1920-21	...	...	...	Very bad	Very bad
1921-22	...	...	...	Medium	Good
1922-23	...	...	...	Medium	Good

As the terms good, bad, etc., are, of course, only relative, an attempt was made to arrive at some better method of determining how far the selected period is really representative of the general circumstances of the tahsil. For this purpose a statement was prepared showing for each year the percentage of the total matured area of both harvests on the total cultivated area of the year. These percentages were worked out for the 28 years ending 1922-23 and the average was then taken. This average for each assessment circle as well as for the whole tahsil is compared in the table below with similar averages for the selected period :—

		Chhachh.	Sarwala.	Nala.	Tahsil.
Ten years ending 1922-23 ...	...	98.1	68.2	77.1	80.7
28 years ending 1922-23 ...	...	96.9	69.3	74.8	79.6

It will thus be seen that the selected period will give slightly too high a figure in the Chhachh and Nala circles and slightly too low a one in the Sarwala circle. The differences, however, are all comparatively small.

In addition to furnishing a basis for calculating the produce estimate, the ten years' cycle has also been adopted for working out the crop figures in Part IV.

31. There has been practically no change in the cultivated area since last settlement either in the tahsil as a whole or in any individual circle. A comparison of the

*Financial Commissioner's office letter No 92-1-22-7-10739, dated 21st August 1924.

average for the selected years for this settlement with that of last shows an increase of 3,600 acres, or nearly 2 per cent, but the cultivated area for 1922-23 is actually slightly less than that for 1903-04.

Statement showing the increase or decrease in cultivation in each circle since last settlement.

(Areas in thousands of acres.)

Circle.				Average of years 1896-97 to 1902-03.	Average of selected years for present settlement.	Maximum since settlement (1908-09).	Percentage increase or decrease of column 3 on column 2.
Chhachh	...	...	...	56.3	56.7	57.5	+ .7
Sarwala	...	...	...	55	55.1	57.9	..
Nala	...	...	...	83.3	86.5	86.8	+ 3.8
Tahsil	...	...	...	194.6	198.3	202.2	+ 1.85

The cultivated areas rose slightly from settlement till about 1908-09 and then decreased very slightly. This decrease seems to be due to the following causes :—

- (a) Owing to gram failures mentioned in paragraph 68, some of the very light, sandy soil went out of cultivation ;
- (b) A little sailab and abi land along the Haro river has been lost by erosion ;
- (c) In the Chhachh and Sarwala circles, at any rate, practically all the land which could be cultivated economically had already come under the plough. When tenants found they could make a good deal of money by labouring on the canals or in the carrying trade there was a tendency to throw up the poorer and less productive land.

32. The increasing population to which reference will be made later appears to stimulate intensive cultivation and the increase in the number of wells in all three circles is remarkable. In the table below I have included all wells in use or fit for use, as well as kacha wells, dhinglis and jhalars. The figures compared are those of the selected years of the two settlements :—

Circle's.				Last settlement.*	Now.	Increase.	Increase per cent.
Chhachh	...	...	...	1,550	1,912	362	23
Sarwala	...	...	...	388	674	286	75
Nala	...	...	...	586	780	194	33
Total				2,522	3,366	844	33

There has been a corresponding increase in the chahi area, which now constitutes 7 per cent. of the total cultivated area of the tahsil.

Apart from chahi land, irrigated land in the tahsil is practically confined to the Nala circle. It, as well as sailab, shows a very slight decrease since last settlement. The area of barani land is practically the same.

* See Statement No. I of last Assessment Report.

In the table below I have again compared the figures for the selected years of last settlement with those of the present one :—

					Last settlement.	Now.	Percentage on total cultivated area.
					Acres.	Acres.	
Nahri	..	...	...	...	7,891	7,890	4
Sailab	...	...	...	...	2,262	1,960	1
Barani	...	...	...	...	172,275	173,122	87

33. Most of the tahsil is fairly well supplied with roads. The Grand Trunk Road passes right through it roughly from east to west. At Hasan Abdal it is joined by an excellent metalled road coming from Abbottabad and Haripur. Campbellpore itself lies some 7 miles to the south of the Grand Trunk Road but is joined to it by a fair metalled road. There is also a good metalled road running from Hazro to the Hatti encamping ground on the Grand Trunk Road. In the Chhachh the kachha roads are fair and bullock carts can usually get along them. In the Sarwala and most of the Nala they are so cut up by ravines that in places even camels get held up. The North Western Railway runs fairly close to the Grand Trunk Road as far as Lawrencepur, after which it drops down to Campbellpore going north again to Attock. Campbellpore is also the junction for the Campbellpore—Kundian Branch, part of which goes to Kohat and the other part down to Mianwali.

34. Campbellpore itself with its cantonment, civil station and large bazar (total population 10,983) is itself the market for most of the Sarwala circle. Neither this circle nor the Chhachh produces enough grain to feed its population. The deficiency for Campbellpore is met by rail borne imports, a good deal coming from Injra mandi, in the south-west corner of the Pindigheb tahsil. The Chhachh, besides having a dense agricultural population, has the large town of Hazro containing 8,114 inhabitants to feed and consequently hardly ever exports any food-grains. Hazro is the market both for food-grains and for tobacco, gur, etc. The gur as well as large quantities of snuff is exported sometimes by camels across the river into the Peshawar district but more often from Lawrencepur station whence it goes all over the Punjab and even down to Sindh. A few of the villages in the neighbourhood of Attock sometimes send a little grain to Khairabad mandi in the Peshawar district at other times they buy from it. Hasan Abdal, in addition to being the market for the greater portion of the Nala circle, receives most of the exportable surplus from a small block of villages in the north of the Fatehjung tahsil. Except in bad years it usually exports a certain amount of grain, often to the Chhachh.

