

## AMBALLA DIVISION.

### *Extracts from Commissioner's Report.*

(J. W. MACNABB, ESQUIRE).

**Irrigation.**—The Khizrabad purganah in the Amballa district, is the only one in this division which is irrigated by the Western Jamna Canal. The zamindars complain of the highness of the water rates. It is natural that they should do so as the labor they supplied was not nearly of the same value as the rates they now pay, and they cannot be expected to like the change, but they have made no complaints to me personally, which they would probably have done had they felt the change very severely.

I hope the "owner's rate" may not be applied to the Khizrabad purganah, as these villages must feel that they would have had the jama rates whether the Canal had been kept up or not, and that they should not therefore be taxed as highly as other districts.

**Prices.**—The prices of food grains, and of nearly every other description of produce, were lower than in 1880-81. The cause of this fall in Amballa is attributed to large importations from adjoining districts and Native states. In the Simla district it is stated to be owing to a good harvest and also to large importations from the plains.

**Transfers of land.**—The Deputy Commissioner of Amballa notices that the number of transfers shown in the Registration returns, do not tally with that shown in the Revenue returns.

I am quite at a loss to account for the fact that the mutations as shown by the Registration returns are really more numerous than those reported at the tahsils.

It is possible that the one only supplements the other : that those who have registered do not think it necessary to report the mutations.

Until this matter is cleared up there is not much to be gained by comparing the figures.

Major Wace suggests that the procedure regarding mutations is so troublesome, involving as much enquiry as many civil suits that, applications on this head are discouraged by Tahsildars and Kanungos. My own experience on the Judicial side is that there is a mutation file existing in every disputed inheritance or transfer of land. This is doubtless because it was a case likely to be disputed, and one side or the other attempted to establish its right in a mutation proceeding.

In cases where the succession or transfer is quite beyond dispute, those concerned are not likely voluntarily to take the trouble involved in a mutation proceeding.

**Coercive Processes.**—There was a slight increase in the number of land revenue warrants issued in the Amballa district, and the Deputy Commissioner thinks the number issued to be excessive, considering the apparent ease with which the revenue was collected, and he notices the rash way in which warrants were issued by one of the Tahsildars of his district.

In the Ludhiana district there was a large reduction in the number of warrants, as the harvests were good and the revenue was collected without difficulty.

In the Simla district no coercive processes were resorted to.

*Extract from Deputy Commissioners' Report.*

## AMBALLA DISTRICT.

(J. FRIZELLE, ESQUIRE).

**Labour and carriage.**—A noteworthy feature with regard to labour is that emigrant recruiting is beginning to extend to this district. During the last 5 months of the year, the following numbers of coolies were registered and attested under the Emigration Act :—

For Trinidad	...	...	...	107
Demerara	...	...	...	64
Fiji	...	...	...	44

They were picked up apparently without any difficulty by agents licensed by the Protector of Emigrants at Calcutta, and that more did not go was only because the demand ceased and recruiters did not remain longer in the district. The movement is a promising one, and I hope it will take root and spread.

**Coercive Processes.**—From all I can learn I am of opinion that a good deal of difficulty in the collection of the land revenue is caused in this district by the date fixed for the rabi instalment, the 15th June, a date too late for this part of the province, where zamindars have gathered and disposed of their rabi crops by about the 1st May.

**Agricultural advances.**—There is a slight improvement over the previous year, when no advances at all were made. During the year under report Rs. 500 were advanced and this was all for agricultural improvements.

That no advances were made for purchase of seed grain and cattle is probably due to rules on the subject not having been received. If such rules are properly made known to the people, there is reason to suppose that this is a district in which such advances would be largely applied for.

**Savings Bank.**—Under the liberal rules of 20th December 1879, deposits rose to upwards of a lakh of rupees, many of the depositors being highly paid Government servants, Military officers &c. Subsequent rules imposed a check, and under those now in force Rs. 80,588 were in deposit on the 31st March 1882 belonging to the following classes :—

Clerks and superior Government servants	...	...	89
Clerks in private employ	...	...	1
Ministers of religion (missionaries)	...	...	3
Menial servants	...	...	4
Soldiers	...	...	16
Persons engaged in commerce and trade	...	...	1
Cultivators	...	...	1
Persons hiring or renting land, houses &c.,	...	...	1
Other persons of independent means	...	...	12
Pensioners	...	...	3
Minors	...	...	7
Married women	...	...	9

Now that Saving Banks have been opened at Post Offices since the 1st April 1882, it is hoped that those at treasuries will be closed. A great extension of transactions will no doubt follow on the transfer of the work to Post Offices, similar to what has been the case with the Money-order system, but hardly in the same proportion.

**Wards.**—The Manauli estate continues the largest under the Court of Wards. This is an improveable estate, and I hope to do something in the way of utilizing some of the surplus funds in sinking wells, buying land, and starting some horse-breeding. The scattered nature of the estate is against it, but I believe something can be done in the proper direction at Manauli itself. The manager of this estate is growing too old for active work, and proposes to retire during the present year. The man appointed in his place should be one with a special aptitude and taste for such work. Very little can be done for the improvement of the other estates as the income hardly consists of anything but jagir. It is very difficult even to find sufficient funds to keep the houses in repair.

**Agricultural experiments.**—About the only thing that requires remark on this head is that the use of the Behea sugarcane press is becoming extended in the district on the hire system. An enterprising speculator at Jagadhri lets out several hundreds of them at the proper season in the Jagadhri, Pipli, and Naraingarh tahsils. The system seems to be very popular, and saves the zamindars much trouble and expense, but I have not heard of any of the machines being purchased by private persons for their own use. The people are generally too poor for this.

## LUDHIANA DISTRICT.

(G. E. WAKEFIELD, ESQUIRE).

**Crops and Produce.**—This rabi harvest was in most places a very good one. There were complaints in places that the harder soil could not be sown owing to deficient rainfall in October, but the area uncropped was not much larger than usual.

The subsequent falls were well timed and plentiful. In irrigated land the yield was a full average one. In unirrigated the light soils had heavier crops than usual; and the hard soil, rather lighter. But on the whole the harvest was a very good one and the zamindars admit it to have been so.

The kharif following was also a good harvest. The rains were good and the fall somewhat heavier than usual. The fodder crop (chari) grew well, and the yield of jowar was also as good as could be expected. The yield of pulses (moth, mung, &c.) was disappointing although the plants had an unusually good show. This harvest is also admitted by the people to have been a good one.

There was injury from hail to the fodder and other crops of some 15 or 16 villages in Jagraon and Pakhowal, but the storm did not reach far, and the crops had been partly cut when it fell.

**Cattle Fair.**—There are three bulls (one having died since last year's report), 4 rams (two having died since last report), which are distributed throughout the district to improve the breed; 130 young from the bulls and 13 young lambs are the produce of this year.

A flock of sheep of the district is kept at the sadar, and rams procured from the Hissar Government farm are kept with them.

The male lambs bred from them are sent out into the district; and I think this plan will eventually improve the breed. The Hissar rams are, as a rule, too delicate to stand the roughing in the mufassal, and so many have died off soon after being sent out, that I have initiated the above-noted experiment.

## SIMLA DISTRICT.

(W. COLDSTREAM, ESQUIRE).

**Cattle.**—A cattle plague "fieca" (not assuming the character of rinderpest) was first reported in the Kotkhai and Kotgarh tahsils of the Simla district, on the 1st February 1881: it entirely subsided by the end of April 1881. The disease again appeared in the same tahsil on the 4th February 1882, disappearing by the end of April 1882.

A small number of cattle were also attacked in the Barauli tahsil about the 23rd April 1882.

It was discovered that *chamars* (leather dealers) from the plains had gone to that part of the country where the cattle plague had broken out, but owing to the issue of strict orders they were prevented from doing any business. Infected cattle were also ordered to be isolated, and their skins prevented from being removed.

**Savings Banks.**—The number of deposits made during the year show a small increase, whereas the amount deposited shows a large decrease as compared with the previous year. The withdrawals also show an increase. This is owing to the privilege of being allowed to credit up to Rupees 5,000 having been rescinded and the interest reduced from  $4\frac{1}{2}$  to  $3\frac{1}{2}$  per cent, during the year under report. The largest class of depositors are the clerks of the numerous offices coming up to Simla.

# JULLUNDUR DIVISION.

## *Extracts from Commissioner's Report.*

(COLONEL W. G. DAVIES, C.S.I.).

**Cattle.**—Cattle disease was again prevalent during the year in the Kangra district, but happily to a much less extent, and it was of not so destructive a nature as in the preceding year. Only 2,978 head of cattle are reported to have died, as compared with 17,645 in 1880-81. A large proportion of these deaths occurred again in the Kulu sub-division. Preventive measures were of course taken to check the spread of the disease, and a trial was made of the Potentilla, pronounced by Mr. Lennox, a tea planter in the valley, to be a specific against the disease, but without success. I may add that this so-called cure for rinderpest had a careful trial under my personal supervision in Kulu in 1880, and failed entirely, as was to be expected. It is simply an astringent and may therefore be useful in ordinary cases of diarrhoea. In the Hoshiarpur district also there was cattle disease, and out of 1,892 seizures 496 succumbed, though here also preventive measures were adopted.

**Prices.**—Prices tended generally towards a fall throughout the division; but considering the seasonable rains and the excellent harvests reported to have been reaped during the year, the improvement was not so marked as might have been expected. The bright prospects of the rabi of 1882, however, will doubtless have a marked effect in lowering prices. The prices of wheat, rice, gram and sugar were lower than in the year before, as also that of salt, which has since become still cheaper in consequence of the recent reduction in the duty to which full publicity has been given. The price of firewood varied little.

**Alluvion and Diluvion.**—The general tendency of the principal rivers in all three districts of the division is towards loss, and this is specially apparent in the Hoshiarpur district where, however, the losses have been due more to the *chos* than to the rivers.

**Coercive Processes.**—Although there was a further improvement in the character of the seasons, and the revenue was realized apparently with little difficulty, the number of warrants issued increased from 5,718 (in the report for 1880-81 it was reported as 5,681) to 5,965. This increase was due chiefly to the larger number of processes issued during the year in the Hoshiarpur district, in which district indeed were issued more than half the number issued in the whole division. In the Jullundur district too, the number exceeded by 16 the number issued in the previous year, when 1,758 processes were served. But it is explained by the Deputy Commissioner that, except in 49 instances, it was not found necessary to proceed beyond the mere issue of the initial process, nor to send any one up to the *sadr*. On the other hand, in the Kangra district, there was during the year a further diminution in the use of warrants, *viz.* from 488 to 326. But notwithstanding the apparently too free use of warrants in the two plain districts, the amount of talabana expended in serving them was considerably less than in the year before, especially in Hoshiarpur. In Kangra too there was a marked improvement in this respect. There were unhappily 5 cases of personal imprisonment in the Jullundur district, as also an increase in the number of cases of distraint of personality. In Hoshiarpur too the number of cases of distraint of personality again slightly increased, though neither in this nor in the Kangra district was it found necessary to resort to personal restraint. The working of the system of collection would seem to continue to receive due attention, and a stricter supervision to have been exercised over the expenditure of the income.

**Patwaris.**—The Patwaris in the Jullundur and Hoshiarpur districts continued to be employed in the Settlement Department, where, as remarked by the Deputy Commissioner of the latter district, they are doubtless receiving a good training: indeed all but 11 out of the 121 patwaris in the Unah purganah, are stated to have been certified as efficient by the Settlement Officer.

The working of the Patwaris school in the Kangra district, which is the only school just now in the division, is not favorably reported on. Indeed, this school has during the year formed the subject of correspondence with the Deputy Commissioner and the Settlement Commissioner, and with reference to the latter officer's suggestions, instructions have been issued by this office for its re-establishment on an improved basis.



Not one of the candidates who attended the last patwaris' examination in that district is said to have passed the required test. They are reported as lazy and indifferent, and as under the impression that, being the sons of relations of patwaris, no exertion to pass was necessary on their part.

There are 130 passed and 52 unpassed candidates in the Kangra district, in which the patwaris' records are reported to be generally filled in time, but their girdawari work to be most superficial; this is chiefly owing to the want of proper supervision, which the district staff is too weak to exercise.

In the other two districts no annual papers are prepared, as the patwaris are employed in the Settlement Department.

**Tenancy Act.**—There were no suits for the enhancement of rent in the Jullundur and Kangra districts. In Hoshiarpur there were 522 suits, all in the Unah purganah under Settlement, and of these 288 were disposed of, the decrees in 21 cases being based on ground 1 of section XI of the Act, and in 267 cases on ground 3 of the same section. There were also in the Hoshiarpur tahsil of this district, 2 decrees for the ejectment of occupancy tenants under section 19, clause 2, the area affected being 19 acres 2 roods 5 poles. Both these cases were decided in the Settlement Department. Of notices of ejectment under section 23, 299 were served in the Jullundur district, or 33 more than in the preceding year, the areas from which ejectment was sought being 1,083 acres. In Hoshiarpur again 416 notices were served, as compared with only 22 in 1880-81, and 19 in Kangra; 266 of the notices in the former of the plain districts were issued alone in the tahsils of Jullundur and Nawashahr, while 83 of those in the other plain district were issued in the Unah tahsil, and the rest nearly equally in the three tahsils of Hoshiarpur, Dasuah, and Garhshankar. No suits were brought in Jullundur to contest liability to ejectment. But in Hoshiarpur the number of such suits was 57 as against 4 in the year before, the tenants being successful in 24 cases; and in Kangra 2, which were both decided in favor of the landlord. The number of applications for assistance to eject under section 26 of the Act, was 101 in Jullundur, compared with 70 in 1880-81, 40 in Hoshiarpur, and 4 in Kangra, being 2 more than in the year before.

These statistics would seem to show that the law on the subject is beginning to be better known, and that the relations between landlords and tenants are becoming strained, though doubtless the existing state of affairs in the two plain districts is largely due to the settlement operations in progress in those districts. A large number of appeals are now before me from orders of the Settlement Courts in enhancement cases in the Unah tahsil, but no orders on them have as yet been passed.

**Agricultural Experiments.**—Some very successful experiments have been made by a Missionary of the name of Carleton, in growing superior varieties of American maize in the Plach division of the Kulu tahsil, and application has been made to him for seed, and next year trials will be made in other parts of this district, and in Hoshiarpur.

**Tours of Officers.**—It will be seen from the district reports that in all three districts of this division, an endeavour has been made to carry out the wishes of Government that the Assistants should make tours as well as the district officers. That more has not been done in this way is partly due to the want of sufficient camp equipage. This difficulty is about to be removed, but in the Kangra district the want of a sufficient staff of officers at the sadar has rendered it impossible to send out an Assistant except for very short periods, and this is very much to be regretted, as there is no district in the province in which the work of the revenue establishment requires to be more carefully supervised than in this district. On this point, I would refer to the remarks in the Kangra district report on the inefficiency of the patwaris, and the superficial character of the work done by them, and the difficulty experienced in checking the alluvion and diluvion work. The district is a very large one, and two officers should always be moving about it in the cold weather. For some time past the district has been one short of its complement of officers.

*Extracts from Deputy Commissioners' Reports.***JULLUNDUR DISTRICT.**

(F. D. O'BULLOCK, Esquire).

\* \* \* **Prices.**—The recent reduction of the salt duty has been made widely known throughout the district. I caused a notice to be affixed in every village before receipt of those issued by Government, and these again have been all affixed as ordered.

**Agricultural advances.**—Rs. 3,935 were advanced during the year for the construction of wells. In the previous year the advances amounted to Rs. 1,235. Much greater willingness was displayed this year to take advances, and I have to apply for an additional allotment from the Commissioner.

The more favorable nature of the rules had the desired effect, and pains were taken to explain to the people the desirability of availing themselves of advances. All these advances were for the construction of wells; none were made for seed grain or bullocks, regarding which no rules have been issued under section 3 of Act X of 1879.

Of the 21 wells for which advances were made, 11 were completed. The works have been inspected by the tahsildars and by the various officers on their tours.

**HOSHIARPUR DISTRICT.**

(J. MONTGOMERY, Esquire).

**Irrigation.**—There is a canal called the Shah-nahr, in the Dasuah tahsil, regarding which a full report has lately been submitted in the Settlement Department. It is proposed to bring it more directly under Government management, and there is no doubt it is capable of considerable improvement and extension. The Settlement Superintendent of Dasuah, Nathu Ram, is well acquainted with the canal, and rules for irrigation have been drawn out by him under the directions of the Settlement Officer, and these rules are being now worked. The area irrigated by the canal during the last 5 years for which statistics are available, is given below :—

			<i>Acres.</i>
1876-77	...	...	3,343
1877-78	...	...	3,363
1878-79	...	...	4,008
1879-80	...	...	3,996
1880-81	...	...	3,955

There are also a few small canals in the Dasuah tahsil, the property of the people, some inundation and some always flowing. The rights in these are also being recorded in the Settlement.

• **Cattle.**—No cattle fair was held during the year. The Hissar bulls are gaining increased favor among the people, who see the great profit arising from breeding large cattle. The cattle disease was duly reported; of 892 head attacked during the year, 496 died and 394 recovered. The usual precautionary measures were taken, and wherever the disease broke out with special virulence, a police constable was sent to the spot to see that the carcasses were buried with the skins. But it is difficult to overcome the apathy, ignorance, and superstition of the people in these matters. In one case the people buried the body of a diseased animal under the village gateway, with the idea that the burial of the carcass at a place where so many cattle passed, would cause the disappearance of the disease.

\* \* \* **Tenancy Act.**—Statement XXXIX shows a large number of suits for enhancement of rent filed during the year. They are all from purganah Una and were instituted after announcement of the new assessments. I fear there will be an immense deal of litigation about rent in this district. A good many compromises have been possible in Una where pleaders seldom show themselves. But we can expect few compromises in the other tahsils, and a great deal of money will be spent by both sides in the litigation. I feel more and more strongly that Settlement Officers should have power to summarily fix rents, and that

rents of occupancy tenants when judicially fixed should not be changed during the term of settlement, except under the 1st ground in section 11, Act XXVIII of 1868, as regards enhancement, and under section 14 as regards abatement.

**Agricultural experiments.**—Mr. Coldstream mentioned the experimental farm in last year's report. It has continued under Mr. Faddy's management throughout the year, and he has been very successful in some of his experiments, especially in one of cotton, from which an outturn of an average of 13 maunds of uncleaned cotton per acre was obtained. This is a wonderful yield. There were also some good outturns of maize.

This result is brought about mainly by very heavy manuring, and unfortunately the ordinary native cultivator is unable to put so much manure into his land.

Mr. Faddy is now carrying out some experiments for converting the night soil of the town into poudrette.

The land chosen for the farm is not very good, and a great deal of money has been spent in improving the well, but I fear there is no good spring in it, and the money has been practically thrown away. The native members of the sub-Committee evince a lively interest in the experiments, but no very general interest has yet been excited among the agriculturists in the district.

**Ploughs.**—Besides the Kaiser and modified Kaiser plough, mentioned in last year's report, the following additional ploughs have been tried at the experimental farm:—

(1) The "*Kashkar*" procured from Mr. Gavin Jones of Cawnpore, said by Mr. Faddy to be very efficient and handy, but to have two serious defects:—

(a) its high price, which is Rupees 8-8-0;

(b) the manner in which the steel share is secured to the sole of the plough. When the share is worn out, the rivet fastenings have to be cut and punched out.

(2) The "*Ryot*" plough, also an invention of Mr. Gavin Jones, costing Rs. 3-8. This plough is pronounced to be too light and wanting in solidity.

(3) A native plough modified on a suggestion of Major Wace, Settlement Commissioner, the modification consisting in a wrought iron breast (or mould board) bolted to the share to enable it to invert the soil more completely than the ordinary native plough does. Mr. Faddy writes regarding this: "The plough has been found to work well, though susceptible of improvement in the matter of depth of furrow. It is of course just as light as any other native plough, and does not demand any greater tractive force on the part of the animals working it. Some fresh trials will be made, and should the desired improvement be found feasible without any very great modification of form or shape, this type of plough will be adhered to and all others discarded for obvious reasons."

**Eucalyptus.**—Mr. Coldstream has continued to devote his attention to the planting of various kinds of eucalyptus, but the *E. Tereticornis* appears to succeed best. It has done very well at Unah, and some trees planted out in the *cho* near Hoshiarpur, are succeeding very well.

**Nara (*Arundo Dorax*).**—The nara (*Arundo Dorax*) is a plant the growth of which should be encouraged as much as possible on the borders of *cho*. It is hardy, spreads very quickly, and has firm roots. It grows well in sandy soils, and I have seen several instances (notably at Mughowal and Sakurli in the Garhshankar tahsil) of destruction being averted from a village by the planting out of nara. Mr. Coldstream has planted out some of it as well as Kharkana (*saccharum sara*) in the *cho* near the town of Hoshiarpur. Part of the plantation was washed away in the heavy floods of last year, but the area damaged has been replanted.

**Silk.**—Mr. Coldstream continued his experiments with tasar silk-worms, and succeeded in obtaining a large number of cocoons. Some silk was woven and specimens were sent to the Lahore exhibition. I cannot speak with any certainty on this subject, but I believe Mr. Coldstream was of opinion that the propagation of tasar silk-worms is fraught with many difficulties, which are not, however, altogether insuperable.

He also tried experiments with the ordinary silk-worms, and encouraged some of the zamindars to take the matter up.

Mr. Coldstream took a keen interest in these questions, and indeed in all questions likely to promote the well-being of the district and its people, and it is a matter for regret that the exigencies of the service caused his transfer to another district.

**Lac.**—Mr. Coldstream has also encouraged the propagation of the lac insect, and lac has been produced on a number of roadside trees. This is an industry which is increasing, and no doubt it will extend as people begin to see the profits to be obtained from it.



## KANGRA DISTRICT.

COLONEL C. V. JENKINS.

**Want of Fodder crops.**—Whether the people might not try other crops with advantage, is a question which will have to be taken up at some future time.

