



No.  $\frac{75}{1-362}$  of 1895.

FROM

JOHN HOOPER, Esq., C.S.,

SECRETARY TO THE BOARD OF REVENUE,

N.-W. PROVINCES AND OUDH,

To

THE CHIEF SECRETARY TO GOVERNMENT,

N.-W. PROVINCES AND OUDH,

REVENUE DEPARTMENT.

*Dated Allahabad, the 21st January 1895.*

SIR,

*Present:*  
Hon'ble A. Cadell.

I AM directed to submit, with a review by the Commissioner (Mr. F. N. Wright), the final report on the settlement of the Jhānsi district prepared by Messrs. Impey and Meston. The circumstances in which a joint report was written under the supervision of Mr. Impey, the officer responsible for the assessment, are explained in the preface.

2. It was decided in 1887 that a cadastral survey should be undertaken as the basis of the resettlement, and traverse operations were at once commenced in advance. In October 1888, the district was declared to be under settlement, and the detailed survey began in the following December. Mr. Impey took charge as Settlement Officer in October 1889. With the assistance of Mr. Meston he completed the assessment by the beginning of the hot weather of 1892, when he left the district. Mr. Meston, who succeeded him as Settlement Officer, brought the operation to an end, and the settlement was formally notified as closed with effect from the 31st January 1893. The report bears date the 1st July following. It was expected, when the survey was started, that the settlement would be finished a year earlier, in time for the new assessments to take effect in 1891 when the former settlement expired; but the survey could not be carried out as rapidly as was anticipated, and the new revenue was not collected till the year 1892-93. Exclusive of the time occupied in the compilation of the final report, the survey and settlement were completed in rather less than four and a half years.

3. The tract covered by the operations and dealt with in the report is the Jhānsi district as it stood before the amalgamation with it of what is now the Lalitpur subdivision, and after the exchange of territory with the State of Gwalior effected in 1886. Its total area, including Government forest, and excluding the two estates of Gursarai and Kakarbai, which are held on the special tenure known as *ubāri* and did not come under settlement, is 1,494 square miles.

In a review which is intended to place briefly before the Government the methods and results of the settlement, it is needless to repeat the description and history of the district which are given in the introductory sections of the report. Almost all is summed up when it is said that Jhānsi is a part of Bundelkhand, with its characteristic soils and no less characteristic people. The district, like the rest of the country to which it belongs, is peculiarly liable to seasonal calamities. No part of it is secure from drought, and in the richer lands a heavy rainfall encourages the growth of *kāns*, the pestilent weed that turns flourishing villages into a wilderness. It is sparsely inhabited by a rude and simple people, who are, for the most part, careless and slovenly as cultivators, and thriftless and unenterprising as proprietors, with neither means nor energy to contend with their disadvantages of soil and climate.

The fiscal history of the district given in Chapter II of the report is mainly an account of the administrative difficulties and the distress caused by adverse seasons, the growth of káns, and the indebtedness of the landed classes. The revenue assessment at the last settlement is admitted to have been light, if somewhat uneven; but the settlement was followed by a succession of disastrous years, which tried it severely and threatened to break it down. In the earlier years of the settlement Jhánsi was visited by famine and a murrain among cattle. These calamities were followed by an invasion of káns, which covered the best land of the district, and was not stayed until the drought of 1877-78. The rest of the term of settlement has been a period of comparative prosperity, but recently there has been a distinct revival of káns in some parts of the district. The weed began to reappear in 1887, and its growth has since been fostered by a series of unsuitable rainy seasons.

Famine, cattle-disease and the spread of káns increased, though they did not originate, the embarrassments of the landed classes; and reduced a large proportion of the proprietors to the state of destitution and servitude to the money-lender described in the special reports submitted in 1877,\* for the relief of which the Encumbered Estates Act of 1882 was passed. Mr. Impey gives a full account of the working of this Act, with a resumé of the various opinions that have been expressed regarding its results (paragraphs 102-111). Some good has undoubtedly been effected; the burden of old debts has been considerably lightened; but it is to be feared that the permanent benefit will be small. The special legislation undertaken on their behalf is reported not to have influenced the character and habits of the people to any appreciable extent. The more improvident classes are as ready to incur debt, and as careless about repayment, as before. The right of permanent transfer has been described as the root of the evil of indebtedness in Jhánsi; but it may be doubted whether the financial condition of the landlords would materially improve, if they were deprived of the power of selling their estates. Mr. Impey's remarks on this point (paragraph 112) merit consideration. In the villages acquired from Gwalior, where sale was not possible, the zamíndárs were found to be as bankrupt as those in the older territory; and in ubári estates, where the penalty of a full assessment on transfer acts as a bar to sale, the ubáridárs are often in a state of bondage to the money-lenders, who are the real though not the ostensible proprietors. The problem of indebtedness in Jhánsi cannot be completely solved by special legislation, or by revoking what has been called "the fatal gift of proprietary right." More is to be hoped from the gradual development of the district; which, with a fair assessment and firm but considerate revenue administration, may encourage the growth of habits of economy and thrift.

4. In the circumstances sketched above, the statistics of revenue collections and balances, coercive processes and transfers, which are as usual given in the report, lose their interest. As the Commissioner states in paragraph 31 of his review, it is useless to refer, in a district like Jhánsi, to these ordinarily recognized tests of the success or otherwise of a settlement. All that need be noted, in concluding these remarks on the fiscal history of the district, is that, during the settlement that has expired, the loss of revenue from remissions and temporary reductions (not always judicious or timely) amounted to nearly six lakhs of rupees; that the revenue roll was permanently reduced by some Rs. 6,000; that over a fifth of the total district area was sold outright, and that probably 46 per cent. of the land was, at one time or another, under mortgage (paragraphs 123 and 134). These figures, while not to be taken as indicating that the assessment was severe, are a startling illustration of the remarks made above on the condition of the district during the earlier years of the past settlement,<sup>9</sup> and the indebtedness of the proprietors.

5. The present condition of the district, as compared with that at the last settlement, can be described in a few sentences. Although an exact statistical comparison cannot be made, it is clear that there has been a serious contraction of tillage. According

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\* Quoted in paragraph 29 of Mr. Impey's report.



to the returns, the cultivated area has fallen in the old territory from 392,401 acres to 355,629 acres, and the total cultivation in the new and old territory combined is still below that of the last settlement in the old territory alone (paragraph 149). In irrigation there has been some improvement. Irrigation works have been constructed by the State, and a number of new wells have been sunk by the people. The returns of the new survey show a decrease in the wet area, but they only give the area actually irrigated in a particular year, and somewhat understate it (paragraph 154). There is reason to believe that, instead of a falling off, there has been a general extension of irrigation. The *rabi* crops now cover a larger proportion of the land under tillage than they formerly did. This is attributed to the concentration of the cultivators' energies on the good *rabi* producing soils, and the abandonment for one reason or other of the fluctuating *kharif* land (paragraph 156); but changes of this kind in Bundelkhand have often been found to be due to accident of season, and to be very temporary. The *rabi* area is now larger than at last settlement, and would, no doubt, have been larger still but for the occupation of much fertile *rabi* land by *kans*. On the other hand, the cultivation of *al*, which was very profitable when the plant was in demand as a dye, has greatly declined, and the loss of this crop, which brought so much money and such careful cultivation in its train, must in this district as in Hamirpur in recent years have proved a serious blow to the villages affected. The increase in the population during the decade 1881-1891 is approximately 7.21 per cent.; but this has barely made up for the losses from emigration and disease during the periods of agricultural depression, and the population is much the same as it was thirty years ago (paragraph 158). It cannot be said that, so far, there has been any very material progress. Jhansi is still, as it always has been, a backward and precarious district. But it is better provided with the means of improvement than it was at the last settlement; and it is advancing, although progress is slow. The railway has been introduced, and other communications have been improved; trade has been fostered; and the burden of debt that weighed upon the landed classes has, for the time at any rate, been lightened. If only the seasons are favourable, the district has a better chance of prosperity than it ever had before.

6. The price of agricultural produce has risen in Jhansi, as in the country generally; but it may be doubted whether the nature and extent of the alteration in values are fully brought out by the statistics given in the report, which refer to the period from 1861-1892. If these figures only are examined, the rise seems to have taken place in 1886, the year the district was opened out by the railway, when, after a steady fall, prices suddenly went up 15 to 20 per cent. (paragraph 157). It is probable, however, that, as in other districts, the change in values began much earlier; and that the effect of the recent introduction of the railway in Jhansi has been to steady prices, and keep them at a high level which till recently promised to be permanent, rather than to revolutionize them. The figures for the early years of the expired settlement seem to show that the period of high prices had then set in; and there is little doubt that the causes, which soon after the Mutiny brought about an appreciation in the value of produce in other parts of the provinces, operated in Jhansi also, though perhaps not so powerfully as in more advanced and less isolated districts. What the figures really show is fluctuating prices with a high average in the earlier years of the past settlement; a fall in the succeeding period of reviving prosperity; and then, when the influence of the railway began to be felt, a sudden recovery, which brought up prices to the level of the former high average, and kept them there with, till lately, tendency to a further rise.

Rents also have risen; but, owing to the economic condition of the district, the rise has been very gradual; and the alteration in the value of produce does not seem as yet to have had its full effect.

The movement in rents during the past settlement is examined in section B of III of the report, where an interesting account is given of the relative position

of the proprietors and the different classes of tenants, and of the rental system which has resulted. Except where a foreign element has been introduced by the sale of estates, the agricultural community consists of four classes—(1) the proprietors, (2) members of the same family or brotherhood as the proprietors holding as occupancy tenants with special privileges, or the tradition of them; (3) the ordinary occupancy tenants, and, (4) the tenants-at-will. All alike have sprung from the old cultivating class. The creation of proprietary right lifted one family of the villagers above the rest; but among a conservative people the influence of the old system, under which the village headman merely collected the rents from his fellows on behalf of the State, is still strong; and the line of distinction between landlords and tenants is far less sharply drawn in Jhānsi than in the older parts of the province. The distinction was still less clear at the former settlement, when proprietary rights were of recent date. The proprietors had not then fully realized their new position, and the difference between rent and revenue was scarcely understood. The cultivating tenures of the landlords and tenants were practically on much the same footing. All the cultivated land was recorded as rented at the same rates, mostly the old Mahratta rent-rates, or at lump rents derived from those rates. The rents of the occupancy tenants were considered to be fixed for the term of settlement like the revenue of the village. In some cases the revenue, with an addition for cesses and village expenses, was simply distributed over the cultivated area by what is known as the *dhāra* rate, and the landlords only received the same profits as their tenants.

During the past thirty years, the relations between landlords and tenants have undergone little material alteration, a fact which is to a great extent accounted for by the sparseness of the population. As has often been said, in Jhānsi the competition is not for land but for tenants. No attempt has been made to check the growth of occupancy right; little or no direct enhancement of rent has been made; and proprietors and tenants are still recorded in the rentrolls as assessed at very similar rates. In these circumstances, it is not surprising that, as will be noted below, the introduction of the railway has had little effect on the rentals. Still, while the landlords have not exercised their legal powers of enhancement or ostensibly altered the traditional rent-rates, they have gradually increased the rents by more or less indirect methods. In the villages where the *dhāra* system prevails the rate has been raised by largely increasing the amount distributed over the land for village expenses. In other cases rents have been converted or readjusted, and apparently the opportunity has been taken to slightly raise them at the same time. The rents paid by a rate on the area have been changed into lump rents; additions have been made on account of new land taken up by the tenants; or, while the rate has been nominally maintained, it has been applied to a reduced bigba. The average increase in the incidence of the recorded rents for the different classes of holdings is shown in the following table, abstracted from that in paragraph 177 of the report. The figures refer to the old territory only:—

Class of holding.	Rate per acre.		Percentage of increase.
	Former settle- ment.	Present settle- ment.	
	Rs. a. p.	Rs. a. p.	
Sir ... ..	2 1 3	2 12 2	32.83
Khudkāsht ... ..	1 11 1	2 7 9	46.77
Total proprietors' cultivation ...	2 0 0	2 9 9	30.47
Ex-proprietary tenants ... ..	...	2 9 9	...
Occupancy tenants ... ..	2 7 4	2 11 7	10.81
Non-occupancy tenants ... ..	2 3 1	2 11 10	24.94
Total tenants' cultivation* ...	2 5 2	2 12 8	17.49

\* The rates and percentage for total tenants' cultivation here given differ from those in the report, as the Settlement Officer has included rent-free land in the area on which his calculation is made.

Some portion of the increase of 17·49 per cent. in the average rent rate of tenants' land is probably apparent only, being due, as the Commissioner points out (paragraph 40), to the exclusion, at the present settlement, of non-rented fallow attached to holdings from the area on which the incidence has been calculated. There is little difference between the incidences on the different tenures, but the occupancy and non-occupancy rents are not in reality quite so similar as the average rates would show, as the occupancy tenants hold the better land (paragraph 178). The rise has naturally been far larger in the non-occupancy than in the occupancy rate; and, as Mr. Impey remarks, there was greater actual equality in rents at the last settlement (when the tenant-at-will rate was the lower of the two) than there is now.\*

The rise in the average rent-rate cannot be attributed, except in a very limited degree, to extension of irrigation or other improvements; and Mr. Impey assigns as the sole cause the increase that has taken place in the value of agricultural produce (paragraph 181). If the rise, or rather the recovery, in prices, which took place in 1886 on the introduction of the railway, is referred to, this appears to have had little or no effect on the rentrolls, as the only increase in the average rental incidence since then is in that of the settlement year, and this is shown to be mainly the result of the greater accuracy of the settlement record (paragraph 179). But, as has been said at the beginning of this paragraph, in Jhānsi as in other districts the alteration in the value of produce probably began long before 1886; and the extent of the change is by no means fully represented by the rise of 15 or 20 per cent. in that year. There can be little doubt that a rise in the average rent-rate of, at the most, 17·49 per cent. is more than justified by the increase in produce values since the time when the rents, on which the former settlement was based, were fixed.

7. This brief sketch of the condition of the district may be completed by the insertion of the comparative statistics of cultivation, irrigation and tenures, to which reference has been made in previous paragraphs. The cultivated and irrigated areas are given below:—

Past settlement (old territory only).		Present settlement.			Percentage of decrease in old territory.
		Old territory.	New territory.	Total.	
	Acres.	Acres.	Acres.	Acres.	
Irrigated ...	21,536	19,059	4,438	23,497	11·5
Unirrigated ...	371,865	336,570	25,743	362,313	9·5
Total ...	393,401	355,629	30,181	385,810	9·6

The areas under the different tenures can be compared in the old territory only. These are shown in the following table, which does not include grain-rented lands:—

Class of holding.					Former settle- ment.	Present settlement.	Percentage of increase or decrease.
					Acres.	Acres.	
Sir ...	...	...	...	...	115,378	90,320	-21·72
Khudkásht ...	...	...	...	...	31,135	46,424	+49·11
Total owners' cultivation					146,513	136,744	-6·67
Ex-proprietary tenants	...	...	...	...	...	5,666	...
Occupancy tenants	...	...	...	...	114,259	110,020	-3·71
Tenants-at-will	...	...	...	...	119,848	95,374	-20·42
Rent-free ...	...	...	...	...	14,108	10,434	-26·01
Total tenants' cultivation					248,210	221,494	-10·76
GRAND TOTAL					394,723	358,238	-9·24

\* For the entire district, including the new territory, the tenant-at-will rate is still the lower of the two. See the table at the beginning of paragraph 15 below.



The irrigation is chiefly from wells. The Betwa canal, which has been constructed since the last settlement as a protective work against drought, is scarcely used as yet for irrigation in the Jhānsi district. The lakes and tanks, on which much money has been spent, are of great benefit as storage reservoirs, and by their indirect action in fertilizing the country in their neighbourhood; but the area directly irrigated from them is not considerable, and the supply fails in years of drought. The contraction of tillage since the last settlement has already been noticed. The railway has not stimulated the extension of cultivation. On the contrary, its effect, so far, has been to encourage pastoral at the expense of agricultural pursuits by giving facilities for the export of ghi, and thus increasing the profits of dairy-farming. Besides the above, two other points which require prominent notice are brought out by the statistics. The first is the very low proportion of the land of the district that is now cultivated. The land under tillage is returned at only 50 per cent. of the assessable area exclusive of groves, and 42 per cent. of the total area. The margin of fallow allowed by the new assessment is thus very large, and this is a very necessary feature in a Bundelkhand settlement. The second point is the comparative stability of cultivation produced by the protected tenures. The occupancy tenants are rightly described as the mainstay of the agriculture of the district. They have clung to their lands, and kept them under the plough, when ordinary tenants would have abandoned them; and the decrease in the occupancy area is only some 4,000 acres, or about 11 per cent. of the total area that has gone out of cultivation since the last settlement. The occupancy tenants now hold 30.7 per cent. of the total rented area, against 28.9 per cent. at the former settlement. The growth of the tenure has given rise to no litigation or disturbance of agricultural relations; and it is clear that it has been an unmixed benefit to the people and the district.

8. The next section of the report (chapter IV) deals with the operations of survey and settlement. A traverse was first made by professional agency at the small cost of Rs. 12-10-10 per square mile (paragraph 185). Meanwhile the patwāris were put through a course of instruction in the professional methods of survey, and were then required to make the field maps of their villages, and to write up the new records. The system of cadastral survey by patwāri agency, which was introduced by Colonel Sandeman, the Deputy Superintendent in charge of the operations, with the threefold object of reducing cost, of saving the people from the extortions of amīns, and of improving the land records staff of the district, was carried out with remarkable success considering the difficulties that the survey officers had to contend with. The results of the system as regards economy were very satisfactory. The cost to the State of the field survey and the records prepared under the superintendence of the Survey Department was Rs. 59,516, or Rs. 41-4-8 per square mile (paragraph 191). The mileage rate exceeded the estimate because of the small area covered by the operations, by which the proportionate expenditure on superintendence was increased; but it will be admitted to be very moderate. The other objects of the scheme were less completely attained. The time available for the completion of the survey was limited; the circles of some of the patwāris were very large; the mapping of the hilly tracts and broken country was exceptionally difficult; and, more than all, the patwāris were particularly ignorant and unwilling to work. Notwithstanding every effort on the part of the survey officers progress at first was slow; and, as has been said already, it was found impossible to work up to the programme that had been framed. In order that the work might be completed in a reasonable time, it became necessary to employ amīns in the larger circles and more difficult tracts, and as substitutes for the incompetent and lazy patwāris. The record work, also, could not be entirely done by patwāri agency. Outsiders had to be employed in the place of the incompetent men, and of those who, though otherwise competent, were unable to write legibly. Mr. Impey estimates that about 30 per cent. of the entire map and record work was done by others than patwāris and their representatives; and that the cost of the substitutes entertained at the expense of the patwāris who were unable or

unwilling to work themselves was approximately Rs. 7,600\* (paragraph 193). The survey made is described as excellent. In one tahsíl—Jhānsi—owing to the difficult nature of the country, the maps were found to be less satisfactory than elsewhere; but the defects noticed in paragraph 192 of the report are of a minor character, and the Commissioner is not justified in stating (paragraph 42) that they comprise almost everything that could make a map inaccurate and useless. In a field survey the essential point is that the fields should be correctly delineated, and the Settlement Officer nowhere suggests that this was not done. As Mr. Impey remarks, the district has been supplied at a small cost with correct maps which are guaranteed to be up to the professional standard; and the advantage in economy and accuracy of the Jhānsi system is clear. If the expectation that outside agency would be altogether dispensed with, and that the entire body of patwāris and kanūngos would be turned into competent surveyors, has not been completely fulfilled, it should be remembered that a new experiment could scarcely have been tried in a district where the conditions were more unfavourable. Colonel Sandeman certainly deserves to be congratulated on the results of his work. He has shown what could be done with the most unpromising material; and has led the way in the introduction of a system of survey by patwāri agency which, in all its main features, it has now been decided to adopt for the province generally.

9. The subject of the future maintenance of the maps and records is not directly connected with the settlement; but it is of such importance that the Settlement Officer has rightly referred to it in his report (paragraphs 195 and 196). The main point is that the patwāris and kanūngos who have learnt surveying should not be allowed to forget their training; that the incompetent men should be got rid of; and that their successors should receive thoroughly practical instruction. The Collector (Mr. Jackson) has paid special attention to these matters. A reallocation of circles has been made; steps have been taken to improve the patwāri school; and the teaching and supervising staff, on which the efficiency of the patwāris mainly depends, will be put through a course of survey in Lalitpur, where field work is about to commence in anticipation of settlement.

10. The maps and records prepared under survey superintendence were taken to the villages by the Deputy Collector, who read out and explained the entries to the assembled villagers, attested the records and decided disputes. For sufficient reasons, which are explained in paragraph 199 of the report, extract slips from the rentrolls were not distributed to the people as was done in some other districts; but special care seems to have been taken to obtain a complete verification of the papers. The Deputy Collectors were enjoined to visit each village; to take every possible measure for securing the attendance of all the parties concerned; and to make sure, before finally attesting them as correct, that the new records were thoroughly understood. Lastly the work of the attesting officers was examined on the spot and tested from time to time by the Settlement Officer and his Assistant. From the records, thus attested, the rentrolls on which the assessment was based were prepared.

11. The assessment operations, which have next to be examined, were from first to last under the control of a single responsible officer, with the result that they were characterized by a satisfactory uniformity in plan and execution. The same system was followed in every detail by both the assessing officers, and both kept the same standard of assessment before them.