Large numbers of cattle pass through the district every winter along the Grand Trunk Road on their way to the Peshawar district where they are sold. A weekly market is held at Hasan Abdal every Saturday. On Sunday the cattle pass on to Hatti, where a few more are bought and sold, while on Monday they stop at Gondal, which is the biggest market of the three. Large numbers of people go there from the surrounding villages every week and many of the zamindars of the Chhachh make a regular profit by acting as go-betweens at the sales. Others purchase cattle there one week, feed them up and sell them at a profit a few weeks later. These fairs create a keen demand for fodder in the villages bordering along the Grand Trunk Road and at the same time provide a good deal of manure which is so valuable in the Chhachh.

35. In statement No. IX figures are given for the number of cattle, ploughs, etc., in the tahsil at last settlement and at the last four cattle censuses. It will be seen that as compared with last settlement there is a decrease of nearly 2 per

cent in horned cattle. This is probably due to the famine of 1920-21 as there had been a substantial increase by 1920. In view of the large increase in well irrigation, this decrease in the number of cattle is a source of weakness. Sheep and goats are kept mostly in the villages bordering on the hills and rakhs. They have both decreased slightly since settlement. Horses and donkeys show a slight increase. The villages bordering on the Grand Trunk Road and the road to Abbottabad are usually well supplied with carts. These engage in the carrying trade and often go right up to Kashmir, sometimes *via* Abbottabad and sometimes by way of Rawalpindi. The number shows an increase of nearly 15 per cent as compared with last settlement. Many of the carts, however, belong to occupancy tenants and tenants-at-will and some of the land-owners complain that they neglect their land for the sake of the carrying trade.

There are now 35 head of horned cattle of all kinds to 100 acres of cultivation as compared with 35 at last settlement and 20 in the Tallagang tahsil. On the whole, I think, the supply of cattle is sufficient for the needs of the cultivators, or at any rate nearly so. The position in this respect is certainly better than in Tallagang even when allowance is made for the extra animals required for working the wells.

In the Chhachh bullocks are generally used for the wells and their quality is fairly good. The price varies from Rs. 10 to Rs. 25, the average being about Rs. 15.6. The animals used for ploughing are not usually so good. Their price varies from about Rs. 50 to Rs. 70. I have occasionally seen buffaloes used, but the buffalo is a sluggish creature and will not go without a boy in front to pull him along by means of a string through his nose. In the other two circles the well cattle are usually not quite so good as in the Chhachh. The plough cattle in the Nala circle are quite fair but the best animals are used for the carts, while buffaloes are often used on the wells. In the Sarwala circle with its light, sandy soil, cattle of inferior quality are found to work satisfactorily.

The number of camels is probably about the same as at last settlement, but it is difficult to deduce anything from this census figures as they depend largely on the presence or absence of a Camel Corps at Campbellpore.

The number of ploughs shows a very slight decrease since last settlement. The number now works out at 7.6 ploughs per 100 acres of cultivation. This means one plough for every 13.2 acres as against 19½ in the Tallagang tahsil.

26. In the Tallagang tahsil considerable profits are derived from the sale of cattle. This is not the case in the Attock tahsil which has not the extensive grazing grounds that the southern tahsil has. It is true that a good many cattle are sold at the weekly fairs at Gondal, Hatti and Hasan Abdal, but these are usually animals which have been bought as a speculation by local traders. The losses in cattle sustained during the famine of 1920-21 were replenished largely by means of purchases at these markets. In the Tallagang tahsil the receipts from the sale of milk and ghee were put at Rs. 12,500 as a very rough estimate. In Attock the number of cows and female buffaloes is slightly less and the population is considerably more, but I think a good deal of more milk is sold. The non-agricultural population of Campbellpore, Hazro and Hasan Abdal consumes considerable quantities of milk and ghee and pays good prices for it. On the whole I should be inclined to put the receipts from this source at not less than Rs. 40,000 per annum. In the Tallagang Report the net profits from goats have been calculated at 11 annas per head. These profits are derived from sales of live stock, hair and ghee or milk. The villages which keep goats in the Attock tahsil are mostly those bordering on the Kala-Chita and other hilly tracts. The markets for goat's hair and milk are better and also much easier of access than in the case of Tallagang, so that the owners obtain better prices. I would put the profits, therefore, at about 14 annas per head. The profits from sheep in Tallagang have been estimated at 5½ annas per head. In the Attock tahsil they may be put at 7 annas per head. A fair income is also obtained by many of the Kala-Chita villages by selling goat and sheep manure in the Chhachh. This, however, does not increase the income of the tahsil as a whole.

Profits from live stock

3. The figures showing the population for the three assessment circles of this tahsil at the last three censuses are shown in the table below. The corresponding figures for the other three tahsils of the district are also given for comparison. The variations have been exhibited graphically in diagram No. 1 at the end of the report :—

	1901.	1911.	per Increase cent.	1921.	per Increase cent.
Sarwala Circle	82,072	88,352	19.6	44,220	15.3
Chhachh Circle	69,490	72,091	3.8	74,786	3.7
Nala Circle	48,956	50,908	4	54,466	7
Total Tahsil	180,518	161,351	7.2	178,472	7.5
Pindigheb Tahsil	106,437	126,300	18.7	120,097	-4.9
Talagang „	92,594	115,418	24.6	108,501	-6
Fatehjang „	114,849	116,204	1.2	110,179	-5.2

It will be seen that the greatest increase in both the decades has occurred in the Sarwala circle. This is mainly due to the growth of the new civil bazar at Campbellpore and the increased population of the cantonment. Most of the other villages in this circle show a slight increase with the exception of a group at the foot of the Kala-Chita range. These for the most part have a hard, thirsty soil which is poor in quality, and in bad years numbers of the population go off to Kohat, Campbellpore, Peshwar, etc., in search of work. The census of 1921 was taken on the night of the 18th March, by which time the complete failure of the rabi crops in these villages had been assured. Hence the decrease in the population recorded. In the Chhachh the slight increase is distributed fairly evenly, most of the villages sharing in it. The same applies to the Nala circle except that Hasan Abdal shows a big increase, mainly owing to the new limestone works there and the cement works at Wah.