Jowar, one of the most useful crops we have in the Punjab, is hardly known in Kangra. Only 302 acres were under jowar in 1881-82. When it is considered that not only does jowar provide men and horses with grain, but that, unlike makkai and bajra, its stalks make excellent fodder for horses and cattle, it is certainly a great pity that it is not more grown. I may say without hesitation, that I have rarely seen a district with such poor forage. The grass is generally inferior, and is not, except in Kulu, cut and stocked at the proper time. Turnips are not grown for cattle, indeed there is a prejudice against them. The consequence is, that our half-starved cattle, fed on dry unnutritious grass, can hardly draw the plough, and our cows give little milk. Guinea grass, lucerne, and turnips ought to be largely grown.

The different tahsildars have carefully caused the crops of the late kharif harvest in certain fields to be divided before themselves. The share of the owner was estimated in money and entered in the statement as rent.

**Statement XXIX A.** The instructions were received too late to make the same arrangements for the rabi under report, and the figures for the rabi must only be accepted as approximate. Arrangements are being made for the rabi in the ground.

\* \* \* **Agricultural Experiments.**—At the end of the year I had a considerable amount of guinea grass seed brought from Dera Ghazi Khan and sown. It has all germinated, and some has been sent to Mr. McDougall of Gopalpur, Mr. Bicknell of New Nassau, and Captain Bartlett, of Punar. I have also had other applications. Some lucerne has also been sent for. In all these matters we must look to the European planters to be the pioneers of improvement.

\* \* \* **Alluvion and diluvion.**—The insufficiency of my staff does not admit of proper supervision of the alluvion and diluvion work. This year an officer was deputed but at great inconvenience, and his time being short his work was necessarily hurried. Although the work was done in a perfunctory manner, several points came to light which show that considerable loss may be caused to Government unless an efficient staff of officers for supervision is available next year.

The chains of the patwaris had been broken, and mended by them without any regard to the length of the links.

Their measurements were therefore inaccurate. But the most unsatisfactory point was the means of testing alluvion. Diluvion was not so bad. The practice is to show the pieces thrown up by the river and assessed on a sheet of paper in detached blocks. A careless officer might pick out 2 or 3 of these blocks and think that after measuring them he had done all that was required. But in reality he would have no means of knowing whether one half of the land really thrown up had been shown him or entered on that sheet of paper. It may be said that he could test the patches shown, by the map, and going over the outline of the whole village as shown on the village map, compare it with the outline of the village as it actually was, and by diligent testing that he might thus find whether the alluvial lands had as a fact been accounted for. But this is impossible.

\* \* \* **Tirni or grazing dues.**—Zamindars' and Gujars' cattle grazing in their appointed villages are charged nothing, but if they are taken to another village the zamindars of that village make a charge of 10 annas a buffalo and 6 annas a cow. Formerly there was religious prejudice against taking money for the grazing of the sacred animals, but now-a-days I find that when commercial and religious instincts come into collision, the former prevail as a rule. The Government does not benefit by the tax. It is different with the sheep and goats. The land is the zamindar's, but the trees on which the goats feed are the Government's. Zamindars' flocks are not charged when they feed in their own villages, but outsiders, such as gaddis, are charged; as a fact these gaddis have divided amongst themselves the whole of the Kangra and Palampur ilakas. There are several divisions for each of which the gaddi is separately sold. It would appear that there would be difficulty in realising, but there is not, for the gaddis having divided off the grazing area amongst themselves, a gaddi is confined to the area allotted to him. Thus supposing a gaddi was told that he was to graze in the Harnera village of the Ramgarh division, he would not be allowed by the other gaddis to go to another village or to leave the division. The pressure of the brotherhood would be too strong for him. On the way down from the hills in the autumn and on his return in the spring, he would be allowed to stop and rest at other villages. But he must not loiter, or he would soon have the gaddi lambardar coming to look for him. About two or three days are allowed for



rest. I have mentioned the lambardars. I must explain. The gaddis will have to each division of circle a mukaddam. Over these again are appointed lambardars and over these a chendhai. The gaddis are very obedient to these officers, and the result is that the contractor knows almost exactly who to expect and how many goats will come, and going round in the autumn he collects once for all his Rs. 2 a hundred goats or sheep.

The only places which are closed to grazing are the protected forests and the reserved portion of the district forests. The gaddis are otherwise allowed to graze over the whole district.

**Wood and Rakh management.**—At Dharamsala as an experiment and example, I have planted 288 deodars of 4 years and upwards, and about 2,500 under 4 years. Of the former about 240 appear as yet to be doing well. Of the smaller ones we shall not lose 1 per cent. In addition we have sown a vast amount of deodar seed and have I think now about a lac and a half of small seedlings. These are all in carefully prepared beds and will be again planted out in beds at a greater distance from one another. This will give us a great stock from which to draw for future operations within a few miles of the station, and will serve moreover as an example. But we must have money, and at present all the so-called profits are credited to Government.

We have a plan under consideration for closing parts of the Dharamsala forest in blocks about road sides, plantations and groves. We have hitherto tried planting out trees by the roadsides through the tahsildars, but without much success, because the tahsildars tried to plant out too much and could not maintain their trees when planted. The trees therefore did not succeed. I have now determined to go on a different plan. I have directed the tahsildars to take not more than two miles each and to devote their attention to that until it is established. I have enlisted the most active zaildars and lambardars in the service, and have been careful to do all the model planting at Dharamsala through Mohan, zaildar, as an example to other zaildars. I have hopes of showing great results. We propose bringing up all such zaildars and lambardars as have shown themselves active in helping in this very important work, to the divisional darbar to receive, should the Commissioner approve, *khillats* and *parwanas* in open darbar. The matter has been fully considered in the District Committee.

**Sericulture.**—Sericulture is likely to make great strides in this district if it is properly fostered.

A separate report has been sent to the Commissioner in connection with this subject and the Madhopur fair. I need say nothing more now, except that the amalgamation of the Nurpur and Gurdaspur fairs at Madhopur was a most unlucky step, and that to ensure any success in sericulture in Kangra the fair must again be made local. Rearing-sheds on proper principles must be built if the worms are to be protected from suffocation and death. These should in the first place be built by the District and Municipal Committees.

Mulberries of the China and Phillipine variety should be planted in large quantities, nor should planting of country mulberries be neglected.

**Cinchona.**—I may offer a few remarks about cinchona. The cultivation of cinchona in the valley has been declared a failure. But I am not sure that this failure has not been as much caused by injudicious choice of sites for cinchona plantations as by any incapacity of the Kangra valley to grow cinchonas. I have myself seen that some of the cinchonas that were planted at Barh Tilly, an estate that has been purchased since their planting by Mr. P. DeL. Lennox, have survived, notwithstanding the fact that Mr. Lennox assures me he has taken no care of them whatever. I must have seen quite a hundred growing there. Barh Tilly would therefore appear to be a favourable place for cultivating cinchona and as, Mr. Lennox is ready to try it again, and an experienced cinchona planter, Mr. Newton of Shahpur, is of opinion that the cinchona plant can be successfully cultivated in this district, I am inclined to think that we might give the industry another trial. We have gained experience by which we shall profit, and I have some hopes that cinchona may yet succeed here.

## AMRITSAR DIVISION.

### *Extract from Commissioner's Report.*

COLONEL C. A. McMAHON.

\* \* \* **Rainfall.**—The extraordinarily heavy rain which visited Amritsar was very local, and it was, I think, determined by a heavy local fall of about 10 inches which took place in a few hours on the setting-in of the monsoon.

I have frequently noticed, especially in the Hissar division, that villages which catch the first rains of the season are fortunate in getting subsequent supplies, whilst a sort of curse seemed to rest upon villages which were unfortunate enough not to secure a supply when the first fall took place. At every subsequent downpour clouds heavy with moisture passed them over and poured their supplies upon their more fortunate neighbours, who had secured a supply in the first instance.

The explanation of this apparent anomaly, I apprehend, is that when moisture-laden clouds are floating over the surface of the plains, precipitation is induced when they pass over moist cold surfaces, and hence I imagine it was that the country round Amritsar having secured an unusually heavy first supply, every rain-charged cloud that subsequently passed over this small local tract poured out its most copious supplies upon what appeared to be a charmed spot.

**Transfers of land.**—We find then as a net result that, notwithstanding good harvests and increased agricultural prosperity, the area sold for debt in 1881-82 exceeded the amount so sold in 1880-81 by 297 acres, and that the area mortgaged from all causes in 1881-82 exceeded the amount redeemed in 1881-82 by 15,517 acres.

The question arises, and it is a very important one, why, when the value of land and of agricultural produce has risen so much, agriculturists appear to be getting more and more into debt. Various answers were returned to this question by intelligent natives in the course of my conversations with them during my cold weather tours, but they were all agreed upon two points, namely: that the fact of the increased prevalence of debt was undoubted and that our revenue system and settlements have nothing whatever to do with the fact.

The main cause appears to be that, whilst the population is rapidly increasing, holdings are, under the law of inheritance, steadily becoming smaller and smaller.

The natural result of this is, that men with small holdings get into debt and have to part with their land. If the land so parted with passed into the hands of true members of the agricultural community, it would not so very much matter, but as a matter of fact, the professional money-lending class appears to be steadily getting more and more land into its possession, and the friction produced by the transfer of land is thereby increased. Mr. Hawkins in his report writes:—"It is needless to remark that the number who combine trade with agriculture is increasing every year." This is not only true of Jats, and men of other agricultural tribes, but many Baniahs, Khatris, and other professional money-lenders, who have acquired revenue-paying land, are I apprehend classed in the returns as "agriculturists," in which case the headings, "sales to agriculturists" and "sales to non-agriculturists," cease to have much real significance.

Everywhere in our villages we see new handsome idol temples rearing their spires aloft, and marking the growing influence, wealth, and supremacy of the village baniah.

### *Extract from Deputy Commissioners' Report.*

## AMRITSAR DISTRICT.

(C. R. HAWKINS, ESQUIRE.)

**Rainfall.**—The rainfall for the year under report has been 56.1 inches, as compared with 22.4 inches in the previous year.

Owing to the excessive fall of rain, some kharif crops of Sambat 1938, which were sown in low lands, were damaged and some such lands remained uncultivated, but the loss was not great enough to call for remission or suspension of revenue.

The epidemic of fever which prevailed in the district, and chiefly in the city of Amritsar, during the 4 months, *i. e.*, from August to October 1881, caused much loss to human lives.

The epidemic may be also ascribed to the unusual rainfall which raised the spring level, and is believed to have polluted the water supply in the city.

\* \* \* **Cattle Fair.**—These fairs are growing in importance year by year. They are the chief source of supply for the *chack* and frontier districts. The interest shown in the breeding of animals for prizes is marked, and large prices are given by natives for sires and dams for this purpose. There is one class of animals which are at present not allowed to receive prizes, *viz.* bullocks. It is so obviously desirable to increase the supply of good draught bullocks in this part of the country, that it is hoped by all classes that the order against encouragement of bullock breeding may be soon removed. Sheep breeding does not flourish in spite of the offer of prizes. The zamindars of this district are mostly *Hiudus*. It is said they do not care to breed sheep, and the trade is chiefly followed by *Kasais*. The decrease in waste grazing ground is also against this industry. There was cattle disease in the district on different occasions during the year, but not to any serious extent, nor of an unusual type.

Hissar rams are kept at Majitha under the charge of Captain Gulab Singh, but they do not answer in this district.

**Treasuries.**—There is not much to notice with regard to treasury management. There have been as many changes of Treasury Officers as is customary in this province. Fortunately, in spite of this ill-treatment, there have been no defalcations of any sort, and the treasury keeps up its usual good reputation. Messrs. Keough and DeCourcy have had charge for some time and have both done well.

It is high time, however, that Government treasuries should be managed systematically; that really competent travelling inspectors and auditors should be appointed, and that less confidence should be placed by the Financial Department in luck and paper checks. It may be noted under this head that the practice of sweating coin is apparently on the increase. The offence is very difficult of detection.

\* \* \* **Patwaris.**—Great attention has been paid during the year to the preparation of the girdawari papers; their work was inspected by the naib-kanungos, kanungos, naib-tahsildars, and tahsildars on the spot. They tested from 5 to 10 per cent of the entries relating to proprietary right, cultivation, the grain sown, and quality of land, respectively. The girdawari of the year has been prepared very accurately. The general supervision of this work was put in charge of Agha Kalbiabid, who performed it well.

## GURDASPUR DISTRICT.

(COLONEL E. P. GURDON).

**Character of the Season.**—The fall of rain both in summer and winter was seasonable and abundant, and proved extremely favorable to the crops.

In July and August, however, the fall was rather excessive, and the crops on low land were injured. The winter rains were also regular, though in the beginning the fall was somewhat scanty.

The year was one of agricultural prosperity marked by the absence of either drought or floods. Cholera, however, raged with virulence in the towns of Batala and Gurdaspur, but it did not in any way affect agricultural interests, as the disease was confined within the limits of the municipalities, and did not spread among the rural population.

\* \* \* **Fluctuating assessments in Chambb villages.**—This system of assessment was extended to 67 villages.

The feeling of the people in regard to it is of a mixed nature, those whose lands have greatly deteriorated by the marsh, and the cultivation of which has in consequence been



rendered precarious, are in favor of it, but those whose lands are liable to inundation only in seasons of excessive rain, do not regard it with favor. Several villagers who had applied for the introduction of Chak Chambb assessment on their lands, refused to accept it on the water drying up.

**Coercive Processes.**—There was a large outstanding balance at the beginning of the year, and it was considered necessary to make an effort for its recovery, especially as the zamindars were in a position to pay. The lambardars were extremely reluctant to apply for the issue of warrants against the co-sharers, thinking that by delaying to pay, Government would let off the arrears. No doubt a great deal of the reluctance to apply for warrants against the co-sharers is owing to a want of moral courage on the part of the village headmen to stir up ill-blood and make themselves unpopular: there is also the legal difficulty that an arrear of revenue has not accrued until the date fixed for the payment of the *kist*, when warrants issue against the headmen themselves. If the plan adverted to in para 8 of proceedings of His Honor the Lieutenant Governor's No. 1,402, dated 19th December 1881, be adopted, I feel little doubt that everywhere coercive measures against the headmen themselves will vastly decrease, and as a natural consequence the financial condition of the lambardars will be much ameliorated. As it is at present many headmen are thrown into debt owing to having to borrow for the Government demand due on a fixed date, and to avoid the disgrace which further coercive processes against them would entail.

**Agricultural experiments.**—A "Kaisar" plough was procured from Cawnpore from the office of the Director of Agriculture and Commerce, North Western Provinces, towards the close of the year under report. It has been tried in the public garden and appears to plough well. Soon after I joined the district, viz. in January or February, at the request of some of the most enterprising zaildars and landholders in the Batala tahsil, I procured some twenty of Mr. Gavin Jones' "Ryot" ploughs from Cawnpore, and the zamindars are very pleased with these implements.

I procured two when at Jullundur last year, and happened to mention the implement to the people here, and they begged me to get some for them.

The system is very much the same as the Kaisar, only that the ploughs are much lighter, and cost only Rs. 3 instead of Rs. 6, as the Kaisar plough does. They are, I think, easier drawn than the Kaisar, though perhaps not so durable. A stronger and improved kind of plough called the "Kashtkar" was also sent at the same time as the "Ryot" ploughs by Mr. Gavin Jones, costing Rs. 7. This, however, is a heavier implement than the "Kaisar," and was objected to on the score of weight, although the effective manner in which the share turned over the earth, uprooting all grass, weeds, jungle &c., seemed to afford great satisfaction. The great recommendation of the "Ryot" implement is its wonderfully low price, as there are few zamindars who cannot afford Rs. 3 for a plough, whereas the "Kaisar" costs Rs. 6. I hope with a little more perseverance and encouragement to get the improved kinds of ploughs generally adopted. The intelligent zamindars quite understand the benefit of a deeper system of ploughing, which is impossible with their own country implements, which, moreover, do not even clean the land. The District Committee has just, on my proposition, agreed to send for three of Messrs Thomson's Behea sugar mills, and I feel sure these will take immensely when they arrive. This is such a great sugar-producing district that an improved kind of "belna" cannot fail to be very popular.

## SIALKOT DISTRICT.

(LIEUT.-COLONEL F. M. BIRCH.)

**Rainfall.**—The rainfall was eighteen inches in excess of that of the previous year, being 39½ inches against 21½. It was only slightly above the average fall of the five years preceding.

The summer rains were just double the quantity of those that fell during the summer of 1880-81. The winter rains were also in excess of the previous year, though it is to be remarked that the rains of the previous winter were unusually copious, and saved the spring harvest (rabi 1938). The rainfall was thoroughly seasonable, and suitable for harvest operations.



Ten inches fell during the month of July ; thirteen inches in August, and nearly three in September. This secured the prospects of the autumnal harvest (kharif 1938), and favored the preparation of the ground for the spring crops (rabi 1939).

877,410 acres represents the whole cultivated area of the district, including jagir lands. This shows an increase of 52,200 acres in excess of the previous year. The increase appears in irrigated as well as unirrigated lands, and is apparent in both harvests. The increase is doubtless due to the abundant and seasonable rainfall. The returns are very encouraging, the more so that a close inspection of the patwaris' papers this year, showed that pains had been taken with their field work and that reliance may be placed on the details furnished of "crops" and "produce," more so than in most years.

As regards the rabi sown in the year under report, the area brought under cultivation was larger. The rainfall of September was very beneficial, as it enabled the people to plough the land and sow it in season. The winter rains were sufficient. Nothing untoward occurred, and the crops came to maturity without damage or injury of any kind. Better weather than we have had could not be wished for for cutting the crops, and there is every prospect of a bumper harvest.

**Hissar bulls.**—The experiment of improving the breed of cattle by the introduction into the district of a number of Hissar bulls has been successful. The produce shows a great improvement on the ordinary breed, and is much approved of by the people.

**Cattle disease.**—Rinderpest was, I regret to say, prevalent throughout the district, but chiefly in the Riah tahsil and Bajwat, for the greater part of the year. It showed itself in the early part of the year in Bajwat, and by the middle of the year assumed a very virulent type, ceasing entirely only with the advent of the cold weather, about the middle of November. During the time it lasted no less than 3,677 head of cattle were attacked, and in 2,292 cases or 62 per cent the disease proved fatal.

In the month of July the excessive mortality attracted attention, and Mr. Nunn, veterinary surgeon, was deputed to enquire into and report on the disease. Mr. Nunn visited Bajwat and pronounced the disease to be undoubted rinderpest.

The tahsildars attribute the origin of the disease to the fact that diseased cattle were brought into the district from the Baisakhi fair at Amritsar.

**Sericulture.**—The breeding of silk-worms and the manufacture of silk is on the increase in the district. Several new manufactories have been opened in various parts, and the people are beginning to take an interest in the cultivation of the mulberry.

The District Committee is giving encouragement by the free distribution of the Chinese mulberry from the civil gardens.

# LAHORE DIVISION.

## *Extract from Commissioner's Report.*

(B. H. B. POWELL, ESQUIRE).

**Rainfall.**—The rainfall was plentiful throughout the division, and greatly more than that during the preceding year.

In Lahore the increase was 9 inches, in Ferozepore 7·8 inches, and in Gujranwala the fall was 27·8 inches, or rather more than double that of 1880-81.

The rain seems to have been seasonable in Lahore and Gujranwala, and to have improved the prospects of the harvest. In Ferozepore the rainfall in February is said to have injured the gram and other crops in some villages.

There were no calamities of season, save the cholera and fever in Lahore. These epidemics were, however, confined to the city of Lahore and a few adjoining villages, and did not affect agricultural interests to any appreciable extent.

**Cattle.**—There were two bulls in tahsil Chunian, in the Lahore district, during the year, and they served 215 cows, the three bulls in the same tahsil during the year 1880-81, served 165 cows. The Hissar bull at Gujranwala is said to be so diseased that he has become unfit for breeding purposes; the one at Wazirabad is dead, and the two bulls which were sent to Hafizabad are also seemingly dead. In Ferozepore there were fifteen Hissar and Nagaur bulls distributed in the districts. Their progeny during the year under report numbered 604 as against 266 in 1880-81. On the whole these bulls seem to be much appreciated in the division, and it would seem desirable to increase their number in Lahore and to take some steps to replace those that were in the Gujranwala district.

The Hissar rams have proved a failure throughout the division. Those supplied to Lahore and Gujranwala have all died. They are not appreciated in any of the districts.

**Labour and Carriage.**—There was no change in the rates of labor in the Ferozepore district, and I believe the same to be the case in Gujranwala; but there was a considerable rise over the prescribed rates in the Lahore district. The rise is especially in the case on coolly labor, for which there is great demand owing to extensive building operations (both public and private) being generally in progress in Lahore. I recollect a time when a mason could be employed in Lahore for four annas a day (the rate now paid to coolies), but they cannot be had now for less than eight annas. I believe carpenters also now charge eight annas a day as against four annas some years ago.

## Extract from Deputy Commissioners' Reports.

## LAHORE DISTRICT.

(COLONEL C. BEADON).

**Food grains.**—Food grains such as wheat and rice produced in canal irrigated lands is said to be wanting in softness, but the irrigation has not as yet been found to have injurious effect on the fertility of the soil or on the health of the people.

**Leases of Rakhs.**—The area held under cultivating leases as shown in statement IX was 30,561 acres, of which 15,316 acres were actually cultivated.

The system of leasing out the land is the same as reported last year, *i.e.*, notices of ejectment are issued to all the lessees before the 15th April, and, on application by such lessees or by new applicants, the lease is sold by auction, and then it is renewed according to the circumstances of the case either in the name of old lessees or new applicants.

**Agricultural advances.**—In conformity with the instructions laid down in Financial Commissioner's Circular Memo No. 2,556, dated the 14th April 1881, the people concerned were made to understand fully the advantages of taking these advances.

During the months of November-December 1881 and February last, while in camp in the district, I assembled the villagers at different places and impressed on their minds the profit they might derive by takavi for improvement of their lands. I also desired tahsildars to use all efforts in this direction, and at the same time issued printed extracts of the rules in Urdu and Gurmukhi characters for general information of the agriculturists, but I find it a very difficult matter to persuade the people to borrow from Government, however easy the terms. As a fact the only part of this district where takavi will do good in a great degree is in the Chunian Ravi villages.