The assessment was made in accordance with what are now the recognized principles of assessment in the provinces, being based as far as possible on the recorded rents;

	Rs.
* i. e., for survey ... ..	3,500
" khānāpurī ... ..	2,000
" fairing records ... ..	2,100
Total ... ..	7,600



and, for the areas for which rents had to be assumed, on valuations by rates derived from actuals. The areas which could be assessed on their recorded rents, and the assumption areas which the Settlement Officer had to value by rates, are given in the following table, which is taken from the returns finally accepted by the Settlement Officer after correction for holdings that had been improperly classified (Appendix IX) :—

					Acres.	Percentage on total area.
Occupancy and ex-proprietary tenants at cash rents	...	...	...	...	122,298	31
Tenants-at-will at cash rents	...	...	...	...	107,701	28
Total cash-rented area					229,999	59
Sir cultivated by proprietors	...	...	...	...	83,222	21
Other sir and khudkásht	...	...	...	...	59,837	15
Graia-rented	...	...	...	...	1,328	1
Rent-free and nominally rented	...	...	...	...	15,874	4
Total assumption area					160,261	41
GRAND TOTAL					*390,260	100

The assumption area amounts to a little more than two-fifths of the total. For the purpose of assessing this, as well as for comparing the recorded rentals of the cash-rented area with one another, the soils were classified, the villages were grouped into assessment circles, and differential soil rates were deduced in the manner prescribed by the settlement rules. The soil classification followed the natural distinctions recognized in Bundelkhand of *már*, *kábar*, *parua* and *rákar*, the last named soil being subdivided into *moti* and *patri*. These varieties are too well known to need description; but it will be of interest to note the proportions of the better and inferior soils in the different tahsils and in the district.—

Soils.		Percentages in				
		Mau.	Moth.	Jhānsi.	Garotha.	Entire district.
Better soils.	Black soils— <i>már</i> and <i>kábar</i> ...	66·34	70·84	21·41	78·63	57·45
	Light soil— <i>parua</i> ...	22·88	21·05	19·34	12·36	19·21
	Alluvial soil— <i>tari</i> ...	...	...	2·08	...	·58
	Total ...	89·22	91·89	42·83	90·99	77·24
Inferior soil.	<i>Rákar</i> ...	10·78	8·11	57·17	9·01	22·76

The black soils greatly preponderate everywhere except in the Jhānsi tahsil, where the new territory acquired from Gwalior largely consists of the worst soil of all, the stony detritus known as *rákar patri*. In this tahsil only was *tari*, the moist land in the neighbourhood of rivers and tanks, classed as a separate soil. The classification, which was made by the Survey Department, is reported to have been generally satisfactory; and it was examined and corrected where necessary by the assessing officers at inspection (para. 68). It was certainly the appropriate one for the district; and it may be accepted as having been made with sufficient accuracy for all the purposes of assessment.

\* This includes 4,450 acres rented fallow. See paragraph 14 below.



12. For the village classification the country was first divided according to the prevalence of the natural soils, into black soil tracts, parua tracts and rákar tracts. Within these soil tracts, the villages were grouped into assessment circles mainly with reference to their rental incidences. As the Settlement Officer says (paragraph 206) consideration was also paid to natural advantages; but no attempt was made to secure apparent uniformity of classification at the expense of disregarding the actual rentals. If, as was generally the case, the rental was found to be adequate and genuine, the village was classed accordingly. It was only when the assessing officer had decided to reject the rents as inadequate or fraudulent that the classification was made irrespective of them. The testing of the correctness of the declared rents by the assessing officer was thus antecedent to and independent of the village classification; and the chief use of the assessment circles was to bring together groups of villages to which the same set of rates could be applied for the purposes of correcting the rentrolls. In the result the classification gave assessment circles fairly homogeneous in character, composed of villages with similar natural advantages as well as with similar rents. As the Commissioner remarks (para. 51) the information given in the table on page 116 of the report justifies the grading of the circles as far as can be judged by statistics; and the detailed description of the different circles given in the tahsíl assessment reports shows clearly that they had distinctive natural features. Most of the circles form fairly continuous tracts, and they generally follow the natural configuration of the country. This means that the Settlement Officer was not mistaken in accepting the recorded rents as generally correct and fair, and as affording the surest indication of the assessable value of villages. Mr. Kaye, the Member through whose hands the assessments passed, knew the district, and he considered the village classification to have been thoroughly well done.

13. The inquiries into rent rates, that were made at inspection for the purpose of circle classification, also supplied the materials for the selection of standard circle rates. The methods by which these rates were obtained are described in paragraphs 210-213 of the report. The lump rents of holdings containing more than one variety of soil were analysed; the incidence of the rental of villages or holdings of uniform soil was noted; and the quoted or recorded rates were compared with and tested by the actual rents. If the rates were found to be supported by the rentals they were accepted without further question as the real village rates. If not, they could sometimes be taken as indicating the comparative value of the different soils, and thus gave a scale from which rates could be deduced from the recorded rents. The rates in villages of which the rentrolls had been rejected as unreliable or insufficient were excluded, and abnormal rates were disregarded. From the rest the rate noted as recurring most frequently, or that found in the most important and representative village, was taken as the soil rate for the circle. Mr. Impey's method may be further elucidated by an example taken from the detailed accounts of the circle assessments which are appended to the tahsíl reports. In the first black soil circle of the Mau tahsíl, consisting of 15 villages, the prevailing soils are unirrigated már and kábar. The bigha rates quoted for már in four villages gave acre rates of Rs. 4-4-7, Rs. 4-5-4 and Rs. 4-3-0; in three other villages the quoted rates for kábar came to Rs. 3-9-9 and Rs. 3-7-5 per acre; and in two more villages, where the rents for each class of soil were separately ascertained, the actual average rates were found to be for már Rs. 4 and 4-3-2, and for kábar Rs. 3-7-5 and Rs. 3-8-1. The quoted rates for már were also supported by the incidence of the tenants' rental in other villages where this was almost the only soil. The standard rates selected were Rs. 4-4-0 for már and Rs. 3-8-0 for kábar; and these rates, when applied to the soil areas held by tenants, gave standard rentals corresponding closely, not only with the total recorded rental of the circle, but also with the tenants' rental in every village, except in two in which the actuals were abnormally high.\* The above is a fair specimen of the process by which the circle rates were obtained, and the evidence by

\* Taken from the assessment report of the Mau tahsíl.

which they are supported. It will be seen that they rest on a sound foundation of fact; and that they are real rates which, if not always recorded or recognized, at any rate compose the rents actually paid.

After the account given above, it is almost needless to add that the standard rental for the district as a whole agrees closely with the actual rental. For the entire area held by tenants at full cash rents, it exceeds the attested rental by 2·2 per cent., and the corrected rental by 1·6 per cent. only (paragraph 214). The dry rates for the different soils approximate more closely to those of Hamirpur and Banda than to those of Jalaun, which are distinctly higher; and this circumstance, more especially after recent experience in Jalaun, furnishes an additional ground for confidence in the settlement of Jhānsi.

14. Before describing the next process in assessment—the correction of the rent-rolls—Mr. Impey discusses a peculiar feature of the Jhānsi rents, the fact that many of them are not paid or recorded in British coinage. In a great part of the district the rents are paid wholly or partly in the native coinage known as Gajashāhi (paragraph 217). This was of course taken into account in the calculations of rates and rentals, and the Gajashāhi rents were converted into British currency in the rental statistics prepared for assessment purposes at the then prevailing rate of 116 Gajashāhi to 100 Government rupees. Unfortunately a similar conversion was not made in the rentrolls, where the Gajashāhi rents were allowed to stand. The result has since been an exemplification of the far-reaching effects of currency legislation. The closing of the mints has had the natural effect of altering the rate of exchange unfavourably to the native coinage; and 116 Gajashāhi rupees are now worth less than Rs. 88 in Imperial currency. The matter is of importance as affecting the ability of the landlords to bear the new assessments; and the Board are now considering, in consultation with the local authorities, whether the Gajashāhi rents can now be converted; and, if so, the basis on which the conversion should be made.

Another preliminary question that arose in connection with the correction of rent-rolls was the treatment for assessment purposes of waste land in holdings. The holdings area for the settlement year included 71,422 acres of waste land; but the greater portion of this (66,972 acres) is merely attached to the holdings without payment of rent; and, in an assessment made on actuals, only the balance of 4,450 acres for which rent is recorded and paid could be taken into account in the assessment (paragraph 219). This exclusion of unrented fallow gives an additional margin in favour of the people.

15. The rents attested for the holdings area (including the rented fallows referred to above) are given below for the different tenures :—

Tenure.		Area.	Rent.	Rate.
		Acres.	Rs.	Rs. a. p.
Cash-rented ...	Ex-proprietary and occupancy tenants ...	122,298	3,29,548	2 11 1
	Tenants-at-will ...	107,701	2,74,350	2 8 9
Total ...		229,999	6,03,898	2 10 0
Sir cultivated by proprietors ...		83,222	2,20,664	2 10 5
Other sir and khudkāsht ...		59,837	1,46,992	2 7 4
Favoured and nominally rented ...		3,854	6,081	1 9 3
Rent-free, grain-rented, and held on dhāra (or revenue rates).		13,348	...	...
Total ...		160,261	3,73,737	...
GRAND TOTAL ...		390,260	9,77,635	...



Except in a very few cases, the standard rates were employed for the valuation of the land not held at cash rents; and also when, for one reason or another, the cash rents were disregarded in assessing. As has been shown above (paragraphs 12 and 13) the assessment circles were formed, and the soil rates deduced from the rents, with great care and discrimination; and the standard rates were so adjusted as to be suitable for all the villages in the circle. They could be applied with confidence to the assumption areas; and, as the proportion in which the classes of soil are distributed between the different tenures is far from uniform, they gave a closer estimate of rental value than could have been obtained by the rougher method of valuation at the all-round incidence of the tenants' rental.

The alterations made in the attested rental by the process of correction, as distinguished from absolute rejection, of rentrolls are explained in detail in paragraphs 224 to 231 of the report. A rental of Rs. 6,081 on 3,854 acres of land mostly held by patwāris and their relatives at unreasonably low rents was treated as favoured and nominal; but the amount of the substituted rental is not stated. Apart from this the additions made in the rental of cash-paying tenants were trifling. With few exceptions the genuine rents were declared, and there was no marked divergence between the rents of occupancy and other tenants. Judged by the standard rental, the rents of the privileged tenants are rather low; but their average incidence is higher than that of the tenants-at-will; and, as Mr. Impey states (paragraph 224), the occupancy rental as a whole is reasonable when the economic condition of the district is considered, and it is not kept down at the caprice of the landlords. The occupancy and non-occupancy rents, therefore, were accepted for assessment in all but a few villages, and the increase due to correction in the cases where they were treated as inadequate is only Rs. 2,997, or something under 5 per cent.\* The figures of the corrected rental for all classes of tenures are given below:—

Tenure.	Area.	Rent.	Rate.
	Acres.	Rs.	Rs. a. p.
Ex-proprietary and occupancy tenants at cash-rents ...	122,298	3,32,628	2 11 6
Tenants-at-will at cash-rents ... ..	107,701	2,74,670	2 8 10
Total ...	229,999	6,07,298	2 10 3
Sir cultivated by proprietors ... ..	83,222	2,67,156	3 3 4
Other sir and khudkāsht ... ..	59,837	1,64,074	2 11 10
Rent-free, grain-rented, &c. ... ..	17,202	48,104	2 12 9
Total ...	160,261	4,79,334	2 15 10
GRAND TOTAL ...	390,260	10,86,632	2 12 7

The noticeable point in these figures is the comparatively high incidence of the assumed rental, especially in the case of sir lands cultivated by proprietors. The rental of this which is given in the statement is the full valuation, which was reduced by the rebate allowed by the rules to Rs. 2,57,873; but this amount still gives an incidence of Rs. 3-1-7 per acre against the tenants' incidence of Rs. 2-10-3. There is no reason to suppose that the assessment of sir was other than equitable, and the higher incidence is shown by the analysis of soil areas in Appendix XXX to be justified by superiority of soil; but it is clear that the rental value of this class of land has been fully as well as accurately estimated.

\* There was also a small addition of Rs. 403, on account of enhancements of occupancy rents effected after attestation.



16. Besides the general reduction in the corrected rental of the district on account of the rebate in the valuation of sîr, a small special reduction of Rs. 353 was made to allow for the circumstances of three villages (paragraph 232). The additions made, after the rentrolls had been corrected, for concealment of assets were not very considerable. As has been already said, the verified rents, as a rule, were remarkably accurate, and only 13 rentrolls out of 738 were totally rejected for fraudulent understatement, or because the rents had been designedly let or kept down (paragraph 233). The cases in which additions to the rental were made on account of concealed cultivation were more numerous. The question whether these additions were justified was a difficult one for the Board to decide. The suppressed cultivation was generally in the most inferior soils, which are only cultivated after intervals of fallow; and it was not easy for any one who had not seen the villages to judge whether the land had been thrown up designedly, or only in the ordinary course. Mr. Kaye, the late Junior Member, held that the safest guide was the recorded cultivation of previous years; and, where the past figures did not support the addition made to the rental on the ground that the proportion of culturable land out of cultivation was excessive, he reduced or disallowed it.\* After the alterations made by the Board the sum added to the district rentroll on account of concealed cultivation was Rs. 8,698 on an area of 9,806 acres, and a further addition of Rs. 472 was made on account of concealed irrigation (paragraph 234). These additions affected 65 mahâls, the greater number of which are in the Jhânsi tahsîl (Appendix XII).

17. Including the estimated income from sayar, the rental finally accepted for assessment was as below:—

	Rs.	Rs.
Corrected rentroll of the district	...	10,86,632
Deduct (1) rebate on sîr	9,283	...
(2) special reduction in 3 villages	353	9,636
	...	10,76,996
Add (1) for concealment or inadequacy of rents in 13 mahâls,	2,185	...
(2) for 9,806 acres suppressed cultivation	8,698	...
(3) for concealed irrigation	472	...
(4) for sayar	18,934	30,259
Total assessable assets	...	11,07,285

Exclusive of sayar, the additions to the corrected rental amount to Rs. 11,355, which is a little over one per cent. of the total assessable assets.

The methods and calculations by which the rental assets of the district were ascertained have been examined in some detail, with the object of showing as exactly as possible the extent to which actuals and assumptions formed the basis of the assessment. The result of the analysis is to show that, with unimportant exceptions, the assessments are founded on the verified rentals of cash-rented land, and on valuations of the assumption areas which are fully supported by the tenants' rents and rates. The guiding principle, throughout the assessment operations, was that facts must be accepted, and speculative estimates avoided.† The principle laid down in the rules—that the assessment should be based as far as possible on the recorded rents—has been closely followed. The only question that might need consideration is whether the principle of assessing strictly on actuals is a safe one in a district like Jhânsi. In a country where agriculture is precarious and fluctuating, the statistics of area and rental for a single year might be an insecure basis, if the year happened to be one of more than average prosperity. Fortunately, perhaps, the settlement was made when the district was only beginning to recover from a period of depression, and when the area of cultivation, instead of being abnormally large, was as low as it is likely to be in any ordinary season. The fear need not be entertained that the statistics of the survey year give an

\* The Commissioner is mistaken in saying (paragraph 59) that the Board interfered in the assessment of 41 mahâls. The cases in which it was found necessary to modify the Settlement Officer's proposals were not numerous.

† It has not been thought necessary to notice in the text the Commissioner's remark in paragraph 54 of his review that the Settlement Officer was sometimes influenced by preconceived ideas of what villages ought to pay, and framed the rentals accordingly. The Board know of no foundation for this suggestion.

overestimate of the average assets of the district as a whole; and, owing to the condition of the district generally, there were not many villages in which the cultivated area was larger than might be safely assessed on. In such cases, allowance was generally made by fixing the revenue at a low proportion of the assets.\* In the more numerous villages where, owing to the presence of káns, the cultivation was much below the average, the point considered was whether the existing assets gave a reasonable assessment, which was not likely to become seriously inadequate if káns declined. In most cases such an assessment could be made, and no special treatment was thought necessary; but in fourteen of the worst káns villages the expedient of a short term settlement was adopted. It is proposed to settle these villages for five years only at a moderate assessment on the actuals, which the Government will be at liberty to enhance hereafter, if the villages recover (paragraph 245).

18. The new revenue of the district is shown in the statement at page 135 of the report as Rs. 5,51,175 against a former demand of Rs. 4,86,567. These figures, however, include the nominal assessments of revenue-free lands and ubári estates.† Exclusive of these, the revised assessment is Rs. 5,16,132, and the increase on the former revenue Rs. 77,124, or 17 per cent. Of this, Rs. 23,890 are derived from the resumption of revenue-free tenures, so that the actual enhancement on land that previously paid revenue is only Rs. 53,234, or 12 per cent. (paragraph 252). The assessment is not a lenient one on the assets, of which it absorbs 49.78 per cent. The small enhancement has in fact been partly obtained by fixing the revenue at a higher proportion of the rental than was taken at the previous settlement‡. But the general moderation of the assessment is guaranteed by the fact that the settlement was made on low rents, and when only half the culturable area of the district was under tillage (paragraph 7 above). Of the fairness of the distribution there will be no question after the account that has been given of the care and attention to details with which the entire operations of assessment were conducted. The new revenue (inclusive of nominal jamas) falls at the rate of Re. 1-6-10 per cultivated acre against a former incidence of Re. 1-4-2.

19. Progressive assessments have been made in 97§ maháls, where the enhancement of revenue exceeds 35 per cent. on the former demand. Under these arrangements the total postponement in the demand will be Rs. 14,050 for five years, Rs. 2,555 for ten years, and Rs. 105 (in one mahál) for fifteen years. The initial revenue of revenue paying estates is reduced by the graduated assessments to Rs. 5,02,082.

20. It has already been decided that the term of settlement should not be longer than twenty years,|| and the revenue engagements have been taken for this period, except in the fourteen káns-infected villages referred to in paragraph 17 above, the settlement of which has been made for five years only. The question whether these provisional engagements should receive the final sanction of the Government has now to be considered. The increase of revenue is less than was anticipated in some of the preliminary estimates; but these differed so widely that but little weight could be attached to them; and, as Mr. Impey, justly remarks,¶ an assessment on actuals is not to be judged or tested by summary forecasts of the results of the Settlement Officer's detailed inquiries. The assessment has been shown to be adequate on the assets on which it was made, and it has been carefully and equitably distributed. It has been collected almost in full and without difficulty during the two years the settlement has been in force,\*\* one of them

\* In two such villages the assessment was made on the average area of cultivation, see paragraph 232 of the report.

† The quit rents of ubári estates are not included in these figures. They are not dealt with in the report, in which only the full nominal jamas of these tenures are referred to.

‡ Thus in tahsil Moth, the percentage of the new revenue to assets is 51, while at the former settlement the assessment was considerably below half the assumed rental. In tahsil Mau the figures stand 48.6 and 45 per cent. respectively. In making these comparisons the distinction between the assumed rental which was the basis of the last settlement and the actual attested rental which is the basis of the present revision should not be overlooked.

§ In paragraph 247 of the report the number is given as 96; but it is 97 according to Appendix XV.

|| Vide correspondence referred to in paragraph 249 of the report.

¶ Paragraph 251.

\*\* The outstanding balances were—

							Rs.
For the revenue year	1892-93	...	...	...	...	...	115
Ditto	1893-94	...	...	...	...	...	146



a year of somewhat unfavourable seasons. The only ground on which hesitation might perhaps be felt in sanctioning the assessment as a fair standard demand is that the value, in Government rupees, of the portion of the rental, which is paid in native coinage, has fallen since the settlement was made. This of course only affects the rental of cash-paying land held by tenants; and it is only likely to be a source of difficulty in two of the tahsils, Mau and Garotha, as in the Jhānsi tahsil the rents are generally paid in Government rupees, and in Moth the use of the Imperial coinage predominates, and is reported to be gaining ground. Further depreciation, at any rate, can be arrested by converting the Gajashāhi rents at the present rate of exchange; and in view of the very moderate enhancement of revenue that has been imposed, the moderate rise in rents since the last settlement, and the fact that the assessment has been made on a low standard of cultivation, the Board do not think that sanction to the settlement need be postponed on account of the fluctuating and uncertain value of the coinage locally in use. They would therefore recommend that the settlement be sanctioned for a period of twenty years commencing from the 1st July 1892.

While, however, the revised demand is recommended as a fair standard assessment, which should be collected in all ordinary years, it is not to be expected that, in a poor and insecure district, it will always be paid with ease and regularity. Periods of distress may recur, in which the demand cannot be rigidly collected; and the revenue has been fixed on the understanding that in seasons of drought, scarcity, or abnormal calamity, relief will be given as circumstances may require. It will be the duty of the district officers to watch carefully the working of the settlement, and to act promptly when the condition of any portion of the district is such as to call for a temporary mitigation of the Government demand. The Board fully agree in the remarks on this subject which are made in the concluding sentences of the report. As Mr. Impey says, the rules for the suspension or remission of revenue sufficiently provide for physical calamities which are not lasting in their effects. Should more than temporary relief be required, reductions of revenue for a limited period must be given; and in all cases it is essential that the relief should be timely.

21. The cost of the survey and settlement was Rs. 2,15,390,\* giving an incidence (in even rupees) of Rs. 146 per square mile, of which Rs. 105 belongs to the settlement and Rs. 41 to the survey. The expenditure on assessment alone is estimated at Rs. 56-12-6 per square mile, which is not quite two-fifths of the total; and that of the records (exclusive of the survey) at Rs. 48-9-10 (paragraph 254). The cost was increased by the delay in the operations caused by the incompetence of the patwāris, and the efforts made towards securing economy were, therefore, not so successful as they might otherwise have been. The total expenditure is something less than three times the annual enhancement of revenue.

22. The remarks in paragraph 276 of the report on the services of the subordinate officers and officials have been duly noted. The Deputy Collector who is specially commended has been exempted from examination, and has been recommended for confirmation in the provincial service. The Board would now record their high opinion of the services of Mr. Impey, and also of his assistant Mr. Meston. To make a satisfactory settlement in the difficult tract of country which they had to assess required both care and judgment. Their work is characterized by a clear appreciation of the conditions with which they had to deal, and an intelligent application of the principles laid down for their guidance; by soundness and consistency of method, and by close attention to details. Its results have been presented in an excellent report.

I have the honor to be,

SIR,

Your most obedient servant,

JOHN HOOPER,

Secretary.

\* Exclusive of the traverse.



FROM

F. N. WRIGHT, Esq., C.S.,

*Commissioner, Allahabad Division,*

TO

THE SECRETARY, BOARD OF REVENUE,

*North-Western Provinces and Oudh.*

*Dated 29th January 1894.*

SIR,

I have the honor to forward the Final Report on the settlement of the Jhānsi district (excluding the Lalitpur sub-division) drawn up by Messrs. Impey and Meston, the former of whom held the office of Settlement Officer from November 1889 to April 1892, the latter that of Assistant Settlement Officer till Mr. Impey's departure when, as Settlement Officer, he brought the work to a close, finally leaving the district at the beginning of 1893.