The devastating effects* of plague and malaria which reduced the total population of the Punjab during the decade 1901 to 1911 were scarcely felt in the Attock district. The next decade was also on the whole favourable in spite of the influenza epidemic of 1918. The all-round increase is thus due to natural causes unhindered by too many serious epidemics but reduced to a certain extent by emigration.

The population per thousand acres of cultivation in the three different circles is compared with the similar figures for the other tahsils in the statement below :—

CIRCLE.	1901.	1911.	1921.
Sarwala	572	670	880
Chhachh	1,221	1,243	1,322
Nala	563	583	681
Total Tahsil	754	805	887
Pindigheb Tahsil	381	432	408
Talagang „	310	322	324
Fatehjang „	459	459	446

It will be noticed that in all three circles of the Attock tahsil the population has increased faster than the cultivated area. The incidence in the Chhachh has always been more than double that in either of the other two circles with the exception of the Sarwala circle in 1911 and 1921. Even so the incidence in the Nala circle, where it is at its lowest in this tahsil, is far higher than that of any of the other three tahsils in the district. The population is entirely rural with the exception of Campbellpore (10,986), Hazro (8,414) and perhaps Hasan Abdal (5,588).

38. The tribal distribution of the proprietary body will be readily understood from the map at the end of the report. Generally speaking, the Chhachh is owned mainly by Pathans, the Sarwala by Khattars and Awans and the Nala by Khattars, Gujars, Awans and Pathans. The latter are for the most part Tarkheli Pathans who really belong to the Hazara district.

Tribal distribution and caste of the land-owners. Their character as agriculturists.

39. The Pathans of the Chhachh are the most important tribe in the tahsil. There are two or three big villages in which their holdings are comparatively large, but in the rest they are small. The Pathan is usually industrious and a good cultivator, though on well land he does not quite come up to the standard of the Maliar. He frequently weeds his barani wheat in the winter which I have hardly once seen done in either of the other two circles. He fully realizes the value of manure but except in the villages in the west of the circle he generally reserves it for his chahi land. His chief defects as an agriculturist are that he is quarrelsome, litigious and vindictive and never forgets or forgives an injury; he is also easily moved to anger and disputes over land and other matters not infrequently lead to his using his knife. Although generally fairly careful he is sometimes addicted to gambling and is often reckless in expenditure on marriages and funerals. Some of the more enlightened members of the tribe have sometimes tried to get public opinion on their side in an attempt to eradicate the custom of extravagant expenses on such ceremonies, but they have had very little success. Most of the indebtedness among the Pathans is probably due to this cause.

Pathans of the Chhachh.

40. The Pathan is always very loth to abandon old customs and still prefers a complicated system of rents which vary according to the nature of the crops sown to simple cash or batai rates. Another example of this trait in his character is his adherence to the *likivand* tenure which has been described in paragraph 22 of Mr. Butler's Report. The origin of it lies in the fact that in a good deal of the Chhachh the land nearer the river is much inferior to that further away. Most of the villages thus consist of very long, narrow strips. Some of them thus have their northern parts in the sandy land near the river. Further south comes much better maira land, then the las and, lastly, the chel sailab. The same method was followed in dividing up the land between the different families in the village, each family being given a long strip. Further sub-division of these strips has taken place in the course of time always length-wise and now we find what are known as "thals," i.e., strips nearly half a mile long and only 20 or 30 yards wide, each with a large number of sharers in it. Usually only the outside boundary can be seen on the spot. The breadths taken by the different sharers are measured by spans. This system of division has the advantage that every man gets the same share of the good and the bad land and can have no cause for complaint. The nature of the Pathan being what it is, it would be difficult to devise any other method which would satisfy him. Another advantage is that these very long, narrow fields take less time to plough as the plough only has to be turned four or five times, whereas in a square field of the same area a great deal of time would be wasted in turning. The great disadvantage of the system is that it renders well sinking extremely difficult. In many villages where the different families or owners have not been on good terms with each other, all attempts to effect the exchanges necessary for getting a compact block fit for well irrigation have failed and the number of wells has remained practically what it was at last settlement. In such cases the *likivand* system is a serious obstacle to development. With the advance of

Likivand tenure.

education and more enlightened ideas it is possible that the Co-operative Credit Department may in time be able to do something on the lines of the work on consolidation of holdings done elsewhere, but the difficulties would be great and the official deputed for the work (who ought to be a Pathan) would have to be very carefully selected.

41. From the point of view of agriculture this custom of having
 Uneconomical shape of Pathan villages very long and narrow villages is of course exceedingly uneconomical as the cultivator has to walk such a tremendous distance to his fields, especially, as is often the case, when the abadi is right at one end of the strip. In appendix D I have worked out the average distance the zamindar has to go in a few villages in the Chhachh and in the north of the Sarwala and given by way of comparison what the distance would be in a circular village with an area of one square mile with the abadi at the centre, which is the most efficient shape. These figures are rather striking and partly explain the big difference in rents between land near the abadi in such villages and that at a distance. In many villages with an area of less than a square mile the zamindar has to go an average of 2 miles to his fields as against 3 furlongs or less, which would be the distance if the village had been laid out more scientifically.

42. The Chhachhi Pathan is often extremely enterprising. Few of
 Emigration of Chhachhi Pathans. them enlist in the army, but large numbers of them go to Bombay, Hong Kong, Shanghai, East Africa, etc., while many of them are to be found working on the P. and O. steamers. In some villages the holdings have become so minute by increase of population and consequent sub-division that usually one or two members have been obliged to emigrate to restore the fortunes of the family. Many of them do extremely well and when they return they sink wells or buy up as much land as they can get from those who have stayed at home. Often they build good houses and in most of the villages within two or three miles of Hazro the number of small plots of agricultural land which have been sold and built over is surprising. In Shinka for instance I noticed a fine two-storied house and found it had been built by an occupancy tenant who had gone into P. and O. Company's service and retired as a *Sirring*. In many cases they utilize some of their capital in the purchase of quantities of manure for the cultivation of snuff tobacco and other high class crops which are normally confined to the land held by Hindu capitalists.