**Coinage Act.**—As regards the Coinage Act Mr. Robinson, Extra Assistant Commissioner, has offered the following remark in respect of the last Resolution of Government regarding the receipt of short weight coins. He observes that "prior to the issue of Government Resolution No. 2432, dated 17th August 1881, the rule which was in force (and had been for years past), had become widely known, *viz.*, that coins which had lost more than 2 per cent in weight ceased to be legal tender, and would only be received in the treasury at their actual value. The resolution quoted above directed that for the present all Government treasuries should receive at their full (*i.e.*, nominal) value all genuine coins which had not been diminished by *fraudulent* means.

"It may I think safely be asserted that this concession has not yet become very widely known, as information of this sort permeates but slowly the masses. When the new rule becomes universally known, it seems to me that a possible result of the concession may be the development of the practice of sweating coins, for it will not be difficult for professional sweaters to sweat down new rupees by 4 or 5 per cent, and then in collusion with a shroff to issue them, as only experts can distinguish sweated rupees. There would be nothing to indicate to the general public that the coins had been fraudulently diminished, and on the assurance contained in the notification that coins not diminished by *fraudulent* means will be received by Government at their nominal value, these coins will pass unquestioned and will remain in circulation for years. When eventually they are brought to the treasury the extent to which they have lost weight will be held to be evidence that they have been fraudulently diminished, and the innocent holders of such coins will have to bear the loss. Considering also how ignorant the people are, I think they will not hesitate to charge the Government with a breach of faith.

"It seems to me, therefore, that it is possible that this notification, conceived in a spirit of liberality on the part of the Government, may yet work a good deal of mischief, if the result to which I have adverted as *possible* actually takes place.

"The old rule that all coins which had lost more than 2 per cent would be received only at their actual value operated to prevent such coins continuing in circulation. It may be that with my imperfect knowledge my view may be erroneous, but I have thought it my duty to state it."

## GUJRANWALA DISTRICT.

(C. V. BIRD, ESQUIRE).

**Eminabad Cattle Fair.**—A larger number of cattle attended this year than the previous one, and the amount of fees is also larger. The popularity of this fair seems to be steadily increasing.

\* \* \* **Patwaris.**—The patwaris here are well qualified and thoroughly acquainted with their work. \* \* \*

The girdawars understand their work thoroughly well, and perform it very efficiently.

The patwaris' annual papers were filed at the proper time, and there were very few mistakes because they were properly checked on the spot by the girdawars and kanungos.

The patwaris' records were thoroughly examined by Sardar Reza Ali Khan, Extra Assistant Commissioner, who was specially deputed to examine and report on this subject when he went on tour in the district. His examination was very searching, which is creditable to him and shows the great interest he took in the subject.

## FEROZEPUR DISTRICT.

(G. SMYTH, ESQUIRE).

Extracts from report on Ferozepur canals, during 1881-82, by Extra Assistant Commissioner Maya Dass.

**Barneswah.**—The old Barneswah was open on 16th May and ceased to run on 13th September 1881, and irrigated 14,021 acres as follows:—

Barneswah head	...	...	...	...	...	3,398
Shehrwah ...	...	...	...	...	...	3,894
Ghazanfarwah	...	...	...	...	...	5,263
Karimwah ...	...	...	...	...	...	1,466

14,021 acres.

As the Sirhind Canal has cut across this channel it had to be abandoned together with all its branches as above, much to the disappointment of the *abnoshes*. I say "disappointment" because it was understood that Government would allow a pakka passage or aqueduct under the Sirhind Canal for the Barneswah water which was to be constructed at the cost of the *abnoshes*, therefore no new canal was thought of to fill the place of the old Barneswah until November 1881 when it was found that no passage was to be allowed. We had therefore very little time left to design and finish the new Barneswah in time for the ensuing season.

It has, however, been almost completed, thanks to the energy and hard work done by the people, who have had an experience of nearly seven years, during which period they have enjoyed the benefits of their own canals. But as it will be seen from the following memo of the work done on the new Barneswah and the utilization of old depressions (that had to be searched out to save heavy excavations), which will of course take some time to fill up before the water can run into the excavated portion, we cannot expect much irrigation from the new Barneswah this year, because these old depressions are not only very large, but have remained dry for many years, and will therefore take a very large quantity of water, which must ultimately head up at the band made across the Kalali near village Bhagoke, and run on as above mentioned into the excavated portion of the new Barneswah.

A very good head was found for this canal in Zira tahsil, near mauza Tibbi Rang, and a few bands had to be finished in order to take the canal over old depressions and low grounds. It is so designed that it may quietly end at that side of the Sirhind Canal. Of course the *abnoshes* of Ghazanfarwah, Shehrwah and Karimwah, whose lands are situate on this side of the Sirhind Canal, will get no irrigation from these inundation canals any more.

As Government desired that an escape should be provided for on this canal (new Barneswah) to avoid any risk of damage being done to the Sirhind Canal by an over-flow of Barneswah during high floods, a suitable escape has been found in one of the natural depressions above the band at Bhagoke.

This depression goes winding about through the old Barneswah, and at last ends its course in the river above the point where the Sirhind Canal is tailed into the river Sulej.

The above arrangement was made under instructions of Mr. Sydney Preston, Executive Engineer, who inspected the canal in the company of the Extra Assistant Commissioner in charge.



The following memo gives the total quantity of work finished on this Canal :—

*Excavation—New Barneswah.*

	<i>Cubic feet.</i>
33 miles ... ..	10,829,742
Branch Sultan Khan, 6 miles...	456,172
Elachiwah branch, 7 miles ...	446,873
Total excavation ...	11,732,787

*Bands.*

At Barneswah head ... ..	25,279.30
M. 17 and No. 4 ... ..	10,622.0
On Sukkar ... ..	212,065.0
M. 19 and No. 14 ... ..	456,535.0
Band on B. W. ... ..	118,430.0
M. 31 and No. 9 ... ..	5,454.0
Elachiwah line ... ..	22,277.0

Pasails or embankments ... ..	850,662	850,662
		2,150,028

Grant Total ... 14,733,477

As this work was too heavy to be finished by the *abnoshes* alone during so short a period, and the Canal fund could very appropriately help the people to complete the work in time for the approaching season, Major Grey, the Deputy Commissioner, while designing the Canal, had arranged that a cash assistance of Rs. 3,000 be given to the people as a loan, and it was done accordingly. Deducting the Rs. 3,000 of loan as above, the zamindars or *abnoshes* have done work during the last cold weather to the value of Rs. 20,021.

Lastly it may be observed that a detailed account of the *bachh* system was submitted in December last after the *abnoshes* of this district had assembled together at Zira, when it was found that according to the area irrigated and the necessary annual expenditure as to establishment, &c., the amount of *bachh* or water rate would amount to  $2\frac{1}{2}$  annas per acre to which pies six were added for the patwari and the mirabs' dues,—total 3 annas per acre.

All the canal officials have worked well, especially those who had to do with the new Barneswah.

\*\*\* **Agricultural Advances.**—Rs. 6,580 takavi has been taken this year for 24 wells, compared with Rs. 940 for 5 wells in 1880-81, fifteen wells have been completed (10 of the present and 5 of the past year) during the year under report. They are in working order and were inspected by Munshi Ram Sahai, Extra Assistant Commissioner, during his tour. Besides these advances for wells, Rs. 13,000 were taken for district canal excavations which were also finished and inspected by Major Grey and Babu Maya Das. The construction of the remaining 10 wells is in progress.

# RAWALPINDI DIVISION.

## *Extract from Commissioner's Report.*

(COL. C. H. HALL.)

**Private Canals.**—There are 19 private canals from which an area of 40,286 acres was irrigated.

Some of the owners of these canals keep their canals in proper working order by having the necessary annual repairs effected and silt cleared, others neglect their canals. They are reported to be either satisfied with the profits they derive or lack the heart or means to keep the channels in proper order.

Major Corbyn, Deputy Commissioner, recommends the purchase by Government of those canals which the owners have not the means or inclination to put in thorough working order. They would no doubt well repay themselves.

Any possible arrangement for the improvement of the existing canals or their extension or construction of new works is deserving of consideration.

In the Rawalpindi district the slight shower in December 1880 somewhat improved the crops, rabi and kharif of the crops, and the copious falls of rain in February and March 1881, 1881-82, and rabi of 1882-83. brought them to maturity.

The harvest was generally an average one.

In the Jhelum district there was a fall of 6-tenths of an inch of rain in December, in February of 9-tenths of an inch, in March 2 inches 1-tenth, in April 1-7-tenths.

By the rain in March the crops were much improved, but the produce of unirrigated lands was generally poor. The harvest in this district may be regarded as below the average.

In the Gujrat district there was slight rain in December and January. The crops on unirrigated lands were very backward, but were brought up to an average by the copious falls in February and March 1881.

The harvest was not above the average.

In the Shahpur district the crops had the benefit of a slight shower in November, a heavier one in December (6-tenths), and a tolerably good fall of rain in March (1 inch 8-tenths).

This was better than in the preceding year, but still the rain was deficient, and the harvest was, if anything, below the average.

In all the districts, from May to August, there was rain, and in September also, except in the Shahpur district.

The falls in the Gujrat district were very abundant, and kharif in that district an excellent harvest.

In the Rawalpindi district the rains were more abundant than in the preceding kharif. In July and August the falls were plentiful.

In September the crops in the Attock tahsil began to suffer from want of rain. There was a further fall in this month, but the crops in the Attock tahsil derived little benefit from it.

The kharif in the Rawalpindi district was an average one, except in the tahsil of Attock, where it was somewhat below the average.

In 1879-80 the rainfall in the Jhelum district, from May to September, was 24 inches 3-tenths. In 1880-81 it was 10 inches 3-tenths. In 1881-82, 10 inches 2-tenths. There was therefore again deficiency in the rainfall.

The prospects from the beginning were bad, except in the eastern portion of the district.

In June there was but 6-tenths of an inch of rain and in July only 1-inch and 5-tenths. The crops were somewhat improved by this rain, but were still very indifferent.

The fall of nearly six inches in August and of nearly two inches in September wonderfully improved the prospects of the harvests.

On the whole it was more favorable than could have been expected.

The kharif harvest of the Shahpur district, like that of the Jhelum district, was an indifferent one.

From the rain in June and July, especially in the latter month, in which the fall was 3 inches and 7-tenths, hopes were entertained of a tolerably good outturn. With the fall of 2 inches and 4-tenths in August 1881, ended the rains. The sowings in the beginning were limited, and the early cessation of the rain materially injured the crops that were sown.

The kharif was therefore an indifferent one.

The rabi harvest of 1882-83 was generally better than that of the previous year.

Rain was general in October 1881, except in the Jhelum district.

In December there was rain in all the districts except Shahpur. This rain greatly improved the crops.

In January 1882, there was general and abundant rain, and again in February and March in all the districts except Shahpur.

The harvests in the Rawalpindi, Jhelum and Shahpur districts were good, generally.

The Gujrat district benefited more than the other districts, by the more abundant rain in February. The crops in this district were excellent; Gujrat had consequently not only a superior kharif, but also an excellent rabi.

**Cattle.**—Measures for the improvement of the indigenous breed of cattle by means of the Hissar bulls continue. These bulls are appreciated by the people. The results are reported to be satisfactory.

No success has attended the endeavours made to improve the breed of sheep. The rams from Hissar do not thrive in the climates of the districts, nor are they appreciated by the people.

**Prices.**—The prices of articles of human food and fodder have been high in the districts of this division, especially in the Rawalpindi district, for some years past.

In the Rawalpindi, Peshawar, Kohat, and Bannu districts, the prices during 1880-81 were higher than in any other district in British India.

A succession of indifferent harvests and the export of grain and fodder for the army in Afghanistan, impoverished the country.

The people have suffered more or less from the scarcity, but the poorer classes managed to escape extreme distress by finding work on the railway.

Prices fell in the Rawalpindi district on the opening of the railway in 1880, and since then have continued to fall, partly owing to the import of grain and fodder by rail, and partly to the better recent kharif and rabi harvests, and cessation of export to the frontier.

In the other districts prices have also fallen, particularly in Gujrat, owing to cessation of export and favorable harvests.

\* \* \* The reduction of the duty on salt from Rs. 2-8-0 to Rs. 2 per mannd, which came into effect from 1st April 1882, has already caused a decrease in the price of salt.

\* \* \* **Agricultural advances.**—The advances made in the several districts in both years are noted below :—

				1880-81	1881-82.
Rawalpindi	...	...	...	500	3,520
Jhelum	...	...	...	158	1,717
Gujrat	...	...	...	429	1,231
Shahpur	...	...	...	670	910

The general increase is no doubt due to the operation of the revised rules.

### *Extracts from Deputy Commissioners' Reports.*

#### RAWALPINDI DISTRICT.

(MAJOR R. T. M. LANG).

**Rainfall.**—Very favorable rain fell in the spring months of 1881 over most of the district, which helped to save a great part of the rabi crop. In the summer favorable rain fell again in the Rawalpindi, Kahuta, part of Gujrat Khan tahsis, and part of Chuch, where the kharif harvest was good. In Pindigheb, Fattahjang, and part of Attock tahsils, the summer rains were very scanty and the kharif generally failed. The summer rain stopped early throughout the district, consequently the sowings for rabi crops were generally incomplete. Owing to favorable rain in the eastern portion of the district during the first 3 months of 1882, the prospects of the rabi of that part were greatly improved, and fresh sowings were attempted. In the western portion of the district these latter rains were scanty and the rabi generally speaking failed.



**Calamities of season.**—The whole of the western portion of district (excepting Chach) has, owing to continued drought, for the last few years fallen into a deplorable condition. Owing to this continued drought, there is no moisture in the soil to encourage vegetation, and crops seem unable to live without continued and plentiful rainfall. There is no grass for cattle, and I found in most places the roots of grass being dug up for fodder. During the summer there was a large exodus of people with their cattle towards the hills, and the same has already commenced this year. Fortunately the assessment of this part of the district is very light, having been framed on the ground that a good crop cannot be expected every year, but there can be no doubt that continued drought like that of the last few years was not contemplated.

**Agricultural advances.**—In accordance with the instructions of the Financial Commissioner, tahsildars were directed during last summer to bring the subject more prominently to the notice of the people generally, and the Deputy Commissioner, whilst in camp during the winter, impressed on the people the advantages of the system.

The result has been that a very great number of applications have been received for advances during the last few months. Enquiries are being made into each case and a special application will be made shortly for a substantial grant under this head, the present allotment for this year being totally inadequate for the needs of the district. The greater portion of the district is unsuitable for wells, owing to the depth of the water from the surface, bands therefore for "sailab" are the most appropriate means for improvement of land in the country.

**Savings Bank.**—The depositors have hitherto been chiefly Government employes on small salaries, and the system cannot be said to have reached the agriculturists and other classes of people for whom it is apparently intended. A second Savings Bank, in connection with the Post office, has been opened in this district from 1st April 1882.

## JHELUM DISTRICT.

(COLONEL J. PARSONS.)

**Calamities of season.**—As in the preceding year, the extensive import of grain by railway counteracted to a large extent pressure arising from deficiency of rain and consequent partial failure of crops.

Drought was much experienced in the western parts of the district in which both kharif and rabi crops were very sparse.

Damage by hail to a slight extent was caused in some villages of the Talagang tahsil.

**Cattle disease.**—There was no specific disease among cattle during the year, but some have died from starvation and bad or insufficient water in the Chakwal, Talagang and Pind Dadan Khan tahsils, causing many cattle-owners to deport their cattle to other districts notably to Shahpur and Gujrat, where they found grazing for them to some extent. Scarcity of fodder likewise caused cattle sales during the year at low prices.

**Prices.**—Prices of food grain were below those that prevailed during the preceding year, being kept down by extensive imports by rail; on the other hand, fodder was excessively high priced, where procurable.

The price of firewood was much the same as the preceding year.

The price of salt fell owing to reduction of duty from Rs. 2-8 to Rs. 2 per maund.

**Tirni or grazing dues.**—In previous years the system in force was to levy a fee of one rupee per camel grazed in Government waste lands or preserves in the tahsils of Pind Dadan Khan, Chakwal and Talagang, but the system has been abolished from the commencement of the year under report under orders of Government.

The rates of grazing dues charged on cattle in Government rakhs in this district are as follows :—

Buffaloes	...	...	...	...	6	anas each per annum.
Bullocks and cows	...	...	...	...	4	do. do.
Plough bullocks	...	...	...	...	1	do. do.
Mules and ponies	...	...	...	...	4	do. do.
Donkeys	...	...	...	...	2	do. do.
Goats	...	...	...	...	1	do. do.
Sheep	...	...	...	...	6	pies. do.



The enumeration statistics of cattle are as follows :—

Bullocks	...	...	...	...	...	3,39,816
Buffaloes	...	...	...	...	...	
Cows	...	...	...	...	...	
Goats	...	...	...	...	...	2,75,845
Sheep	...	...	...	...	...	
Donkeys	...	...	...	...	...	
Ponies	...	...	...	...	...	31,534
Horses and mules	...	...	...	...	...	
Camels	...	...	...	...	...	11,139
Total						6,58,334

Grazing leases during the year amounted to Rs. 2,857, which was duly collected in full.

The area leased for grazing was 40,073 acres situated in different parts of the district.

**Wood and Rakh management.**—At the opening of the official year the area of rakhs under district management was 40,073 acres as already shown, but under the Forest Settlement operations 87,147 acres of rakh lands have been added to the district. Thus at the close of the year there were 67,220 acres under district management.

These rakhs yield inferior wood much as phulahi and grass. The latter alone is annually leased out, rights in the wood being reserved.

Some rakhs in whole or part were relinquished to adjacent villages by the Forest Settlement Officer in effecting new demarcations of boundaries.

**Agricultural Advances.**—Advances under the Land Improvement Act were made to the extent of Rs. 1,715 during the year, for the construction of 10 wells, of which 4 have been completed and 6 are under construction. The works were duly inspected by the tahsildar.

The demand for the year was realized.

## GUJRAT DISTRICT.

(LIEUT.-COLONEL F. D. HARRINGTON.)

**Bulls.**—There were 21 bull-stallions at the end of 1880-81, of which number one bull-stallion died in 1881-82. There are 20 now living.

The produce was 687, being 78 less than the produce in 1880-81. This is owing to the death of one bull-stallion. The people of this district appreciate these bull-stallions very much, and gladly make use of them. The produce is improving annually.

**Sheep breeding.**—There were 8 rams at the end of 1880-81. Of these 7 have died. The produce of the year is 25 young sheep. The decrease is owing to the death of 7 rams. The people do not appreciate these rams for the same reasons as were recorded in my reports for the year 1880-81 and 1879-80. There is only one ram living at end of 1881-82.

**Cattle disease.**—There was no cattle disease in 1881-82, except at Bahlolpur and a few other villages near it, all on the right bank of the river Chenab about 12 koss from Gujrat.

In these villages 205 head of cattle were affected with a disease called *wah* (rinderpest). Of these 89 died, and 116 were saved by using the following : *jau* flour, *tara mira*, mixed in water ; and another medicine, *jau* flour mixed in the water taken from the cobbler's vat. The diseased cattle were kept separate, and every effort was made to save them.

**Agricultural advances.**—In 1881-82 Rs. 995 were advanced for agricultural improvements for wells. No advances were made for seed grain, or for the purchase of bullocks. Ten wells have been completed, and eighteen wells, including those of former years, under construction, have been inspected by the tahsildars and naib tahsildars on six occasions. Of the sums advanced in previous years and for which instalments were due, Rs. 381-6-6 have been recovered without any trouble.

Owing to the favorable terms offered by Government for the re-payment of agricultural advances, ten years being the limit, landholders have now availed themselves of the advantages offered.

## SHAHPUR DISTRICT.

(MAJOR E. C. CORBYN.)

**Canals.**—There are now four Imperial canals in the district, namely the Station, did Sahiwal, new Sahiwal, and the Macnabbwah canals. The new Sahiwal canal, was designed and excavated by me before I went on furlough in 1880.

There is an increase this year in the income and area irrigated from these canals as will be seen from the following figures :

		Station canal.	Old and new Sahiwal canals.	Macnabbwah canal.
1880-81	{ Area ...	6,298	2,132	678
	{ Income ...	6,689	493	415
1881-82	{ Area ...	7,834	2,451	1,237
	{ Income ...	19,831	3,911	1,201

The demand on account of water-rates for 1881-82 amounted to Rs. 21,814 ; for the preceding year it was Rs. 18,436 only, a balance of Rs. 14,700 on account of 1880-81 was realized this year, and there is a balance of Rs. 11,511 on account of this year which will be realized during the next year.

The expenditure on account of establishment and repairs amounted to Rs. 9,007, in addition to the sum of Rs. 491 paid to patwaris as percentage for collecting canal revenue.

**District Canals.**—There are two canals, viz., Raniwah and Corbynwah, which are not under the Irrigation Department. The former is maintained from Provincial, the latter from District Funds. Both of these also were completed by me, the first before I went on furlough in 1872, and the other in 1879 and 1880.

The demand on account of the Raniwah for the year under report was Rs. 29,194 against Rs. 13,706 for the preceding year. The collections for the year 1881-82 amounted to Rs. 23,016, which include Rs. 13,556 on account of 1880-81. Rs. 19,734 outstanding on account of 1881-82 and Rs. 44 on account of 1880-81, will be realized in the current year. The increase in income is due to thorough silt clearance in 1881-82 and the frequent floods in the river Jhelum.

The area irrigated by Raniwah was 11,527 acres in 1881-82, in the preceding year it was 5,296 acres, which gives an increase of 6,221 acres.

A sum of Rs. 348 was realized from sale of reeds which I had sown in 1872 to strengthen the banks of the Raniwah, and the percentages paid to patwaris amounted to Rs. 498.

The expenditure of the year 1881-82 on account of establishment and repairs, amounted to Rs. 9,484.

Corbynwah is as yet an infant canal, and requires much improving.

It was extended to the town of Khushab in 1881-82, and its existence is considered a great boon by the people of the town as well as by zamindars of the villages near which it passes, and by its water the Khushab drains are flushed and cleansed, but the budget provisions for this canal are wholly insufficient, Rs. 650 only having been sanctioned for 1882-83. This is discouraging.