2. I do not propose to write a mere condensation of Mr. Impey's admirable and exhaustive report. The whole of it will be read by the Board of Revenue, and I imagine my duties should rather be directed towards seeing that the settlement was carried out according to rule, that the methods employed in arriving at the results obtained were justifiable, and that the results are such as are likely to be suitable to the condition of the district, the proprietary body and the tenantry.

3. I do not propose therefore to do more than make a passing reference to chapter I of the report, which is concerned chiefly with the physical and agricultural conditions of the district.

4. Jhānsi, which was once the head-quarters of a division, is now part of the Allahabad division, and situated in its extreme south-west corner. The former district of Lalitpur is now a sub-division of Jhānsi district, but in the present connection we have no concern with it. The history of the district has been sufficiently set forth in Mr. Jenkinson's settlement report, and we are only concerned with the system of administration which prevailed under the Maharajas, so far as it has left its impress on the people with whom we are dealing in this revision of settlement.

5. Certain territorial changes have taken place during the currency of the expired settlement, which may be summed up as accession to Sindhia of 20 villages in 1871, and an exchange with the same power of  $31\frac{1}{2}$  villages in Bhandar pargana, for 58 villages in the Jhānsi tāhsil, now known as the new territory. In this latter exchange we obtained possession of Jhānsi city and fort, and our boundaries were advanced 12 miles from the latter—a question of grave administrative importance.

6. Of the administrative changes which led to the absorption of the old Jhānsi division into that of Allahabad, this is not the place to speak, except to regret that the opportunity was not taken of forming a homogeneous Bundelkhand Division, the distance of Jhānsi from the head-quarters of the division (250 miles) being a source of many administrative difficulties.

7. Similarly, a settlement report is not the place to look for a history of Jhānsi city, or the antiquities and languages of the district, whilst its hydrographic and general physical characteristics are only of interest, so far as they affect settlement operations, e.g., in indicating the adoption of certain settlement (so-called) circles, or explaining the varying characteristics of the soils found in those circles. The only point on which I would here remark in this connection is the great importance attached in this district.

to the question of ravines, far greater than I have ever seen attached in other districts where equally large rivers are to be found. In fact, I cannot help thinking the importance so attached is exaggerated: for the actual increase of land brought under the action of erosion must, in a period like a 30 or even a 20 years settlement, be almost infinitesimal.

8. Still, an attempt was sanctioned and carried out in 1888 to dam up one of the principal ravines of the Pahuj river. So far as it went, it was successful, but Mr Impey gives in his 20th paragraph a very cogent reason for the experiment not being repeated. The system of field embankments referred to in the end of the paragraph, and the extension or improvement of lakes, to be referred to hereafter, are more likely to prove economical and effective.

9. The Bundelkhand lakes are famous. This is not the place to discuss their history, or even the efforts which have been made and (I am glad to think) will be made to extend this wonderful source of agricultural prosperity. The whole question has formed the subject of a full report to the Board of Revenue, and orders have been passed thereon. So far as questions connected with revision of settlement are concerned (*e.g.*, irrigation and water rates) they will be referred to in their proper place. To those interested in the history of the beautiful Bundelkhand lakes, paragraphs 23, 24 and 25 of Mr. Impey's report will give all the information required. It is a fascinating subject, but more appropriately treated in a gazetteer.

10. So, too, with regard to arboriculture, forestry or grass reserves. These subjects are but very indirectly connected with settlement, though a remark in passing may be made as to the curious result of the abundance of grass in the district, in the fact that the cultivation of *Jowar* for fodder is unknown. This much may also be added, that Jhansi (I may say Bundelkhand) is a pastoral country, and the tendency of late years to throw arable land into grass is very marked, and due, not only to the approach of settlement operations, but to the demand for *Ghee*, and the greater profit to be made from dairy produce than the cultivation of inferior soils. I am inclined, however, to think Mr. Impey attached too high a value to this asset in ordinary cases—but of this more hereafter. The remainder of section A, chapter I, calls for no remark; except to refer to the peculiar unit of area in vogue—the Erichi bigha or 466 of an acre—and the older and more familiar one of 373 of an acre.

11. The density of the population is low. As might be expected it is only 264 to the square mile in Mau, 243 in Moth, 289 in Jhansi and 182 in Garotha. It is principally agricultural; about one-quarter being classed as urban. Hamlets are comparatively few and scarce.

12. The most notable caste in the district is that of the Bundela Thakurs, whose pretension and swagger is proverbial, as also their laziness and want of thrift. The latter faults eventually leading them into the paths of dacoity, which we treat with greater leniency than their compatriots in Native States meet with. Brahmans own about a fifth of the district, and in the western part of the district, Ahirs, Lodhs and Kurmies are principally to be found. Marwaries and Baniyas have gradually obtained considerable status in the proprietary body: the former owning 46 and the latter 30 of the proprietary area, chiefly acquired since last settlement.

13. I do not propose to discuss the histories or even the present position of the leading families. The Gurserai estate, the largest in the division, has recently formed the subject of a long and important correspondence, ending in orders to have it surveyed and brought more immediately under the control of the district officer, instead of remaining an *Alsatia*, and a scandal to the administration. I will, however, merely note that if the estate is broken up, as appears probable, the ubari tenure will be resumed and a regular settlement made with the several proprietors.

14. The Raja of Katehra is said by Mr. Impey to be a good manager, but has lately got mixed up with the dacoity question. The Rao of Kakarbai holds another ubari tenure, which, however, is threatened with dissolution, the numbers of poor relation being beyond what the estate can support.



15. Mr. Impey describes Jhānsi as a district of small holdings. The tables given by him in paragraphs 46 and 56 do not appear to me to bear out this view, but it is a matter of minor importance; for, as, he says, we have to deal with facts as we find them to exist, without speculation based on comparison with other districts. His description of the characteristics of tenantry differs but slightly, if at all, from that which would apply to any district in the Doab.

16. In his 58th paragraph Mr. Impey notices the number of *muāfi* tenures in the district, a relic of native administration. During the currency of the past settlement, many have been resumed, and at the present revision, in accordance with the provisions of the special circular of 1855, over 9,000 acres further have been resumed in plots alone, exclusive of 13 entire villages and Panaoli Khurd, hitherto held on half jama. Very careful enquiry was made into the particulars of each grant, but owing to the typical apathy of the Bundelkhandi, great difficulty was experienced in determining on the question connected with resumption or retention.

17. Of the *ubari* privileges described in Mr. Impey's 61st paragraph, it is sufficient to say that, with the exception of Kakarbai, which has been declared perpetual, they are terminable on the death of their present occupant, at the will of Government (rarely exercised, however, now) or on alienation to a stranger. The few instances of sub-proprietary tenure are described in appendix XXII.

18. The peculiar ignorance as to his legal rights and status displayed by the Bundelkhand tenant are described in Mr. Impey's 63rd paragraph, but the full consideration "of tenant rights" is deferred till a later paragraph. One cannot help hoping that, what Mr. Impey justly calls the happy immunity of the district from litigation will continue: the number of cases original and in appeal under the Rent and Revenue Acts are extraordinarily few, see figures given in 65th paragraph.

19. In his 64th paragraph Mr. Impey gives a picturesque description of the "condition of the people," the thriftless Thakur, and the happy-go-lucky peasant of Bundelkhand are proverbial, and the great problem has always been and will be, how to keep them alive in times of distress or famine. Two facts stand out most clearly: (1) that the occupancy tenant is the back-bone of the village; (2) that the tenant is master of the situation in these sparsely cultivated tracts.

I am unable to reconcile the statement in this paragraph as to the size of the proprietors and tenants holdings with the tabular statements on pages 29 and 33.

20. It is a relief from the elaborate differentiation of soils adopted by settlement officers in the doab districts (of whom, however, I was one!) to turn to the simple distinctions prevalent in Bundelkhand. With a classification into *Mār*, *Kabār* *Purua*, and *Rakar*, the latter sub-divided into *moti* (good) and *patri* (inferior), the settlement officer has but little difficulty in determining the class or grade into which a village should primarily fall: subsequent variation proved to exist in rents or other agricultural conditions, compelled further differentiation but in a far less degree than was necessary in the more elaborate process which characterised an assessment based on a field to field valuation. Mr. Impey satisfactorily explains his reasons for discarding the vague all-sufficing word "*patro*:" he might almost have spared himself (except as useful for record) the description of the well-known Bundelkhand soils given in paragraph 68. The statement in paragraph 67, giving the proportion of each soil in each *tāhsil*, is interesting enough to be abstracted:—

Soil.	Mau.	Moith.	Jhānsi.	Garotha.	Percentage of total of each soil to total area.
	Percentage of each soil to total area of <i>tāhsil</i> .	Percentage of each soil to total area of <i>tāhsil</i> .	Percentage of each soil to total area of <i>tāhsil</i> .	Percentage of each soil to total area of <i>tāhsil</i> .	
Mar	39.98	23.49	6.51	48.59	29.28
Kabar	27.21	47.33	14.88	30.03	28.17
Purua	22.87	21.05	19.32	12.37	19.21
Rakar <i>moti</i>	5.30	3.67	10.27	2.77	8.31
Rakar <i>patri</i>	5.47	4.43	37.87	6.20	14.45
Teri	...	...	2.11	...	.58
Total	30.20	19.99	27.79	22.02	100.00



21. Mr. Impey holds out a useful warning in any future use of 'soils' as a means for assessing rents, by pointing out that the classification made at the survey and subsequent inspection by the Settlement Officer is at best only a rough one, though in villages with homogeneous soils, the limit of error is narrowly defined. The assessment, he points out, is not based on soils, they are only used to obtain standard rent rates for purposes of correction of the village rent-rolls.

22. Irrigation in Bundelkhand does not form that important factor in gauging the relative conditions of the several villages as in other parts of India. Still, even in the Jhānsi district, the amount of irrigation varies very much, being a very prominent feature in the hilly tracts of Jhānsi and Mau, where the rakar soil predominates, whilst in the black soil, which is characteristic of Moth and Garotha it is a negligible quality. The area irrigated from wells in the settlement year was according to the survey only 20,297 acres, by canal from Government lakes 1,168 acres, and from the Betwa canal 59: whilst from other miscellaneous sources some 1,973 acres were irrigated. The district is therefore not protected from famine resultant on deficient rainfall by its capabilities for irrigation. I invite attention to Mr. Impey's description of the irrigation from lakes (Government and private) given in his 72nd paragraph, and also to his account of the peculiar rights of "Kadimi abpashi" or exemption from payment of water-rate in certain cases. It only concerns us here to note that such lands have been assessed as irrigated land paying full rent. In considering the question of irrigation from lakes, it has always to be remembered that they are protective works ensuring the stability of the revenue, but not bringing in a return commensurate with the expenditure on maintenance. Canal irrigation may be said to scarcely exist, the Betwa Canal practically belongs to the Jalaun district; only 3 villages in Jhānsi having so far taken water.

23. Field embanking is a subject of much importance from an administrative point of view, but need not be discussed in considering proposals for a revision of settlement. It is a scheme of agricultural improvement, which should receive the constant and earnest attention of the district officer being, as Mr. Impey says "of extreme value in protecting land against erosion and kans: it recommends itself to the people more than any more ambitious schemes, and has a direct fertilising effect." Considered in this light it demands and deserves free distribution of takavi advances, and I regret to learn from Mr. Impey's remarks that it has not received the attention it deserves.

24. The crop statistics I will not discuss, except to call attention to the varying proportions in which the several crops are grown in the several parganas, and to notice the decline in the cultivation of that valuable dye the *al*, driven out by cheap aniline dyes. The remainder of this chapter is taken up with a picturesque description of the physical characteristics of the four tahsils, and of the prevailing (and inferior) system of agriculture practised in the district, fitted more perhaps for a Gazetteer than a settlement report.

25. Chapter II gives us the history of the past, now expired, settlement. Mr. Impey accepts Mr. Jenkinson's opinion of the assessments as being on the whole fair, in fact light, though not too light, with, as could not be avoided, some inequalities in the case of individual villages. Two causes, indeed, which the settlement officers could not provide against—the indebtedness of the landed classes and the ravages of the *kans* weed—threatened the smooth working of the settlement, and Mr. Impey discusses both at some length in the same chapter.

26. The indebtedness of the landed proprietors was, in fact, foreseen by Mr. Jenkinson, who attributed it to old debts incurred in the times of the Mahrattas, when the demand was excessive, or to injudicious collections of arrears from parganas impoverished by depredations by the Orcha state during the mutiny. He urged the very course which was adopted (but not till 15 years after), examination of the accounts of the money-lenders and arrangements for settlement of accounts and liquidation of debts.

27. In paragraphs 95 to 103, Mr. Impey describes the progress of the enquiries into this burning question, which led eventually to the passing of the Jhānsi Encumbered

Estate Act in 1882, under which Mr. H. F. Evans was appointed special Judge, and some 7 lakhs of debts discharged by loan, sale or otherwise ; the actual relief given as compared with what would have been the case under the procedure of Civil Courts amounting to  $3\frac{1}{2}$  lakhs. It is remarkable that no new light was thrown in the origin of the indebtedness of the Jhānsi proprietors by the operations of Act XVI. The reports of Mr. LaTouche, who was appointed a settlement officer for investigating the pressure of the revenue, as well as the indebtedness of the proprietary body, afford a most interesting description of the existing conditions. The net conclusions to be drawn were : (1) that the gift of a proprietary title was a fatal error ; (2) that the settlement itself was far from severe, even lenient altogether.

28. In the following paragraphs, Mr. Impey discusses the effect of the Act on the state of the landed proprietary, and we are forced to the conclusion that the effects will be but temporary. It is unnecessary to dwell on this subject ; the new settlement is based on conditions, actually found to exist, and not on speculative advantages or disadvantages, improvements or deterioration. The Bundelkhandi is and will be for many years to come a thriftless creature, and the prey of the money-lender, whenever money is wanted for marriage expenses, or even for seed and daily outlay.

29. You can hardly speak of Bundelkhand without calling up the spectre of that noxious weed, *kans*. The literature on this subject must be enormous, but there is nothing more to be said in reality, than that it is inherent in the soil and forces itself into consideration when the efforts of the cultivator to fight against it are relaxed for any reason, principally inopportune or insufficient rainfall, but also mortality amongst men or cattle. Anything in fact that depreciates the strong working of the ryot, give *kans* its opportunity. Pages of picturesque description might be written about it, but for the present purpose we have to deal with it as it exists : the only point in which speculation is allowed, being the probability of its increase or decrease, according as its recognised cycle of periodicity is beginning or ending.

30. But this point Mr. Impey reserves for chapters more directly concerned with the present revision of settlement. As regards the expiring settlement, he describes the influence of *Kans* as disclosing such a tangled skein in the revenue administration as to make it hopeless to attempt a clear account of what was done. It is, indeed, difficult to read with any approach to calmness the description of the constant "tinkering" that went on, according to the varying idiosyncrasies of the district officers. The time is past for branding any individual with specific censure for what was done or left undone. Mr. Impey in paragraphs 115 to 123 gives the history of the question as it affected each tahsil : pages are required for that of Mau, Moth and Garotha, a few lines for that of the Jhānsi tahsil. Some influence beyond that of the weed itself must have been at work to secure so happy a fate for Jhānsi tahsil alone. The total loss from *kans* amounts, according to Mr. Impey's calculations, to some 6 lakes of revenue during the term of settlement : nearly 6,000 had been struck off the revenue roll, and in one tahsil (Mau) the revenue administration had been seriously weakened by continual fluctuations in the demand.

31. In the face of these two overwhelmingly disturbing influences, (1) the indebtedness of the landed classes ; and (2) *kans*, it is as impossible or unnecessary to turn to the ordinarily recognized tests of a successful settlement, facility of collection, transfers, price of land, &c. The best qualified authorities have, says Mr. Impey, remained unanimous in acquitting the revenue demand fixed at last settlement of the charge of severity. A graphic description is given of this "distressful country" in Mr. Hume's letter quoted in paragraph 123 : "Almost all the calamities" he says "which can befall agricultural communities have swept in succession over this unfortunate tract, political disturbance famine, pestilence, and murrain have led to the deterioration of the soil and the embarrassment of its proprietors." Add to these the "rigidity of the revenue system" (a rigidity, however, which appears to have been more honoured in the breach than the observance) "the ignorance of the people, the action of the Civil Courts, and the recognition of proprietary rights at settlement" and more important than all, inefficient



revenue administration, and we need feel no surprise at the state of things Messrs. Impey and Meston had to face and deal with. We can only hope, after the excellent settlement just made, that wiser counsels will prevail, and that a fair assessment carefully made will be realised with a certain fixedness (if not rigidity) of purpose, and the days of tall writing, tinkering and tampering are over.

32. The time at my disposal is too brief to allow of my following Mr. Impey through his interesting analysis of the transfers of proprietary rights, temporary and permanent, which have taken place during the currency of the past settlement. It is startling to find at least one-fifth of the district having changed hands, that 46 per cent. of the proprietary rights in land are under mortgage, that the value of land till Act XVI took effect, barely amounted to Rs. 4 an acre; but none of these things affect the main question, that the last settlement was on the whole lenient, if unequal.

33. Mr. Impey's contrast of the condition of the villages recently transferred from Gwalior is chiefly noticeable for the description it gives of the status of the village banker. Under native rule he supplies the actual motive power of the administrative machinery; the Government looks to him for the revenue when due; he supplies it, and the villagers have to settle with him. Hence, when those 58 estates were transferred, their proprietors were found as seriously embarrassed as those in British territory, or even more so, and Act XVI had to be put in force affording relief to the amount of above Rs. 40,000.

34. Chapter III is taken up with a comparison of general condition of the district at last settlement with its present condition. The first subject touched on is partitions and Mr. Impey tells us that though the proprietors have been slack in resorting to partitions, and indifferent in giving full effect to them in the past, the new proprietors those who, hitherto reluctant, were practically forced into becoming proprietors, by the effects of Act XVI, are more readily inclined to take advantage of the means afforded them of fixing their individual responsibility for the payment of revenue.

35. As regards area cultivated, fallow and culturable irrigation, crops, prices and population, Mr. Impey's efforts seem chiefly directed to showing how any comparison is impossible, owing to the uncertainty of the correctness of the figures appertaining to the last settlement. The conclusions he draws as to the cause of the rise in prices, owing to the extension of railway communications during the last few years, are so obvious, that it was hardly necessary, one would think, to be at the trouble of argument in their support. For the rest, the present conditions are of more importance than the past, and are fully considered in the assessment remark. The district has always been a backward one; it is still, in spite of railway and other improved communications and extension of lake irrigation, a backward one, though there has been a perceptible improvement in it since last settlement. It is now (if slowly) recuperating its energies.

36. But it is more to the purpose to remember, indeed, it cannot too often or too loudly be insisted upon, that the condition of Jhānsi (indeed of Bundelkhand generally), is not that to which economic theories (based on our knowledge of other more favorably situated tracts) are ordinarily applicable. You must deal with a district like Jhānsi (and the rest of Bundelkhand) on entirely different principles to those which are sound enough in Oudh or the Doab. The longer I have been in this division the stronger I have felt this. Accurate and precise local knowledge is required of the officers immediately responsible for the local administration and those to whom they are subordinate.

In short, in Bundelkhand theories are useless and mischievous. You must accept facts and be guided by them. In his 161st paragraph Mr. Impey goes all over the old ground again, but it is perhaps as well to have the conditions of a Bundelkhand district constantly brought prominently forward; and he admits that his object is to anticipate much of whatever may be required in explanation of the very moderate rise in revenue now obtained. Certain improvements there may have been, but Bundelkhand is Bundelkhand, not Agra, Cawnpore or Allahabad.

37. Section B of this chapter contains an interesting description of the process by which the relative conditions of the cultivating classes (tenants and proprietors) became crystalized into the form in which they have been now dealt with. Under the Mahrattas, all were alike and equal; all paid the same rates, sufficient to make up the revenue demand, the headmen being rewarded by free grants of land; under such a system there were of course no profits. When the system of settlement, which prevails under British Government, was introduced, an attempt to form a correct register of proprietors was made, the proprietary title being conferred on those who had hitherto been considered as headmen, and others who could show that they had an equal title with the hitherto acting headmen, to be considered proprietors. The rest became tenants. It is admitted that the record was at best imperfect, and some equally entitled as those recorded as proprietors to the position, were left on the tenant side. But this caused no disturbance in their relations, all continued to pay the same rates, sufficient to provide for the Government demand, profits being generally made out of the village expenses,"—a conveniently elastic term.

38. This description, however, concerns, what we may call, the proprietary classes only. The actual cultivating classes, such as kachhies, &c., became occupancy tenants. Thus there arose two kinds of occupancy tenants, the one connected with the recorded proprietary and supposed to be more or less favoured or privileged, and the real occupancy tenants who, however, paid the same rates, and outside these again, the tenants-at will, who paid whatever was agreed upon. The rates payable by occupancy tenants were recorded in the *wajib-ul-arz* prepared at last settlement, and it was generally stipulated that they should be paid during the term of settlement; the postscript being added that in future enhancement would take place according to law.

39. In so far as there is any question of "privilege," the present settlement has obliterated any distinction between the several classes of tenants bearing the special claims of any particular individual to be settled under the existing law. But it is clear that the process above briefly described must have made the ascertainment of actual working rent rates difficult, in many instances there has been a tendency for them to become merged in lump rents, whilst here again the deduction of an actual rate for any given soil is complicated by the inclusion of fallow land in the holdings; or again, the rate may be known and considered applicable to a given soil, but owing to the extension or contraction of area in the holdings, while the rents remained unchanged, the rate actually paid necessarily varied from the recognised standard. Mr. Impey describes a particular class of tenants paying *dhara* in his 173rd paragraph. *Dhara* is simply the distribution of the revenue cesses, and a small sum for village expenses over the cultivation. The rate might be fixed annually (as in *bhaiachara* villages) or for the term of settlement. There was no such fixity in the tenure as to justify the Settlement Officer paying special regard to it. The cases of those claiming under it were disposed of on their merits, indeed, in the only case in which a dispute arose, consequent on the zamindars demanding enhanced rents, the parties fortunately came to terms.