43. The Tarkheli Pathans are found in the north-west corner of the
 Tarkheli Pathans. Nala circle along the Haro river. They really belong to the Hazara district and most of them own land there as well. The villages they own in the Attock district, except for some fair abi and chahi land, are indifferent. In many of them, a large proportion of the land is cultivated by occupancy tenants paying batai rents, which is not conducive to good cultivation, and very little is done to improve the land. Altogether they are not very satisfactory landlords, but there is not much real poverty among them now and the transfers in their villages are fairly low.

44. After the Pathans the Khattars are the most important class of
 Khattars. proprietors. Their holdings are usually large and most of them do not cultivate themselves. Major Craicft described them as idle, dissipated and extravagant. Though there are many prominent exceptions among the bigger landlords, this description is as true of the majority as it was 60 years ago. Many of them take little interest in their land and leave everything to their munshis. Their extravagant habits lead them into debt and then large areas have to be sold or mortgaged. The sensible members of the tribe frequently benefit from this as they are able to increase their holdings by purchases from their more improvident neighbours. Some of the owners of Wah and Akhori have improved their positions in this way. The Khattars are usually quarrelsome and very nearly as litigious as the Pathans. Taken as a whole, however, they are a manly race and like keeping good horses. A good many join the army.

45. Most of the land owned by the Awans is in the Sarwala circle. Most of them cultivate their own land and, generally speaking, they are hardworking and industrious, though here again we occasionally find improvidence and extravagance. They are good cultivators and large numbers of them joined up during the War.

Awans.

46. The Gujars are mostly found in the Nala circle. The most prominent family of them is that of the village of Hissar. The members of this family have been enterprising and careful and have bought up land in many of the surrounding villages. Many of the Panjkatta villages are inhabited by Gujars but they are mostly in debt and alienations have been high, chiefly, I think, owing to idleness, lack of enterprise and improvidence.

Gujars

47. Other classes of proprietors not specifically mentioned in statement No. VI are Savyads, Sheikhs, Maliars, Gakhars, Qureshis and Qazis. They are all fairly good agriculturists except the last

Others.

48. The tenants are drawn from a large number of different castes. In addition to the tribes which form the proprietary body we also find Tarkhans, Nais, Mochis, Musallis, etc. The best cultivators are probably the Maliars. They are like the Arains of parts of the Central Punjab and specialise in intensive cultivation of chahi land. Most of the wells are held by Maliars, and for the care and labour required for the cultivation of tobacco and vegetables they are without an equal. This intensive cultivation reaches its highest pitch in the village of Kalu Kalan near Hazro where the wells are mostly held by Maliar occupancy tenants who pay at rather low cash rates. Sixty-two per cent of the chahi rabi in this village consists of vegetables and 9 per cent of tobacco. Other vegetables are also grown in the kharif. I found one family there consisting of an old man, his grown-up son, two women, three small children, a buffalo and a donkey, all subsisting on $3\frac{1}{2}$ kanals of chahi land. The old man who was an occupancy tenant paying a low cash rent did most of the cultivation. His son took the vegetables off on the donkey, sometimes to Campbellpore and sometimes even to Rawalpindi, and sold them himself. The buffalo was used for working the well and sometimes for ploughing. In another village named Khuda in the Nala circle, a few miles to the west of Hasan Abdal, I came across another Maliar with a wife and four small children who lived on 6 kanals of land. He was only a tenant-at-will and paid $\frac{1}{2}$ batai. In the rabi he grew entirely tobacco and vegetables, selling the former sometimes in his own village and sometimes at Hasan Abdal. In the kharif he generally grew maize. The chief secret of the Maliar's success as a cultivator of vegetables is the fact that he usually does his own marketing and thus eliminates the profits of the middleman. It is not uncommon to find a Maliar sitting at some central place in a village where there is no well land with a basket of vegetables which he exchanges for grain. In the case of the village of Kalu Kalan already mentioned many of the Maliars have taken shops in Rawalpindi. One member of the family usually remains there and sells the vegetables as they are brought in.

The other tenants are all good cultivators and many of them do a good deal of intensive cultivation on chahi land. In the Chhachh 8 to 10 kanals of chahi land is considered the maximum, one man can possibly cultivate. As, however, they consider it beneath their dignity to carry baskets of vegetables on their heads for sale, they do not go in so much for them as the Maliars, but prefer tobacco.

In many villages one finds the tenants much better off than the owners as they are far more thrifty and hard-working. Thus in Kot Sundki in the Nala circle I saw a well a couple of tenants who had sunk in their *dhok* for drinking purposes at a cost of Rs. 400 and much labour. In the Sarwala circle having sown the rabi they will frequently go off to Peshawar or Kohat and work on the canals or in the cantonments. Others engage in

the cattle trade and go down as far as Amritsar and bring back cattle for sale at the weekly markets at Hasan Abdal or Gondal. Others again keep bullock carts and donkeys and make a good deal by carrying goods up to Srinagar. Their other activities include cutting grass from the Government rakhs in the Kala-Chita hills for the Grass Farm at Campbellpore, keeping sheep and goats and camels and carting their manure to Hazro and selling it there, working in the cantonments at Campbellpore and the cement works at Wah, selling eggs, etc., etc. Not a few go to Bombay, China and East Africa or work in the P. & O. steamers.

49. Details of the tenures in the three different assessment circles as they were at last settlement are given below. They are taken from statement No. VI of Mr. Butler's report :—

			NUMBER OF VILLAGES.		
			Chhachhi.	Sarwala.	Naia.
Zamindari	...	...	1	8	9
Pattidari	...	...	42	22	36
Bhayachara	...	...	26	17	38
Government	...	...	...	2	4
Total			69	44	87

In a few cases the type of tenure has been altered during the present settlement, but complete figures are not yet available.