The area irrigated and the demand was as follows :—

1880-81	{ Area ...	219 acres.
	{ Demand ...	493 rupees.
1881-82	{ Area ...	420 acres.
	{ Demand ...	432 rupees.

The Government canals worked from the beginning of April to end of August 1881.

It may not be uninteresting to note here that the area under cultivation in this district at the time of Settlement was 530 miles, out of a total of 44,682 square miles ; at the close of 1880-81 it was 828 miles out of 4,900 square miles.

Out of the cultivated area about 62,000 acres are irrigated from Government and private canals ; the remainder is irrigated from wells, and includes 44,000 acres barani lands.

The increase in cultivated area is due chiefly to extension of canals in the district.

The system of canal irrigation has greatly extended since I have been in the district, but the credit of its introduction is due to Mr. Donald Macnabb and Colonel W. G. Davies. I am still going to urge Government to extend the canals, and, in order to develop the resources of the district fully, I hope Colonel Hall will strongly advocate the extension of the railway from Bhera to Khushab.

**Extension of Railway to Khushab.**—The following is what my predecessor Mr. J. Frizelle has to urge in favor of the railway extension, and I can fully, from my long experience here, subscribe to what he has to say on the subject:—

“The country from Bhera to Shahpur (30 miles) and from Shahpur to Khushab (7 miles) to the bank of the river Jhelum, is a well cultivated and populated country. The population in this part of the district, and living on either side of the line which a railway would take, to a distance of 3 or 4 miles on each side, may be estimated at from 125,000 to 150,000. The villages are generally large and flourishing, and some of them containing a population of 4,000 and 5,000 inhabitants, such as the villages of Jhaurian and Shahpur. Khushab itself is a town of 9,000 inhabitants, and the Shahpur civil station of 2,500.

“The population of the villages is mainly agricultural, the chief products being wheat and cotton.

“I am sorry that the district not being a trade-registering one, no accurate statistics are forthcoming of the imports and exports of the district. But a considerable trade is always going on in wheat or other grain. In seasons of scarcity, as last year, it is largely imported from the centre and east of the Punjab by rail via Lahore and Lala Musa, and from Miani conveyed down the river by boat to Khushab from which it is distributed to the north and west of the district. In seasons of plenty it is exported, not so much the surplus produce of this district as that imported for the purpose from the Dera Ismail Khan and Bannu districts and the western portion of the Jhelum district. These imports from the latter-mentioned districts in ordinary years amount to some 3 lakhs of maunds per annum, and have hitherto been exported down the river from Khushab to Sakkar and Karachi. With the opening of a railway to Khushab they might be expected to be exported eastward by rail, the navigation of the river being tedious and dangerous. Hitherto there has been no exit towards the Punjab proper, the only one being down the river to Sindh, so that in seasons of scarcity in the eastern and southern Punjab the surplus products of the tract above mentioned have not been available for export in that direction. The opening of a railway to Khushab would no doubt largely increase these imports and would probably, at least in seasons of demand towards the east, attract considerable quantities of grain from the other side of the Indus, especially from the Marwat country (a great wheat-growing country) in the Bannu district, from which grain is ordinarily exported down the Indus to Sakkar or Karachi. Very little surplus grain is grown in the district itself, the exports being chiefly first imported.

“Next to grain comes salt produced at the Warcha mines. This is exported to the amount probably of about 125,000 maunds per annum, but correct information on this head could be obtained from the Customs Department. This salt is carried by camels across country chiefly to Lahore and down country stations. \* \* \*

“The other exports of the district are cotton, of which about 8,000 maunds per annum are estimated to be at present exported from the district, saltpetre 50,000 maunds per annum, saji 8,000 maunds, and wool 7,000 maunds. Khushab borders on the Thul, which is a considerable sheep and wool producing tract and the opening of the railway would attract quantities of cotton and wool from the cis-Indus, if not trans-Indus, portions of the Bannu and Dera Ismail Khan districts, from which they are now exported by other means.

“As to imports, that of grain has already been alluded to. In times of high prices in this part of the country, large quantities would be imported from the Punjab, not only for this district but the eastern portions of Bannu and Dera Ismail Khan and the western part of the Jhelum district. This was the case last year and the year before. The returns of the Miani station will show the large quantity of grain imported last year. The greater part of this would have gone by rail to Khushab had a railway been open.

“The other chief imports which would come by rail are gur, sugar and rice, of which the following are the estimated quantities imported per annum:—

Gur and sugar	...	...	...	...	90,000 maunds.
Rice	...	...	...	...	30,000 ditto

“These came from places to the east of Lahore and Amritsar, and supply the wants of the district only. What now goes to Dera Ismail Khan &c. by other routes, would be carried by railway to Khushab, and the amount of this it is impossible for me to estimate.

“The distance from Dera Ismail Khan to Khushab is only 96 miles. To Chichawatni (on the Lahore and Mooltan line), the route now chiefly used, it is 172 miles, and to Mooltan itself, by the direct road, 138. It might safely be expected that the greater part of the Dera Ismail Khan trade and passenger traffic would use the Khushab route, even if the railway were not for the present carried beyond the left bank of the river at the latter place. \* \* \*

“I believe also that the large proportion of the Bannu and Edwardesabad traffic, to and from the Punjab, necessarily would take to the Khushab route in preference to the present roads by Dera Ismail Khan in one direction and Kohat and Khushalgarh on the other. \* \* \*



"The great Dera Ismail Khan trade is the Povindah trade. From all I can learn I believe it would be attracted to a very considerable extent to Khushab, and such a result is apparently inevitable as long as there is no railway from Dera Ismail Khan in the opposite direction. Already a good deal of it does pass through the south of the Shahpur district.

"The facilities for the construction of a line from Bhera to Khushab are as great as between Miani and Bhera, the cost per mile would be no more, and one side of the present broad cart-road would be equally available. Fuel is abundant all along the road, and especially at Shahpur, where it sells at present at from 7 to 8 maunds per rupee.

**Private Canals.**—The following is a list of the private Canals in the district, with the area irrigated in 1881-82 noted against each :—

1. Piranwala Canal ...	...	2,158 acres.
2. Amir Chand's ...	...	525 "
3. Fattah Khan's ...	...	2,069 "
4. Jehan Khan's ...	...	256 "
5. Sultan Mahmud's ...	...	1,674 "
6. Nagiana ...	...	305 "
7. Sahib Khan's ...	...	114 "
8. Makhdumanwala ...	...	1,016 "
9. Sher Muhammad Khan's ...	...	1,350 "
10. Jhamatanwala ...	...	388 "
11. Nathuwala ...	...	1,629 "
12. Mughlanwala ...	...	465 "
13. Hotawala ...	...	220 "
14. Hargananwala ...	...	89 "
15. Jahan Khan's ...	...	2,955 "
16. Sahib Khan's ...	...	14,404 "
17. Sarfaraz Khan's ...	...	4,442 "
18. Sultan Muhammad's ...	...	3,888 "
19. Mekuanwala ...	...	2,339 "

Total ... 40,286 acres.

Some of the canals, such as Fattah Khan's, Sultan Mahmud's, Jahan Khan's, Sher Muhammad Khan's, Sarfaraz Khan's, and Sahib Khan's, are regularly cleared, but the remainder are not thoroughly done and in some instances work indifferently for want of annual clearing. The owners have been satisfied with the money realized and have not the heart, and in some instances the means, to clear them; and I would again urge Government to purchase those which the owners have not the means or inclination to put in thorough working order.

Mr. Catton, who was specially deputed to inspect the canals in this district and remedy engineering defects in them, stayed here about four months, November to March 1882. The silt clearance was carried out in accordance with his suggestions.

**Coercive processes.**—The increase in issue of warrants is due to the difficulty people had in meeting their liabilities to Government on account of poor harvests for the last two years.

**Rakh Management.**—The rakhs are situated in all three tahsils of the district. They comprise an area of 528,564 acres.

The forest trees of the above rakhs are carefully conserved. The fallen and dry wood alone is collected and sold by auction. The income from this source, however, is trifling.

It is proposed to plant kikar and other forest trees in all rakh lands which can be watered by Government canals, and in this view two men have been sent to Changa Manga to be trained in forestry.

**Wards.**—The estate of Umr Hayat Khan, son of the late Malik Sahib Khan, c.s.i., is the only estate under the Court of Wards. The income of the estate was Rs. 72,462, which includes Rs. 39,656 on account of interest on promissory notes, and the expenditure amounted to Rs. 24,122. The decrease in income, as anticipated in the last year's report, has occurred owing to depression in the market and low prices realized on produce sold in the year under report.

The increase in expenditure is due to a sum of about Rs. 5,000 having been spent on the occasion of Umr Hayat Khan's circumcision.

Arrangements are under consideration for investing money in purchase of more lands, seeking extension of the estate by taking contract of a rakh as a run for live stock (colts and fillies), in sinking more wells, and thus developing the resources of the estate. A great part

of the produce of the rabi and kharif harvests remained unsold at the close of the year, owing to little demand for edible grain, and this also tends to show a decrease in income above referred to.

The brood-stock and colts and fillies belonging to the estate, were inspected by Messrs. Hallen and Queripel of the Horse-Breeding Department, in company with Colonel Smith, Government Remount Agent, and these officers expressed themselves highly pleased with the arrangements, as will be observed from the following record of their visit :—

"We have had much pleasure in inspecting the rakh on the estate of Sahib Khan Tiwana, C.S.I., under the management of Diwan Kirpa Ram. The visit has been a most interesting one. The general arrangement connected with the stock reflect great credit on the manager, who is setting an example which is to be hoped will be followed by the neighbouring native gentlemen and horse breeders. We are glad to hear that it is proposed to increase the number of brood mares and also to purchase young stock, with a view of giving them full liberty on the rakh.

"The superiority of the colts and fillies reared on this estate is most marked, and fully acknowledged by purchasers at the annual Shahpur Horse Show.

"We notice with great pleasure that castration has been largely adopted on this estate. The geldings have found most ready purchasers at the last show."

**Behea Sugar Mill.**—The tahsildar of Bhera reports that certain Mahajans there have brought some Mills of English manufacture, which they hire out to zamindars, who pay Rs. 5 per bigah for the juice extracted from the sugar-cane reared on this extent of land. These mills are more easily worked than country mills, and express more juice than the latter. I have not seen the mills yet, but shall do so during my winter tour, and report on them.

# MOOLTAN DIVISION

## *Extracts from Commissioner's Report.*

(H. E. PERKINS, ESQUIRE).

**Rain-fall.**—The rain-fall in the Mooltan district was not much beyond a third of the average; in Jhang, though double that of the previous year, it was still much below the average; in Montgomery it reached the average, and in Muzaffargarh, though much beyond that of 1880-81, it was still less than half the average. The winter rains came to only three-tenths in Muzaffargarh and six-tenths in Mooltan, though in Montgomery an useful amount of two and a quarter inches fell. This scarcity of rain has acted no doubt hurtfully on the supply of grass in the bar, though the canal irrigation has been so successful, that the cultivation of staples has not suffered.

**Canal Irrigation.**—The irrigation has been abundantly successful over the whole division. In Mooltan the Deputy Commissioner is able to say that the season was the finest known almost within living memory. I saw the Diwanwah flowing broad and swift and deep near Luddan in the end of February, the most slack time of the year. The remissions of canal revenue in this district will be only Rs. 3,353 against Rs. 8,991 last year, and this remission is more than balanced by the new canal assessments, leaving a gain to Government of Rs. 1,551.

The extension of irrigation in Muzaffargarh under the fostering sympathy of Messrs. O'Brien and Sibold has been astonishing. The areas irrigated during the last three years have been 180,813, 208,958, 219,919 acres, while 390 new wells and 290 patts took water for the first time from canals, and no less than 28,292 acres are returned as "do-fasli" during the same year.

In Muzaffargarh likewise, indigo has almost doubled itself, in this one year having gone from 16,814 acres to 33,934, and this is the more gratifying when we remember that the good effects of indigo extension are more felt in the year after it is sown, for the stumps are more valuable than the first year's crop.

In connection with this subject I must refer to the urgent need felt, especially in the Montgomery district, for a staff of patwaries who shall be devoted exclusively to canal measurement duties.

**Cattle.**—The Hissar rams are manifestly a failure. The Deputy Commissioner Muzaffargarh almost makes out a case of deliberate ovicide and bovicide against his landholding community, and from the very good reason that they can always get cattle cheap and good at their doors from the travelling traders, it is evident that any more money spent in that district on promoting either sheep-breeding or cattle-breeding would be wasted.

In Montgomery the result has been nothing. There is not stated to have been any murrain of a serious character anywhere.

**Transfer of Land.**—The Muzaffargarh girdawari, done as no girdawari was ever done before, has revealed an extraordinary number of transfers, and this in a district where the agricultural prosperity was almost unexampled. I suppose that there is not in the entire province, any district where the cultivator is so free from the money-lender as in this favored tract. The district being nearly altogether dependent on canal irrigation, compels all who have any interest in land to leave nothing to chance; they must either have water from a canal or they must starve. Hence the gambling spirit is checked to a remarkable degree, and no man will incur debts on the chance of a good downpour of rain. This makes the people careful. Moreover the Deputy Commissioner being known personally to nearly every cultivator in the district, and being at all times perfectly accessible, every one rushes to him for takavi whenever he wants a little money for a new well or a canal cut. This deprives the money-lenders of a fresh means of entangling the zamindars. And yet we find the transfers of land so numerous as to baffle all our preconceived notions. What then must be the true state of the case, where the district officer is changed thrice a year, and the tahsildars stay at their desks, where the kanungo is the tahsildar's revenue serishtadar, and the patwari the kanungo's brother, and the money-lender's cousin, if not the money-lender himself, trading under a feigned name, as is too often the case. I confess it is with no relish that I attempt to gain any



instruction from all the transfer statements for this return from Muzaffargarh, "which is a true one, throws such discredit on those of Montgomery or Jhang for example, which are the products of an ordinary unwatched girdawari, as to render any discussion of the subject, based on such returns, comparatively futile. When a thoroughly prosperous district shows such a vast number of transfers, what must be the condition of one which contains a suffering neglected tract like the Ravi side of Montgomery or the baniah-ridden regions of Mooltan.

These figures give the same general impression that our *dakhil kharij* returns very much underrate the number of transfers, and that our registration offices fail to attract executions in due number. I do not think it is of any use to analyze the returns of either Muzaffargarh or any other district concerning the sums obtained for land either sold, or mortgaged, for fiction and fraud enter so seriously into all statements made in deeds for both these classes of transactions, that deductions from figures are of small value. I fear I am considered as a pessimist, but it is to my mind not unlikely that we shall have a Jhansi Encumbered Estates Act for some of the richest of the Punjab districts ere long, or if that extreme measure be averted, it will be by depriving the Civil Courts of some of their power at an earlier stage than matters reached in the Jhansi division.

**Agricultural advances.**—The Muzaffargarh district bears away the palm far beyond any other in the whole province for success in working the Land Improvement Act. During 1880-81 the amount of money given there, was very much the same as was given in the entire rest of the Punjab, and considering that in the year under report the sum so lent rose to Rs. 30,084, I shall be much surprised if the district do not retain its place. \* \* \*

The great success in Muzaffargarh is partly due to the urgent need for extension of cultivation by the success of the canals, but no less so to the personal interest taken in it by Mr. O'Brien. \* \* \*

The Government owes to this excellent officer a debt whose greatness future years will alone fully establish. \* \* \*

**Agricultural experiments.**—There has been no vigour in trying new experiments. Mr. Gladstone, which acting as Deputy Commissioner of Muzaffargarh, got up some Kaiser ploughs. But I have no expectation that they will succeed when there is no capital in the country which can be spent on the cattle needed to draw them, and when a native plough only costs the cultivator four annas for the iron he expends in it, all the rest of the workmanship and materials being supplied by the village servants whom he is bound to pay by a fixed rate on his produce at each harvest whether he employ them or not. I think this constitution of the village community is much forgotten in our calculations of the costs of new agricultural implements. The zamindar gets all he wants without paying any cash at all, for he has none to pay, and yet, however cheaply we make him Kaiser ploughs or things of that kind, he must pay cash for them, which he always is unable to do. \* \* \*

## *Extracts from Deputy Commissioners' Reports.*

### MOOLTAN DISTRICT.

(C. A. ROE, ESQUIRE).

\* \* \* **Fluctuating assessment.**—The system has worked extremely well and is thoroughly popular, but the departure of Rai Hukm Chand, who has taken the chief part in the annual supervision, will be a great loss, and especial care will have to be taken by the Deputy Commissioner for the supervision next year. No particular forecast was made by the Settlement Officer of the probable income to be received, but the result shows that the danger of the zamindars neglecting cultivation, which was at one time apprehended, need no longer be feared. \* \* \*

\* \* \* **Coercive Processes.**—The tahsildars are still backward in rendering assistance to the lambardars under rule 8 for the collection of revenue from co-sharers, and the recent

ruling that this assistance can only be rendered before the lambardar has paid the amount due will, I fear, have the effect either of still further depriving the lambardar of assistance, or of greatly increasing the outstanding arrears. In this district, where the well is the real unit of property, and defaulters frequently cross over to Bahawalpur, the practice of transferring their shares to a solvent proprietor might be much more freely resorted to.

## JHANG DISTRICT.

(MAJOR R. BARTHOLOMEW).

**Tirni.**—I feel quite convinced that a return to Mr. Wakefield's system of direct management would nearly double the Tirni income, while it is much more liked by the people.

Under the present system they can only graze in one chak on one payment. If the grass in the chak, to which they are attached as Tirni Guzars, fails, they have to pay a second fee in order to get entrance to another chak.

Under direct management, after once paying a fee they would have access to any grazing ground. One of the chaks was again held during the year under review in direct management, and produced an income of Rs. 17,000.

Last year it produced Rs. 20,000.

For the year under review the chakdars offered Rs. 14,000, but withdrew at the last moment.

Direct management has been again sanctioned for this year.

**Government Estates.**—The system in force in this district for some years has been as follows. The Government jungle lands divided into convenient blocks or chaks have been leased yearly to influential zamindars. There is a pretence of an auction, and sometimes two or more hostile sets raise the bids against one another, but, as a rule, the most influential zamindars in the neighbourhood of the chak combine to offer as low a price as they think they can get the Deputy Commissioner to sanction. In this way several days are wasted, the Deputy Commissioner holding out for his price, the zamindars for theirs.

In the end the zamindars usually have to raise their bid to a decent, but still insufficient price. But if a very low price is offered, the Deputy Commissioner can reserve the chak, and keep it under direct management. This has been done for two years with one chak, and is to be tried again this year.

The first year the zamindars offered Rs. 10,000; direct management realised Rs. 20,000. The grass was exceptionally fine that year.

For the year under report the zamindars offered Rs. 14,000, but withdrew their offer, Direct management realised Rs. 17,000. This year Mr. Macauliffe slightly changed the system. He put the chaks up to open auction. Bantias bid against the zamindars, and eventually all but the above-mentioned chak were leased to zamindars not to bantias, for about Rs. 9,000 more than last year.

But this is only a temporary rise. As soon as the bantias find that they are only allowed to bid without the chance of securing a lease, they will cease to bid.

No bantias bid for the above-mentioned chak, for they fear the Bharwana leaseholders, and know that the latter would never let them collect their dues.

The Bharwanas again repeated their offer of Rs. 14,000, but Mr. Macauliffe held out for Rs. 15,000, and, as they would not give that amount, sanction was obtained to hold the chak under direct management. Since then they have privately offered me Rs. 15,000, but I really doubt whether they could collect that amount with profit to themselves.

They have no method in their management. The whole system is a wasteful one for Government, and I believe the income could be nearly doubled, if the Government land was held under direct management; many of the cattle owners have told me that they would prefer this. There is no doubt that they are greatly oppressed by the zamindar lease-holders, and it is hard on them to have to pay Tirni twice over if the grass fails in the chak to which their village is attached.

## MONTGOMERY DISTRICT.

(MAJOR H. J. LAWRENCE).

**Agricultural advances.**—In 1880-81 only Rs. 150 was expended in the form of takavi, and 3 applications were refused. But in 1881-82 advances were made to the extent of Rs. 4,320 for the repair of old wells and for the construction of new ones.

Two new wells were completed during the year and one old one was repaired. 17 wells are under construction and will be completed within the prescribed period.

No undue delay is now allowed to take place in the disposal of applications for takavi, and it is believed that this fact accounts for the increased number of applications.

9 applications for takavi were refused: 3 in default of the applicant's prosecution of their petitions and the rest for want of sufficient security for repayment.

**\* \* \* Tirni.**—There was a very large decrease in the number of objections to the assessment of the grazing tax, due to the fact that this year the assessment was based on an enumeration of the cattle, whereas in the previous year it was based on the Tirni contractor's lists.

**Patwaris.**—The Financial Commissioner is aware that the detention of patwaris by the canal officer in the Dipalpur tahsil for a long period makes it impossible for the papers in that tahsil to be properly or punctually prepared. This year these patwaris were not dismissed by the canal officer till 11th May, and he has since recalled some of them.

## MUZAFFARGARH DISTRICT.

(E. O'BRIEN, ESQUIRE).