40. Finally, it may be stated that the present position of the occupancy tenant is a very strong one: it is a common axiom that in Bundelkhand the tenant is master of the situation, and owing to the peculiar process by which any given class of cultivators, became occupancy tenants and not proprietors, it is obvious that the former would be well able to maintain their position against any demand, even legal ones of the latter. At the same time there is no great divergence of rates, the incidence of the rental due regard being had to quality of soil, differing but little between all classes of cultivators. The tables given on pages 95 and 96 of the report indicate this clearly, and demand close study and examination. They indicate clearly the rise in rents (6 per cent. in rental and 18 per cent. in rent rates) which justifies the enhanced revenue obtained by the Settlement Officer, even though the area actually cultivated has decreased. This is probably due like the rise in the rental incidence in the settlement year, to rigidity of attestation, and the exclusion of non-rent paying fallow from the holdings. The rise, however, of rents



has not followed the rise in prices *pari passu*; as indeed has been found to be the case elsewhere. At the same time, there being no other logical or satisfactory explanation of the rise in rents, it can only be attributed to the increase in the value of agricultural products, partly due (Mr. Impey thinks) to the depreciation of silver, but very clearly to the introduction of railway communication, which has raised the prices of all food grains by equalizing those of a hitherto backward district with those prevailing at the great *entrepôts* of trade.

41. In Chapter IV we come at last to the operations of the present revision of settlement. After much discussion it was resolved owing to the incompleteness and inaccuracies of the existing village maps to have a cadastral survey; the traverse survey for the correct demarcation of village boundaries being carried out by professional agency, and the field or interior survey to be carried out by patwaris. The former were completed by 1889, at a cost of Rs. 12-10-10 per square mile, (debtible to imperial funds; it was expected that the latter would be completed by 1st October 1889, but owing to the obstinacy and incompetence of the patwaris (which one would have thought might have been anticipated in Bundelkhand) these expectations were defeated, so that when the Settlement Officer and Assistant Settlement Officer commenced operations, neither maps nor statistics were available for many villages; and an inspection had to be done without them. Eventually, the Survey Department made over to the Settlement Officer two copies of the map, one plane, one with unchecked blocks of soils marked on it, a rough khasra, jamabandi and khewat, a list of disputes and a crop statement, for as many villages as time would allow.

42. There seems to have been little or no difficulty in laying out the boundaries the marks laid down at last settlement being found in a state of fair preservation, but certain points connected with the maintenance of the traverse and other marks are noted in paragraph 188, and demand the attention of the District Officer in the future. The total cost of the survey and of the preparation of such statistics, as were provided by that department (*vide supra*) amounted to Rs. 53-15-6 (as compared with an estimate of Rs. 70) of which Rs. 12-10-10 is debtible to Imperial Fund, and Rs. 41-4-8 to Provincial Funds. Colonel Sandeman, says Mr. Impey, carried out an excellent survey at a wonderfully small cost, exceeding for very sufficient reasons but little his own original estimate of Rs. 40 per square mile. The Survey Department had many obstacles to contend with in the difficult nature of the country, and the ignorance of the patwaris; and the success, for which Colonel Sandeman is to be greatly congratulated, is remarkable. The defects, however enumerated by the Settlement Officer in his 192nd paragraph as characterising the maps of Moth and Jhānsi, comprise about everything that could make a map inaccurate and useless; and it is gratifying to learn they have been rectified in the Settlement Office.

43. In paragraph 193, Mr. Impey describes the amount of work done by the patwaris themselves; about 30 per cent. being done by outside agency. Another result of the survey operations, is that a large number of kanungos and patwaris have acquired a practical knowledge of surveying; whether they will keep it up without due supervision is doubtful, but the question of the future of the Jhānsi patwari forms the subject of a separate correspondence, with which we need have no concern here.

44. Settlement operations actually commenced in October 1888, Mr. Hardy the Deputy Commissioner being placed in charge; but wisely, it was considered more desirable to have a special Settlement Officer, and Mr. Impey was appointed in October 1889, and Mr. Meston, though only appointed as Assistant Commissioner, worked entirely under Mr. Impey as Assistant Settlement Officer. Mr. Impey set to work to inspect Mau tahsil, and Mr. Meston, Moth; in these two tahsils work being most advanced. In March 1890, Sayyid Mazhar Ali joined as Settlement Deputy Collector, and in July 1890, Munshi Kanhaya Lal. Subsequently, Mazhar Ali falling sick, Pandit Jawahir Lal was appointed in December 1890, for a short time. The three Deputy Collectors disposed of the attestation work, and Kanhaya Lal was retained for distribution of jamas,

&c. By the abovenamed officers, the entire work connected with revision of settlement was accomplished. Mr. Meston remaining to finish what was left after Mr. Impey's appointment to the Secretariat. Mr. Impey places on record his appreciation of Kanwaya Lal's work as the best of three the Deputy Collectors.

45. Attestation was not earned out by the distribution of slips as in other districts, this method being found tedious and ill-adapted to the conditions of the Bundelkhandi peasant. The khewat and jamabanli were read out and explained carefully and patiently in the presence of the patwari and assembled villagers, and disputes decided. It is a strong testimony to the character of the work, that out of 2,609 disputes decided by the Deputy Collectors (924 on their merits) only 24 decisions were appealed, of which 14 were upheld. The dispute lists were carefully revised by the Settlement Officer and authenticated copies of all decisions of legal validity under the Revenue Act bound up as a supplement to the Collector's copy of the settlement record. All disputes of unusual intricacy or importance formed separate files. Mr. Impey refers to the want of interest shown, especially by muáfids, in the attestation of their particular rights. It was not till the patwaris commenced to work on the corrected records that errors came to light, and numerous applications were made to the Settlement Officer to correct them. The time left, however, was too short to do this thoroughly, and some work of this nature is necessarily left to the Collector. The general result obtained is in the opinion of the Settlement Officer, that a fairly correct record has been prepared in spite of all difficulties, such as the indifference of the more particularly concerned, the incompetence of the patwaris, and the inaccuracy of existing maps and records. For a full discussion of this subject, paragraph 200 may be consulted. But there is nothing to urge but what is well-known and admitted from previous experience in this difficult work. I have no doubt the record of rights in the Jhansi district, as handed over by the Settlement Officer, was as correct as such records ever can be expected to be.

Mr. Impey inspected (and reported on) tahsils Mau and Jhansi, Mr. Meston, tahsils moth and Garotha, but Mr. Impey himself examined some of Mr. Meston's work in the tahsils inspected by him, and Mr. Meston inspected some small portion of Jhansi tahsil. The result was that the work of inspection, and therefore of assessment, was homogeneous. The method of inspection was practically the same; that of assessment was carried out on the same principles. Inspection work closed in April 1891, and in September 1891, the Mau and Moth assessments were reported. Jhansi and Garotha were completed by March and April, respectively, of 1892. During the cold weather of 1891-92, the Settlement Officers (as well as the Deputy Collector M. Kanhaya Lal) carried out a large amount of work connected with enhancement cases, various enquiries into ubaries, Government properties, irrigation rights and the customs prevailing in the territory and the resumable grants in and near Jhansi city.

47. The several assessment reports were reviewed and forwarded to the Board as follows:—

By myself	...	...	...	Mau, 12th January 1892.
				Moth, 22nd February 1892.
				Garotha, 5th August 1892.
By Mr. Williams, Officiating Commissioner	...	Jhansi, 14th July 1892.		

Sanction was received from the Board of Revenue to the several assessments as follows:—

Jhansi, 10th October.	Mau, 16th June 1892.
Garotha, 25 October.	Moth, 14th July.

The tentative distribution of Jamas was then confirmed and agreements taken from the malguzars. There was no refusal to accept settlement. Fairing work was then completed, ubari and moafi registers completed, kistbandis drawn up according to sanctioned jamas, and settlement operations closed on 31st January 1893.



48. The district, therefore, was under settlement from October 1888 to January 1893 or  $4\frac{1}{2}$  years; that is, about a year for each tahsil; and whilst in no way wishing to detract from the merits of the work of Messrs. Impey and Meston, I would only point out, that relatively, settlement operations covered as long a period in this small district as in other larger ones (*e. g.*, Cawnpore, where they covered 7 years for 9 tahsils, including survey) in spite of the presumption that the present method of effecting a revision of settlement on the existing records is more speedy and efficient than the method of Settlement Officers of the years 1870 to 1890, which were characterised as unnecessarily tedious and laborious. There is, in fact, but little difference, as will be seen, in the method of working between the Settlement Officers of an older generation, and those of the present days except that the former had, perhaps, a freer latitude in the direction of speculation, whereas the present are (theoretically) more strictly bound to existing actuals. But taking it for granted (a fact which cannot be denied) that existing records are not always correct, the Settlement Officer has to find out by close enquiry which are and which are not correct. He has then to correct the incorrect records by ascertained rates which he cannot ascertain except by the same laborious processes of inspection, analysis, induction, &c., which characterised the work of previous settlements. Indeed, I will go so far as to say, again with no desire whatsoever to disparage Mr. Impey's work, that his method of working out a fair assessment, or what may perhaps be more correctly termed, what he considers a fair assessment, is precisely the same as that adopted by former Settlement Officers. I must admit that this fact has inspired me with the greater confidence in the new Jhansi settlement, of which as you will observe three tahsils came under my own personal observation and scrutiny.

49. Paragraph 204 describes the objects and method of inspection. There is nothing new in it to be described or criticised. It is the same as I practised as Settlement Officer myself, and the same that both yourself and the members of the Board of Revenue are equally well acquainted with. Mr. Impey speaks of the difficulties in Jhansi, and compares "the broken nature of the country, the scattered cultivation the sudden changes of soil," with the homogeneous *bhur* or *dumat* of the Doab, but the necessity for demarcation into *Gauhan* and *Manjha* and good and inferior *barha* (absent in Jhansi) took as much time I imagine as Mr. Impey's inspections. These were, however I readily admit most thorough, and the remarks on the assessment statements are full to almost over elaboration, testifying to the minuteness with which every variety of soil, or peculiarity of condition, was noted and utilised for purposes of appraisalment.

50. After, or rather during inspection, the first step is the formation of circles, though of course the complete classification could not be made till the inspection of a whole tahsil was completed. Controversy has raged round this question of the formation of circles, (in itself a misleading word, the word "classes" is a more correct terminology): one would have thought that in a Bundelkhand district with its broad distinctions of soil *mar*, *kabar*, *purua* and *rokar*, that a topographical classification would have been easiest, and indeed, most correct. Mr. Impey shows in paragraph 206 how far this is from being the case, though primarily a rough distribution of the tahsils into soil circles was possible and was made. But the necessity for a further sub-division based on quality, and on rents actually paid, was forced on the Settlement Officers, as inspections went on resulting in a sub-division of each soil into various grades, or as put by Mr. Impey: "The rents were in the estimate of the Settlement Officer an indication of the assessable value of the village and the classification was made on a consideration of the actual advantages of a village and of its actual rents." If a village was on the border line between two classes it was generally classified according to its rents. To a perhaps unexpected extent, the result was that contiguous villages fell into the same class, as shown in map B.

51. This might give rise to the suspicion, that a topographical classification would have been sufficient and justifiable: or on the other hand, that the Settlement Officer was guided so entirely by rents as he found them, that the reasons for the difference in rental might get lost sight of. But in paragraph 207, Mr. Impey explains the rational of his system. It is, in brief, that under the peculiar economic conditions of Jhansi, it was

absolutely essential to go on actuals, "if" he says "the Settlement Officer has satisfied himself after inspection that the actuals are correctly returned, and are in the special circumstances of the village adequate, he is not in fact permitted to depart from them." In Jhansi, custom, not competition, determines rent, and it is a remarkable feature of Bundelkhand that its rent-rolls are, with rare exceptions, correct. They may be inadequate according to *a priori* ideas, but he would be a rash man who would attempt to interfere with them or raise them on speculative grounds. Experience has shown that when this has been done in ignorance of the peculiar "nervous system" of a Bundelkhand village, storm and disaster have been the result. The advantages Mr. Impey claims for the system of classification are really intrinsically concerned with the question of standard rates; having got your rentals, it is necessary to correct them for *sir*, &c., so as to ascertain the full capability of the village. It is equally necessary to have some standard with which to compare the corrected rental when obtained, and the narrower the margin to which that standard is limited, the rarer and slighter will be the divergence of the corrected rental from it. A large number of circles, therefore, obviates the risk of having constantly to explain why such and such a village is below or above the average of a large circle. On page 116, Mr. Impey throws together in a tabular statement all the information which he considers justifies the grading of the circles; it may be accepted as reasonably conclusive.

52. The next step is the search for actual rent rates: though the process necessarily goes on *pari passu* with the classification of circles, and the selection of standard rates for purposes of comparison. In his 210th paragraph, Mr. Impey describes the difficulties which beset him in this task. As far as regards rates, there are, old village rates, and old assessment rates which have been accepted by local custom. But the point to which Mr. Impey directs attention is that these rates do not go to compose the *rents* actually paid. *Rents* may have risen or fallen as the village prospered or declined, but the recorded *rates* have remained permanent, and multiplication of them by the areas, to which they are supposed to be applied, will not give the rents entered against them. So that after all Mr. Impey had to go back to the old processes of oral enquiry, analysis of jamabandis, or conversion when possible. The difference in the local bigha was sometimes an obstacle: but every Settlement Officer knows how rates are obtained, the only duty is to justify them when obtained. This may be done either by comparison with a rental incidence, though as shown above this is not safe in Jhansi, or by a comparison of the attested, corrected and standard rentals as given in the statement on page 116, and by comparison with the rates of other districts which Mr. Impey has not done. The statement, however, on page 119, shows the co-incidence between the three kinds of rentals to be sufficiently close to remove any original doubt as to the correctness of the rates shown. A comparison with the rates assumed in other districts might be (except with a large margin left for variation of economic conditions) misleading. A few annas per acre, more or less, may make a great difference in the total assessment of a village; and except therefore, as a matter of curiosity nothing except startling differences in the rates for different soils in adjoining districts need be noticed.

53. The table on page 118 gives all the rates selected. There are only 38 separate rates for 21 circles, the smallness in their number being a subject for congratulation to all concerned. In paragraph 213, Mr. Impey describes what these rates are or are not; they are not arithmetical averages, though they are the rates commonly found in an average village of the circle to which they belong: they are essentially *rates* that are actually paid, in so far, that they compose the rents actually paid. For full explanations of the process and results of obtaining standard rates, Mr. Impey refers to the circle report attached to each pargana assessment report; and as these have all been accepted by the Board, I presume the rates may be accepted as correct and justifiable, and further analysis is not desirable. Paragraphs 212 to 214 of the report will supply all the further information which may be required.

54. The next process is of course to correct the rent-rolls under rule 55. The standard rates were held to be the most appropriate of the three kinds of rent rates allowed for use



in correcting. In paragraph 215, Mr. Impey explains why this is, but in the latter portion of the paragraph I am glad to find Mr. Impey has the courage to put on record what is the real test of comparison, the *Settlement Officers experience and discretion*. With all tests and standards that can be devised we must come back to that, in dealing with individual assessments. It may be and is necessary, to be thoroughly satisfied of this, for there is always an underlying suspicion that a Settlement Officer may be tempted to make results agree with what he wishes them to be. In his treatment of *parti*, I have been inclined to believe Mr. Impey was so tempted; he felt (and in the case of an experienced and discreet Settlement Officer it may be allowed that he acquires by constant inspection comparison and analysis, a kind of *sense* of the fitness of rates or rentals, that a certain village could pay a certain revenue, and he was (perhaps unconsciously) led to frame a rental, adding to it something for fallow, which justified the revenue he thought it could pay. I attach no blame to Mr. Impey myself for this. It is perfectly impossible for mortal man to fix such revenue as shall be divinely accurate. With the safeguard of an appeal to Commissioner, and the scrutiny of the Board of Revenue, there is no considerable danger in such mental processes; what I do object to is, what I have called the arithmetical gymnastics, by which attempt is made to justify given results. The true test of a Settlement Officer's work is in his assessment statements and remarks, not in his final report.

It is, says Mr. Impey, and I agree with him, on these assessment remarks compared with the assessment statistics, that the judiciousness of the assessment must in each case be judged.

55. At this stage Mr. Impey compares the several rentals dealt with as follows:—

			Old terri- tory.	New terri- tory.	Total.
Assumed at last settlement (statement No. 11)	...	...	9,43,946	...	9,43,946
Recorded in 1864-65 (1272 fasli)	...	...	8,36,094	...	8,36,094
Average of 1285-95 fasli	...	...	9,51,613	...	9,51,613
Attested at present settlement	...	...	9,32,889	44,746	9,77,635
Corrected	...	...	10,39,322	47,310	10,86,632
Standard	...	...	10,51,541	46,032	10,97,573

Of the general sufficiency of the declared rents, both Mr. Impey and Mr. Meston are satisfied. There were a limited number of fraudulent attestations but "the rent-rolls are as a whole wonderfully accurate," owing, as explained, "to the custom of the country tending to the maintenance of a 'complete' jamabandi." Any difference between the present attested rent-roll and the average for the last 10 years is due to a recession of cultivation, intentional or otherwise, and also to a confusion of coinage.

56. The assessable area is given as:—

	Acres.
Cultivated	385,810
Rented fallow	4,450
Suppressed cultivation	9,106

The latter item is that decided by the assessing officer as thrown into fallow, especially in anticipation of settlement. It is chiefly found in Jhānsi pargana. The "rented fallow" is that actually included in the rent-paying area of individual holdings. But besides this area there are 66,972 acres waste included in the holdings, as to which some trouble was anticipated, though as a fact no trouble has been experienced, for it has been simply treated as waste and not assessed (except in certain villages for its value in dairy produce). The idea is, that if the cultivator breaks up any of this land he has to pay rent for it, but no proof of this has been forthcoming. The question of occupancy rights accruing in such land does not appear to have come before the Settlement Officer. He states no "objection to his exercising occupancy rights over it, has been made." But a case came before me from Mau in which such objection was taken, and it is clear that the point is one which demands a judicial finding, and did not concern the Settlement Officer as such.

57. The rent-rolls of 32 mahals were corrected by the use of a tenant rate, 704 rent-rolls were corrected by the use of standard circle rates, and only two under rule 55 (3), which is practically the same as 55 (2). The reason for giving such preference to standard rates over the tenant rate is explained in Mr. Impey's 221st paragraph, and is fully justified by the peculiar relation of tenant-held to proprietor-held land—correction by a tenant rate would in many cases have been misleading and unfair—whereas with the small circles as classified the application of standard rates was justified by the narrow margin of variation from them.

58. In paragraphs 224 to 230, Mr. Impey describes in detail the results of correction of rent-rolls. Dividing the culturable area into (a) ex-proprietary and occupancy, (b) tenant-at-will, (c) sir, (d) favourably rented, grain-rented and rent free he shows that in the land coming under head (a), there was in fact little need for correction at all, such notice as was deemed necessary of apparently inadequate rentals, being taken by means of somewhat higher assessment. Similarly with (b), with two exceptions no correction was necessary, the rentals declared being accepted as correct. Under (c) is classed the area to which the allowable deduction for sir cultivated by the proprietors themselves applies. It was calculated according to the special requirements of each individual case and aggregated Rs. 9,283, representing a total revenue of Rs. 4,640, or 84 of the revised demand. The largest increase due to correction is to be found, as might be expected under (d). It is worthy of notice, that of the area so treated, 3,854 were held on favorable rents (described by Mr. Impey as grossly inadequate) by patwaris and their relations. In three villages detailed in paragraph 232, special reduction was given for special reasons. The net result of the corrections under the several heads is as follows:—

		Increase due to correction	Per cent.
(a)	...	2,677	81
(b)	...	320	0.12
(c)	...	37,209	16.86
(d)	...	59,105	38.61

The close approximation between corrected and standard rentals is clearly brought out in paragraph 233, of which the totals are:—

Corrected	...	...	...	...	10,77,349
Standard	...	...	...	...	10,88,290

a difference of only 10,841 or 1.02 per cent. In only 13 mahals was the corrected rental rejected absolutely: 9 in Jhānsi, 3 in Moth and 1 in Garotha. In three other cases in which rejection was considered justifiable by the Settlement Officer, the Board determined that it was unnecessary.

59. In paragraph 234, Mr. Impey discusses the question of concealed cultivation, quoting from his report on pargana Jhānsi. It is on this subject that I was constrained to differ mostly from Mr. Impey, and I am glad to see that the Board of Revenue also interfered on the same ground in the assessment of 41 mahals. It seemed to me that Mr. Impey, in his wish to maintain a fair, or what he considered a fair jama, strained the point of concealed cultivation too far, and assessed the hypothetical receipts from grass too high. Where fees for grazing are directly taken, there can be no question as to assessing them, but in the case of ahirs, for instance, it is quite open to argument that the indirect receipts from dairy produce enable them to pay the rents assessed on the actually cultivated land. Mr. Impey believes that there can be no question as to moderation here. I hope so, but I believe that if difficulty is experienced in this tahsil in the realization of the revenue at any time, it will be traceable to an unduly exaggerated value attached to concealed cultivation and income from grass and dairy produce.

60. The sayar receipts are those from grass, dairy produce, wood, singharas (rightly so classed) and ground rents in Jhānsi, the total amounts to only Rs. 18,934.

61. The total assessable assets amount to Rs. 11,07,285, as compared with Rs. 9,85,353, attested assets, so that the result of correcting and supplementing the district rent-roll gives an increment of Rs. 121,932 or 12.37 per cent. The total demand sanctioned by the Board is Rs. 551,175 or 49.78 per cent. of the gross assets, an increase over the previous demand of Rs. 64,608 or 13.28 per cent.