50. In the table below the average cultivated area per owner or sharer and the average size of a jumabandi holding are given for each circle. In each case the figures for last settlement have been added for comparison :—

Assessment Circle.			CULTIVATED AREA.	
			Per owner or share-holder.	Per jumabandi holding.
CHHACHHI	{ Last Settlement	...	7.6	6.8
	{ Now	...	4.9	8.9
SARWALA	{ Last Settlement	...	26.7	27.6
	{ Now	...	17.1	14
NALA	{ Last Settlement	...	20.9	19.5
	{ Now	...	14.5	13.5

It will be seen that in each circle the average size of the holdings has decreased. This decrease is partly due to the ordinary process of succession which often involves one holding being divided up among several owners and partly to the fact that some of the owners, especially in the Sarwala circle, have sold portions of their holdings to various different people, many of whom were not owners before. The decreases, however, are more apparent than real, because in a good many cases the more industrious and stronger owners have bought land in neighbouring villages. They are thus included in the list two or three times over.

51. In statement No. VI the areas owned by the more important tribes in each circle, together with the land revenue paid by them, are given. In the table below

Area owned by different tribes, etc.

they are exhibited as percentages on the total cultivated area of the circle and the total land revenue of the circle, respectively :—

Name of tribe.	CHHACHH.		SARWALA.		NALA.	
	Percentage of cultivated area owned.	Percentage of land revenue paid.	Percentage of cultivated area owned.	Percentage of land revenue paid.	Percentage of cultivated area owned.	Percentage of land revenue paid.
Awari	11	10	32	30	14	9
Gujar	8	4	10	14	23	25
Mughal	1	1	2	1	...	...
Pathan	77	76	5	9	22	29
Rajput ... ..	...	...	...	...	8	8
Khattar ... ..	...	...	31	27	22	19
Other agriculturists ...	5	6	16	17	6	11
Non-agriculturists ...	2	3	1	1	8	4
Shamlat, abadi and Government ...	1	...	3	1	5	...
Total	100	100	100	100	100	100

It will be seen that in the Chhachh the Pathans are by far the most important tribe. The average cultivated area per owner among them is 5 acres. In one-third of the villages in the Chhachh it is less than 3 acres. In the Sarwala circle the two most important castes are the Awans and the Khattars. In the former the average cultivated area per owner is 15 acres and among the latter 42. In the Nala circle there are three tribes all of about equal importance from the point of view of the land they hold, i.e., the Gujars with an average of 18 acres of cultivation per owner, the Khattars with 33 acres per owner and the Pathans with 17. The Pathans, however, pay a larger share of the land revenue than either of the other two. This is chiefly because they own most of the rich well lands of the Saggur tract.

52. Details of the average annual sales during each of the last four quinquennia will be found in statement No. V.

Sales. In the Chhachh 6·2 per cent of the cultivated area has been sold since last settlement, in the Sarwala 7·8 per cent and in the Nala circle 11·8 per cent. In all three circles these figures are swollen slightly by the fact that pre-emption suits are frequently brought with the result that a single plot of land may change hands two or three times. Each transfer of course comes into the list of sales. In a few villages also there has been land speculation, people buying land with a view to selling it again later at a profit. In the Chhachh where the holdings are smallest and the assessment highest the sales are lowest. In this circle they are due more often than not to the improvidence of the owners. Even though they are not well off, custom, especially among the Pathans, obliges them to spend large sums of money on the funeral ceremonies of near relations. This money is generally borrowed and the interest — usually exorbitant — accumulates, so that in the end the borrower has to sell or mortgage some of his land to pay off the debt. The purchasers are in many cases men who have emigrated to Bombay, China or East Africa and returned full of money. In the Sarwala circle the sales in the large majority of cases have been due to the extravagance or dissipation of the larger owners. Here again weddings and funerals are a very heavy item. In some cases men who owned over 100 acres at last settlement have sold practically everything to pay off their debts. Frequently the purchasers have been tenants or other small owners who have earned money by labour or have been on service. The somewhat high transfers in this circle are no indication of general poverty. In the Nala sales have been highest in the villages to the west held by Trer Awans, most of whom have maintained the character for idleness, improvidence and criminality which they have had for generations. The Gujars of the Panjkatta tract have also disposed of a good deal of land, the more industrious and careful owners buying from the more improvident ones.

Though it will be seen from the foregoing remarks that in the majority of cases the sales have been due to preventable causes, the fact must not be lost sight of that in such insecure tracts as the Nala and much of the Sarwala circle transfers are inevitable. In a bad year the smaller zamindar may not have enough grain to feed himself and his family and has to borrow to eke out his stocks and for seed. The local money-lender charges at least 25 per cent per annum and in many cases $3\frac{1}{2}$ per cent interest. If the next harvest is also a poor one the zamindar is unable to repay anything and the rate at which the debt amounts up at this appalling rate of compound interest can easily be imagined. Most of the land-owners object to doing cooly labour and it is thus very difficult for them to escape from the clutches of the money-lender if once they get into debt with him. The co-operative credit movement in this district is at present only in its infancy and it will be many years before it has made sufficient progress to assist the zamindars appreciably. If the cultivator could obtain money at a reasonable rate of interest for buying food in bad times and for replacing cattle which have died owing to disease or drought, transfers would be much less frequent than they are now. The district is a very backward one educationally which gives the unscrupulous money-lender unlimited opportunities, and the use which some of them make of these opportunities is responsible for not a little of the latent illfeeling which exists between the two communities. The relations between the money-lender and the zamindar being what they are in this district, the Alienation of Land Act has been the salvation of the cultivators. I have never once met a zamindar who has had anything to say against it. On the contrary all of them bless Government for a most beneficent piece of legislation and not a few of them have stated that but for it hardly an acre would have been left with the zamindars by now. The success which one or two money-lenders have recently met with in inducing the civil courts to grant them decrees declaring that they are some agricultural caste or other has, therefore, occasioned them not a little uneasiness.

In the Chhachh and Sarwala circles there are no signs of the tendency recently noted in the Muzaffargarh district for the small land-owner to be swallowed up by the larger ones. On the contrary in the Sarwala circle, as has already been explained, it is more usual to find the property of the large land-owner who is a drunkard or gambler bought up by numerous small zamindars or even tenants. In the Nala circle, however, there are a few cases in which the larger land-owners have succeeded in acquiring a good deal of land from the zamindars of neighbouring villages, but in most cases the people who have sold to them have got into debt owing to their own fault. In any case the tendency is not sufficiently marked to cause any anxiety for the fate of the small zamindars at present.