**Canals.**—The great feature of the revenue administration is the improvement and extension of canal irrigation. The following are the areas irrigated during the last three years:—

	Acres.	
1879-80 ...	...	180,813
1880-81 ...	...	208,958
1881-82 ...	...	219,919

In addition 28,292 acres were returned as do-fasli during 1881-82. Nothing could be more satisfactory than the state of things disclosed by these figures, accompanied as it is by a general improvement in the circumstances of the people which they readily admit, and which is not only to be discovered by statistics but is visible to the eye. That the people have confidence in the canals is proved by the increased cultivation of the more valuable crops. Indigo has almost doubled itself, being 33,934 against 16,814 acres in 1880-81. The canals except one filled in time for the indigo sowings, which is considered here the criterion of good working, and ran late. The Magassan with its numerous branches ran throughout the year, with the exception of a few days in March. There are 390 wells and 292 pattis newly irrigating in 1881-82. The burden of keeping the canals in order is very light. I cannot give the correct figures for the clearance which has just been finished, but at the clearance in the cold weather



of 1880-81, taking the value of one man's labour for one day at six annas, the cost of labour supplied was Rs. 0.614 per acre on the Indus canals and Rs. 0.523 on the Chenab canals. The abiana due on the canal irrigated area of 1881-82 is Rs. 1,873. There is also an increase in the land revenue for which the canals are to take credit. For these satisfactory results Mr. Sibold is entitled to the greatest credit. I wish to place on record here the great assistance that can be rendered to canal extension by freely giving takavi for making smaller distributaries and other small works such as regulators. The canal officer cannot find time to make them. His business should of course be in looking after the main canals, but the people with takavi and with the assistance of a little instruction from the canal officers, can execute these smaller works. Some works of this kind were done with the advice of the Deputy Collector, which have been most successful, and many more could be effected. Only Rs. 1,700 were advanced for works connected with canals. The works now calling for attention are the extension of irrigation into the Thul and the protection of the inundated southern portion of the district by embanking out the rivers and extending the canals, and thus substituting controllable irrigation for destructive floods. An important work of this kind was executed during the year. The Kot Rata *band* was extended for seven miles south of Jatsi, and at the same time the Rattanwāh canal was lengthened to supply canal instead of flood water, and there is now sugarcane growing in land which used to have water over a man's depth running over it. The people are so alive to the advantages of this embankment and canal scheme, that they have offered to make a *band* to shut out the Chenab floods for a length of eleven miles on condition that an easy canal work is executed. This, as indeed all work connected with the canals, requires the hearty co-operation of the canal officer and Deputy Commissioner. Narain Das, tahsildar of Alipur, deserves great praise for his exertions in making embankments.

**Crops and Produce.**—The Statement (XXIX) of crops cultivated is as nearly correct as is possible. So was the corresponding statement of last year. Major Wace drew up some excellent instructions in 1880 for the patwaris' measurements, and the directions of the Financial Commissioner, contained in Book Circular I of 1881, were closely followed. No pains were spared by the tahsildars and Ghulam Murtaza, Extra Assistant Commissioner, in securing correct measurements. It was really a pleasure when checking the measurements to see how correct they were. The return was prepared under the supervision of Ghulam Murtaza, Extra Assistant Commissioner, and is as good as any Settlement one of the same kind, which is a high claim.

**Cattle.**—There are no cattle fairs in this district. The experiment of improving the breed of sheep by importing Hissar rams may now be pronounced a failure. The people do not care for animals which require care and feeding on grain. I have now tried giving rams to influential men in sheep breeding tracts. They with one exception neglected them and allowed them to die. Then I tried feeding the rams at head-quarters, and giving them for short periods, 14 days or so, to sheep-owners in the covering season. They invariably returned the ram in a dying state, or reported its death while with them. The present of a ram is considered a penalty. There are 18 rams remaining. I would not waste money on procuring others. The same remark applies to the bulls. Last year Mr. Gladstone reported that the richest man in the district had so neglected his bull that it had to be taken from him to save its life. This year another bull had similarly to be recalled, and two which had been given to zaildars died from neglect. Mian Mahbub is the honorable exception to this apathy, which is, I believe, to be accounted for by the fact that the good cattle-breeding grounds of Sindh, Bahawalpur, and Rojhan are so near, that the people find it cheaper and easier to import than breed cattle. All through the spring constant herds belonging to cattle merchants pass from the country south of this district on their way to the Punjab to be sold.

**Fisheries.**—The income from fisheries is the highest that has ever been attained,—Rs. 2,244, and for the current year the *dhands* have been leased for Rs. 2,309. The lease of Government rights is imperfectly understood. The *dhands* are depressions in the ground which fill with water in the flood season and dry in the cold weather.

The right of Government to the fishing in all *dhands* dates from the Afghan Government which preceded the Sikhs. Since the Settlement the owners of land have begun to claim the fish because they are the owners of the land. This claim should always be rejected. There is a letter by one of the early Deputy Commissioners in the English office giving a history of this monopoly. I take blame to myself for not having defined the Government rights more clearly at Settlement.

**Agricultural Advances.**—The real amount advanced was Rs. 22,685. The whole amount due for former advances was collected. There is no better means for extending agriculture and making the revenue elastic than takavi. I found difficulty in making tahsildars and Extra Assistant Commissioner take up these cases *proprio motu*, but they have begun to do so now, and should be kept at it. The people have taken to takavi freely. The tahsildars do not like it as it increases their work and responsibility, but they should be

made to be energetic about it. They were lately found to be discouraging advances for clearing jungle, though this is one of the objects for which advances may be made under Act XXVI of 1871, and is very suitable to this district, a great part of which is covered with dense jungle. Takavi may also be used to supplement the works of the Canal Department by making distributaries. The canal officer is provided with few resources here. He has either *chher* labour or *car-i-naghs*, but gets no money from Government for works. Some very useful canal cuts have been made from takavi. I found it an excellent plan to fix a date 15 days off in the order referring a takavi petition to the tahsildar for enquiry. If a date is not fixed the tahsildars make great delays. With a similar object I always gave the petition back to the petitioner to take to the tahsildar. This prevented false statements about "*adam pairrawi*." As directed by the new rules, Kazi Ghulam Murtaza made 15 and I made 22 inquiries on the spot in order to the giving of takavi during the past camping season. The Girdawari papers give great assistance in this as in every part of the revenue administration.

Thirty-eight wells, two canal cuts, and two canal regulators were finished during the year. Advances were made during the year for 109 wells, 2 canals, and two regulators.

Kazi Ghulam Murtaza and I inspected every work in our neighbourhood when in camp.

In three cases only had I to order recovery of the money in consequence of breach of the conditions on which it was given.

The period (six months) before the advance is to begin to be repaid is much too short. A poor landowner cannot arrange for the masonry and wood work of a well under a year. I think two years ought to elapse before the loan should begin to be recovered. It takes a landowner without resources a year to make a well. He should have a chance of getting some profit from it before he is called on to refund the advance. At present he has none.

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## DERAJAT DIVISION

### *Extracts from Commissioner's Report.*

(LIEUT.-COLONEL E. L. OMMANNEY).

\* \* \* **Rain-fall.**—The Deputy Commissioner of Dera Ghazi Khan remarks that the rain in his district has been mostly confined to the irrigated tracts, and that this, in addition to no rain falling in winter in the hills, has caused considerable distress in the Pachadh where the country is lying waste.

It may be that the increase of trees over the irrigated tracts of the district may divert to itself what little moisture from time to time passes over the district, which may account for less falling in the tract under the hills.

\* \* \* **Irrigation.**—The Kot Azim canal made during the year promises to be a work of great benefit, and should it to any extent relieve the burthen of constantly repairing the huge Paiwal dam, it will be a great blessing to the people. In this district the systems of irrigation as compared to Bannu with its intricate but certain supply of water, require constant and energetic supervision from the Deputy Commissioner downwards, which it has received under Major Macaulay, but no care will prevent accidents occurring in managing the hill torrent irrigation, as the failure of the Paiwal dam shows.

**Hissar Rams.**—In Dera Ismail Khan the result of breeding from Hissar rams is favorable. The produce is appreciated by sheep owners, and the breed is spreading into the Masud hills. In Dera Ghazi Khan this sheep breeding experiment is pronounced to be a failure, on account of the delicate constitution of the half bred English stock, while the sheep of the country, the *dumbah*, is well suited to the climate. I agree with the Deputy Commissioner in thinking the Dera Ghazi Khan district is too hot and dry for the half bred English sheep.

The Hissar Bulls are much appreciated, and improvement of the cattle of the district is anticipated, and a little has already been effected.

\* \* \* **Cultivation of Sugarcane.**—The cultivation of sugar in Bannu has again been resumed with increased energy, in consequence of the fall in the price of cereals. I was very much struck with the enormous extent of the crop in and around Edwardesabad. The Bhea iron sugar mills are highly appreciated, and are now, I believe, largely imported by the people themselves.

**Agricultural advances.**—In Bannu and Dera Ismail Khan only Rs. 900 and 850 were respectively advanced for wells.

In Dera Ghazi Khan Rs. 10,000 was advanced. The people in this district evidently appreciate this form of accommodation, for in this year, 1882-83, the advances in the district will come to a much larger sum. The money is recovered without difficulty. The advances appear to be properly utilized.

\* \* \* **Arboriculture.**—In Dera Ghazi Khan I have seen the eucalyptus growing, and at Fort Munro the fruit and other trees mentioned by the Deputy Commissioner grow very well in the 2 gardens on either side east and west of and below Fort Munro. I was struck by the healthy growth of the *pinus longifolia* and the deodar. From his account and what I observed in the district, Mr. Fryer evidently takes a great interest in this subject of arboriculture.

**Tours made by the Commissioner.**—On the 1st June 1881 I went down to Dera Ghazi Khan by river. On the 5th September I marched back to Dera Ismail Khan by the direct road through Sanghar. On the 31st October 1881 I left for Edwardesabad. On the 3rd January 1882, I left Edwardesabad and with the Deputy Commissioner marched through the Waziri Thal to Isakhel, Kalabagh, and Mari. I was much struck with the great extent of cultivation over the Waziri Thal and the hold that it must give the Government over the Waziri landholders, some chiefs amongst whom have got very large tracts given to them alone.

The coal seams of Kalabagh to an unprofessional eye do not appear to give promise of any great development of this industry.



*Extract from Deputy Commissioners' Reports.*

## DERA ISMAIL KHAN DISTRICT.

(MAJOR C. E. MACAULAY).

**Irrigation.**—There are no canals in this district under the Canal Department, but the following account will give some idea of the state and extent of river and hill torrent irrigation in this district during the past year.

**River inundation.**—During the flood season the river irrigation of the Bakkar tahsil was of a satisfactory character. The northern section of it was well watered up, while the southern section of it was as a rule very fairly so. The Leia tahsil suffered considerably from want of sufficient flood water to irrigate fully all its villages. Both the Puzul and the Chitta, which are the main irrigational channels in this tahsil, were short of flood water during the greater part of the season, and the water in the Puzul has fallen very low this cold weather, showing that the set of the river is still very unfavorable. I hope, however, that the several new cuts and heads made this cold weather in different parts of the Leia tahsil may secure it a better supply of flood water in the coming hot weather, and that, at all events, they may avert a further loss of revenue. At the same time it must be admitted, looking at the present course and set of the Indus, that the prospects of this tahsil are by no means as favorable as might be wished.

It is evidently passing through a cycle of bad years as regards river inundation, when strenuous efforts on the part of all concerned must be made, before it can be expected that a good supply of flood water can be secured for all its villages from the Indus. I am glad to say that the flow of the Chitta has been increasing since Christmas, so it is just possible that a favorable turn is at hand as regards the southern section of the tahsil. Many villages in the Muzaffargarh district depend on the Chitta for their irrigation.

The Dera tahsil riverain villages were all well watered up this year, and the Paharpur inundation canals worked well during the flood season. The Kulachi Nasheb lands were also well irrigated.

**Hill stream irrigation.**—The irrigation of the Gundapur *kham* tahsil lands by the Paiwal *band* failed utterly this year. No labour, no trouble seemed to have any effect in making this important embankment stand. It was repaired twice during the season, and on neither occasion stood. Consequently the Gandapur *pradu* lands have had no kharif or rabi crops to talk of. It is not improbable that the new Kot Azim canal constructed this cold weather may eventually obviate the necessity altogether of making this gigantic earthwork, which annually costs so much labour and trouble and so often fails in its purpose. A canal cut from Drig Mian Nur to Kulachi would, if fed from Kot Azim, supply all the purposes of the Paiwal, and once made would require no such annual expenditure of labour as the Paiwal now demands.

The Kot Azim canal, which is the principal new irrigational work of the year, is a deep cut of 32 feet broad through the high bank of the Gumal at Kot Azim in the Tank valley, and runs in the direction of the Drig Mian Nur marsh, where it joins the old Gumal bed. This canal will give the Dera villages of the Gumal Takwarra circle a share of every flood in the Gumal. It will also benefit Kot Zarwala Rohri, Garra Muhabbat, and Kenauri in the Candapur country. It will also bring into cultivation the waste Gandapur tract known by the name of Naskar Nihara in Rohri limits. At present it only carries about 50 *jandars* when the Gumal is down, but its supply will gradually increase, and should eventually benefit Kulachi itself, and may eventually obviate the necessity for constructing the Paiwal, which would of course occasion a great saving of labour, and also secure the Gandapur *kham* tahsil lands from frequent liability to absolute failure of harvest, to which they must always be exposed as long as they solely depend on the fate of the "Paiwal" for their irrigation.

The hill torrent irrigation of the Dera tahsil was on the whole satisfactory, the early breaking of the Paiwal gave the Sheru ilaka a good kharif harvest, which it never expects or gets if the "Paiwal" stands. Its present rabi is also a good crop. The Sangiya *band* in the Luni Guh Toa circle again broke, but not before it had irrigated for the kharif several of the villages dependent on it. The rabi prospects of this circle, however, are not good, owing to the failure of this dam, which is now re-constructed and has been in action for the last few days, and will, I trust, behave better in future.

In the Tank tahsil the water carrying capacity of the Waran canal has been much increased. It now carries 50 *jandars* of water with ease, while formerly it carried 10 with difficulty. Mr. Tucker calculated that the villages dependent on it would on an average have about 30 acres of rabi harvest to every Rs. 100 of jama assessed. This year, which has not been a favorable one owing to the absence of Christmas rains and freshes, the Waran villages have 50 acres under rabi crops to every Rs. 100 of jama fixed. Their crops are also very fine having been well and rapidly watered up from the recent freshes down the Gumal during which the Waran has been carrying from 40 to 50 *jandars* of water, and thus irrigating five times as much land as it formerly could. The condition of the Waran villages has therefore been much improved by the Makahwah canal, cut four years ago through the high bank of rock and stone at the mouth of the Gumal and by the recent widening of the "Waran."

**Fluctuating assessment.**—From the above figures it will be seen that the system has worked lately with most success in the Bakkar tahsil, and this year the result of the measurements just completed shows an increase of Rs. 2,099 in the fluctuating revenue of this tahsil over last year's figures and an excess of Rs. 3,057 over Mr. Tucker's forecast.

These satisfactory results are attributable partly to the present favorable set of the river towards the Bakkar Nasheb, especially in its northern section, and partly to the zeal and attention the tahsildar (Ghulam Muhammad) brings to bear on the subject.

During periods when the set of the river is adverse, as it is at present, to the Leia tahsil, the special attention of the tahsildar is required in the matter of opening up and clearing out all irrigational cuts in the cold weather, while much over-watering in places and under-watering in others, can be prevented by an accurate knowledge of the country and by a careful distribution of the water when the floods are out. Serious loss may ensue from a want of knowledge and firmness on the part of the tahsildar, when the time comes to gradually cut the dams above for the benefit of the villages below. Last year the most favourable floods for the Leia tahsil came somewhat out of season, and the people did not make the most of them, expecting that they would come at the usual time too, which they did not. Their floods were at no time very copious during the hot weather, but had the best been made of what they got, their irrigated area might I think have been larger than it actually proved at the end of the flood season. At the same time though the floods were not perhaps made the most of in this tahsil from their not coming at the most opportune time, I still think that the tahsildar paid considerable attention to the subject, and I trust that the efforts which have been made this cold weather to put all the irrigational channels in good working order in this tahsil, will make certain of better results this year. \* \* \* The loss this year in the Leia tahsil amounts to Rs. 3,523, as compared with the figures of the previous year, and to Rs. 11,000 in round numbers, as compared with the Settlement Officer's forecast. Both Dera and Kulachi show a steady and decided improvement. Dera is still Rs. 2,045 under Mr. Tucker's forecast, while Kulachi has already overshot it. I think the people generally like the system. I have inspected its working closely and constantly this cold weather, and, as far as I can judge, I should say the people, as a rule, are very well satisfied with it. It may possibly tend to increase the fallow, as half rates for two years are a temptation to break up new land, as soon as there is any deterioration in the old.

The new *jāmabandi* form is undoubtedly a great improvement. It simplifies and accelerates the work, and leaves no room for excuse as to the overpowering quantity of work to be done. Throughout this season the patwaris have been well abreast of their work wherever their supervision by the revenue staff was efficient. As usual Dera was behindhand. The total result of the measurements in the Bakkar, Leia and Kulachi tahsils were known to me by the 15th March, but Dera has only just completed its "*girdāwari*." In future I see no reason why all the field work should not be completed by the 10th March. The 15th December is about the earliest date that the field work can be started, as sowings go on in the Nasheb till the end of the year. But the patwari and *girdawar* know which village to commence with, and which to leave for the present on account of its sowings not being completed. The following are the points requiring the constant attention of the supervising establishment:—

1. That the result of the day's *girdawari* work be entered every evening in the *jāmabandi*, also that the pages of the *Khasra girdāwari* be totalled up regularly.
2. That the slips with the measurements of each "*khata*" on completion be promptly issued to the owners.
3. That the work of one village be fully completed before another is taken in hand.

If these precautions are carefully enforced (and the *kanungo* and *girdawar* should be punished if they are not), then opportunities for intentional error and fraud are to a great extent precluded. The Extra Assistant Commissioner should also be very careful to see that the work is done by the revenue staff generally, with the least possible fuss and with the least possible trouble to the people. There are *patwarkhandas* now in every circle, at which there is ample room for the *kanungo* and *girdawar* to put up, so that there should be no living on the people practised. Too great attention cannot be paid by the Extra Assistant Commissioner to these points, as the popularity of the system in the long run will much depend on its smooth working and freedom from the drawbacks indicated.

## DERA GHAZI KHAN DISTRICT.

(F. W. R. FRYER, ESQUIRE).

\* \* \* **Rainfall.**—The rainfall during the year under report has been a little better than that of 1880-81; still it is below the average of the past five years, which is 6.14, and strange to say, what rain there has been has been mostly in the irrigated part of the district. In the hills there has been no winter rain at all, and consequently the shepherd inhabitants of the hills are in considerable distress. The crops in the Pachádh too have mostly failed. In the Sanghar tahsil there was some rain in the hills, but it stopped short before reaching the Dera Ghazi Khan tahsil, and for the most part the Pachádh is lying waste. There is not even grass for the cattle.

\* \* \* **Irrigation.**—Of the canals owned entirely by Government, the Massuwáh worked very indifferently, running dry early in the season. The Dhundi canal failed to work satisfactorily. Of the remaining canals, which are owned by Government in a sort of partnership with the people, the Dhangana worked badly, as it has done for several years.

The Manka and Nur canals worked exceptionally well, and continued running in the cold weather.

I have been obliged to give the Irrigation Department a good deal of assistance to get the canals cleared out this year in the Dera Ghazi Khan and Jampur tahsils. The clearances seem to be commenced too late, and it is very difficult to procure labour in March and April when all agriculturists are engaged with the rabi crops. If the labour clauses of the canal Act were applied, the cost of the labour would be so great that the budget provision for canal clearances would be exhausted in clearing a few canals. If I did not assist in the clearance, the cultivators would not get the canals cleared in time for the rise of the river, and on the other hand the cultivators complain bitterly that they should be called upon to compound for canal clearance, and yet be obliged to assist themselves. They are paid for their work it is true, but they state that ordinary pay is no compensation to them for being taken away from their wells just about harvest time. Labour is then hardly procurable in the district. The Irrigation Department ought to commence clearing canals by November at the latest, and have the clearances completed by the end of March. This would appear to be quite feasible. The delay is, I believe, caused by the time it takes to procure sanction to the different estimates for clearing the canals. As the half cost of canal clearance is a fixed amount, a fixed sum might be set apart annually for canal clearance, and the work might be commenced in anticipation of sanction to the different estimates. I contemplate submitting a separate report upon this subject.

My relations with the Canal officers have been most cordial, and it is not to any objection to assist them that these remarks are due, but to the desire to see the cultivators of the district relieved from the necessity of laboring on the canals when they would prefer to labour elsewhere.

\* \* \* **Transfers of land.**—The area of the land sold amounted to 17,875 acres, valued at Rs. 1,21,514, or Rs. 6-12 per acre, against 18,395 acres, valued at Rs. 1,58,818, or Rs. 8-10 per acre, last year.

The area of land mortgaged was considerably greater than last year, and was 13,368 acres as against 11,018 acres. The assessment on these lands amounted to Rs. 5,106, and the money advanced upon them was Rs. 2,28,641, or Rs. 17 per acre.

I confess that I cannot understand these figures. It is contrary to expectation that more money should be advanced on land per acre than it will realise if sold. The average price of land sold per acre is Rs. 6-12, whilst the average amount advanced on land per acre is Rs. 17. Last year it was suggested that men mortgage their best land and sell their worst. This may be the case.

**Land acquisition.**—The quantity of land taken up for public purposes during the year was 48 acres. Of this area 39 acres were taken up for the Irrigation Department, and 9 acres for the new Police lines.

No civil suits were instituted in connection with lands taken up for public purposes. For the 40 acres taken up Rs. 4,182 were paid by Collector's award. The price to be paid for land taken up for public purposes is usually fixed by arbitrators, and in the case of land taken up for the Irrigation Department, a canal overseer is one of the arbitrators and the tahsildar another.



The average price paid for land per acre was Rs. 87. I have done all I could to buy land as cheap as possible, and have frequently reduced the prices fixed by the first award. In the case of the land taken up for the new Police lines, I fixed the price to be paid myself. It must be remembered that the average price of land sold per acre for the whole of the district includes land in the Pachadh, whereas all land bought for the Canal Department is in the irrigated belt of the district. There is besides a great difference between selling land on compulsion and selling it from private necessity. Of one thing I am certain, and that is, that the owners of land taken up would not be satisfied if less were paid them than has been done. The interests of Government have to be considered as well as those of the owners of land, but, after careful thought in each case, I have not been able to buy land cheaper than has been done.

**Agricultural advances.**—The whole of the Rs. 10,000 assigned for advances under the Land Improvement Act was taken up. Last year Rs. 7,850 were taken. The rules are simple and are fairly understood by the people. I have not found that they check applications for advances in any way. Agricultural advances to the full amount of the allotment made to the district were applied for and given. I should have asked for an increased allotment at the end of the year, had there been time, as many applications for advances were made in March after the allotment had all been assigned. Of the advances 35 were for the construction of pakka wells, 2 were for clearing jungle, and one was for the construction of a canal cut.