62. Consideration for improvements has been shown in the shape of a light jama but as a fact, improvements carried out by the landlord for the benefit of the tenant are few and far between. A certain number of new wells have been dug chiefly by the tenants themselves, and field embankment is popular in the proprietor's own sir. Tenants are left to fight their own battle against *kans* or ravine action. The chief works of improvement in the district have been executed by Government.

63. In 13 mahals, an assessment of over 55 per cent. and in 28 of under, 45 per cent. has been determined. In the majority of instances, this is merely the result of fixing the revenue in multiples of 5. Of the remaining mahals, 359 are assessed practically at half assets. Where the assessment is over 50 per cent. the reasons are either lowness of attested rent and rental area, as compared with those recorded in previous years, or the lowness of occupancy rents, where no suspicion of fraud justified rejection. When less than 50 per cent. of the assets was taken, "a desire to modify the strictness of correction was behind the proposals, and mitigation of what would have otherwise been too high an assessment was occasionally effected in this way. But the chief causes for a moderate assessment were indifferent rental collections and elements of uncertainty, such as *kans*. In Bundelkhand more than elsewhere the varying circumstances of each individual village, as well as of its proprietors, require close study before deciding what proportion of the acknowledged assets the proprietors can pay as revenue." This is to all intents and purposes a repetition of what has been said above, that the fairness of the settlement depends almost entirely on the "experience and discretion" of the Settlement Officer. There is no rule of thumb for assessment any where, least of all in Bundelkhand: and though we may, reading between the lines, be tempted to believe we see the Settlement Officer manipulating figures, to realise a preconceived result; if satisfied with the general propriety of the processes gone through and the justice of the ostensible reasons given, we must accept the results given us. This I can say after a perusal of a very large number of Messrs. Impey's and Meston's assessment remarks, that I am satisfied with their fairness and the sound searching reasons given for them. I may not be prepared to believe that a revenue of Rs. 495 (say) is fairer than one of Rs. 500 or 505, and may have thought such mere refinements somewhat straining accuracy, but I refrained from any attempt to "tinker" the assessment, confident that on existing conditions they are fair, and as fair as any one could ordinarily make them.

64. Of the elements of uncertainty in the future the most noteworthy is of course *kans*. Pretty nearly everything that can be said about *kans* has been said, and the only thing left to say is that no human foresight in a Settlement Officer can provide against the consequences of its recurrence. The only thing to be done is to do what Mr. Impey has done, assess strictly on actuals, put on light revenues where there seemed hope that the zamindars would thereby be encouraged to make head against it, to settle them for a period of five years only, and to note carefully for the information of the district officer, those mahals where this danger lies and where timely assistance must be given by suspension, remission or revision of the demand. Every one who has studied the subject knows the right way of administering a Bundelkhand village, but few have the courage to deal with the matter intelligently and promptly. The opinions too, of superior authority vary from time to time as to the propriety of interfering with a revenue assessed with so much care and formality as is now the case. The history of the past is a serious warning; but surely guided by that and with the complete information now available as to the economic condition of every mahal, there should be no difficulty in the future in dealing with a state of things which can no longer be looked on as "unknown" and therefore terrible.

65. As Mr. Impey justly puts it, all Jhansi "is insecure" The whole has to be watched by the Collector, who will find warnings of impending disaster or difficulty clearly indicated by variation in cultivation, &c. Drought must always press severely over a district where population is scanty, agricultural stock inferior, irrigation so difficult and physical characteristics render cultivation so absolutely dependent on sufficient and (more important still) timely rainfalls. Frequent changes in officers will most certainly

render administration capricious and unsteady, but with a sufficient staff to carry on ordinary district work, the Collector of Jhansi ought to have as much leisure as is required to watch the state of each mahal in his district, as a good gardener will look after the progress of his cauliflowers.

66. Progressive enhancements have been allowed in 96 mahals, where the enhancement is over 35 per cent. on the old revenue. This gives a loss of revenue of Rs. 14,050 or 5 years, Rs. 2,555 for 10 years, Rs. 105 for 15 years. In 168 mahals the revenue has been reduced. The revenue has been fixed for twenty years only. I recommend its being sanctioned as it now stands.

67. There is nothing more to be said by me at least as reviewing officer, for the remainder of Mr. Impey's report is taken up with repetitions of subjects already more or less dealt with. As summaries for use of future readers Chapters V and VI will be found useful. It only remains for me to place on record my high appreciation of the work done by Messrs. Impey and Meston, their industry, energy, and intelligence have succeeded in framing an assessment in a most difficult tract of country that will bear comparison with the settlement of any other district. I think I may lay claim to some experience in settlement work, and I do not hesitate to state that the assessment of Jhansi district could not have been done better by any one. I only regret that pressure of current work and the hurry of my approaching departure have prevented my reviewing Mr. Impey's report at greater length, and with fuller justice to its interesting account of the second revised settlement of the Jhansi district.

In paragraph 276, Mr. Impey names the officials who served under him as entitled to commendation, and I have much pleasure in bringing their names to the notice of the Board.

I have the honor to be,

SIR,

Your most obedient servant,

F. N. WRIGHT,

*Commissioner.*



## PREFACE.

---

A FEW remarks appear to be necessary to explain the circumstances in which, under instructions from the Board of Revenue, a joint report by Mr. J. S. Meston and myself on the settlement of the Jhānsi district has been submitted. The settlement of the district—the second which has taken place—was carried out by me between the 1st November 1889 and the 2nd April 1892, assisted by Mr. Meston as Assistant Collector on settlement duty. On the 2nd April 1892, the last of the four tahsil assessment reports having been submitted, I left the district to take up another appointment, since when Mr. Meston, as Settlement Officer, has brought the work to completion. Part of the final report had been written previous to my departure and I have added certain sections since : but the larger portion has been contributed by Mr. Meston, under whose direction the whole of the Appendices have been prepared. Free use has been made throughout of the tahsil assessment reports, which naturally contain more detailed information than will be found herein. The statistics in the Gazetteer of the district, which was published many years ago (1874) are out of date : but it may be noted that information regarding the history, tenures, &c., of Jhānsi, to be found in the valuable report of 1867 by Sir E. G. Jenkinson, K.C.B., on the first settlement of the district, on which most of the Gazetteer is based, has not been repeated in this report. It is hoped that the Glossary of vernacular terms appended to the report will be found useful by the officials of the district.

NAINI TAL,  
*Dated 1st July 1893.*

} W. H. L. IMPEY, C.S.,  
*Late Settlement Officer of Jhānsi.*

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# CHAPTER I.

## Preliminary.

### SECTION A.—GENERAL.

1. The Jhānsi district, for the purposes of this report, is the district as it was before the amalgamation with it of what is now the Lalitpur sub-division. The Government notification declaring Jhānsi to be under settlement (G. O. No.  $\frac{1479}{1-505}$ , of 11th October 1888) was published before the Lalitpur district was absorbed. The report, with the Appendices (excluding one), must also be understood to take no cognizance of the sixty-two villages of the Gursarai estate or, except where specially mentioned, of the six villages and a fraction composing the Kakarbai estate, both *ubāris*, i.e., estates held on favourable terms and hitherto exempt from settlement. At this settlement the Government decided (G. O. No.  $\frac{636}{1-534A}$ , of 2nd April 1891) that no orders were required regarding the settlement of Gursarai; and Kakarbai was, by G. O. No.  $\frac{1844}{1-505}$ , of 13th December 1888, excluded from the cadastral survey operations. The latter estate was inspected for the determination of cesses, but no record of rights was prepared except, under special orders, in one village (see paragraphs 48 and 271.)

Tract under report.

2. Subject to these explanations, the Jhānsi district, which is situated in the extreme south-west corner of the North-Western Provinces, may be described as an extremely irregular quadrilateral, bounded on the east by the Dhasān river, which separates it from the Hamīrpur district; on the north by the Gwalior and Samphar States and by the Betwa river, across which lies Jalaun; on the west by the Gwalior, Dattia, and Kaniya-dhāna States, and on the south by the Lalitpur sub-division and the Orchha State. But any attempt at an accurate definition of boundaries is baffled by the extraordinary intermixture of native territory throughout the district, though the boundary on the south-west has been somewhat improved since last settlement by the interchange of territory with Gwalior in 1886. The Dhasān on the east gives a continuous boundary line: and the Pahuj and its tributary the Anguri very nearly do so on the west. It seems unfortunate that at the recent exchange of territory Gwalior was left with a small piece of land (mauza Salethra) on the right bank of the stream and the Government with a small piece (mauza Pohra) on the left bank. Elsewhere native territory (Orchha chiefly, with Samphar in a lesser degree in the north) is hopelessly interlaced with British. The Mau and Moth tahsils are the most scattered, Native State villages, singly and in groups, appearing at every turn, and British villages running out like headlands into foreign territory or being entirely isolated by it from the main body of the tahsils to which they belong. This want of compactness results in the dimensions of the district being out of all proportion to its area. Its greatest length, from the north of Moth to the south of Jhānsi tahsil, is about 66 miles; its greatest breadth, from the Dhasān to the edge of the new territory, about 71 miles; the bounding parallels of latitude being  $25^{\circ} 06'$  and  $25^{\circ} 55'$ , and of longitude  $78^{\circ} 21'$  and  $79^{\circ} 27'$ . The total area, as now surveyed, is 1,494.02 square miles,\* or 956,177 acres, including 46.81 square miles of Government reserved forest, and excluding both the Gursarai and Kakarbai estates:

Boundaries and area.

3. At page 65 of his settlement report of the Jhānsi district, 1871, Mr. Jenkinson details the territorial sub-divisions as they stood in 1866, viz.—

Territorial sub-divisions.

			Number of mahāls.	Area in square miles.	Area in acres.
Jhānsi	...	...	199	414.70	2,65,402
Moth	...	...	142	255.84	1,63,738
Garotha	...	...	127	496.31	3,18,137
Mau	...	...	170	440.66	2,82,018
Total	...	...	638	1,607.51	10,29,295

\* That is, it is somewhat larger than Suffolk, or about the combined area of Berwick, Roxburgh, and Midlothian, or of Wicklow and Waterford.



The four tahsils, according to the figures of the recent survey, now stand as follows :—

			Number of villages.	Number of maháls.	Area in square miles.	Area in acres.
Jhānsi	...	...	214	231	503.99	3,22,557
Moth	...	...	134	157	242.29	1,55,066
Garotha	...	...	120	136	309.34	1,97,976
Mau	...	...	170	215	488.40	2,80,578
Total	...	...	638	739	1,494.02	9,56,177

The statistics of the recent survey, like those of last settlement, include Government forests, but exclude the Gursarai estate, which Mr. Jenkinson included in Garotha and counted as one mahál of apparently about 150 square miles in area. They exclude also the six unsurveyed villages of the Kakarbai estate (which Mr. Jenkinson also included in Garotha), with an approximate area of 23,42½ acres or 36.60 square miles.

Alteration in territory  
since last settlement.

4. The differences between the past and the present constitutions of the Jhānsi and Moth tahsils are due to interchanges of territory at different times during the currency of the present settlement between the British Government and His Highness the Mahārāja Scindia. Twenty villages (fifteen from Jhānsi and five from Moth) in the north-west corner of the district were ceded to Gwalior in 1871 during the settlement of accounts connected with the establishment of the Morar cantonment and with a cession of territory by Scindia to the Nizam on the mediation of the Supreme Government. In 1886, when we vacated Fort Gwalior, we gave up thirty-one and a half more villages (four and a half from Moth and 27 from Jhānsi in the old pargana of Bhānder), receiving in exchange the 58 villages in the west and north-west of the Jhānsi tahsíl, known as the new territory. The Bhānder villages were some of the richest and best cultivated in the district, while those received in exchange are inferior and sterile. It was convenient, however, for Scindia to make Bhānder the headquarters of a new subah; and the addition of territory in the neighbourhood of Jhānsi advanced our boundaries to a distance of 12 miles from the headquarters of the district—an obviously desirable arrangement. It was in this latter exchange that we re-obtained possession of Jhānsi city, including the fort, whose battlements, commanding our cantonments and civil station (known then as Jhānsi Nauábád), had, since the cession of the town and fort to Gwalior in 1861 as part of the territory granted in return for services in the Mutiny, been manned by Scindia's troops. The territory ceded by the Mahārāja was incorporated in the Jhānsi district by Act XVII of 1886 (Jhānsi and Morar), and made subject to the laws prevailing in the rest of the district.

The Jhānsi and Moth tahsils, starting in 1866 with 341 villages, thus lost fifty-one and gained fifty-eight whole villages by transfer. One village, Dhakwan, in Jhānsi, has been left out of account as being now a Government forest. In this way we arrive at the 348 villages of which the Jhānsi and Moth tahsils now consist.

Parganas.

5. Each tahsíl is a pargana, although Jhānsi and Mau have two supervisor kanúgos each, whose jurisdictions might conveniently be recognised as separate parganas. The second kanúgo for Mau has only recently been appointed. The revenue work of the district will be considerably enhanced with the more careful work that will in future be required of patwáris, the proper maintenance of maps, and the increase of litigation that will probably follow the new settlement.

System of administration  
from the earliest times  
of British occupation.

6. It will be necessary to mention in detail important administrative changes which have recently taken place; before doing so the system of administration previously in force may be briefly summarized.\* The district up to 1891 formed one of the non-regulation tracts of the North-Western Provinces. Between 1839 and 1843,

\* Cf. the Law of the Extra-Regulation Tracts subordinate to the Government of the North-Western Provinces, by P. Whalley, M.A., 1870, from which much of the following is taken.

when the greater part of the district was temporarily under the management of the British Government, it was placed in charge of the Superintendent of Jalaun (for some time Captain Ross), in subordination to the Governor-General's Agent in Bundelkhand (Mr. Bushby) stationed at Jhānsi. The houses at present occupied by the office of the District Judge and by the District Superintendent of Police are situated in the grounds of the old "Agency," the former having been the Residency and the latter a guest house. In 1855, after the lapse of Jhānsi to the British, and its inclusion in the territories under the Agra Government, Jhānsi was made a separate charge under a Deputy Superintendent, Captain F. D. Gordon, who was much in the position of a Collector, while a Superintendent (Captain Skene) was appointed for the three districts of Jhānsi, Jalaun, and Chanderi (Lalitpur), with headquarters at Jhānsi. The Superintendent had the ordinary powers of a Commissioner and was Civil and Sessions Judge as well. He was subordinate to the Commissioner of the Saugor and Nerbudda territories at Jubbulpore (Major Erskine), who had general powers of control. After the Mutiny (in 1858), the above three districts were detached from the Saugor and Nerbudda territories, which were subsequently included in the Central Provinces; and were formed with the outlying regulation district of Hamirpur (which, however, was removed in 1863 owing to the inconvenience experienced from the admixture of regulation and non-regulation tracts under one jurisdiction) into the Division of Jhānsi under a separate Commissioner (Major Pinkney): the title of the District Officers was at the same time changed from Deputy Superintendents to Deputy Commissioners, and in 1862 the cadre of the Jhānsi Commission, together with the scale of the subordinate establishments, was prescribed. No further changes of importance took place until 1891.

7. The local rules which governed procedure in the times anterior to the Mutiny disappeared subsequently to that event, and were superseded by regulations formally introduced or spontaneously applied. Up to 1862 a separate judicial agency, known as the Pargana Courts, had existed, with a Principal Sadar Amin at Jhānsi. This was abolished in 1862 by a Resolution which blended all kinds of fiscal and judicial functions in the same person from the Commissioner to the Tahsildār, an arrangement which held good until the recent separation in 1891. A revised set of civil and revenue rules promulgated at the same time was legalized by Act XXIV of 1864 (Non-Regulation Districts), which also extended to Jhānsi the Code of Civil Procedure. By Act XVIII of 1867 (Jhānsi Courts) the jurisdiction of the Courts of Civil Judicature were defined.

The law in force.

The Code of Criminal Procedure, which came into force in the regular provinces in 1862, was applied also to Jhānsi, and from that year, with the exception of revenue and rent suits, which were conducted in accordance with the old regulations, the administration of Jhānsi was governed by the laws in force in the North-Western Provinces generally. By Acts XIV and XV of 1874 (Scheduled Districts and Laws Local Extent) all doubts were set at rest as to what enactments were in force in the Jhānsi Division, and as the Jhānsi Division was not excluded from the operation of the Rent and Revenue Acts of 1873 and of 1881, the body of law in force at the time of the recent administrative changes differed practically in no wise from that in force elsewhere in the Provinces.

8. In 1888 two important questions connected with the administration of the Jhānsi Division came under the consideration of the Government. The first was the separation of the judicial and executive functions at that time exercised by the officers of the Jhānsi Commission in the three districts of Jhānsi, Jalaun, and Lalitpur: the second was the reorganization of the districts subordinate to the Commissioner and the extension of his jurisdiction.

Recent administrative changes.

In 1889 a Committee was appointed to examine and report on these matters together with certain other proposed administrative changes in other parts of the

Committee of 1889.



North-Western Provinces and in Oudh. The results of the Committee's inquiry\* and the reasons for accepting the changes proposed by it were thus summed up by the Local Government in Resolution No.  $\frac{1259}{1-543A}$ , dated 26th July 1890 :—

"The Jhānsi Division, as at present constituted, is the last remnant in the United Provinces, with the exception of the Kumaun Division, of the non-regulation system which formerly existed in Oudh and other parts of India. Hitherto, mainly owing to the fact of its lying to the south of the Jumna and to the difficulty of access to the districts comprised in it during the rainy season, it has been thought desirable to maintain a separate division, comprising the three districts of Jhānsi, Jalaun, and Lalitpur. The difficulties of access which have hitherto existed have disappeared with the introduction of the Indian Midland Railway and the construction of a bridge across the Jumna at Kālpī. The Jhānsi Division has now for the first time been brought into immediate contact with the rest of the united provinces, and the time has come to consider whether it is necessary to retain a division of which the area and duties are comparatively so small as to challenge immediate attention. The area of the Jhānsi Division is 4,991 square miles only, its population but a million, its revenue 15½ lakhs, while rent and other revenue appeals amount to 148 only. The work of the Commissioner is to some extent increased by the fact of his exercising Civil and Sessions jurisdiction, but even when allowance is made for this, his duties have been comparatively very light. \*

\* \* The proposals of the committee are briefly as follows :— firstly, to abolish the Commissionership; secondly, to relieve the Deputy Commissioners of all civil work; thirdly, to create the appointment of a Judge on a salary of Rs. 1,833 per month; fourthly, to create the appointments of a Subordinate Judge and two Munsifs on salaries of Rs. 500, Rs. 300, and Rs. 200 per mensem, respectively; fifthly, to abolish the district of Lalitpur as a separate district, and to make of it a sub-division of the Jhānsi district. \* \* \* The three districts hitherto comprising the Jhānsi Division, thus reduced to two, will be brought into the Allahabad Division, in which are already comprised the districts of Banda and Hamirpur lying south of the Jumna in immediate proximity to Jhānsi and Jalaun. The whole of the trans-Jumna districts will thus be grouped under the Allahabad Division. \* \* \* The financial results of the administrative changes proposed for the Jhānsi Division are as follows :—

					Rs.
Reduction in establishments	...	...	...	...	8,615
Increase in ditto	...	...	...	...	4,361

"Besides the modifications of establishments already mentioned, there are comprised in the above figures "the reduction of a Deputy Collector of the 2nd grade, and the grant of a sub-divisional allowance to the "officer in charge of Lalitpur. It has been further decided to amalgamate the remaining officers of the "Jhānsi Commission with the Oudh Commission on terms which will be notified hereafter."

Act XX of 1890.

9. By Act XX of 1890 (North-Western Provinces and Oudh), effect was given to the administrative changes thus decided upon. Under the provisions of that Act the Jhānsi Division ceased to be a scheduled district, and the three districts of Jhānsi, Jalaun and Lalitpur were annexed to the Allahabad Division; while all enactments in force in that Division were extended to Jhānsi. This reorganization took effect from the 1st of April 1891, when the revenue officers of Jhānsi were relieved of their civil functions by the appointment of a judicial staff, which at present consists of a Judge, a Sub-Judge, and two Munsifs (one at Jhānsi and one at Lalitpur).†

The title of the District Officer was at the same time changed from Deputy Commissioner to Collector, the power to try as a Magistrate all offences not punishable with death under section 30 of the Criminal Procedure Code being withdrawn. Owing to the disturbed state of the Lalitpur district, it was not converted into a sub-division in charge of a Joint Magistrate and annexed to the Jhānsi district until the 1st of December 1891, on which date full effect was given to the new arrangements and the enlarged district of Jhānsi became one of the regulation districts of the North-Western Provinces.

In the days of the Emperor Akbar, the headquarters of the Subah, which included the Jhānsi district, were at Agra: the headquarters of the Division under the present Empire are at Allahabad. Though excusable regrets may be felt that it

\* \* *Vide* Report of the Committee appointed to consider certain administrative changes proposed for the North-Western Provinces and Oudh, 1889.

† The latter has also been given (Notification No. 614 of 22nd March 1892) the powers of an Assistant Collector, 1st class, under the Rent Act, and of a Magistrate of the 1st class, the number of civil suits not being sufficiently large to give full occupation to a separate Munsif.

was not found possible to form a Bundelkhand Division, consisting of the Banda, Hamirpur, Jhānsi, and Jalaun districts, with headquarters at Jhānsi, the new scheme has concentrated the Bundelkhand districts under one Commissioner, who, owing to improved railway communication, is fairly accessible to the inhabitants of the trans-Jumna tracts.

10. From these larger administrative changes it may not be inappropriate to turn to the municipal changes that, taking advantage of a rarely occurring opportunity, we have recently been effecting in the city of Jhānsi, originally known as Balwantnagar, since its transfer from Gwalior to the British Government. The city, like the district, has had a chequered history. An interesting paper in possession of one of the Jhānsi hereditary kanúngo families gives a catalogue, from which the following information is mainly taken, of the various rulers that have governed the city down to recent times: but materials for a trustworthy history of the place are scarce.

History of Jhānsi city.