53. In statement No. VI the area under mortgage in the different circles in 1922-23 is compared with that at last settlement. In the table below the percentage on the total cultivated area in each case is given:—

Cultivated area under mortgage shown as percentage on the total cultivated area in each circle.

					Chhachh.	Sarwala.	Nala.
Held by members of an agricultural tribe—							
	1902-08	...	...	...	5.3	8.5	5.9
	1922-23	...	...	...	6	6.7	9.7
By others—							
	1902-08	...	...	...	2.5	1.8	9.7
	1922-23	...	...	...	1	4	1.6
Total—							
	1902-08	...	...	...	7.8	4.6	15.6
	1922-23	...	...	...	7	7.1	11.6

It will be seen that the owner has slightly improved his position in the Chhachh and Nala, but the reverse has been the case in the Sarwala circle.* One very satisfactory feature of these mortgages, however, is the fact that the zamindar has made very considerable progress in recovering his land from the clutches of the money-lender. In many villages practically the whole of the area which was under mortgage with non-agriculturists at last settlement has now been redeemed.

In the Chhachh mortgages are not always entered into because the owner is in want of money. The Chhachhi when he goes abroad will frequently mortgage his land or his share to prevent his relations from appropriating the produce and when he returns he redeems it. A good many, however, are of course due to debt, the reasons for which are similar to those described in paragraph 52. In the Sarwala circle the mortgages are mainly due to extravagance and dissipation. The slight improvement in the Nala is partly explained by the fact that some owners have sold part of their land to redeem a good deal more. In some cases also the land which was mortgaged was sold because the owner was still in debt and saw no hope of ever redeeming it.

54. Orders were issued to the revenue staff to compile lists of the debts owed by the various zaminders in each village with a view to ascertaining the total floating debt. These figures were prepared and tabulated, but they were found to be so unreliable that I have not incorporated them in the report. In the Chhachh most of the zamindars put their indebtedness at absurdly high figures, while any attempts to obtain the necessary information from the money-lender at once made him suspicious as he thought his income-tax assessment would be raised. Usually he gave no information at all. There is no doubt, however, that there is a good deal of debt, though it is difficult to suggest even an approximate figure for the total amount.

55. In the table below the average sale price of land in each of the three circles for the quinquennium ending 1921-22 is compared with the average for the five years before last settlement:—

	Chhachh.	Sarwala.	Nala.
Average sale price per acre for the five years ending 1902-08, Re.	258	49	87
Average sale price per acre for the five years ending 1921-22, Re.	1,048	273	199
Percentage of land sold which is irrigated for five years ending 1921-22.	14	2	14

The abnormal rise which has taken place is very remarkable and is out of all proportion to the increase in the price of agricultural produce during the same period. The only possible explanation seems to be a very considerable increase in prosperity of the average zamindar with the result that he has a much larger amount of capital to invest. It is true, of course, that the price in most cases is deliberately overstated to defeat the claims of possible pre-emptors, but this is no new trick and I do not think the Chhachhi practices it any more now than he did 20 years ago. In any case this explanation is not possible in the case of mortgages and it will be

*There is some doubt in regard to the correctness of the figures for the Sarwala circle, as the increase in the area under mortgage since settlement as given by statement No. VI of the Circle Note-Book does not tally with the increase given by the excess of mortgages over redemptions worked out from statement No. V.

seen from the table below that there has been a similar rise in the mortgage money paid per acre :—

				AVERAGE MORTGAGE MONEY PER ACRE.		
				Chhachh.	Sarwala.	Nala.
				Rs.	Rs.	Rs.
Five years ending—						
1902-03	...	...	...	110	41	41
1921-22	...	...	...	374	106	118

On comparing the figures for the different circles we find, as was only to be expected, that the value of land in the Chhachh is very much higher than in either of the other two circles. In the Sarwala circle the average has been affected considerably by the fact that a large number of small plots in the neighbourhood of Campbellpore have been sold for building purposes and have fetched very high prices. Generally speaking land in this circle is not as valuable as that of the Nala circle. The higher rates of mortgage money paid in the latter in spite of the much larger number of mortgages tends to confirm this view. In the Chhachh the well lands sold have raised the average—also sites sold for house-building, etc., near Hazro.

56. Details of transfers of occupancy rights will be found in statement No. V-A. It will be seen that in the Sarwala and Nala circles the area mortgaged since settlement is slightly in excess of the area redeemed. In the Chhachh it is the other way about, but the difference is very slight. Most of the mortgages of occupancy rights are held by members of an agricultural tribe (*vide* statement VI-A). In the table below the percentage of the area in which the occupancy rights have been mortgaged on the total cultivated area held by occupancy tenants is given for each circle and for the tahsil :—

Chhachh.	Sarwala.	Nala.	Tahsil.
Per cent	Per cent	Per cent	Per cent
15	5	7	9

The sales of occupancy rights have been rather numerous. In the Chhachh occupancy tenants have sold their rights in 11 per cent of the land cultivated by them. In the Sarwala the percentage is 7, in the Nala 16 and in the whole tahsil 12. These figures indicate rather high transfers but I do not think this is generally due to the occupancy tenants being badly off. In the Chhachh which has the best land and in which most of the occupancy tenants pay rather low fixed cash rents the sales are high and the proportion of the area under mortgage greatest. Many of the mortgages and sales seem to be due to the Chhachhi emigrating and wishing to prevent his relations or the owner from obtaining possession of his rights.

57. The tahsil supplies a fair number of men for the army and for the various civil services. Figures have been collected by villages for the total annual amount received by way of salaries and pensions by men owning land in the village. The totals for the different assessment circles are exhibited in the table below :—

Income from Salaries and Pensions.