No special advances for the purchase of seed grain were made during the year. Of the Rs. 16,656 advanced during 1878-79 after the flood, all has been paid except Rs. 1,625 and Rs. 1,281 interest, which sums will be recovered without difficulty.

**Patwaris.**—I cannot agree with the remarks made by Mr. Thorburn in last year's report as to the inefficiency and independence of the patwaris of this district. It is true that there are a few men who have been appointed since the settlement, and whose qualifications were not tested before they were appointed, but as a rule, and this certainly applies to all the patwaris who passed through the settlement, they know their duties very thoroughly. Ghulam Farid, Extra Assistant Commissioner, who joined this district after many years passed in the settlement, and who has seen all the patwaris of the three northern tahsils, gives it as his opinion that the patwaris of this district are quite as good as those of any other district he has seen.

The neglect of the district revenue administration, commented on by Mr. Thorburn, certainly caused the patwaris to slur over their work, but so will most low-paid officials do when not properly overlooked. The fact is, that the patwaris of this district have just as much work as they can possibly do, and if they are not constantly supervised, they are sure to let their work get into arrears and do it in a slovenly manner. I have carried out the new scheme of paying patwaris by grades instead of by circles. This has decreased the number of patwaris by eleven. A patwari school has also been established from the 1st April, and a teacher appointed under the authority conveyed in the Financial Commissioner's memo. No. 5769, dated 21st August 1874. I intend that no patwari shall be appointed in future who has not passed through this school. The girdwari this year was made simultaneously with the canal measurements. I think this is an excellent plan and I had intended to have introduced it before, had I not gone on furlough. The one great desideratum now with regard to revenue administration is, that the supervising establishment required to check the patwaris should be strengthened. One kanungo and one naib kanungo per tahsil is not enough. A second naib kanungo should be added for each tahsil. I am having *patwarikhana*s built in the principal villages in each patwari's circle, and it will certainly be a great improvement when the patwaris are made to reside in their circles.

**Agricultural experiments.**—As stated last year no more experiments have been made with sorghum saccharatum. The guinea grass sown has answered excellently, and the cultivation of it has been extended largely. The white French gram did not answer well this year. It was attacked by blight. I hope there will be enough seed to grow some again next year.

The eucalyptus grows freely all over the district. There is a flourishing eucalyptus globulus tree on the top of the Fort Munro hill. It grows well there at an elevation of 6,400 feet and seems to require very little water. A plantation of eucalyptus resinifera, which suits this dry warm climate, and shisham is doing very well in the Chabri Kot Haibat rath, and there are 500 or 600 trees ready to be planted out there. The deodar and the fir do well at Fort Munro, but the plantation there have suffered from the total absence of rain during the winter months.

Manilla, Latakia and Virginia tobacco have all been grown from home-raised seed. The plant grows capitally, but there is no proper method of curing it.

A Kaisar plough has been obtained, and the results of the experiments made with it will be reported next year.

I have procured a large quantity of deodars and chil seed from the Kangra district through Mr. Gladstone, and hope to sow it at Fort Munro soon. The toon tree is doing very well in the district, and the vines at Fort Munro, Dera Ghazi Khan, and Rajanpur are all in a flourishing condition. The carob, as has been reported in previous years, grows well in this district. A small nursery now exists of plants grown from seed obtained from trees grown in the district. The mesquit also does well; several trees now exist in full bearing.

The guango or rain trees (*Pytheolobium*) has also been found to answer well. There is one in the Government garden 8 feet high, but it has not yet been observed to rain dew collected over night in a shower in the morning.

The teak has been tried, and one tree, now about 10 feet high, has weathered out the severe winters of the last three or four years.

The *Grevillea robusta* has been tried, but not with success; on the other hand the *Casuarina* has done well. Among fruit trees a good many known in Bengal and the North-Western Provinces have been introduced, such as the jack and monkey jack (*artocarpus integrifolia* and *artocarpus lacucha*), lichi (*nephelium lichi*), karunda (*karissa karundas*), custard apple (*amona squamosa*), kamrakh (*averrhoa carambola*), and some others, have been grown with a moderate amount of success.

The Bombay and Malda grafted mangos have been tried very assiduously, but have proved very delicate, only one or two trees have attained a sufficient growth to be considered to be out of danger.

## BANNU DISTRICT.

(R. UDNY, ESQUIRE).

**Canals.**—As regards District canals in the Bannu tahsil, 4 masonry heads have been built on the Landidak at an aggregate cost of Rs. 1,365, and a new head for the same canal has been dug from the Kurram, which will, it is believed, largely increase its volume of water.

**Prices.**—The prices of food grains reached their highest point in the beginning of April 1881 when troops were being massed for the Masud Expedition, and grain then for a few days was dearer than it had ever been even during the Kabul war. But the reaping of the harvest soon lowered prices; which, since the breaking up of the Expeditionary Force at the end of May, have been steadily and continuously falling. "Gur," which is a staple produce of the Bannu tahsil, has also greatly decreased in price owing partly to the extensive use of iron sugar mills and partly to a large increase in area of cultivation. During the Kabul war the high prices of food grains had induced zamindars to abandon sugarcane for cereals, but during the year under report the general fall in prices has led them to revert to old customs, and I have never before seen such a large area under sugarcane. This in fact, coupled with a cessation of external demand owing to the opening of the railway to Peshawar and also to the competition of sugar from Amritsar, has caused a glut in the Bannu market, and in January 1882 "gur" was selling at 10 or 11 sers instead of as formerly at 7 or 8 sers for the rupee.

**Fluctuating assessments.**—As I explained in my last year's report, the Indus Kachi measurements seem to have reached their worst point in the cold season of 1878-79, when they only yielded an assessment of Rs. 56,836. Since that year the revenue has been steadily increasing, as will be seen from the annexed table which gives the results for each tahsil separately:—

Season of Measurements.	Year of demand.	Amount of fluctuating Assessment Tahsil Mianwali (in rupees).	Amount of fluctuating Assessment Tahsil Isakhel, (in rupees).	Total fluctuating Assessment of Indus Kachi (in rupees).
1878-79	1879-80	40,303	16,533	56,836
1879-80	1880-81	44,298	14,103	58,401
1880-81	1881-82	47,382	18,198	65,580
1881-82	1882-83	54,876	22,345	77,221

Thus the demand was upwards of Rs. 7,000 larger for the year under report than in the previous year, and for 1882-83 it shows a further increase of nearly Rs. 12,000. A third at least (probably more) of the large increase obtained in the Mianwali tahsil from the last measurements (of 1881-82) is due to the inundation *bands* which were first proposed by Pandit Suraj Kaul, Extra Assistant Commissioner, in 1880, and were carried out by Pandit Sheo Ram, Extra Assistant Commissioner, in the spring of 1881, when he was put on special duty in the Kachi for this purpose. The number of *bands* then constructed was 12, all on the Mianwali side, in addition to several channels which had to be dug to allow the inundation streams to pass through high ground. The area which it was calculated that these *bands* &c. would inundate, was over 12,000 acres, and the area actually inundated during the flood season of 1881 did not fall far short of this, though no exact account was kept. During the cold weather just passed (1881-82) operations have been largely extended on both sides of the river, Pandit Suraj Kaul, Extra Assistant Commissioner, superintending the *bands* for the Mianwali tahsil, and Fakir Abdulla, Extra Assistant Commissioner, those for the Isakhel Kachi. On the Mianwali side the 12 *bands* erected in 1880-81 have been repaired, and 24 new *bands* (besides connecting channels) have been constructed, the most important being one which, though within the boundary of the Isakhel tahsil, is arranged to inundate the village of Madatwala in Mianwali. The result expected from these *bands* is that the area inundated from them in the flood season of 1882 will be 35,000 acres, or three times as large as during the year under report.

On the Isakhel side only 3 *bands* have been made under the supervision of Faqir Abdulah, Extra Assistant Commissioner, but one of these (within the limits of the village of Kamar Mushani) is a very large work, which, besides the *band* itself, entailed the digging of an inundation channel 3 miles long, 6 feet deep, and 82 feet wide, and is expected alone to inundate an area of 26,000 acres in the Kachi of the villages of Kamar Mushani, Mehr Shahwali, Trag, Kos Umr Khan, and Nurzaman Shahwala. As I write the *bands* on both sides of the river are acting most satisfactorily, and, though the inundations are not yet complete, they will, I believe, be quite up to the estimate. A form too has now been prescribed for reporting their actual extent &c., so that next cold weather we shall have fairly accurate statistics of the increase of revenue due to the *bands*. I think all three Extra Assistant Commissioners, whom I have named in connection with these operations, deserve the greatest credit for the energetic way they have thrown themselves into the business, and I hope their exertions may be considered to merit special acknowledgment. The whole of the earthwork &c. has been done by the zamindars themselves, who have begun to appreciate the advantages of the system, though they lacked power of initiative; and the contingent expenses have been more than covered by fines for non-attendance &c.

**Agricultural Experiments.**—Since I wrote about the Behea iron sugar mills in my report for 1879-80, about 600 more pairs of rollers have been imported, so that there are now a thousand of these mills at work in the district. The outturn from the iron mill is said to be half as large again as from the old wooden *kolhu*, besides being much cleaner; and the *kolhu* has almost disappeared, as those who cannot afford to buy mills for themselves, find it to their advantage to hire them from the Hindus, who have taken to keeping them for letting out. The credit of introducing these mills is due to my predecessor, Mr. Beckett.



# PESHAWAR DIVISION.

## *Extracts from Commissioner's Report.*

(J. G. CORDERY, ESQUIRE).

**Rainfall.**—The rainfall in Peshawar was 15·6 inches, and though more than double that of Rs. 1880-81 by 1·6 inches, the barani lands did not benefit by it. In Hazara it was good and seasonable, and amounted to 48·8 inches to 37·6 inches in the year previous. Kohat appears to have suffered: 13·9 inches only having fallen as compared with 15·3 in previous year. Unfortunately the falling-off has been continuous, resulting in loss in the unirrigated parts of the district. The condition of the Eusafzai villages is such as will probably necessitate some suspensions, unless they are more fortunate in their weather during the current year.

**District Canals.**—The Peshawar district depends on the Swat, Kabul and Bara rivers for its irrigation, and the attention of Mr. Beckett is carefully directed to the subject. The Joi Mamo aqueduct has been improved by the construction of new head-works, and a plentiful supply of water has thus been secured for Daudzai. This work was taken in hand and executed entirely through the personal influence of Mr. Beckett and the tahsildar Shah Pasand Khan, and both officers deserve much credit for it. The proposals which he now makes for an alteration of the Dag band will receive consideration during the current year. But it is to be feared that its cost will be beyond the means of the villages, which are already taxed for its maintenance in its present condition.

**Prices.**—On the whole prices of food grain have fallen, and it is hoped, now that the railway is running into Peshawar and in close proximity to Hazara and Kohat, that the increase in trade will bring about a further reduction, but it will be some time before matters will be as easy in this respect as they were before the continued droughts and the Afghan wars.

The fall in prices has been fairly steady since June 1880, as will be seen from statement XXXII. Even the slight change is satisfactory, as much distress resulted from high prices.

**Land Revenue.**—No difficulty in collection was experienced in Hazara. The state of Eusafzai I have already noted, but up to the present moment the issue of processes has not been such as to cause apprehension either there or in Kohat. The state of the balances is very satisfactory. After deducting the nominal irrecoverable and doubtful items, there will remain a mere nothing, and this speaks well for the energy of the tahsildars. Peshawar has done remarkably well, considering the balances there only some 3 or 4 years back were abnormally large.

**Government Estates.**—The area was as follows:—

Peshawar	...	...	...	1,892 acres.
Hazara	...	...	...	918,244 „
Kohat	...	...	...	141,088 „

557 and 1,53,620 acres respectively of the land in Peshawar and Hazara are under the Forest Department. It is much to be regretted that the Forest Department do not see their way to the permission on payment of fair dues of grazing over tracts where no operations, either in the way of plantation or of reboisement, are going on. The total closure of these tracts has led to a diminution of the cattle in the district, and is so unpopular with the people that it is difficult to reconcile them to the regulations really necessary for conservancy.

*Extracts from Deputy Commissioners' Reports.*

## PESHAWAR DISTRICT.

(H. B. BECKETT, ESQUIRE).

**Irrigation.**—There is no regular canal in the district. The works on the Swat river canal are being pushed on, and it is hoped water will be running in another year.

**District Canals.**—The following table shows the extent of irrigation and financial results &c :

Name of rivers and streams.	TAHSIL.	Area irrigated in 1880-81.	Area irrigated in 1881-82.	Increase.	Decrease.
Swat ...	Doab Daudzai ..	27,717	27,717	...	...
" ...	Hashtnagr ...	23,674	23,824	150	...
Kabul...	Peshawar ...	11,557	11,822	265	...
" ...	Doab Daudzai ...	36,573	36,773	200	...
" ...	Hashtnagar ...	1,131	1,131	...	...
" ...	Khalsakhatak ...	2,218	2,218	...	...
Bara ...	Peshawar ...	47,265	47,664	399	...
" ...	Khalsakhatak ...	210	210	...	...
Budhni ...	Doab Daudzai ...	2,004	2,004	...	...
Jundu...	Hashtnagar ...	309	367	58	...
	Total ...	153,399	154,471	1,072	...

The increase is due to rain in the mountains, as all these streams have their origin thence, except the Budhni, which begins at the Dagb *band*, and is fed mostly from springs and the *chikawa* of the *band*.

Great care has been taken to keep the several canals in order, to insure a sufficient supply of water and to avoid disputes amongst the zamindars. Last year there were many disputes about the Shekh Kakutta, because the water supply was insufficient.

A new head has been made to the *Joi Mamo*. This is a great engineering work. Nearly 1,100 yards of hard natural concrete had to be cut through. It was all done by the villagers under the superintendence of Shah Pasand Khan, tahsildar. After the work was complete, a dinner was given to all the Daudzai people, and there was much rejoicing as this new head will insure a plentiful supply of water to the whole of Daudzai. Last year this canal was separated from the Shekh Kakutta with much advantage, and this new head adds greatly to the water supply.

The following establishment was maintained in looking after these canals :—mirabs 3, naib mirabs 8, chaprasis 41, and muharrirs 2.

Rs. 5,656 is recovered annually from those villages that receive water, and are paid to the above establishment. A further sum of Rs. 750 is taken in advance from the zamindars for repairs to the Michini and Dag *bands*; the latter is a very troublesome place and the irrigation of Khalsa will never be secure till it is made pucca.

Succeeding Deputy Commissioners have endeavoured to arrange for this, but the enormous cost has always prevented anything being done. I would rather see a new head to the Kutta and the water taken high enough to avoid the Pir Bala ravine. If this was done, it would be possible to irrigate almost to Nawshahra.

*Statement of monies realized, expended and balance outstanding.*

	Mirabi.	Advance.	Fines.	Total.
Balance of previous year...	284	155	...	439
For year 1881-82 ...	5,656	750	1,736	8,142
Total ...	5,940	905	1,736	8,581
Realized ...	5,660	856	1,606	8,122
Balance ...	280	49	130	459
Expenditure ...	5,807	431	327	6,065
Balance in hand. ...	353	425	1,279	2,057

Rs. 327 has been paid away as compensation for land taken up for the new head of the Joi Mamo.

Besides those noticed above there are several other small streams that are managed by the zamindars themselves. The Valpani in Eusafzai is not included in these, as the bank is deep and does not allow of irrigation, except with the assistance of jhalars.

*Statement showing area irrigated.*

Names of rivers and streams.	Tahsil.	Area irrigated in 1880-81.	Area irrigated in 1881-82.	Increase.	Decrease.
Sunghair ...	Peshawar ...	2,319	2,429	110	...
Azakhel ...	Ditto ...	522	562	40	...
Shumshuttoo ...	Ditto ...	11	11	...	...
Maini ...	Utman Bolak ...	478	478	...	...
Khotah ...	Ditto ...	616	616	...	...
Topi ...	Ditto ...	262	262	...	...
Mokani ...	Yusafzai ...	156	156	...	...
Babazai ...	Ditto ...	6	6	...	...
Other streams ...	Khalsa Khattak ...	357	357	...	...
Total ...	...	4,727	4,877	150	...

**Prices.**—The rabi crops of 1882-83 is fair, the whole maiva was sown, and if rain had come in time, there would have been a splendid harvest. A great deal of seed grain was lost, but the rain, though late, benefited the land irrigated from wells enormously.

The rate of food grain &c., as compared with last year, is most favorable and is improving daily. The opening of the railway has had a most healthy effect on the market.

The same reason applies to fodder for cattle.

It was anticipated last year that by the railway coming to Peshawar the price of firewood would be increased, but up to the present the rate at which wood is selling is cheaper than it was last year.

**Alluvion and Diluvion.**—A sum of Rs. 1,000 has been spent from the District Fund in dividing the water equally between the two branches of the Kabul river above Michini. The water was all setting to the Abizai side leaving the Naguman nearly dry. Last year Rs. 500 was spent on this with advantage. The floods in the Abizai nearly ceased. This year a further improvement has been made. The river at this point requires careful watching.

**Agricultural advances.**—The advances under the Land Improvement Act during the year amount to Rs. 1,533, or Rs. 517 less than in 1880-81. This decrease is due to the application in some cases having been rejected for want of satisfactory prospects of recovery. Pathans are very glad to get advances, but generally gamble the money away. The greatest care is therefore necessary.



The 8 wells and 1 water-cut, which were reported under construction in last year's report, have been completed and inspected.

Five wells are now under construction in Eusafzai.

The balance recoverable on account of takavi advances at the close of last year was Rs. 384, which, plus Rs. 9,393 on account of the year under report, amounted to Rs. 9,777, of which Rs. 8,793 has been recovered, thus leaving a balance of Rs. 984 as per detail below :—

Rs. 100 suspended in favor of Haider Mian of Chargali, under Commissioner's No. 1,711, dated 1st May 1882.

Rs. 200 recovered in April, after the close of the financial year.

Rs. 684 is in course of realization.

## HAZARA DISTRICT.

(MAJOR C. McNEIL).

**Hissar Bulls.**—The produce of these bulls is much prized, and the cross breed has much improved the local breed. 6 more bulls were obtained from Hissar towards the close of the year and have been distributed,—2 at Abbottabad, 2 Mansehra, 1 Amb, and 1 to Haripur.

**Prices.**—High prices have still ruled throughout the year, though not so high as last year, in spite of good harvests. This is chiefly due to the brisk export of food grain and ghi towards Peshawar and Rawalpindi. Begun with the Afghan war it still continues.

**Transfers of Land.**—The people do not resort to registration in sales or mortgages of land unless where this is compulsory under the Registration Act and Rules.

Statements XXII A, XXXV and XXXV B, contain many transfers that have not been registered. The revenue and registration returns must for some years to come give very different results, for even transfers, the registration of which is compulsory, escape registration altogether, not from any intention to transgress against the law or the rules under the Act, but from simple ignorance of both. Gradually the knowledge of the benefit to both parties derived from registering transfers is becoming known, but the population is so ignorant that any knowledge spreads but slowly. Nevertheless registration is being more freely resorted to year by year.

**Oats.**—Oats were grown as usual in the Abbottabad garden, and gave good crops. Some was also sown at Haripur, and gave a good crop.

**Eucalyptus.**—The different kinds of eucalyptus thrive well, and nearly all the seed produced is sent out to other districts, enough being retained for planting in the district.

**Tallow tree.**—The tallow tree thrives here, and some seeds have been sent to other districts during the year.

**American Maple.**—Some seeds of the American sugar maple were obtained and sown in November last, but have not germinated. The remainder has been sown later, and will be remarked on next year.

**Ploughs.**—Two Kaiser ploughs were obtained from Cawnpore, one is being used in the Abbottabad gardens and one was sent to Haripur. No report has yet been received from Haripur. At Abbottabad the plough is approved by the zamindars who have seen it. The ploughs have not been in use here long.

**Sericulture.**—A man from Kangra was engaged to start work at Haripur, and seed was sent for; but unfortunately the season had passed, and the experiment has been put off to next spring.

## KOHAT DISTRICT.

(H. ST. G. TUCKER, ESQUIRE).

\* \* \* **Rainfall.**—The rainfall for 1881-82 shows a decrease of 1.4, as compared with the previous year 1880-81.

It is much below the district average for the last 5 years, which stands at 23.7.

Both the winter and summer rains were insufficient for rain crops.

The unirrigated portions of the district, especially the Khattak country and the Khwarra and Zera vallies, have suffered very much from the continued drought for the past 3 years.

\* \* \* **Crops.**—The present rabi harvest, 1882, of the Khurram and Sini *tappas* of the Khattak country has almost entirely failed, while the kharif harvest of 1881 was comparatively poor. In the remaining *tappas* (*viz.* Chauntra and Teri) the rabi and kharif harvests were hardly one-third of the average yield.

Many of the inhabitants of the Khattak country, especially those of the Khurram and Sini *tappas*, have temporarily emigrated to the Peshawar and Bannu districts, being driven away by want of food for their families and of fodder for their cattle.

On the whole the rabi of the last year, *viz.* 1881, was average throughout the district.

The kharif of the same year was comparatively poor, while the present rabi harvest though up to the average on irrigated lands, has almost entirely failed in the unirrigated parts of the district. The Khurram, Sini, and Teri *tappas* of the Khattak country having suffered the most.

\* \* \* **Coercive processes.**—415 processes as against 279 were served during the year :—

For Revenue proper	...	...	...	399
Excise	...	...	...	16
				415

Coercive processes have hitherto been issued generally against the lambardar of the village after allowing one or two days' grace for his attendance at the tahsil after the day fixed for payment of the instalment. If such lambardar attends on the day fixed or before the lapse of the period of grace at the tahsil and satisfies the tahsildar of his inability to recover the amount due from the co-proprietor, a dastak is issued against such co-proprietor, and the demand against the lambardar is then postponed.