The city, which is one of the few walled towns still left in the North-Western Provinces, is said to have had its origin about 1553A.D., when two Ahírs, Birsā and Asole, came from the west country and built some huts under the Bangra hill (where the fort now stands), for convenience in watching their herds. The jungle that covered the site of the present city was attached to the village of Lahrgird, and the Rāja of Orchha owned the surrounding country. In 1613A.D. the then Rāja (the famous Bir Singh Deo) built a fort on the Bangra hill, the part of the works dating from his time being known as the Manj Mehál. It was one of the fifty-two *garhis* which the Rāja is believed to have founded in the neighbourhood; and Jhānsi, at first a humble village, gradually grew up around it.\* After the submission of Bir Singh Deo to Sháh Jehán\* the Governors of the fort seem to have been Muhammadans. The last of them, Mukim Khán, was in command from 1729 to 1742A.D., and it was a disgraced subordinate of his, one Sheikh Buláki, whose treachery led to the capture of the fort in 1742 by the Mahrattas. Buláki, on being expelled from his post as Jhānsi kámdár, a rank similar to that of a tahsildár, repaired to Málwa and followed the fortunes of Malhar Krishan Rao, one of Náru Shankar's generals, then on his way up north. He accompanied the invading army as far as Bijoli, where he left them and, entering Jhānsi as a penitent, obtained pardon and restitution in his post. He then sent a secret message to the Mahratta army, which advanced under cover of night and gained command of the fort without bloodshed by stealing through a postern in the fort which the traitor, Buláki, had left open for them, on the plea of entertaining friends from the city. The Mahrattas seized Mukim Khán and made him sign a document selling them the fort.

Náru Shankar followed his subordinate in the following year, and between then and 1755A.D. he built the part of the stronghold known as the Shankar Fort in extension of the older works, and improved the town.\* After his recall in 1757 his successor was Mahadai Govind Antia, who embanked and gave his name to the Antia Tál, outside the walls on the Gwalior road. From 1761 to 1765 came a period of confusion, which Mr. Jenkinson does not mention. The kanúngo's manuscript says the Muhammadans under Shuja-ud-daula again, probably after Pánipat, got command of the fort, but were ejected after a six months' stay by Sháhzáda Anúpgir Gosain, the Moth freebooter.\* This interloper built the Lachmi Tál and temple, but got into debt and had to pawn the fort and town to the Rāja of Orchha. In 1766A.D. Biswas Rao came with a force and restored order and the Mahratta rule. The Subah who followed was Raghunath Rao Hari,\* who formed an alliance with the Bundelas and practically started the Jhānsi State, the later history and ending of which is too well known to need notice here. On 3rd April 1861 the city and fort were made over to Scindia, and in April 1876 the Mahratta tahsíl at Jhānsi was reduced, the villages pertaining to it being distributed among Karehra, Duboh, and Pichhor. Nothing more

\* Cf. Settlement Report of the Jhānsi District, 1871, by Mr. E. G. Jenkinson, paragraphs 13, 14, 15, 21, 25, 172 *et seq.*



of importance occurred till the re-transfer in 1886. The fort, which had as far back as twenty years ago,\* been falling into ruin on a tacit understanding that it was not to be armed or repaired, was then put into a state of efficiency from a military point of view; and reforms of a no less sweeping, though of a peaceful nature, were introduced in the city.

Recent changes in the city.

11. The police and judicial system which prevailed under the Gwalior rule† was not in a way unlike what succeeded it on our assumption of authority. The kotwál was head of the city police, with no recognised punitive powers. The Subah had criminal powers up to sentences of seven years' imprisonment, capital charges being committed to the Darbár, and the prisoner, if convicted, being blown from a gun instead of hanged. One Naib Subah had criminal powers up to three years: the other was a revenue officer purely. The tahsildár could fine Rs. 5 or imprison for a week. Similarly with civil suits, the tahsildár could decide cases the subject-matter of which was under Rs. 300, and so on. Municipal interests were more or less under the direct supervision of the Subah. The revenues of the city were credited direct to the State, just as its expenses were a direct State charge: there was no municipal balance sheet. The sources of income, other than octroi or *permit sayar* as it was called, were known as the *Chaudah Báb*, or fourteen heads, being made up as follows: Dhimar Báb, Nau Báb, Chamári Báb, Kárigar Báb, Bahna Báb, Káchhi Báb, Khatik Báb, Kori Báb, Teli Báb, Gári Báb, Chhipái Báb, Dáli Báb, Ábkari and Muskarát.‡ Each of these was farmed to a contractor, who was tied down by certain rules against extortion and punished when convicted of violating them. The farms—the larger ones at least—it is said, were always taken by capitalists from outside, and not by local men. The octroi system was a simple one. The tax on all scheduled imports (*amdáni*) was 1½ annas per bullock-load, a cart being estimated as containing so many loads. The simpler food-grains, wheat, gram, juár, &c., paid this due only once: on other articles, rice, gúr, ghí, &c., it was levied twice over—once at the outpost and again at the head octroi office, or 3 annas an ox-load in all. There was no further refinement in rates. Exports (*nikási*), i.e., anything leaving the bounds of the Jhánsi tahsíl, paid 1½ annas per bullock-load all round.

The income thus obtained was not lavishly expended on improving the city. There were no metalled roads, and no arrangements for lighting the streets by night, except in the main bazár, where the stone lamp posts erected by the British when they first took over the city were utilized as long as they stood. There were no rules regulating the building of houses, and the law as to encroachment was vague. Sanitary arrangements were left to private sweepers, except latterly, when a few public scavengers were employed under the supervision of the kotwál; and the refuse of the city was thrown outside the walls, for any one to remove who pleased.

The improvements that have been effected since 1886 scarcely require enumeration. An octroi schedule specially framed to protect through trade from taxation was introduced and worked at half rates only up to March 1891, when full rates were imposed. Metalled roads have been run through the city from the important gates, the chief of which is directly connected with the railway station by a new road, and new openings have been made in the walls. The main thoroughfares are drained

\* Gazetteer, 1874, page 433.

† This information is obtained from a respectable resident, the grandson of a leading official in Mahratta days.

‡ Most of these bábs explain themselves. The contractor of the Dhimars, Naus, &c., was the *chaudhri* or manager of the guild, who had to arrange for all calls upon it and who received certain definite titles from its members. The *chaudhri* of the *Dhimars* (singhára cultivators, &c.), was supposed to get Rs. 2 a house yearly: of the *Naus* (barbers and general messengers) annas 8 to Re. 1: of the *Chamárs* (skinners) Rs. 2: of the *Káchhis* (fruit sellers and thatchers) Rs. 2: of the *Koris* (weavers and labourers) Rs. 2: and similarly with the *Bahnas*: from the *Telis* he got annas 8 per kolhu, from *Khatiks* (butchers) Rs. 2 a shop, and from carters, Rs. 2 per cart regularly plying for hire. *Karigars* (workers in stone and earthwork) paid a quarter pice each per day of employment. The *Chhipái Báb* was a cloth duty of a quarter pice per piece (*thán*) levied on stamped *sáris* and *chanderi pagris* which were Hall marked by the State. The *Dáli Báb* is the most curious of all. A royal chair (*gaddi*) was kept in the octroi office, and in front of this all petty traders coming in from outside made offerings of pán, fruits, vegetables, cocoanuts, &c., in rough proportion to the value of their stock. Every evening whatever had been amassed during the day was carried off by the contractor. *Ábkari* (excise) and *muskarát* (opium, bhang, &c.) need no explanation.

and lighted. A spacious and handsome market-place has been built and named Hardyganj, after Mr. R. G. Hardy, in whose tenure of office as Deputy Commissioner and subsequently as Collector the city was transformed into what it is. Sanitation has made rapid strides, and vaccination has been enforced. A public hospital of much architectural merit has been built at the foot of the fort hill, and a new high school is in course of erection.

12. With the history and antiquities of the district—both subjects of great interest—this report has no concern. On the former, little could be added to the sketches given in the Gazetteer (*passim*) and in Mr. Jenkinson's 1871 Report (pages 57-64, 87-88, &c.). In antiquities the district is rich\*. Chandeli remains are found everywhere on the banks of lakes, in old shooting boxes and fortifications, in temples on almost every hillside. A magnificently complete temple,† near Pachwara, now giving shelter to a fragment of a probably older stone figure, on the base of which the date 1228 Sambat (=1171A.D.) is discernible, was recently strengthened and repaired at Government expense; and an equally fine structure, though of a somewhat different style at Tharro, in the north-east corner of Garotha, deserves the protection of the district authorities. The ruins of grim old fortalices on every eminence of importance are indicative of the troublous times from which the country has comparatively recently emerged, and would yield useful information to a skilled archæologist. Some rock inscriptions‡ near the Haibatpura group of lakelets (Garotha tahsil) are interesting, the oldest bearing the date of 1197 Sambat (=1140A.D.). And the defaced inscriptions on countless *sati* pillars§ would well repay decipherment. The Muhammadian mosque and ruins at Erich|| are well known to all antiquarians.

History and antiquities.

13. The common language of the people is a Hindi patois, marked chiefly by the breadth of its vowels and certain peculiar formations of its verbs. Like most vernaculars, it is fairly receptive: and it has been enriched by a number of Marathi words—relics of the temporary rule of the Peshwas in this part of the country—which, it is believed, are not heard beyond the Jumna. Even in this comparatively backward tract a few English words are creeping into the dialect; *siloos* and *tonroti* are now the only local words for *sluice* and *town duty* (*i.e.*, octroi), and other examples could easily be found. It would be obviously out of place here to attempt any account of grammatical peculiarities, but the more common agricultural terms and other everyday words which have been noted down in the course of inspection work by the Settlement Officer and Assistant Settlement Officer as distinctively Bundelkhandi have been collected in a glossary at the end of this report. They are arranged according to the order of the English alphabet: and, as far as possible, their Hindi spelling has been given: but the spelling is in many cases only the nearest approximation to the sound of the words as they are heard in ordinary use. Where all the parts of a machine (*e.g.*, plough or Persian wheel) are noted, those words which are common to other districts are recorded as well as the purely local words, for completeness' sake. And it is quite probable that several other terms in the list may be found outside Jhānsi, though ordinary well known Hindi words have been, as far as possible, excluded.

Language.

14. From a topographical point of view, the district may roughly be divided into two distinct tracts. In the south we find a highlying rocky country, intersected by ranges and groups of low jungle-covered hills, dotted with lakes, sparsely populated, and yielding, except in a few fertile villages influenced by irrigation, the poorest returns to husbandry. In the north the country is comparatively level and lowlying; characterized by dark soil, naturally fertile, and fairly well populated. The southern

Physical divisions.

\* Cf. Beglar's "Tour in Bundelkhand and Malwa" (General Cunningham's Archaeological Survey of India, Vol. VII), pages 30-36.

Also "Monumental Antiquities and Inscriptions in the North-Western Provinces and Oudh," by Dr. Führer, 1891.

† See Führer, p. 116.

‡ Mentioned by Beglar, page 31, and Führer, page 116; copied in "North Indian Notes and Queries, Vol. I, page 54.

§ One is printed in "North Indian Notes and Queries," Vol. I, page 37.

|| Beglar, pages 32-36; Führer, pages 117-118.



half is the beginning of the broken country that leads up to the lower Vindhyan ranges in the south of Lalitpur: the other half of the district is the beginning of the black soil plain that runs through Jalaun to the Jumna. It would be difficult as well as unnecessary to indicate with any attempt at accuracy the points at which the stony and the fertile tracts shade into each other. A few miles north of the Jhānsi city the transition is pretty clearly marked, and, generally speaking, most of the villages to the north of the Nowgong road have level tracts of dark soil: but at no part of the district is one ever entirely out of sight of rocks and hills.

Geology.

15. In what is intended to be strictly a settlement report a discussion on the geology of the district, interesting though the subject is, would be out of place.\* So far as it concerns the soil formation it is intelligible enough. Superincumbent on the basis of rock which is found throughout the district, a typical cross-section would disclose three layers of soil, a black, a yellowish, and a reddish, to take them in order downwards. The last is the débris of stone and gravel, locally known as rākar, retaining no moisture and only intermittently cultivable. In the uplying hilly tracts it is the dominating soil; but further north it gets covered by a thin layer of clay, which gives the yellowish or parua soil. Beyond this, in the fertile tracts of the north of the district, a black deposit, sometimes (erroneously and on the *lucus a non lucendo* principle, as it generally grows wheat), spoken of as "cotton soil," believed to be alluvial in origin, has been laid down over the clay. This deposit, rich in small nodules of kankar and in minute shells, gives the mār and kābar soils, the former where thick and cohesive, the latter where thinner and deteriorated. That these three layers are everywhere found in regular array is not of course to be expected. Denudation, water action, even the action of the plough, tend to displace and mix them; the clay stratum is irregular in distribution, and by no means universal; and the three strata are, as often as not, found side by side in different parts of the same village. Nor is the black alluvial loam, or its clayey substratum, or the underlying débris, or the combination of all three formations, anywhere of any great depth; for stone is constantly close to the surface. The isolated hill ranges in the northern half of the district, and the devious groups of hills in the southern half, are the chief exhibitions of rock, the core of hard stone which they all contain being faced by the reddish products of their own decomposition. But rock is also found abundantly on the plain tracts. The Betwa and Dhasān, in parts, have laid bare channels of almost solid gneiss: and terraces of the same stone are common enough on the banks of these rivers and their tributaries. One of the most striking features of the landscape in the northern part of the district lies in the isolated heaps of granitic boulders dotted about otherwise level tracts, and having no apparent connection with, and no deteriorating effect upon, the rich black soil that almost invariably surrounds them. In appearance they look like glacial moraines, and in popular tradition they are handfuls of stones which Rāma's monkey allies dropped on their way to build a bridge to Ceylon: in reality they are probably relics of bygone hill ranges, as will be noted later on.

Rivers.

16. The district is thoroughly well drained, in many parts over-drained. Jhāls and marshes are practically unknown: and after the heaviest rains the superfluous moisture is carried off, except from the large black soil plains, with extraordinary rapidity by the network of rivers and nālas that cover the country. The chief stream is the Betwa, which rises near Bhopal, and runs through the heart of the district in a north-easterly direction, turning sharply round when it reaches the northern border, to flow off due east and ultimately to join the Jumna at Hamīrpur. Its most important tributary is the Dhasān, which forms the eastern boundary of the tract. These two rivers between them drain practically the whole district. The Pahuj on the eastern border is an unimportant stream rising just beyond the south-west corner of the district, which has been dammed at Garhiya near Jhānsi to form a reservoir for the

The Pahuj.

\* Professor Martin Duncan, in his abstract of the Geology of India, speaks of the country between the northern escarpment of the Vindhya and the Jumna as a semicircular space covered with alluvium, the sub-rock of which is gneiss with quartz veins.

water-supply of the Indian Midland Railway headquarters, and which carries an insignificant body of water towards the Scinde. The watershed between it and the Betwa is nowhere more than two or three miles from its right bank, and the only nala of any importance that flows into it is the Bhádai, rising near the Koncha Bháwar tank and running through the north-west of the Jhánísi tahsíl.

The Betwa is a broad and rapid stream, confined between high banks and flowing over a deep and rocky channel. It is not navigable from below; fords are scarce, and in the rains ferrying is frequently attended by danger, even when not interrupted by flood. The characteristic features of its channel have been modified in its upper reaches by the magnificent weir which was thrown across it in 1881-85 by the Irrigation Department near Parichha in the north of the Jhánísi tahsíl, to form the reservoir of the Betwa Canal. The total length of the weir (including a small island in the centre of the river) is 4,246 feet, its crest being 631·8 feet above sea level, and on an average 25 feet above the normal level of the river bed inside it. For some seventeen miles above this point the river has now been converted into a stately stretch of water. At this part of its course the scouring of tributary torrents into the river and ravine action along its banks are remarkably small, but once released from the weir, it courses again over a deep and stony bed, and its banks are lined with mazes of ravines. Its tributaries, though none of them, leaving the Dhasan at present aside, are of any great length, are drawn from practically the whole of the Moth and Jhánísi tahsils and the wild outlying south-western corner of Mau. The chief of them on its left bank are the Gauráni, flowing through the south of the Jhánísi tahsíl, and the Gairao, Barwao, and Garrukha nálas draining the western half of Moth. On its right bank the slope is less pronounced, and none of the affluents are of any size except the Barwa, which, rising in Orchha territory, forms and flows through the well-known Barwa Ságar, and the Ken or Dangrai, a stream of many heads rising among the broken country south of Arjar and replenishing the large lake of that name.

The Betwa.

The Dhasán is not unlike the Betwa on a smaller scale: but the ravines by which it is flanked along its whole course are the wildest in the district, growing denser and more complex as the river approaches the Betwa. Its catchment basin includes practically the whole of Garotha and the main block of Mau, and its chief tributaries are of considerable length and importance. They are, commencing from the south, the Ur; the Sukhnai, which, flowing under the town of Mau, absorbs the Karár and the Suprá; the Lakheri, which, receiving the Durheri, the Patrahai and the Bonda, is a biggish stream by the time it passes the village of Garotha; and, lastly, the Chaich, which flows through the rugged ravine tract known as the "Ghár" towards the junction of the Betwa and the Dhasán. These streams, following the general slope of the country, run in a north-easterly direction, nearly parallel to each other. They cut out channels of considerable depth, flanked almost from their sources by belts of ravines, and carry down in the rains swollen and destructive torrents: but in none of them is running water to be found after the cold weather. This, in fact, is true of all the streams in the district, except the Betwa and the Dhasán: for even the Pahuj, below the railway dam, loses most of its volume early in the year, and by the end of the melon season it is generally dry altogether.

The Dhasán.

17. No description of the Jhánísi rivers would be complete without a reference to their wonderful power for throwing out ravines. It is only the natural result of the depth of their channels and the steepness of their gradients, aided often by the nature of the soil on their banks: but nothing in the Jhánísi scenery more strikes a stranger accustomed to the shallow and shifting river beds of the Ganges valley than the wildness and complexity of the ravines that he here finds flanking not only the chief streams, but also many of their unimportant tributaries. The Dhasán, throughout its whole length, is bordered by a belt of ravines often two or three miles in breadth. At their head lies the arable land of the riparian villages: but the hamlets as a rule are perched on the high river bluffs, and the homes of the cultivators are often connected with the fields they plough by tortuous and crumbling paths through the intervening heights

Ravines.



and hollows. It would be hard to find a more broken country than the "Ghár," in the north-east corner of the district, where the Betwa is joined by the Dhasán. Some of the homesteads there are inaccessible even to country carts: and in several instances it was found impossible to get our trijunction boundary pillars conveyed across the ravines to their proper positions.

The left bank of the Betwa is almost as wild as the Dhasán, though the cuttings on its right bank, where the slope of the country is not so rapid, are less formidable. The Pahuji has no ravines to speak of: but the Lakheri and the Chaich, among others, on the east side of the district, more than make up for the want of them. Vegetation on these tracts is confined as a rule to the karonda and other thorny shrubs, the soil that is left on the ravines being insufficient for the growth of good timber; but a few forest trees can be got by careful preserving.

#### Deterioration of the soil.

18. What has come, in discussions during the course of the expiring settlement, to be known as the deterioration or erosion theory hinges, to a large extent, on the action of these ravines. The theory in question, which seems to have found its most enthusiastic supporter in Major Bellasis, when Executive Engineer of the Jhānsi Division, is to the effect that the fertility of the district is being steadily decreased by changes or loss in the soil. Rain torrents are supposed to be carrying off the surface loam from the level tracts to the rivers, and to be covering the lower lands of the upland tracts with barren débris from the hills. The old Chandel lakes and tanks are pointed out as indications that richly irrigated tracts existed where there is not now enough level land for the distribution of water by canals. And the abandoned sugar presses of massive stone that are found frequently in the poorest and most unlikely villages are taken to be relics of high cultivation that is now impossible. The question is an interesting one, but controversial: and there is no sufficient evidence that the desert ever blossomed as the rose, at least within historical memory. Geological changes undoubtedly affect the soil: but that widespread deterioration is visibly going on cannot, it is believed, be safely asserted. What, however, is manifestly increasing year by year is the destructive action of ravines. In the Dhasánside villages, for instance, considerable areas that the last settlement maps show to have been under cultivation are now ravine waste. Roads, such as those from Gursarai to Asta and from Garotha to Kakarbai, which were laid out in a straight line not so many years ago, are being bent into curves to avoid the encroachment of ravines. And in other parts of the district the same condition of things holds. The ravines cut back from their parent stream into the yielding soil alongside; and the scouring of the surface drainage into them gradually carries away the fertile upper stratum and leaves for the plough only the harder clay and rákar beneath. The Garotha tahsíl has been particularly unfortunate in that respect, and ravine action is responsible for a very appreciable part of the shrinkage in cultivation that has occurred there since last settlement. An attempt to stem the course of nature and to enrich Jhānsi at the expense of Bengal by retaining in the former water and soil which were held to be carried off to fertilize the latter is detailed in the following paragraphs.

#### Reclamation of ravine lands by means of dams built across the ravines.

19. In 1887 Mr. G. E. Ward, Commissioner of Jhānsi, under the auspices of the Department of Land Records and Agriculture and with the co-operation of Major G. M. Bellasis, R. E., Executive Engineer, launched a new system of improvement which, it may be noted, had been previously advocated by several others, with the primary object of rendering prosperous and productive the broken and sterile tract near Jhānsi acquired from the Gwalior State in the preceding year. He proposed, by a system of small dams of a simple and inexpensive description commencing from the head of every drainage channel and extending along its course at intervals of from one hundred to five hundred yards, to arrest the natural drainage, thus preventing the denudation of soil from the higher lands and the sinking of the water level. The work was to be not only protective, but remunerative, as the whole area influenced by the interception of the drainage was to become "forest country." Major Bellasis gave further details of the advantages which were to ensue; as the reservoirs behind the dams would be emptied

by soakage during the rains and refilled, a vast amount of water would be retained in the country, the erosive action of the *nalas* would be reduced, and by the accretion above the embankment of a level deposit of fertile soil the land behind the embankments would annually increase in fertility, and ultimately the whole area of ravine would be reclaimed for cultivation. If the reclamation were for agricultural purposes, the cultivators could in the very first year after the construction of the embankments raise a crop from the softened and silt-fertilized land behind the embankments: if for the purpose of fuel and fodder reserves, two or three years would show a thick growth of grass and young trees, especially if the ravine were protected by fencing.