Assessment Circle.				Salaries.	Pensions.	Total.
				Rs.	Rs.	Rs.
Chhachh	...	...	...	1,98,564	86,975	2,85,539
Sarwala	...	...	...	1,17,580	15,988	1,33,568
Nala	...	...	...	72,498	14,278	86,776
Total for Tahsil				3,88,642	117,241	5,05,883

As will be seen from statement No. IX-A, there are a good many carts in the district, especially in the Nala circle. Most of these work on the Kashmir road, going either *via* Abbottabad or Rawalpindi. Some go up to Kohat and Peshawar and work there for some months each year. It is probable, therefore, that the census figures underestimate the actual number in the district as those which are absent are often omitted by the patwari when he makes his enumeration. I would put the total number at not less than 1,400. It is very difficult to estimate the average earnings. One driver with whom I discussed details explained that the trip to Kashmir and back usually brought in Rs. 100 to Rs. 150 in about a month. After allowing for various expenses his net profits came to Rs. 80 per mensem. Many of the carts, however, do not work for the whole year as the owners have to look after their lands as well. I would put the average income per cart at about Rs. 400 per annum. This of course is only a very rough estimate.

58. The total income of the tahsil from the different sources detailed above thus works out as follows:—

Total miscellaneous income.

	Rs.
Sale of milk, ghee, etc. ...	40,000
Profits from 16,109 sheep at 7 annas per head ...	7,048
Profits from 17,953 goats at 14 annas per head ...	15,709
1,400 carts at Rs. 400 per cart per annum ...	5,60,000
Salaries and pensions ...	4,74,109
Total ...	10,56,864

Probably not more than about $\frac{1}{4}$ of the above receipts actually accrue to land-owners as most of the carts and herds are owned by tenants.

There are a number of other large items of income not included in the above which I have made no attempt to estimate. The most important of these are remittances from men who have emigrated, wages earned by men who go off to labour in the winter, cutting grass for the Grass Farm at Campbellpore, working on the Railway, keeping tongas and camels for hire, profits made in the cattle trade, profits from smuggling of opium and charas in the Chhachh, etc., etc. If all these could be ascertained and added up the total would come to a very large sum.

PART IV.—CROPS.

59. In diagrams Nos. 2—6 at the end of this report graphs will be found showing the variations in the sown and matured area in the different circles. Except in the Chhachh they are considerable. The effect of the bad years 1907-08 and 1920-21 is very marked in the case of the Nala and Sarwala circles and less so in the case of the Chhachh. 1915-16 which was a bad year in the other tahsils was about average in the Attock tahsil. In 1912-13 this tahsil with the exception of the Chhachh suffered more than the other tahsils. In good years the Nala circle has usually done much better than the Sarwala while in bad years sometimes one has suffered more and sometimes the other. The table below shows the percentage of *kharaba* on the sown area in the different circles and also the percentage of the matured area of both harvests on the total cultivated area. The figures in each case are the averages for the selected years:—

Circle.	PERCENTAGE OF KHARABA ON SOWN AREA.			Percentage of matured area of both harvests on total cultivated area.
	Kharif.	Rabi	Both harvests.	
Chhachh ...	5	10	9	99
Sarwala ...	18	23	22	68
Nala ...	29	17	22	77
Tahsil ...	21	17	18	81

These figures show, as might be expected, that the Chhachh is fairly secure but that the other two circles are very insecure. The very high rate of kharaba in the kharif in the Nala circle is remarkable. Eighty-six per cent of the cultivated area in this circle is barani and the soil being stiffer than the sandy uplands of the Sarwala or the soft level loam of the Chhachh requires rain at more regular intervals. In the Nala moreover the kharif represents 25 per cent of the annual matured area against only 9 per cent in the Sarwala circle. In the rabi it will be seen that the position of these two circles is reversed and that the Sarwala shows a much higher rate of kharaba. This is mainly due to the very heavy failures of gram which is largely grown in the Sarwala circle but very little in the Nala, but it is also due to some extent to the poorness of the soil of the former as the kharaba for barani wheat in the Sarwala is higher than that in the Nala. The figures in the fifth column are a fair indication of the difference in the quality of the land of the three circles. In the excellent loam of the Chhachh with its highly manured well-lands there is good deal of double cropping. At the other extremity we find the poor land of the Sarwala from which frequently only one crop in three harvests is taken.

60. The insecurity of a tahsil or circle is not a factor which it is easy to express in figures and consequently it is difficult to know what allowance ought to be made for it in the assessment. Nor is it easy in comparing two circles to be certain which is the more insecure. A circle in which the percentage of the matured area on the total cultivated area is always fairly low might be better off than another in which this figure was usually higher if the percentage in the former was less subject to violent fluctuations. It is the very big differences between the good and the bad years which tell so heavily on the zamindar. In statement No. IV the percentage of the total matured area of each of the last 29 years on the total cultivated area of the year has been given for each circle. This figure is the real index of any year, even if the cultivated area has changed considerably. In statement No. IV-A the median and the arithmetical average of these figures have been worked out for each circle. From this the mean deviation from the arithmetical average has been calculated, the method adopted being that given in chapter VI of Bowley's "Elements of Statistics." This mean deviation is a measure of the violence of the fluctuations of the harvests and is perhaps the nearest we can get to expressing the insecurity of a tahsil or circle in figures. The result is given below. The arithmetical average of the percentages has also been given. The figures for the other three tahsils of the district have been worked out and are added for the sake of comparison :—

Circle or Tahsil			Arithmetical average of percentages of total matured area on total cultivated area for each year.	Mean deviation from arithmetical average.
Chhachh circle	...	...	97	7
Sarwala circle	...	...	69	0.6
Nala circle	...	...	74	15.4
Pindigheb tahsil	...	...	59	15.4
Fatehjang tahsil	...	...	65	17.3
Tallagang tahsil	...	...	63	18.4

These figures show that the Chhachh is really fairly secure. The Sarwala circle, though it has a rather lower average, does not have such violent fluctuations as the Nala circle. The latter, judged by this standard, is about as variable as Pindigheb but less so than Fatehjang and Tallagang.