\* \* \* **Tirni or Grazing dues.**—The dues are levied partly by enumeration, and partly by lease. The rate in force (according to enumeration) is 5 per 100 heads of goats and sheep, and 8 annas per camel head per season.

The Waziris (Khujab Khels) pay a fixed sum of Rs. 700 per annum as lease money. From this the following payments are made :—

	Rs.
Reward and pachotra to the Waziri Maliks	100
Compensation to the Maliks in whose lands the cattle graze	89
Khan of Hangu	61
Balance credited to Government	450
Total	700

The number of cattle that grazed over the jungles paying dues by enumeration was 7,472. The demand was realized in full. The area grazed over has never been measured. It is mainly situated in the Miranzai and Borakka vallies.

\* \* \* **Wood and Rakh management.**—The Khwarra and Zera jungles cover an area of about 116 square miles which is under direct management. The income is realized by sale of wood and grass at 1 anna and 2 annas per camel and 6 pies and 1 anna per bullock load, from the residents and non-residents respectively, and from grazing fees at the following rates :—

	Rs.	A.	P.
Camels	2	4	0 per annum.
Horse or buffalo	2	8	0 "
Bullock or asses	1	8	0 "
Sheep or goats	0	2	0 "

A very large quantity of wood was exported during the year to cis-Indus districts owing to the facilities afforded by the extension of the Punjab Northern State Railway to the Khushalgarh and Haji Shah termini.

# Appendix A. 1.

No. 146.—Dated Kasauli, 13th June 1882.

From—MAJOR E. G. WACE, Settlement Commissioner, Punjab

To—F. C. CHANNING, ESQUIRE, Sett. Secy. to Finl. Commr., Punjab.

SIR,

I have the honor to submit the annual reports for the year ending 31st March 1882. The Office of Settlement Commissioner has been held by me during the whole year. The Simla Settlement has been commenced, and that of the Una tahsil and the Forest Settlement of the Jhelum district have been completed during the year under report. With these exceptions the districts under Settlement are the same as those of the previous year.

## JHELUM FOREST SETTLEMENT.

Mr. Thomson, the Forest Settlement Officer, was absent on leave in England from May to October. During the remaining 5 months of the year he carried out the orders on the Rakhs of the Chakwal and Tallagang tahsils; and also practically completed the Forest Settlement of the Pind Dadan Khan tahsil. To this last remark there are a few petty exceptions which are detailed in his report, and which I will see are not overlooked. But there is one considerable exception, viz. the 4 Salt Rakhs of Makhiala, Kusak, Daudal, and Dalwal. These are the Rakhs in which the principal Salt mines are situate or immediately adjacent thereto. I do not myself think that Forest operations are necessary in these Rakhs; and they would probably be impracticable owing to the salt traffic. Mr. Thomson's report on these Rakhs was, however, received only in January and February, and the Officiating Conservator of Forests (Major Bailey) and myself agreed that the decision of the course to be pursued as regards these Rakhs, ought to lie over till next cold season, when they will be inspected carefully by the Conservator of Forests. Mr. Thomson was completely employed up to the end of the cold season in the work above detailed; and consequently the Forest Settlement of the Khushab tahsil still remains to be done. On this subject I will address you shortly. That of Rawalpindi, with which it was originally intended to entrust Mr. Thomson, has been made over to the Settlement Officers of that district; and Mr. Thomson has now been transferred to the Karnal-Amballa Settlement.

3. I subjoin a table showing the result of the Forest Settlement for the whole district, similar to that given in para. 6 of my last year's report for tahsil Jhelum.

1	2	3	4	5	6
TAHSIL.	DESCRIPTION.	BEFORE FOREST SETTLEMENT		AFTER COMPLETION OF FOREST SETTLEMENT.	
		Rakhs.	Acres.	Rakhs.	Acres.
JHELUM.	In charge of the Forest Department ... ..	22	1,07,621	10	86,791
	In charge of the Deputy Commissioner ... ..	8	8,500	8	11,396
	Demarcations cancelled in whole or in part ... ..	...	...	...	17,934
	TOTAL ... ..	30	1,16,121	18	1,16,121
CHAKWAL.	In charge of the Forest Department ... ..	6	26,560	3	14,595
	In charge of the Deputy Commissioner ... ..	11	11,660	10	29,688
	Demarcations cancelled in whole or in part ... ..	...	...	...	3,957
	TOTAL ... ..	17	38,220	13	38,220
TALLAGANG.	In charge of the Forest Department ... ..	2	28,522	3	26,677
	In charge of the Deputy Commissioner ... ..	27	26,342	18	15,920
	Demarcations cancelled in whole or in part ... ..	...	...	...	13,267
	TOTAL ... ..	29	54,864	21	54,864



## Appendix A. 2.

1	2	3	4	5	6
TAHSIL.	DESCRIPTION.	BEFORE FOREST SETTLEMENT.		AFTER COMPLETION OF FOREST SETTLEMENT.	
		Rakhs.	Acres.	Rakhs.	Acres.
PIND DADAN KHAN.	In charge of the Forest Department ... ..	15	93,562	13	65,108
	In charge of the Deputy Commissioner ... ..	...	...	5	21,763
	Demarcations cancelled in whole or in part ... ..	...	...	...	6,691
	4 Salt Rakhs on which orders have not yet been passed, at present in charge of the Forest Department ... ..	4	26,657	4	26,657
	TOTAL ... ..	19	1,20,219	22	1,20,219
TOTAL DISTRICT.	In charge of the Forest Department ... ..	45	2,56,265	29	1,92,571
	In charge of the Deputy Commissioner ... ..	46	46,502	41	68,767
	Demarcations cancelled in whole or in part ... ..	...	...	...	41,829
	4 Salt Rakhs on which orders have not yet been passed, at present in charge of the Forest Department ... ..	4	26,657	4	26,657
	TOTAL ... ..	95	3,29,424	74	3,29,424

The total cash compensation paid for the expropriation of rights is Rs. 1,365, and the net revenue assessed on land restored to villages is Rs. 1,172 per annum.

The entire cost of the Forest Settlement of the four tahsils of the Jhelum district has been Rupees 9,722, rather more than half of this in the year under report, and the rest in the previous year. The work has been laborious, and Mr. Thomson deserves credit for his exertions, for his success, and for his clear and complete reports. The detailed reports of the Pind Dadan Khan tahsil and the final report of the whole work will be forwarded shortly.

### LUDHIANA SETTLEMENT.

Mr. Walker has continued in charge throughout the year. The case work, Civil and Revenue, is light, though consequent on attestation and Maafi work it was larger than last year. The pending file is very small. As regards progress in attestation and fairing, I quote the Settlement Officer's report, paras. 6 and 7. I am entirely satisfied with the progress made :—

"At the close of last year there remained  $\frac{1}{3}$ rd of the Munsarims,  $\frac{1}{2}$  of the Deputy Superintendents, and  $\frac{2}{3}$ rd of the Superintendents' attestation. This stage has taken a long time to complete, because we have been carrying on the work of fairing at the same time. The Munsarims' attestation being finished, it was necessary to put the establishment on the work of fairing; and it is useless to do anything of this stage unless the Patwaris and Munsarims are thoroughly supervised from the commencement, and the Superintendents and Deputy Superintendents had therefore to divide their time between office work and attestation. The time of the Superintendents was taken up with other work also, principally assessments, and in Samrala, distribution; so that their attestation was delayed more than that of the Deputy Superintendents.

"Thus although the Munsarims' attestation was all over early in the year, that of the Superintendents and Deputy Superintendents has been going on for the greater part of it, and a few villages are still remaining to be done by the Superintendents.

"On the other hand the Patwaris' copy of the Record has been fairied in most villages. Until the assessments have been distributed and the Khewat entries made, no progress can be shown under this head. The following statement will give some idea of the work actually done :—

TAHSIL.	VILLAGES.			
	Total No.	Fairing completed.	Passed by	
			Munsarims.	Dy. Supdts.
Samrala ... ..	279	259	185	135
Ludhiana ... ..	295	240	216	171
Isakhwal ... ..	158	92	60	34
Jagraon ... ..	177	62	55	31
Total ... ..	909	653	516	371

"Fairing of the Government copy of the Record also has been started in tahsils Samrala and Ludhiana, and some progress has been made."

5. The past year has also shown great progress in assessment work. I forwarded the report on the new rates of the Samrala tahsil on the 12th August, 1881; the Financial Commissioner's orders were received on the 13th October, 1881; the assessments were announced and put into operation in December. I marched through the tahsil in the beginning of March, and found the people well satisfied with the new assessments. There was only one appeal. The list of village assessments was submitted to the Financial Commissioner at the close of the year and sanctioned by him on the 22nd April, 1882; and since then Statement G, incorporating the same into the fixed rent roll, has been forwarded. The result is a net increase of Rs. 34,124 per annum.

Of the rest of the district, tahsil Ludhiana, including the Pakhowal charge, and tahsil Jagraon, I received the Settlement Officer's reports on the new rates on the 1st September, 1881, and the 28th November, 1881, and forwarded them to you on the 8th March, 1882. If we receive orders on these reports shortly, as no doubt we shall, the new assessments of these two tahsils will be enforced from the coming kharif; and Settlement operations will be completed by the end of the current official year. The Settlement Officer's account of the way the new Khewats have been made is interesting, and is as follows:—

"The work of 'Tafrik,' or distribution of the revenue on holdings, was commenced in Samrala by 15th December. I could not recommend the postponement of the new assessments for another year; and on the other hand it was impossible to complete the new Khewats before the last kharif instalment. The payment of the new jama has therefore been postponed till the rabi; and we have thus been able to do the work of distribution without hurry. This was very desirable as it was new to all of us.

"The procedure adopted has been—*first*, to fix the method of distribution (by shares, soils, &c.), either with the consent of the sharers, or by order in case of a dispute; *secondly*, the rough Khewats were worked out in the office; and *thirdly*, the distribution was announced to each sharer. In 119 villages the new distribution had been completed and announced by the end of March, and the whole work is likely to be done by the middle of May. Each sharer will be informed of the amount that he has hitherto paid, what he will pay annually for the future, and what he has to pay in this rabi instalment.

"The modes of distribution adopted are—

	Method of distribution.	No. of villages.
(i)	By shares (Halsari) ... ..	72
(ii)	By an all round rate on cultivation ... ..	60
(iii)	By soil rates, irrigated and unirrigated ... ..	90
(iv)	By differential soil rates ... ..	30
(v)	Undecided... ..	27

"Our assessment soil rates have not been much used. The disputes as to classification would have been endless, and would have concerned almost every field. Irrigated and unirrigated rates have generally been adopted by common consent.

• • "Further details on this subject would be out of place in an annual report."

Satisfactory management and progress of work.

6. The management and progress of this Settlement has been satisfactory throughout.

#### HOSHIARPUR SETTLEMENT.

No change in officers.

7. Captain Montgomery and the other officers of this Settlement, have been continued unchanged during the past year.

Case work.

8. As remarked last year, the case work of this Settlement is much heavier than that of the adjacent Settlement, 1301 Civil suits and 151 appeals were decided during the year, being more than double the corresponding figures of the previous year.

## Appendix A. 4.

I quote the Settlement Officer's remarks on this subject, in continuation of what I said myself in para 10 of last year's report. I may add that we do our best with, on the whole, very fair success, to induce the parties in rent cases to come to an amicable agreement :—

"The judicial work was heavier this year than last, and it will continue increasing. The increase has been specially marked in Una, where all the 787 suits for enhancement of rent were instituted, and there is no doubt that immediately the new assessments are announced in the other 3 tahsils, our Courts will be flooded with an immense number of suits of the same nature. The proprietors are only awaiting the announcement of the new jamas to bring their claims forward.

"The great majority of occupancy tenants all over the district have hitherto paid only nominal rents, viz., at revenue rates plus 10 or 12 per cent. on the revenue as malikana. The ruling cash rents in the plain tahsils are now so high that it will be difficult to avoid decreeing the proprietors a rent in which the malikana will amount to 200 or 300 per cent. on the Government revenue, and I fear the already strained relations between landlords and tenants will become worse.

"Ghulam Farid, the Superintendent of Una, was (unfortunately for this Settlement) transferred just when his local knowledge would have been of great value in the decision of the Una rent suits. His cases have been made over to the Extra Assistant Settlement officer, Mohamad Mirza Azim Beg, who has disposed of a large number, and has succeeded in getting the people to compromise a good many cases. The revenue cases have again been numerous, especially in the Una tahsil, where 1246 have been disposed of during the year.

"The appellate work has naturally been heavier, and 151 Civil appeals were disposed of, of which 115 were decided by me; only 2 appeals were pending at the end of the year."

9. In para 11 of my last year's report, I stated the progress made in each tahsil. The Settlement Officer gives a brief account of what has been done in each tahsil in the year now under report, which I give below in extenso :—

"In Una sanction to the new assessments was received in the end of July, and these had been announced to all the villages by the beginning of August. The number of villages being large (653), the work of internal distribution involved much labor, and Superintendent Ghulam Farid (now officiating Extra Assistant Commissioner) exerted himself to get the work done as speedily and as accurately as possible. I think the work has been done on the whole with great care, and I have not hesitated in some cases to cancel a distribution which had been carried out and entered in the new records, where I thought that the people had been unaware, when deciding the principles on which they would pay their revenue, of the result of their distribution. The detailed assessments were sent up for sanction and received back from the Financial Commissioner in February 1882. You thought it necessary to alter my assessments in the case of 18 villages. Since then 62 villages have petitioned for reduction either to you or to the Commissioner of the division, but all the petitions have been disallowed.

"The work of fairing has been now completed, and the new records are being deposited in the Record-room. The Una establishment is beginning to leave for the Amballa-Karnal Settlement, and by the end of this month all will have gone. The Settlement of this tahsil may be said to have taken about 3 years (as anticipated by the Financial Commissioner). It began in January, 1879, and 4 months must be deducted from the subsequent time for census operations.

"At the end of last year I reported that the checking of field areas was then going on in the Hoshiarpur tahsil, and the preparation of the assessment returns was about to commence. This work took much longer than I anticipated. The Hoshiarpur establishment was sent out to do attestation in the beginning of August, but had to be recalled to head-quarters in October to collect some fresh statistics required for the assessment report. The Patwaris again went out in December, and soon after that had to do the crop girdawari of two harvests. In consequence of these breaks, the attestation work is not so far advanced as it might otherwise have been. By the end of the year, the following number of villages had been completed in each stage :

"Attestation by Patwaris, 462; Munsarims, 319; Deputy Superintendents, 180; Superintendents, 84. Those Patwaris that have finished their circles have now commenced fairing work. When attestation was first begun, I increased the number of Munsarims in Hoshiarpur to an average of one to every 6 Patwaris. But I do not think this was a good plan, and have again reduced them to the normal number. I began also by continuing an assistant for each Patwari, as had been done during measurements, but at your suggestion I have discharged all the Moharrirs, and only Hindi-writing Patwaris and a few others with exceptionally large circles, have been allowed Assistants. The assessment report of the Hoshiarpur tahsil was submitted to you in the end of January 1882.



"In Garhshankar the remaining villages (78) had their field maps finished, and the work went through the same stages as in Hoshiarpur, viz, checking of field areas, preparation of assessment statistics, girdawaris of two harvests and attestation. The attestation in this Tahsil has been completed as below.

"Number of villages of which attestation has been finished by Patwaris, 244 ; Munsarims, 145 ; Deputy Superintendents, 81 ; Superintendents, 10. Mr. Kensington has inspected all the villages of this Tahsil, and is now engaged in writing his Assessment report, which will be submitted to you shortly.

"The progress in the Dasuya tahsil has also been much the same as in Garhshankar. The field maps of 262 villages were finished in the beginning of the year, and the following number of villages has been attested by Patwaris, 242 ; Munsarims, 134 ; Deputy Superintendents, 74 ; Superintendents, 15. I have during this winter inspected all the villages of this tahsil for assessment purposes, and hope to be able to send up the Revenue rates report during this quarter.

"The Superintendent Natha Ram has lately recorded for every village irrigated by the Sháh Nahr, the rules to be followed in future on the canal, and he has been able by reason of his local knowledge and the consideration with which he is regarded, to get the people to agree amicably to all the proposals without any disputes."

10. I spent about 30 days in the district at the end of December and beginning of January. I think that the work of all 4 tahsils has been very good, especially that of Una. The Una village assessments and Khewats were very difficult, and great pains were spent on them. So far as I can judge, the whole has been done with great fairness. The result has been to add Rs. 36,997 to the Government fixed rent-roll ; but of this Rs. 1,968 will be given in inams to headmen ; and another proposal to alienate Rs. 4,310 as inams to Talukdars, who will agree to convert their Talukdari dues from a share of the produce to a fixed cash sum, is also under consideration.

The zaildars of this tahsil are now for the first time after 12 years of unpaid work, receiving the usual allowances attached to their office. Work in the Una tahsil has been completely finished. The progress in the other three tahsils has, I think, been equally satisfactory. The assessment work, owing to the extent to which the village areas have been effected by *chos*, is exceedingly difficult, and the attempt to work this out carefully for each village (which I considered under the circumstances to be of the first importance), has added much to the labour of preparing the assessment papers. The report on the proposed rates of the Hoshiarpur tahsil reached me on the 25th January, 1882. I hope to forward it very shortly. And the Rate reports of the other two tahsils are also shortly expected. The attestation is being done carefully and with sufficient rapidity ; in the Hoshiarpur tahsil about half of this stage has been got through, and in the other tahsils about a quarter ; and if we are successful in pushing forward the reports on the assessment rates, we hope to introduce the new assessment from the current kharif. The work needs much care ; for the holdings are often very small, the rate of assessment is high, and the *chos* have much altered the areas of many villages. But I am satisfied that all these matters are being duly attended to by Captain Montgomery and Mr. Kensington, and by the Tahsil Superintendents.

#### SIRSA SETTLEMENT.

11. Mr. Wilson has been in charge as before, excepting  $8\frac{1}{2}$  months, July to October when he was absent on duty in the Punjab Secretariat, the Deputy Officers in charge. Commissioner, Mr. Trafford, carrying on the duties of the Settlement in his place.

12. As regards case work, 1,179 Civil suits were decided during the year, and 366 remained pending. These are with few exceptions disputes between landlords and tenants.

Similarly of 2,909 Revenue cases, 1882 were notices of ejectment served on tenants. The Civil suits have all been decided by Extra Assistant Settlement officer Gobind Sahai. The work has been well done by him, and the cases have usually been investigated at or near

## Appendix A. G.

the village concerned. The Settlement Officer observes correctly that perhaps the pending file would have been smaller, if the investigations had been less complete. But the work has been very well done, and has stood the test of appeal well.

13. With reference to para 16 of my last year's report, during this year the Punjab Relations between Government decided not to propose any modification of the Punjab landlords and tenants. Tenancy Act on behalf of the tenant class of the Sirsa district. On this subject the Settlement Officer makes the following remarks :—

"In November the orders of the Lieutenant Governor were received on the report submitted in 1880 on the Tenancy question in this district, and I took the opportunity of the gathering of zemindars to hear the assessments announced, to make it generally known that it had been decided not to ask for any alteration in the Tenancy Act of 1868 in favor of the Sirsa district. During the early part of the year before attestation commenced, the dispute between landlord and tenant was greater than ever. In last year's ejectment season, that is up to 15th April, 1881, the notices of ejectment were served through the Settlement Courts, and up to 9th March, 1882, all cases under the Tenancy Act were instituted in the Settlement Courts. In the ejectment season of 1880 the number of notices served was 1296, a number larger than in any former year, and 780 of these were contested by Civil suits. In 1881 the number of notices served rose to 1882, and of these no fewer than 1072 were contested by Civil suits. During the year 786 of these suits were decided, 558 being given in favor of the landlord and 228 in favor of the tenant; and tenants were ejected from 9,566 acres after dismissal of their suits. Since last ejectment season, however, the right of each tenant regarding every field in his holding has been investigated at attestation, and he and his landlord have been told what their respective rights are under the Tenancy Act, and how they will be recorded in the new Settlement record. The numerous cases decided all over the district during the last few years form precedents of general application. The parties are now getting to know their respective rights, and the hopes and fears excited by the approach of Settlement operations are becoming allayed. Things are finding their natural level. In many cases in which a suit brought to contest a notice of ejectment has been decided in favor of the landlord, he has been content with having established his right to eject, and has left the tenant in possession of the land at a higher rent, or at a kind, instead of a cash rent. At attestation also in very many cases the landlord has consented that his tenant, whose rights have hitherto been only those of a tenant-at-will, should be recorded as an occupancy tenant of the land he holds. In most of such cases the proprietor has taken a money price from the tenant for the occupancy right, or made him agree to pay a higher rent than before. In others it is an acknowledgment of the tenant's moral right, or a measure intended to attach the tenants more closely to the land. The Superintendent's estimate that occupancy rights have in this way been granted at attestation in 10 per cent. of the land formerly held without rights of occupancy. I understand that the number of notices of ejectment now being served through the tahsils is much smaller than during the last few years, and that the litigation between landlord and tenant is likely to show a marked diminution."

He has since furnished the following statistics concerning the ejectments of 1881 and 1882 and previous years :—

1881.						1882.			No of villages concerned.
TAHSILs.	No. of EJECTMENT NOTICES FILED.			No. of EJECTMENT NOTICES FILED.					
	Before 31st March 1881	From 1st March to 15th April 1881.	Total 1881.	Before 31st March 1882.	From 1st March to 15th April 1882.	Total 1882.			
Sirsa	...	...	1252	1252	...	421	421	55	
Dabwali	...	46	334	380	13	177	190	53	
Fazilka	...	...	250	250	...	311	311	49	
Total of District	...	46	1836	1882	13	909	922	157	

"The number of ejectment notices served during the past six years is as follows :—

Year.	No. of notices.	Year.	No of notices.
1877 ... ..	417	1880	1296
1878 ... ..	366	1881	1882
1879 ... ..	1031	1882	922



"So that although the number served this year is only half the number of last year, it is still much higher than the number annually served before Settlement operations began."