The Government agreed in 1888 to the experiment being undertaken; the result, excluding some minor works constructed in Jhānsi itself and since demolished on sanitary grounds, is the series of earthen embankments, nineteen in number, thrown across certain ravines (one main ravine and its tributaries) in the villages of Dangarwāha and Raksa in tahsil Jhānsi. The main stream, the progress of which is arrested by the embankments, flows subsequently through a gap in a small range of hills. In connection with the embankments situated in the upper half of the catchment area, this gap was dammed by a weir, the discharge over which was to act as a gauge of the extent to which the stream flow was checked year after year. The weir, however, was subsequently raised in height, and has thus formed at the foot of the hills the extensive lake of Pāli Pahāri. The cost of the undertaking was Rs. 9,337, or, with the Pāli Pahāri weir, Rs. 13,000.

The Raksa embankments.

20. It will be expected that some observations should be made regarding the success of the experiment. The results which the originators intended may fairly be said to have been on the whole realized, though it is doubtful whether such a demonstration was necessary or is of much practical utility. The natural drainage has certainly been arrested; a large quantity of water has been retained in this particular portion of the district, and denudation of soil such as it is, together with the erosive action of the ravines, has been checked. It was obvious, however, that these results would follow. It would be a gigantic and expensive, if not impossible, task to dam the countless ravines in the south of the district and on the border of the rivers and streams: though the result of the operation, if practicable, would be doubtless beneficial to the district. The experiment is not likely to be copied to any appreciable extent, nor is it likely to be remunerative. As regards reclamation of the land for agriculture or purposes of fuel and fodder reserve, the success of the experiment for several reasons is less marked.

The success of the scheme.

With respect to agriculture, it may be noted that the culturable soil adjacent to these bare ravines is of the worst description in the district, an inferior stony *rākar*, so that the silt deposited above the embankments will be of the same inferior description. Still at the time of the inspection of the village by the Settlement Officer, crops were noticed in a small plot of adjoining land which would not have been grown but for the embankments, and in the course of years it is possible that small areas may be reclaimed and brought under the plough. Looking at the rocky nature of the country, however, it is probable that the experimentalists hoped that the area influenced by the retention and percolation of water, which it may be remarked is a very small strip in the lower portion of the ravine, would be turned into a fuel and fodder reserve. This area, it may be noted, has not been acquired by the Government: if acquired by the Government, planted out with *babul* and other trees, and fenced in, there is little doubt that a fairly valuable fuel and fodder reserve would be formed. The landholders, however, would be hostile to any such arrangement. Though the Government runds are not fenced, this would be necessary with the small area operated on at Raksa, surrounded as it is by village lands.

The system of constructing a series of dams across valleys for the improvement of the soil is by no means new to the district, and the beneficial effect of such operations carried out in valleys of fairly good soil is well seen in the villages immediately



to the north of Jhānsi (*cf.* paragraph 75). Mr. A. Cadell reports\* of tahsil Badausa, Banda district (as pointed out by Major Corbett, R.E., Superintending Engineer, in connection with the Raksa bunds) that "until one sees the never ending succession of embankments which have created fairly fertile fields in the midst of broken ravine country, it is difficult to realize of how much improvement such barren looking tracts are capable." The conclusion seems to be that in the wilder part of the Jhānsi tahsil embankments on a less ambitious scale on more level and promising ground, somewhat similar to those commonly seen in tahsil Moth, would have more chance of being remunerative. Such field embankments even in Jhānsi tahsil are common enough in lands that are most suited for them, *i.e.*, in rice-growing lands (*tari*), below the embankments of lakes and tanks, where otherwise nothing but the bed of a stream fed by percolation through the embankment would be seen.

Hills.

21. Although constituting one of the most prominent features in Jhānsi scenery, its hills nowhere reach any considerable height, at any rate over the surrounding country. The highest points noted by the survey lie in the following localities:—

Village.				Tahsil.			Height over sea level.
							Fect.
Katehra	...	...	...	Mau	...	...	1,349
Bājna	...	...	...	Jhānsi	...	...	1,286
Boni	...	...	...	Mau	...	...	1,240
Khailār	...	...	...	Jhānsi	...	...	1,232
Saiyar	...	...	...	"	...	...	1,215
Gawaoli	...	...	...	"	...	...	1,209
Siaori (Hansparvat)	...	...	...	Mau	...	...	1,186
Pāli	...	...	...	Jhānsi	...	...	1,185
Dhakwan	...	...	...	"	...	...	1,165
Bhasneh	...	...	...	Garotha	...	...	1,150

The middle of the district is traversed by two distinct ranges—serrated, precipitous quartz reefs—running, like the rivers, in a south-westerly and north-easterly direction. One of these, on which stands the historical fort of Karār (Orchha territory), runs down the eastern border of the Moth tahsil a few miles off the right bank of the Betwa and merges in the cluster of hills near Barwa Sagar. The other, which may be called the Bhasneh range, begins near the village of that name in Garotha, and runs down the whole length of Mau, passing out into Orchha territory behind Katehra. There are indications of a third range having once been parallel to these on the left bank of the Betwa. Detached peaks are found in a line from Tori in the north of the Moth tahsil down to Pahāri in the south of it, and there are traces of intervening peaks worn away by time. In the south of the district no particular ranges are traceable. The hills are rounder in shape, more gneissose in formation, and mass together into irregular groups: the valleys between them are dotted with lakes, and scenery of considerable variety and beauty is the result. The hills cannot with few exceptions be said to be well wooded; but they are covered with pretty thick brushwood, and present in the rains a general appearance of greenness. In the south, they give shelter to a certain amount of game—panther, nilgai, chital, sambhar, hyæna and wolf—in different localities; but in the northern ranges, where there is less cover, pigs are the chief denizens, though an occasional panther may be found. Pigs, porcupines, antelope, and nilgais are the chief terrors to agriculturists, from their destructive attention to crops.

In all these hills erosion advances rapidly. The core of hard stone—gneiss or quartzite, as the case may be—which they contain is being denuded of the softer stuff that faces and mixes with it, as rain torrents carry off the debris, to be strewed on the land below. Isolated peaks get thinner and sharper as time wears on; and it is possible that the last stage of denudation is reached in the solitary groups of granitic boulders already alluded to, which are found occasionally on exposed black soil plains.

\* Rent-rate Report, paragraph 29.

22. Closely connected with hills is the subject of lakes, which the old Chandel engineers invariably constructed by damming a gap in a mountain range. There are a large number of artificial lakes scattered about the district, most abundant in the south, where the country is hilliest, and getting scarcer the further north we go. The best known are those at Barwa Ságar and Arjar, and the string of lakes along the Bhasneh range, at Bhasneh, Pachwára, Magarwára, and Kachnec. The following list gives all the chief lakes and tanks, with their areas, and a note as to the authority who is responsible for their maintenance. The list, which includes no tanks with a submerged area of under 20 acres, in no way exhausts the means of water storage in the district, as in nearly all the southern villages small tanks are found wherever a favourable hollow presents itself, while several lakes, such as those in Mairi and Garhiya, though forming considerable sheets of water in the rains, happened to be drained off at the time of survey.

Tahsil.	Lake.	Area under water in settlement year.	Remarks.
		Acres.	
Jhánai ...	Barwa Ságar ...	479.46	Lies in the village areas of Ghugna, Chhipota, Tál Rauna, and Dáulpura. Under the Irrigation Department. Government owns the water, bund and certain canals.
" ...	Garhman ...	142.78	Repairs done by the zamindárs; cf. Appendix XXII.
" ...	Koncha Bháwar ...	104.64	Bed of the lake recently restored to the zamindárs by Government. The bund and a strip of land below it are Government property, and the zamindárs are responsible for repairs.
" ...	Bijauli ...	68.32	Zamindárs' property entirely.
" ...	Labar Thakurpura (Ganga Ságar) ...	50.19	" "
" ...	Dandiapura (Lachmi Tál) ...	40.00	Government owns the water and the bund, and is presumably responsible for repairs.
" ...	Babina (Bara Tál) ...	22.14	Zamindárs' property.
" ...	Babina (Rája Tál)* ...	18.20	Government owns the water and the bund, and does repairs.
" ...	Páli Pahári* ...	20.98	Lies in Páli Pahári and Palinda areas. Bund and water are Government property, and Government presumably is responsible for repairs.
Moth ...	Pípra ...	213.17	Zamindárs' property entirely; cf. Appendix XXII.
Gerotha ...	Asta* ...	119.16	Government property entirely. Government repairs the bund.
" ...	Bhasneh (Hanuman Ságar)* ...	155.39	Lies in Bhasneh and Mádhopura areas. Government owns and repairs the bund.
" ...	Haibatpura ...	52.54	Bund now recorded as Government property; Government has twice executed necessary repairs.
Mau ...	Arjár ...	357.62	Lies in Arjár and Nanora. The bunds are Government property, and Government repairs them.
" ...	Pachwára* ...	351.26	Now forms the Government mahál of Rájpura. It is Government property under the Irrigation Department.
" ...	Magarwára* (Kalkawa Tál) ...	302.79	Government property under the Irrigation Department.
" ...	Kachnec ...	129.69	Ditto. The lake lies in Kachnec and Katehra, and there is a large unsurveyed portion of it in an Orchha village.
" ...	Kharon (Phutera Tál)* ...	32.49	Bund is Government property, but zamindárs repair it under an agreement dated 22nd October 1883.
" ...	Chitaud ...	32.23	In Kanja and Chitaud areas; zamindárs' property entirely.
" ...	Palra* ...	31.25	Bund is Government property; but zamindárs repair it under an agreement dated 20th November 1886.
" ...	Boni (Bajpai Tál)* ...	23.43	Bund is Government property, but repairs are done by the Mau Municipality.

\* Constructed or restored by the British Government.

23. The lakes and tanks of the district may be divided into the following classes:—

A.—Reservoirs and tanks formed solely for the permanent storage of water, such as those in the village of Jer, tahsil Mau.

B.—Reservoirs formed for the temporary storage of water during the rains, the water being drawn off during the cold weather and the dry bed cultivated with rabi crops, e.g., the lake at Garhiya, tahsil Jhánai.



C.—Reservoirs formed for the temporary storage of water, which is used for the irrigation of rice, &c., grown in the low land below the embankment during the rains, and occasionally for a first watering in the rabi season, the remainder (if any) being drawn off subsequently for cultivation of the bed with rabi crops, *e.g.*, the Koncha Bháwar lake.

D.—Irrigation lakes, from which direct irrigation by means of canals takes place. Irrigation by lift of crops grown on the margin of the lake as the water recedes is also common. The Barwa Ságar lake may be quoted as an instance.

From a very remote period tank embanking seems to have been a favourite occupation with the different rulers who have swayed the district. In a tract where surface drainage is so rapid, and river beds are so far below the level of the surrounding land, the storage of water for man and beast was probably one of the considerations (though, judging from the immense size of some of the tanks, it can scarcely have been the chief of them) that led to embanking. Various other resultant benefits have been subsequently pointed out, the raising of the adjacent water level, the improvement of the climate by increasing the moisture of the air, the facilities for irrigation, &c.; and since last settlement large sums of money have been spent by Government for the furtherance of these purposes. The Chandels, who are credited with all the oldest works of the kind in the district, probably had only the storage end in view, except, in a few cases like Haibatpura, where lakes seem to have been created to adorn a demesne or provide sport. A number of Chandel works have been maintained and repaired, but many have fallen entirely into ruin. Their invariable plan is a dam thrown across a gap which a nála has cut in a hill range, and the specimens still extant show masonry work of exemplary solidity, but without any special arrangement either for irrigation or for the escape of surplus water. One of the oldest of the Chandel lakes in the district is that at Kachneo, which is said, according to Mr. Jenkinson, to have been excavated more than nine centuries ago by a Mahoba Rája. At Haibatpura a rock inscription gives the date of one (probably a comparatively modern one) of a group of small lakelets as 1804 sambat or 1548 A.D., but the origin of the great majority of these works is lost in antiquity. The Bundelas, when their turn of sovereignty came, followed the Chandels' example; and the two large lakes of Barwa Ságar and Arjár were constructed or else extensively extended and restored by princes of Orchha. Later on, the Mahrattas built a few embankments, especially in the immediate vicinity of Jhánsi, to the north, and it is in their time that the question of irrigation seems to have come into prominence. With their system of direct collection of repts from the villagers, the construction of such works must have resulted in the immediate increase of the income received from the villages concerned. For some years after the establishment of British supremacy little attention was paid to the number of old tanks scattered about the district, and many of them were falling into disrepair. Mr. Jenkinson\* laid great stress on their importance as irrigation works, and of more recent years Mr. G. E. Ward, when Commissioner of Jhánsi, set on foot extensive schemes for damming nálas and creating water reserves, which have already been noted in paragraph 19. The lakes constructed or entirely restored by Government since last settlement are marked by an asterisk in the foregoing list; but there are numerous other smaller works on which public money has of recent years been expended. The question of tank extension is not, from some points of view, exactly cognate to a settlement report: but as it will have to be referred to afterwards, in connection with irrigation improvements, &c., and as its importance as an indirect means of raising the revenue has been impressively dwelt upon from time to time, the present opportunity may be taken to give a brief sketch of the policy pursued in regard to lakes and tanks since last settlement.

16 of the settlement report published in 1871), and by the Local Government (page 9 *ib.*). In his time the only operative works of any size were the Barwa Sagar, Arjār, and Kachneo lakes, the Babina tank, and the Koncha Bhāwar tank with the Marghatta bund, all of them in indifferent repair, and several of them giving no irrigation. But he showed, in an exhaustive list prepared in August 1866, that 142 existing tanks, large and small, were capable of repairs, and that 39 new and advantageous projects were feasible. He advocated free grants of takāvi at liberal terms, and alluded with satisfaction to the Pachwāra lake which was then being constructed, but urged, as a first step, the renewal of all existing works of utility. For the maintenance of the larger lakes a special Bundelkhand Irrigation Department, to which we owe the canal distributaries from Barwa Sagar and Kachneo lakes, had existed up to 1862; but there- after the work, both of maintenance and construction, was left to the local authorities. Local knowledge and an elementary acquaintance with hydraulic engineering were considered sufficient qualifications for the simple work to be done. Even the construction of Pachwāra, one of the finest sheets of water in the district, writes Colonel Brownlow, R.E., Secretary to Government in the Public Works Department, "was settled between Mr. Sturt (Assistant Commissioner) and myself, all the necessary levelling done with an old level, the design prepared in three or four days," and ultimately carried out by Mr. Sturt, most successfully, without further technical aid. During Mr. Jenkinson's tenure of office as Deputy Commissioner matters were pushed on vigorously, and the fine dam at Magarwāra was built by famine labour in 1868-69. In 1870 the Jhānsi Commissioner reported that up to date Magarwāra had cost Rs. 19,309 and Pachwāra Rs. 31,049 (Rs. 38,075, according to Mr. Sturt, including irrigation channels), and that repairs to the existing lakes at Kachneo, Barwa Sagar, Koncha Bhawar, Babina and Bijagarh had been executed for Rs. 5,838, Rs. 5,041, Rs. 1,470, Rs. 1,780, and Rs. 2,129, respectively. He drew attention, however, to the exceedingly incommensurate return in the way of irrigation, and argued for a more judicious selection of sites and increased attention to sluices and canals. In 1875-76 an aqueduct, new head sluices, and new canals were constructed at Pachwāra, the old low-level canals having been found defective: but it was not until eight years later that a change of policy was instituted. The Commissioner of Jhānsi, Mr. J. W. Quinton, submitted a report No. 1805, dated 30th October 1879, (together with a valuable "Note on Agriculture and Irrigation in Bundelkhand," by Mr. J. V. Sturt, Assistant Commissioner, a note by Mr. C. J. Sheridan, Executive Engineer, and a report by Mr. G. Adams, Deputy Commissioner) in which, after reviewing the whole subject, he recommended the grant of an annual sum for the restoration of tanks irrespective of the possibility of a direct return. The recommendations were supported by the Board of Revenue and by the Secretary to Government in the Public Works Department. Lakes were to be built and restored not, primarily at least, as irrigation works, but rather as reservoirs, raising the spring level of the wells in their vicinity and preventing the scouring away of the soil above them by nala action, fertilizing the surrounding land by percolation, and indirectly increasing the prosperity of the neighbourhood. The arguments adduced in 1879 led to the comparative futility of extensive schemes for direct irrigation being definitely recognised by the Government, the sanguine estimates made by the local authorities for extensive irrigation from Pachwāra and other lakes having been shown to be fallacious; and the modern policy of creating numerous protective reservoirs throughout the district was first authoritatively enunciated. "It is true," wrote the Local Government on 14th January 1880, "that direct irrigation from these tanks is not to be expected to any great extent; but if such objects as the prevention of waste of water on the one hand and of soil erosion on the other, the raising of the water level round about, the improvement of the climate, the securing of an abundant supply of water for man and beast when well water is scanty and precarious, are deemed important enough to warrant a little expenditure, then works of the kind.....are worthy of all encouragement. In ordinary years of deficient rainfall such tanks are invaluable as a support of the prosperity of neighbouring villages, and as ensuring the prompt payment of



the Government demand. Immediate direct return from them must not be expected; but it is very certain that if such works are not taken in hand the next settlement will show a considerable loss of revenue, while their construction would probably result in an increased demand more than sufficient to cover the cost."

In the same year the Government gave a grant of Rs. 15,000 to start work of the nature contemplated, and a succession of annual grants has since been made. The Commissioner, with the Executive Engineer of the Division as his professional agent, was put in control: and for some years project after project was evolved, sanctioned, and undertaken, Government finding the money. In 1885 military exigencies checked the profusion of expenditure for a time, but a large number of restorations had by then been effected or were in progress. It may be noted that, generally speaking, the proprietary right in the beds and embankments of lakes and tanks, whether the embankments were in good order or otherwise, was not reserved by the Government when proprietary rights in land were conferred on the villagers: nor have such beds and embankments been formally re-acquired by the Government on undertaking the repair of the embankments. In the same manner the land necessary for the construction of new lakes has not (with the exception of Pachwára and Magarwára) been appropriated by the Government. At the present settlement the embankments on which Government has spent considerable sums of money have been recorded, with the consent of the villagers, as Government property; and the rights and liabilities of the villagers in connection with all lakes and tanks constructed by Government have, where they exist, been placed on record. In the last few years it is to be regretted that no new projects, with the exception of the Nawáda lake, have been put in hand, though there are many old embankments which could be advantageously repaired.\* The four large lakes of Barwa Sagár Kachneo, Magarwára, and Pachwára were in February 1890, after the completion of the Indian Midland Railway system had rendered it possible, placed under the charge of the Irrigation Department, which also watches the Raksa experiment (paragraph 19), and the District Engineer has a small budget provision for repairing the smaller works. In the following table are shown the principal tanks built and repaired during the busy period after 1880, with a note (taken from papers in the Executive Engineer's office) of the approximate expenditure on each:—

Tahsil.	Village and tank.			Expenditure on tank.	When completed.	Remarks.
				Rs.		
MAU	Baragaon	...	...	9,408	1881-82	Rs. 330 spent on repairs in 1889-90.
	Bukhára	...	...	448	1881-82	
	Churára	...	...	1,611	1887-88	
	Dhawákar	...	...	1,372	1880-81	A new tank.
	Ghurát	...	...	1,144	1884-85	
	Kanja	...	...	890	1882-83	
	Kharon	...	...	4,297	1884-85	
	Khiani	...	...	610	1883-84	
	Nawáda	...	...	6,161	1891-92	
	Palra	...	...	4,714	1886-87	
	Rewan	...	...	181	1884-85	
	Roni	...	...	2,684	1884-85	
	Siacri (Baba tal)	...	...	280	1882-83	
	Stjári	...	...	310	1882-83	
GAROTHA	Asta	...	...	10,604	1888-89	A new tank.
	Barwar	...	...	816	1885-86	
	Bhasneh	...	...	27,306	1884-85	A new tank: Rs. 1,250 spent on improving it in 1887-88.
	Dhaknessar	...	...	162	1886-87	
	Haibatpara	...	...	248	1885-86	
	Markuan	...	...	188	1884-85	
JHANSI	Pacsua	...	...	906	1886-87	A new tank: Rs. 733 spent on miscellaneous improvements since.
	Babina (Bakhshi Tal)	...	...	708	1881-82	
	Garhiya	...	...	1,676	1885-86	
	Páli Pahári	...	...	3,063	1889-90	
	Total			80,479		

\* E.g., in Rund Karári, Sar, Lahgird, Mathrupura, Rámpura, Bihra, Pahlgawán, Karári, Ari, Simardha, Ghurát, Bijaigarh, Koncha Bháwar, Garhiya. In Malloul and Kot Bihra the zamindars are anxious for new tanks to be constructed.

25. The question naturally arises how far all these expensive works have justified the anticipations formed regarding them.

Benefits resulting from their construction.

Taking the four classes of lakes enumerated in paragraph 23, it depends entirely on the nature of the country and the situation of the lake into what class a particular lake will fall. Each class has its merits, though those of class A, storage lakes, are the least patent. It is noticeable that the list given above of works undertaken by the Government contains scarcely a single instance of a regular irrigation lake (class D), nor is it likely that many such lakes will now be constructed in the district. In the first place, the best sites for such lakes have already been utilized: where sites for the construction of large lakes exist, the landholders often prefer to cultivate, where this is possible, the land which would be necessary for the bed, and object to its appropriation. The best sites, which alone are likely to be useful for the purposes of an irrigation lake, are those which would give a considerable area of parua soil, capable of irrigation, below the embankment of the lake. Even in such cases it would almost certainly be preferable to allow irrigation to be carried on from wells constructed in such soil and to retain the lake as a reservoir for the storage of water to feed the wells than to construct canals issuing from the lake. It has been conclusively demonstrated over and over again that, as a general rule, the cultivators of the Jhansi district will not pay a water rate, regularly, and in ordinary years, for water which the Government may be willing to supply to them from new lakes constructed for their benefit. They will grow instead rain crops or, where the soil is suitable, rabi unirrigated. While storage and irrigation lakes (classes A and D) have generally been constructed in hilly country on sites which give deep beds consisting of rocky and for the most part unculturable land, classes B and C, lakes the beds of which are culturable, are of an entirely different description. The beds of the latter are shallow and the masonry embankments, instead of being massive stone walls built between adjacent hills, are of great length and of semicircular form, pierced by sluices and constructed across a broad shallow valley of good culturable soil, so as to arrest the drainage and fertilize the soil. Half a dozen such embankments will sometimes be found successively at intervals in the same valley, feeding each other and forming fine sheets of water in the rains. The series of useful lakes formed in this way in the villages to the north of Jhansi city is especially noticeable. The Government has constructed few lakes of this description, possibly because such works are chiefly of local importance. The culturable land in the bed of the lake would be enriched at the expense of the Government without any direct return, and after the close of the rains the lake ceases to exist.