61. In the table below the percentage of the matured area of each crop on the total matured of both harvests has been given. The figures for this settlement have been taken from statements Nos. II and III, and for facility of comparison

son the arrangement of crops adopted in paragraph 28 of Mr. Butler's Assessment Report has been followed :—

Harvest	Crops.	CHHACHE.		SARWALA.		NALA.		TAHSIL.	
		1896-97 to 1902-03.	Average of selected years.	1896-97 to 1902-03.	Average of selected years.	1896-97 to 1902-03.	Average of selected years.	1896-97 to 1902-03.	Average of selected years.
Kharif.	Maize	11.2	13.0	2.7	4.6	10.5	9.5	8.7	9.6
	Bajra	1.1	.3	4.3	3.7	21.1	16.5	9.6	7.9
	Jowar	4.3	.8	3.1	.5	3.2	1.5	3.5	1.0
	Mung	6.6	4.5	.3	.2	.1	1.5	2.4	2.2
	Moth	3.1	2.8	2.2	1.5	1.2	.1	2.2	1.4
	Cotton	1.5	1.2	.5	.3	2.6	1.0	1.7	.9
	Sugarcane	2.8	1.6	.2	.2	.1	.1	1.1	.6
	Total Kharif ..	30.9	24.2	13.3	11.0	38.8	30.2	29.2	28.6
Rabi	Wheat	41.3	49.5	52.4	60.1	37.1	46.2	42.5	51.0
	Barley	8.1	5.6	6.2	5.9	6.7	5.2	7.1	5.5
	Gram	8.4	5.2	20.6	12.3	2.5	1.0	9.3	5.1
	Taramira	2.5	2.4	5.1	4.5	11.4	9.2	6.9	5.7
	Tobacco	5.4	3.8	.6	1.2	.5	.7	1.6	1.9
	Total Rabi ...	65.7	66.5	84.9	84.0	58.2	62.3	67.4	69.2
	Miscellaneous Kharif and Rabi.	5.4	9.3	1.8	5.0	3.0	7.5	3.4	7.2
	Grand Total ...	100	100	100	100	100	100	100	100

As regards food-grains the most important point to be noticed is the extent to which wheat has replaced bajra and gram owing to a steadily increasing demand for it for food. The decrease in the matured area of grain is largely due to the rate of kharaba being much higher in recent years than it was at last settlement (*vide* paragraph 68), but the sown area has decreased slightly also. Gram is now 9 per cent of the total sown area of both harvests in the tahsil and represents 1/3 of the rabi. In the Sarwala circle it is very nearly 1/4 of the area sown in the rabi. The increase in the area under maize is accounted for by the sinking of so many new wells. Of the more valuable crops the cultivation of tobacco has also expanded with the increase in the number of wells and has to some extent replaced sugarcane which has fallen off slightly. Possibly the competition of the sugar imported from Java has affected the prices obtained for the latter. At last settlement Mr. Butler noticed a tendency for the rabi to increase at the expense of the kharif. This tendency has been maintained. At Mr. Steedman's settlement the chief rabi crops constituted 57.3 per cent of the matured area of both harvests. At last settlement they were 67.4, whereas now they are 69.2. The crops classed as "Miscellaneous kharif and rabi" are chiefly sarshaf, fodder, melons, vegetables and spices. The increase among them since last settlement is chiefly in the direction of fodder but the cultivation of vegetables has increased round Campbellpore owing to the sinking of new wells and the growth of the new headquarters.

62. *Chahi*.—The table below shows the chief crops grown on chahi land (including chahi-nahri). The figure opposite each crop represents the percentage of the matured area of that crop on the total chahi matured area of both harvests. The figures for last settlement for the whole tahsil have been worked out† and added in the last column for the sake of comparison :—

Harvest.	Crop.	Chhachh.	Sarwala.	Nala.	Tahsil.	Tahsil at last settlement.
Kharif	Maize	39	40	50	40	28
	Sugarcane	5	1½	...	4	8
	Cotton	3½	1½	½	8	3
	Others	1½	3	1½	2	2
	Total	49	46	52	49	51
Rabi	Wheat	16	17	19	17	9
	Barley	8	15	12	9	17
	Tobacco	11	12	9½	11	11
	Fodder	9	6	2	8	6
	Others	6	4	5½	4	6
	Total	50	54	48	49	49

It will be seen that as compared with last settlement the amount of wheat grown has almost doubled and the proportion of maize has slightly increased, while sugarcane, cotton and barley have all decreased. Comparing the different circles we see that sugarcane and cotton are hardly grown at all except in the Chhachh. The wells of the Nala circle grow a large percentage of maize and wheat while the Chhachh ones have to grow more fodder owing to the shortage of grazing grounds. "Others" are chiefly vegetables, melons and water-melons and spices.

In the whole tahsil the chahi land measures 11,075 acres or 7 per cent of the total cultivated area, and produces on an average 26,400 acres of matured crops, i. e., 100 acres of land produces 188 acres of crops. When sugarcane is grown it usually occupies the land for both harvests, but sometimes on the richer lands near Hazro an early crop of onions and cucumbers or even tobacco is sown just before it. When the vegetables are nearly ready for cutting, the cane is sown in between the rows. Maize is usually followed by wheat, barley or some fodder crop. When barley is grown it is sometimes cut or grazed twice or even three times before it comes to maturity. It is reaped earlier than wheat, and tobacco or fruit and vegetables are occasionally sown as a *zaid* rabi crop after it. Tobacco is the most valuable crop but it can only be grown in fairly good soil, and requires very heavy manuring. Manure is brought into the Chhachh on camels, chiefly from the villages bordering on the Kala-Chita range and the smaller ranges to the north of it. Some of the western villages of the Chhachh get manure from across the river. The best manure is that of sheep, goats and camels. Even when tobacco and sugarcane are not grown, a good deal of manure is required to prevent exhaustion of the soil by the constant double cropping. Melons and vegetables are popular with the Maliars who take a great deal of trouble over them.

* The figures in this and the following paragraphs are the averages for the selected years,—*vide* statements Nos. I to II.

† From statements Nos. II and III of Mr. Butler's Assessment Report.