I give the Settlement Officer's remarks and information in full. But my own impression is that it is too soon to judge of the effects of a decision so recently announced. It is moreover to be judged, not so much by the extent to which the tenants may oppose it or acquiesce in it, as by the effect it will have on their status and prosperity. These are points on which our judgment ought to be formed only after the lapse of some interval. Meantime, it is no doubt matter for congratulation, that the owners display a more liberal desire to grant occupancy rights to the tenantry, than would be suggested by a strict adherence to the legal definitions of the Tenancy Act.

14. The work of the year has been the checking of the measurement returns, attestation, and fairing; and finally, assessment, announcements, and Khewats. The Settlement Officer's remarks on the first three subjects are as follows:—

"At the beginning of the year under report, measurements were all but complete. The measurement files have all been checked, the maps fairied and mounted, and the boundaries and areas all compared with those of the Revenue survey and passed. I have already submitted a separate report on the result of the comparison. It has enabled us to correct 36 mistakes in the boundary maps, 29 mistakes in the total area, and 20 mistakes in the cultivated area returned by the Patwaris. Few of these mistakes were serious ones, likely to injure any individual appreciably. The boundary maps made by the Patwaris seemed on the whole remarkably correct. The difference in the total areas of the district as returned by the Revenue and the Settlement survey was only one in a thousand. Of the 652 villages in the district, the total areas of 451, as returned by the Patwaris, are within one per cent of the Revenue survey areas; in 604 villages the difference is within 2 per cent, and there are only 20 cases in which the difference is greater than 3 per cent. So far then as the comparison of boundaries and areas with those of the Revenue survey can show, it seems that our measurements are correct for all practical purposes in a district where land is of so little value as it is in Sirsa.

"Attestation was commenced soon after the beginning of the year. In tahsil Dabwali it has been completed, the Munsarims, Deputy Superintendents, and Superintendent having attested every holding, adjusted the rights and rents of tenants, and prepared the Administration papers. In the Fazilka tahsil, the Munsarims and Deputy Superintendents have completed the attestation of every holding, but the Superintendent has still 69 of the 294 villages to attest: in the others the work of attestation is complete. In tahsil Sirsa the Munsarims have still 4 villages to attest, the Deputy Superintendents 14, and the Superintendent 47. In this Tahsil the work was comparatively heavy, and attestation was delayed by the necessity of making a careful *girdawari* of the Ghaggar villages in the kharif, in order that if necessary the fluctuating assessments of the kharif might be founded on the results of that *girdawari*. Work was delayed too in the autumn by fever, which prostrated a number of the establishment of the Sirsa tahsil. For the whole district then attestation is completed in 535 of the 652 villages, and in all but 14 of the remainder only the Superintendents' share of the attestation remains to be done. This will probably be completed by the 15th of May. The attestation work was done by the Patwaris, Munsarims and Deputy Superintendents at the village itself, and by the Superintendent at or near the village, so that as little trouble as possible was caused to the villagers, and very few were absent from attestation. The Superintendent at the same time that he attested the disputed entries in the record of holdings, adjusted the rights of the tenants, passing an order regarding each occupancy tenant as to the section and clause of the Tenancy Act under which he was to be classed; and he also attested the Administration paper which had been prepared in the rough by the Munsarim. The attestation work, though not completed so soon as I anticipated, has been done with satisfactory speed. I have from time to time checked the work done by the different grades, and have in every case in which a petitioner thought himself aggrieved by the Superintendent's order at attestation, sent for the attestation file and passed orders myself regarding the disputed entry. I have had very few such petitions presented to me, and in almost every case I have upheld the Superintendent's order. I am satisfied that the rights of the different parties have at attestation been carefully enquired into, and that the orders passed have been in accordance with rule and with the facts of the case. The people too express themselves generally satisfied that their rights have been thoroughly investigated and properly recorded.

"Of the 652 villages the Patwaris' copy of the Settlement record has been fairied and checked for 383 villages, the Government copy has been fairied and checked for 263, the final proceeding has been drawn up for 205, some 500 records have been bound, the Superintendent has examined and passed 68, and copies of Statements of holdings have been prepared for 144. Besides these files entered as complete, a large number have been fairied, wholly or partially, but not yet checked; so that the fairing work is much further advanced than is shown by these figures."



## Appendix A. 8.

15. The assessments were announced during the cold season commencing in October, and the numerous cash rents of the tenants were adjusted at the same time by agreement, that is to say, by summary award of the Settlement Officer, both owners and tenants being willing that the matter should be so treated rather than referred to adjudication by Civil suit. The assessments have not yet been announced in those villages where it is proposed to introduce a fluctuating system, but the result of the whole re-assessment of the district is thus estimated by the Settlement Officer :—

“In stating the Land Revenue of the District, I have taken the assessments actually announced in those villages in which the assessments will be fixed, which amount to Rs. 2,09,103, and in those villages in which the assessments will probably be fluctuating and have not yet been announced, I have estimated the Land Revenue at Rs. 74,735, the sum which would be announced if the assessments were fixed for those villages also. The total Land Revenue has thus been increased from Rs. 1,93,928 to Rs. 2,83,838, or by 47 per cent, and the Khalsa revenue from Rs. 1,76,596 to Rs. 2,63,863, or by Rs. 87,267 instead of the Rs. 60,000 which was estimated as the increase of revenue likely to result from the revision of assessment. The total Land Revenue now falls on the cultivated and fallow area at Rs. 0-4-3 per acre, instead of Rs. 0-3-0, the former rate.”

There have been no appeals against either the village assessments or the village Khewats, and the summary re-adjustment of rents, which in every instance was carried out by the Settlement Officer himself, has been accepted without reserve or objection of any kind. This is due, no doubt, as suggested by Mr. Wilson, to the care which he spent on the subject, and to the circumstance that the revenue and rents, even as revised, are still extremely light.

16. At the close of the year only some six months' work remained to be done ; of which the most important is the introduction of the fluctuating assessments on the Ghaggar and Sulej. This matter is before Government. The improvement of the Patwaris has gone on during the year, and a suitable system of crop inspections has been devised and introduced. The Settlement Officer estimates that his operations will be closed by December, 1882 ; but work will really be finished and the establishment be transferred to the Karnal-Amballa Settlement by September next. I feel sure that Government will recognise the skill with which the Settlement of this backward and lightly assessed tract has been expedited, to the benefit both of the people and of the State's exchequer. I spent 18 days in the district at the end of October.

## JULLUNDUR DISTRICT.

17. Mr. Purser has continued in charge throughout the year. The case work is light as before. The work of the year has been field measurements, which were almost completed by its close. The work may, I think, be justly described as of an unprecedented character in this respect, that we have at length an instance of a district, in which the field measurements have been done solely by Patwaris, the work being throughout thoroughly sound and good. For this reason I think Mr. Purser's report is exceptionally valuable, and quote at length so much as describes the field work of the year :—

“During this period we have been occupied chiefly in measurement work. April 1881 was spent in finishing most of the boundary work and in miscellaneous business, though a beginning was made in Phillour and Jalandhar of the field measurements. In May boundary work was completed everywhere, and field work started in the other tahsils. Since then the field measurements have gone on steadily, and by the end of March two tahsils, Phillour and Nawanshahr, had been completed. Nakodar will be done by the middle of May, and Jalandhar a month later ; a few odd villages may remain, but I hope not. Besides this work we copied all the field maps in Nawanshahr and 3rds of them in Phillour ; wrote the “Khasra Girdawari” in Nawanshahr, and 4ths of it in Phillour.

“The total area measured during the year has been—7,32,222 acres, 14,23,303 fields.

“The average out-turn per diem for each chain has been  $6\frac{3}{4}$  acres,  $13\frac{1}{2}$  fields. But as my way of calculating this has been unfavorable to us, 7 acres and 14 fields may fairly be taken as the average. I have omitted April 1881 entirely, as only 2,767 acres were measured during that month. I have taken the average out-turn for each Deputy Superintendent on his total

number of chains, whether at work or not, for each week, added these averages together, divided by the number of weeks, and then by seven to get the daily average. I omitted the last week of Phillour and Nawanshahr. But if a chain began work on Saturday, it would be shown in the average as at work the whole week. And of course, an allowance of only one week at the end is very little, as long before that many chains have stopped: so it will easily be seen I have not been liberal. Otherwise every day has been included, Sundays, holidays, and the time spent in crop registration, and the 10 days to a fortnight during which work was stopped on account of constant rain in August.

"No excuses are needed in respect of what has been done. But it is only due to my establishment to point out the causes that prevented a larger out-turn. It was from the first laid down that the Patwaris were to do the mapping. So almost all our men had to be taught. There are upwards of 380 Patwaris and their 'Naibs.' We began with 252 chains, of which some 220 had Patwaris as mappers. So that when these men had done a village, we had to teach a second batch of three quarter this number. Then we began work in May when the hot weather had well set in; the rains were unusually prolonged and continuous; the season was a most sickly one, and there was an unusually large area under cane; while the fogs in January were most remarkably dense and prolonged. As to the rains they hampered our work so, that I thought it advisable to stop measurements altogether at the beginning of August. This lost us ten days in Phillour and Nawanshahr and a fortnight in the other tahsils. We had to stop work for months in several villages in the Bet on account of river inundation, and go back to them when the floods subsided. This of course meant loss of time. The out-turn has steadily improved, till it rose to an average per diem in March 1882

of 12 acres, 23½ fields in Nakodar,  
11½ " 22½ " in Jalandhar.

We also prepared all the preliminary papers except in 39 villages. What this means can be easily understood when I state that the annual papers show some 282,000 holdings, and that there are about 25,000 wells in the district. We have used up some 100 gaddis of Fard Badr. And except in Phillour the papers have been steadily filed as measurements were completed. There are no arrears of incomplete files. In Phillour, owing to the great number of large villages in which it was necessary to have two chains, there were 13 villages unfiled at the end of the year. But this is surprisingly few. I do not doubt that superior authority will readily admit that we have not been idle during the past year.

"Next as to the quality of the work. In measurements the main points to be looked to, in my opinion, are the accuracy of chaining the field boundaries, the correct entry of the names of the proprietors and tenants, and of soils, and after that the neatness and accuracy of the maps. The chaining is very good in Phillour and Nakodar, and fair in the other Tahsils. Proprietors and tenants would appear to be almost invariably correctly recorded. As to soils I see no reason to doubt they were recorded as stated by the chief men of the village. The maps are very accurate and fairly neat. Remarkably neat indeed, if the difficulties under which they were made are considered: inexperienced Patwaris working in a May and June sun, dust-laden winds, rain and fog. Many clean well-drawn maps have been dirtied by the map-mounters. The extremely small size of the fields causes a longer time to be spent over each sheet, and naturally makes it more difficult to keep the sheet clean than would be the case where the fields are larger. Our maps will bear comparison with any I have seen elsewhere.

"Most of the mapping has been done by Patwaris. We never had more than one professional Amin in six chains. And I think it may be accepted that 85 per cent of the Patwaris are now trained mappers. About 10 per cent more know how to map and have done some work, and about 5 per cent have been exempted. Practically, it has been shown that professional Amins are no longer needed in any large numbers; but that Patwaris can do measurements accurately, neatly, and with reasonable speed. Except in the finish of their work Amins are inferior to Patwaris. They are more inaccurate and careless. They have no permanent post to lose and so are more independent. And, of course, having no local knowledge they are more liable to blunder from ignorance. In the long run they do not turn out more work than an average Patwari. Here I felt quite independent of Amins and got rid of every man at once, who did not come up to my standard. But some of them gave a great deal of trouble. At the end of two years we have now a thoroughly trained staff of not less than 700 men with what is the most difficult part of Settlement work behind them, accustomed to strict discipline, confident in themselves, and I hope, gradually learning that the Settlement Officer is not such a fiend as they thought fifteen months ago. The money taken from them formerly in fines is now going back to them in rewards, while their pay has been permanently raised about 28 per cent. But if one resolves to work with Patwaris one must make up one's mind to a year's slave-driving,—for it is nothing else,—with all its demoralizing effects. Probably hereafter our supervising staff and the Patwaris themselves will resign themselves to their fate more readily than they did here, and by preliminary training the Patwaris may be rough-hewn before the Settlement begins, and work may be



## Appendix A. 10.

started early in the cold weather, and not, as here, at the end of it, as regards boundary work, and in the hot weather as regards field measurements, but in no case need the Settlement Officer look for any thing but vexation and disappointment during the first year with Patwaris, and unless possessed of considerable physical powers of endurance and tenacity of purpose, he may find the task too much for him.

"The plan of last year's working was to get two Tahsils done, so that the assessment returns of them might be prepared during the hot weather of 1882. The Tahsils selected were Phillour and Nawanshahr, as work was more advanced in them and they were the smallest, so that we might reasonably hope to finish them. I thought I could not get good work done at the commencement if I put more than six chains under each Munsarim. This gave 258 chains, but we began with only 252. The Superintendent of Nawanshahr had no previous experience in measurements and was not to be relied on, so I gave him a strong establishment of 4 Deputy Superintendents, 14 Munsarims and 81 chains. The other Superintendents had the following establishment:—

	<i>Dy. Supdts.</i>				<i>Munsarims.</i>				<i>Chains.</i>	
Phillour	...	...	3	...	...	11	...	...	66	
Jullundur	...	...	3	...	...	10	...	...	58	
Nakodar	...	...	2	...	...	8	...	...	47	

"By the end of August I was able to send one Deputy Superintendent and 3 Munsarims from Nawanshahr to Nakodar, the 4 Kanungos were employed as Munsarims, and the staff raised to 297 chains, and gradually higher and higher till we had 388 chains at work in March. Every effort was made to lay a good foundation and not to increase the establishment beyond what could be managed successfully. The Settlement has been completely under control, so that litches, which will occur, were at once removed. So far our plans have been carried out, though to enable this to be done it was necessary to obtain an advance of Rs. 10,000 from Purga Fees. For the coming year the scheme of work will be somewhat of this nature for Phillour and Nawanshahr—

- 1st quarter—passing Maps and areas ;
- 2nd „ —preparation of Assessment returns ;
- 3rd „ —attestation (Patwaris) ;
- 4th „ —fairing ( Do. ).

Nakodar and Jalandhar will be about 3 months behind, but on the same lines. But as yet I have had no time to work out details. At least two Assessment Reports will be submitted this year. I have visited three Tahsils and about  $\frac{1}{2}$  of Jalandhar, the fourth."

I have not attempted to abbreviate the above account ; because it would in the first place be difficult to do so ; and in the next place the attempt would injure its value as an example of the practicability of getting better field measurements from the Patwari agency than is possible by employing paid Amins. It should always be remembered that an Amin can map, but he can usually do little else, and is absolutely without local knowledge. And it is easier to teach the Patwari to map, than to give to an Amin the local knowledge and personal responsibility which the Patwaris possess. It will be seen from Mr. Purser's accounts, both this year's and that of the previous year, that his main difficulty lay in the utter absence of any previous habits of discipline in the Patwari agency. Now this is a difficulty which will disappear if the Patwaris are properly supervised during the currency of the Settlement lease. Habits of discipline and accuracy cannot be established among any of the lower grades of our officials, except by the force of continuous supervision. The present faults of the Patwaris are nothing more than the faults of a class who have great temptations to misconduct, and who are in the great majority of years very laxly supervised. I hope I shall not be understood as advocating their treatment with severity. The remedy required is not severity, but that they should be habitually, continuously, and efficiently supervised. When this is seen to, the result will be to reduce Settlement work by half and to make the remaining half much easier, than it is now.

I feel sure that Mr. Purser's success will receive the recognition it deserves.



## RAWALPINDI SETTLEMENT.

18. Mr. Steedman has been in charge throughout the year. Mr. Robertson, Assistant Settlement Officer, joined on the 7th February, 1882, and is in charge of the Murree and Kahuta Tahsils. The services of Mr. Scott, Revenue Surveyor, were also placed at Mr. Steedman's disposal with effect from 13th December, 1881; and he has given us much assistance in laying out the limits of the Reserved Forests of the Kahuta Tahsil.

19. The case work, both Civil and Revenue, is somewhat heavy; 824 civil suits were decided; and 4,367 Revenue cases. The pending files are very small. The Revenue cases are likely to be fewer next year.

20. The Settlement commenced nominally in October 1880. But up to the commencement of the year under report, the Establishment was completely employed in census work. The year 1881-82 is, therefore, practically the first year of Settlement operations. As in Jalandhar, the Settlement Officer has set his face firmly to have the work done by the Patwaris alone. His method of procedure is not quite the same as Mr. Purser's, but his difficulties are identical. As I think it of great importance that what we are doing should be understood, I transcribe below paras 6-15 of his report:—

“At the commencement of the year the boundary maps of 24 villages had been completed. During the year the maps of 1,524 villages have been completed. Stage I is complete in the 5 plain Tahsils. In Murree no boundary maps will be prepared, nor in the north-east portion of Kahuta where the country is of the same character as Murree. This tract contains the 126 villages shown as remaining to complete. In short, the boundary maps of all villages for which boundary maps will be prepared, have been prepared.

“The different Tahsils were finished in the order given below:—

Name of Tahsils: Attock. Pindigheb, Fattahjang; Gujar Khan,—Rawalpindi.

Month: January; February; March.

“The whole of the boundary mapping was done by the Patwaris with the exception of 86 villages detailed below:—

Tahsils: Rawalpindi; Attock; Kahuta; Fattahjang; Pindigheb; Gujar Khan.

Villages: 17 6 34 5 12. 2

“The 34 villages of Kahuta are contained in the circles of 4 Patwaris, with whom Amins have been associated, the Patwaris, owing to old age, being unable to do measurements. For the same reason, the boundary maps of 17 villages in Rawalpindi have been mapped by two Amins, of 6 villages in Attock by two Amins, of 5 villages in Fattahjang by one Amin, of 12 villages in Pindigheb by 6 Amins, and of 12 villages in Gujar Khan by 5 Amins. No Amin was appointed except by my order, and in every instance the utmost was done to teach the Patwari. I think that to have mapped 1,524 villages by Patwaris and only 86 by Amins is a creditable piece of work. Only 20 Patwaris have been given Amins. No Patwari under 40 have been allowed an Amin. If he would not or could not be taught, he has been dismissed. As far as my inspections went I found the thakbast work good, but the Forest demarcation work made a terrible hole in the camping season. I do not think that when orders were passed directing me to do the Forest demarcation work, it could have been realised what a heavy charge the Settlement of this District is, and how difficult it is to get about from one chain to another in a country so intersected with ravines and broken ground as this District is. I have no reason to doubt the general accuracy of the boundary maps. The Extra Assistant Settlement Officer says that they are good, and he has seen more of the work than any one else.”

## Appendix A, 12.

"The statement below shows the number of Patwaris who have been dismissed or have retired since the commencement of Settlement operations. Death vacancies have been extraordinarily few :-

TASIL.	Dismissed.	Resigned.	Total.	REASON OF DISMISSAL OR RESIGNATION.			NEW APPOINTMENTS.			REMARKS.
				Inefficiency.	Absence without leave.	Other causes.	Sons or relatives.	Others.	Total.	
Rawalpindi ... ..	15	3	18	8	4	6	6	12	18	
Attock ... ..	10	1	11	3	4	4	5	8	13	Two death vacancies.
Kahuta and Murree ... ..	5	3	8	2	...	6	3	5	8	
Pindigheb ... ..	13	1	14	11	1	2	7	6	13	One circle vacant.
Gujar Khan ... ..	3	21	24	23	...	1	13	11	24	
Fattehjang ... ..	10	4	14	5	...	9	4	8	12	Two circles vacant.
District ... ..	56	33	89	52	9	28	38	50	88	

"There are 296 Patwaris in the District, so 30 per cent of the old Patwaris were dismissed or resigned to escape dismissal, the respective percentages being 19 and 11. The 21 Gujar Khan Patwaris who resigned were either utterly inefficient or sent in their resignations to escape direct dismissal.

"It may be thought that too great severity has been exercised in dismissing Patwaris and in occasioning their resignations, and to this the answer is that dismissal is the only punishment that a Patwari cares for. Small fines he simply laughs at. Stopping his pay until he turns out good work has a little effect, especially where the Munsarim looks after the Patwari and makes him work, or at all events go out to his work. But it is by dismissals and by them only that any discipline and subordination can be kept up. The greater portion of my work since the Settlement commenced has been to look after the Patwaris. Every man was given a fair chance of learning his work. No man was ever dismissed for inefficiency or laziness until I had myself heard what he had to say. There is no use in disguising the fact, which is this, that until the Settlement Officer has really terrified his Patwaris, until they have actually realised as a certain fact that if they do not do their work they will be dismissed, he will never get a fair amount of work out of them. In malingering, in finding excuses for leave, and in shirking, they are perfect adepts. A man goes away on leave and nothing will bring him back except an intimation that if he does not return on a certain day he will be dismissed. There are numbers of Patwaris who I am sure would not only gladly forfeit their pay but even pay their own substitutes to work for them until the Settlement is finished, rather than be taught and work themselves. With such men what punishment except dismissal can possibly do any good?

"With the exception of a few men appointed before March 1881, the utmost care has been taken in selecting the new Patwaris. I am sorry to say that two young fellows who had passed the Middle school examination could not be taught measurements and had to be dismissed; but, as a rule, all young men who had received a fair education and were in all other respects fitted for the post of Patwari, except that they did not know measurements, have learnt measurements quickly. Two Patwari examinations were held in August and October, and a third has just been held. In the first two 141 candidates and Patwaris were examined and 148 in the third. There has been an enormous improvement in the examinees' papers in this last examination. I hope when the results have been got out that I shall be able to insist on the Khasra Nawises being appointed solely from those who have passed. I have been able to appoint a few good men to Patwaris' vacancies who had served in other Settlements, but usually a man who can measure can do nothing else, cannot do the simplest sum in arithmetic, nor write any but the simplest words correctly; and conversely a good Moharrir knows nothing whatever about measurements.

"The inefficiency of the old Patwaris is due to two reasons. 1st, the Kanungos and Naib-Kanungos almost all have numerous relations among the Patwaris, and cannot insist upon their relations doing their work properly. Secondly, the Patwaris' examination has hitherto been a perfect farce. It has not kept out the most inefficient and ignorant men who had obtained their places in hereditary succession. I would strongly advise any Settlement