The Garbiya lake constructed by the Government may be noticed as an exception; the water is regularly drawn off and the bed cultivated, much to the advantage of the landholders and to the stability of the village. As the maintenance of lakes of this description has also been left to the landholders who are directly benefited by them, several embankments are consequently out of repair.

It will be seen from the above account that storage lakes are those most favoured hitherto by the Government, and there is every reason to believe that the indirect benefits anticipated from their construction (*vide* paragraph 24) have been realized. It may safely be concluded that the energy shown since last settlement in lake restorations has left its mark in a certain amount of increased prosperity, and may reasonably be expected ultimately to repay itself. The revenue of the district has not fallen, as the Government seemed to think probable in 1850. It has, on the contrary, risen, and more markedly so in those tracts where lake extension has been effected than in others.

26. To a stranger travelling through Jhansi by rail or along any of the main roads the district has in parts a superficial appearance of greenness; but a closer acquaintance with it reveals a dearth of groves and a serious deficiency of timber trees. Scattered mahua (*Bassia latifolia*) trees are its chief feature, the only other wood that takes kindly to the soil being the acacia in its various forms, the babul (*acacia arabica*), khair (*acacia catechu*), reonja (*acacia leucophloea*), and others: and in the mar

Groves and trees.



plains even they are absent. Though not absolutely unfavourable to tree-life, the soil is too dry to encourage any luxuriance of vegetation, and the rapid surface drainage prevents any accumulation of soil around the roots of trees. It is only in low-lying tracts by nalas or lakes that wood of any value can be grown without the trouble of nursing and protecting, which, though suitable enough for Government arboricultural schemes, the people themselves never dream of undertaking. A field, as often cultivated as not, with a few trees dotted about inside it or planted round the edges, is the local idea of a grove: of the up-country *bogh* the people have no idea. Exception, however, must be made of the groves, the remnants of which are to be seen in the neighbourhood of the towns of Mau Rānipur and Jhānsi. The latter town especially was once surrounded by fine gardens, the land for which was granted by the nabahs rent-free: and the large tamarind trees, for which Maharrattas have a predilection, are still very noticeable.

In the level tracts, especially of Mau and Garotha, the people are assiduous in propagating the *mahua*, the flower of which is the food staple of the poorer classes for a month or more in the year: and they like a few *nims* (*melia azadirachta*) for medicinal use and *beris* (*zizyphus jujuba*) for fruit round their homesteads; but anything bigger they take no care for. An orchard, even with the well-to-do, consists of a few scraggy limes or custard apples, and mangoes are all but unknown. The *babul* serves the villagers for their plough and harrows: the *kardhai* (*anogeissus pendula*), a low, gnarled tree found on the hills, supplies them with roof joists: the roots of the *dhak* (*butea frondosa*) or the leaves of the *khajur* (*phoenix sylvestris*), with ropes for their wells; the *dhau* (*anogeissus latifolia*) or *ghaut* berries are useful for dyes; and near the towns brush is encouraged for sale as firewood. But of timber properly so called there is next to none. In 1887 Mr. J. P. Duthie,\* the present Director of the Botanical Department, Northern India, advocated the cultivation of the date palm, considering the climate and soil to be probably suitable for the growth of several varieties; and an experiment with the tree has been made on a small scale in the Simrāha rund, where the forest officer says some of the seedlings are doing fairly well. The *kanji* or 'Indian beech' (*xanthoxia glabra*) has been introduced in the neighbourhood of Jhānsi as an avenue tree, and has succeeded well in the worst soil, though it is not high enough to give much shade: its fruit, from which oil used for greasing carriage wheels and for lighting is expressed, is sold in the month of February to wheelwrights and others. In the inferior soil of the Jhānsi tahsil the *salai* (*boswellia thurifera*) thrives well in places. Its gum is extracted for incense (*loban*) and is also used like cobbler's wax on the strings of musical instruments.

#### Reserved forests.

27. The réboisement of the district was the subject of some discussion in 1876 (at the same time as tank restoration was given a stimulus to): but all that has been done in that direction has been in pursuance of Mr. Jenkinson's plan (see paragraphs 91 to 103 of his report). The *babul* plots in tahsil Moth, now 67 in number, of which he speaks, have been maintained without being extended: they together with the larger forest areas have been declared to be reserved forests and have been placed under the regular control of the Forest Department (Central Circle).†

Until recently the Deputy Commissioner was in charge of the forests of the Jhānsi district, which formed a separate division. The forests of Jhānsi, Lalitpur, and Banda have now (by Notification Revenue No.  $\frac{334F}{233A-12}$  of 25th April 1891) been created a single division, of which an Extra Assistant Conservator, with headquarters at Jhānsi, holds charge in subordination to the Collectors of Jhānsi and Banda. It has been decided to discontinue the plantations of teak, shisham, sal, lamboe, mango, and jēman at Dhakwan, Ganupura, Bhasneh, and Magarpur, and to carry out artificial reproduction by broadcast sowings of such trees as will thrive in the climate and soil, the seed being obtained from the submontane forests. More than half the

\* Notes on a tour through Bundelkhand in December 1886, appended to the Report on the Botanical Gardens at Sahāranpur for 1886-87.

† See pages 238-260 of the Gazetteer, 1874.

revenue received by Government from the forests is from sale of grass. The receipts in 1890-91 were—

	Rs.
Timber	188
Firewood and charcoal	1,143
Bamboo	1,138
Grass and minor produce	4,798
Miscellaneous	114
Total	7,381

against charges of Rs. 7,036. The forest areas were originally included in the boundaries of villages, the inhabitants of which have as a rule rights to wood for domestic and agricultural purposes. The amount of timber, firewood, &c., granted to right-holders is, however, inconsiderable, seldom exceeding Rs. 150 in value in a year. Complaints were generally made at the time of inspection that wood was not obtained readily in accordance with the privilege ceded; but it was generally found that in such cases the villagers had trees of their own sufficient for their requirements, and would not take the trouble of filing an application for wood in due form or of bringing their complaints to the notice of the District Officer.

The larger forest tracts lie in the hilly south of Jhansi and Mau tahsil, and in patches on the Betwa and Dhasn ravines. Since the acquisition of the new territory one block of forest included therein (Bajna, with an area of 539 acres) has been declared to be reserved. The total area of the reserved forests, which have been recently surveyed on the eight inch to a mile scale and demarcated and protected, where necessary, by fire lines, amounts to 32.02 square miles or 20,495 acres. They have now been excluded from the village records and area. In some of them the growth of certain timber trees has been found possible; and teak (*Tectona grandis*), bamboo (*Dendrocalamus strictus*), and ebony (*Ebenus, diospyrus melanoxylon*) do fairly well in places. It is doubtful whether the district was ever in modern times well wooded: all that can be said of it now is that the natural growths are inferior, that improvement is not aimed at by private proprietors, and that the prosperity of the Government forests depends on careful watching and preservation, which are foreign to the improvident habits of the people themselves. If the forests had not been reserved, there is little doubt that not a tree would have now remained, judging from the reckless way in which the zamindars' jungles have been denuded of trees by contractors. The only private forest worthy of the name in the district is that of Burhpura in tahsil Jhansi; an attempt was made at this settlement to preserve it by proposing a provisional assessment, to come into force only on the trees being felled, but the Board did not see its way to sanction the proposal, and the last bit of zamindars' forest is probably doomed to speedy destruction. Appendix XVI gives a list of the Government reserves with their areas by the present survey and the recorded rights of the villages therein.

29. In the same appendix will be found a list of the Government runds or grass reserves in the district, which have also been declared to be reserved forests and cover 14.79 square miles or 9,463 acres. They too are under the control of the Forest Department and are mainly located in the Jhansi tahsil. Three runds situated in the new territory—those of Dhikauli, Punaoli Buzurg, and Sijwaha—have been recently notified as reserved.

Grass and grass reserves.

Grass grows abundantly in the district, which is unusually well provided with fuel and fodder reserves: yet the ordinary agriculturist is hard put to it for fodder for his cattle in the hot weather, and in years of drought not a blade of grass is to be seen. As soon as the rains set in, the bare stony ground is clothed with grass, the general verdure being in marked and pleasing contrast to the brownness prevailing during eight months of the year. Owing to the abundance of grass, the cultivation of guir as fodder (*ghari*) is almost unknown in the district. Largeish areas of grazing land are maintained in most of the Mau and Moth villages, and the extensive tract known as the Chaurasi, in the south of Jhansi, is essentially a pastoral country. Except



in the richer black soil villages, the grazing industry is of growing importance, enhanced by the facilities the railway affords for export of dairy produce. 'Ahirs, Ghosis, and Gadariyas are handier at pasturage than tillage, and find it more profitable. There is thus, with the large local population of these castes, a natural tendency for the grass area to increase in the soils least suited for cultivation: and in the sterile tracts of the south-west, where waste land is abundant, grass will continue to be the most paying product of the inferior soil. Grass finds a ready market in Jhānsi, in Mau Rānipur, and in the richer and highly cultivated parts of the district to the north of Jhānsi. In the cold weather the sweet smelling stacks of hay, protected by an outer covering of the gold coloured *guner* grass, are a pleasing feature of the landscape. The approximate value of grass, especially in the neighbourhood of Jhānsi, may be judged from the large sums obtained by auction of the Government runds during the last five years.

The grasses in Jhānsi follow the soil to a very noticeable extent. In the rākar soil of tahsil Jhānsi (and in fact in the inferior soil throughout the district) the spear grass prevails, useful only for fodder before the well known spear-shaped awns appear or after the awns have been beaten out by hand: the best fodder grass in such soil is the *send*, which is fairly common in tahsil Jhānsi. In black soil the characteristic grass, which is much valued for its succulence and is the best fodder grass in the district, is the *musel*: it is very common in Mau and Garotha: in Moth, where the species is smaller, it is known by the name of *macheri*.

#### List of grasses.

29. The following list of the commoner fodder grasses is taken from Mr. J. F. Duthie's notes on grasses in the Sahāranpur report,\* as revised by his "Fodder Grasses of Northern India (1888)." In the latter a full botanical description of each grass will be found.

**Isellema laxum**; vern. *musel* and *musiyal*.—The most valuable and characteristic of the black-soil grasses. It is largely used for fodder both for horses and cattle, and is procurable during the greater part of the year. The young parts are tinged with a rich pink colour, which causes the plant to be distinguished at a considerable distance where any large extent of ground is occupied by it. It forms the greater portion of the strips of turf dividing the fields of arable land. (Also known as *Macheri* in Moth.)

**Isellema Wightii**.—Very similar in appearance to *musel*, but usually more diffuse and often quite prostrate. The clusters of spikelets are smaller. Usually found on damper ground. It is sweet scented. Buffaloes are said to be very fond of it. (Known as *skar* in parts of the district: found on parua as well as on black soil.)

**Anthistiria scandens**; vern. *guner*.—This is another very characteristic Bundelkhand grass, easily recognised when ripe by its colour, which is almost reddish golden, and by its large round heads of bristly flowers. It is a tall grass, with a tendency to climb when growing among bushes. Though largely used as fodder, it is a coarse plant. It is also used for thatching purposes.

**Andropogon annulatus**; vern. *kel*.—This grass is very like "*pa'neel*" in appearance, but is coarser, especially when found growing amongst bushes, where it assumes a scandent habit of growth. It yields a fairly good fodder.

**Andropogon schenanthus**; vern. *mirchia*.—Abundant locally on lowlying ground in company with "*gandel*." It is a tall, coarse, and highly scented grass, and turns a brilliant red after the rainy season is over. It is not much used for fodder.

**Andropogon muricatus**; vern. *ganrar*, *durbachi*.—A tall, coarse grass yielding very good fodder when quite young. It is used largely for thatching, and for making baskets and brooms. The roots constitute the well known khushkus, of which tatties are made. Thrives near water.

**Andropogon foveolatus**; vern. *murjnah*, *girua*.—This is plentiful. In very dry grounds the root stocks and rooting joints become bulblike and almost woody. It is characteristic of rocky ground.

**Heteropogon contortus**; vern. *lampo*, *lamper*, *parba*, *guddi*, *parwiya*.—This, the well known spear grass, is abundant in Bundelkhand. It is largely used for fodder when young, and also when the awns have fallen off. In this latter stage it is usually stacked as hay together with *musel*.

**Apluda aristata**; vern. *send*, *bhanjuri*.—Abundant, especially in hedges and among bushes, where it assumes a climbing habit. In forest land it often constitutes a large portion of the undergrowth. It is considered to be a good fodder grass. Common on rocky ground.

\* *Fide* Notes on a tour through Bundelkhand during December 1886, appended to the Report on the Botanical Gardens of Sahāranpur for 1886-87.

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*Ophiurus corymbosus*; vern. *sonthe*.—A coarse looking grass with glaucous green foliage. It is found in the damper parts of the lowlying country; cattle eat it when they can get nothing better, and as it will stand drought better than most other grasses, it is so far valuable. It is used for thatching.

*Coix Lachryma*; vern. *gandula*.—Is a tall, coarse grass, usually growing in deepish water. It is easily recognised by its large pearly-white seed covering; vulgarly called "Joh's tears."

30. The irregularity of the surface of the district defeats any useful estimate of its general elevation above sea-level. The following two sets of figures, the materials for which were obtained by the courtesy of the Chief Engineer, Indian Midland Railway, and the Executive Engineer, Betwa Canal, sufficiently indicate (a) the general slope from the highlands in the south towards the Jumna valley on the north, and (b) the situation of the eastern half of the district on a high over-drained ridge between the Betwa and the Dhasan :—

*A.—Section from north to south through Jhansi.*

Height in feet above sea level.

Betwa bridge on Indian Midland Railway, main line.	Babina railway station.	Jhansi railway station.	Garkhman railway station.	Well near south border of Moth tahsil.	Chirgaon railway station.	Moth railway station.	Punehh railway station.
964.28	931.52	850.50	677.38	648.96	631.78	575.71	539.95

*B.—Section east from Jhansi to the Dhasan.*

Height in feet above sea level.

Jhansi railway station.	Betwa bank on Nowgong road.	Barwa Sagar railway station.	Arjér railway station.	Banipur Road railway station.	Mau railway station.	Dhasan bridge parapet.
850.50	668.71	723.40	809.00	732.73	683.90	632.32

31. The climate of the district, as would be expected from the rocky nature of the ground, the rapid drainage, the absence of high jungle, and the general depth of the water level, is characterized by exceeding dryness and by heat considerably over the average for these provinces. Appendix XIX gives the monthly mean temperatures for the past twelve years, as well as the highest and lowest readings of the thermometer in the shade, recorded at headquarters in each month for the same period. The readings have ranged higher since the observing station was moved in 1888 inside the city walls. The intense heat of May and June is followed by pleasant weather in the rains, though the wide range of the thermometer, especially towards the close of the monsoon, is accompanied by pretty general outbreaks of fever. The only other noteworthy fact, from an agricultural point of view, is the immunity that the young rabi sowings enjoy from frost in the cold weather.

Climate and rainfall.

In a normal year the rains burst in the last few days of June and continue with ordinary steadiness till the end of August, when there is a break, followed by storms about the middle of September. The so-called Christmas rains are generally about a month behind their traditionary season; they are of considerable importance for the ~~wata~~ crop, but rarely of any copiousness.

Appendix XVIII shows the total rainfall of each year from 1865 to 1890; likewise the fall in each season for the same period. The figures throughout are the mean of the records of the four tahsil gauges, and indicate, with sufficient accuracy, the condition of the district generally.



The mean annual rainfall at different registering stations in the district is as follows :—

At—	Inches.	On average of past 20 years.
Jhānsi ...	35.42	26 "
Moth ...	32.32	26 "
Garotha ...	35.05	26 "
Mau ...	38.62	11 "
Pachwāra ...	30.65	11 "
Magarwāra ...	29.87	11 "
Barwa Sāgar ...	34.39	11 "

#### Water level.

32. Statistics of the water level have not been collected. None were provided by the Survey, and as the Board did not include them among the figures to be submitted with the Mau and Moth proposals, the Settlement Officer did not take steps to supply the omission. So that when, later on, in connection with the amended forms of assessment statement for Jhānsi and Garotha, the information was called for, it had to be reported that accurate facts could not be collected so late in the day, and with the Commissioner's approval the matter was dropped. The truth is that no useful generalities can be obtained. The undulating nature of the rock strata and the varying thickness of the softer soil deposits, not only in different parts of the district, but often in one and the same village, cause water to be found at all sorts of depths, from 10 feet in the south of Jhānsi tahsil to 70 feet or more in the outlying parts of Moth. In the rocky villages pockets of water can generally be tapped near enough the surface for the use of the Persian wheel. As we go north, the wells get deeper, and they are deepest of all in the villages lying on the high banks of the Betwa or the Dhasān. In the neighbourhood of the Betwa Canal the spring level is shown to be rising in a marked degree from the following figures, quoted from recent provincial irrigation revenue reports for wells on the banks of the canal in Moth tahsil :—

Name of village.	Depth in feet of surface of water in wells.			
	1885-86.	1888-89.	1889-90.	1890-91.
Pahāri ...	32.50	29.04	28.03	25.44
Chhirauna ...	24.87	19.87	20.76	19.70
Morh Kalān ...	30.75	21.94	22.32	21.83
Nadsia ...	31.32	20.88	20.80	18.17
Reo ...	28.55	18.40	21.02	18.52

#### Communications.

##### Indian Midland Railway.

33. The district is now well off in the way of communications, both by roads and rail, the improvement since last settlement being very marked. The Indian Midland Railway, constructed between the years 1883 and 1889, has its headquarters at Jhānsi; its main line from Cawnpore to Itarsi traverses the whole length, and its Manikpur branch practically the whole breadth, of the district, while the line to Agra runs through part of the new territory. The stations visited by passenger trains within the bounds of the district are, excluding Jhānsi itself, twelve in number—Punchh, Moth, Chirgaon, Garhmau, Bijoli, Khajraha, and Babina on the main line, and Barwa Sāgar, Arjār, Rānipur Road, Mau and Rora on the Manikpur extension. Two new stations, one at Naud Khās on the Cawnpore line and another at Karāri on the Agra line, are, it is understood, in contemplation.

#### Metalled roads.

The railway follows closely the alignment of the principal metalled roads, these being the Cawnpore-Saugor road running through the district from north to south, and the Nowgong road running from Jhānsi in an easterly direction past Mau to the Dhasān. First class roads also radiate from Jhānsi to Gwalior and to Sipri, but they tap only a limited tract of this district; the short suburban metalled roads round Jhānsi and Mau also call for no special mention. Raised and bridged roads of the second class connect Jhānsi with Garotha and Garotha with Mau; and the busiest thoroughfare in the whole district is that running from Mau to Gursarai and thence to Punchh, to meet the railway and the Cawnpore road. The new territory since its acquisition has been opened out by a good *kachā* road, which traverses it from north to south. A complete list of the second and third class roads is given in Appendix XVII. The net-

#### Unmetalled roads.

work of communications, of which an important improvement is contemplated in the metalling of the Gursarai-Mau road, leaves little to be desired, and in dry weather the roads are remarkably good and firm. In the rains, however, it is no exaggeration to describe every track that is not metalled as impassable. The *kachcha* roads run for the most part across black soil; and when rain comes down, great cracks and holes appear in them in sympathy with the surrounding soil, and render all travelling, except on foot, absolutely dangerous. The black loam with which they are consolidated changes, under the influence of water, into clinging, viscous mud, and cart traffic comes practically to a standstill. In the southern part of the district matters are not so bad, as the tracks lie higher and can be bedded with good shingle. But they are apt at places to be washed by rain into the semblance of miniature quarries; and unbridged nalas are frequently unfordable for two or three days at a time when in flood.

The only part of the district that suffers from the want of a metalled road is the north-eastern quarter. The Garotha tahsil is practically cut off from headquarters during three months in the year. It is a backward tract, and might not repay the expense of being opened out by a first class road. But the importance of Gursarai as a trading centre would unquestionably be improved by better communication; and the Garotha tahsil generally, which has only Gursarai to rely upon as a mart, would thus benefit indirectly. Provincial ferries are maintained under local control at the Betwa and Dhasán crossings of the Nowgong road, and over the Betwa on the Sangor road; and there are minor ferries in charge of the District Engineer, under control of the District Board, at Ghát Lahchura on the road from Mau to Mahoba, and at Tilahita, Barehta, Rámnagar, Kukargaon, Manikpur, Bhaunraghát and Erich on the unmetalled roads connecting the Jhánsi and Moth tahsils with the eastern half of the district.

Ferries.

34. The district is not over-well supplied with markets, and its chief towns (noted

Towns and markets.

City or town.	Population.
Jhánsi (municipality and cantonment)	53,779
Mau Ránpur (municipality)	19,675
Barwa Ságar (Act XX town)	6,219
Chirgaon	3,892
Erich	3,341
Moth	3,052
Baragaon	2,768

on the margin) are neither large nor numerous. Jhánsi city, a brief description of which has already been given in paragraphs 10 and 11, has sprung into sudden importance by the recent converging of four lines of railway upon it. Mau and its distant coadjutor, Ránpur, which before the 1886 transfer combined to form the chief mart in the district, are sufficient for strictly local requirements; but their star has waned since Mr. Daniell wrote in 1863 (*cf.* paragraphs 135-140 of his Mau Settlement Report of 31st March 1863), and the spread of railways is slowly killing out the important through carrying trade that the two towns once enjoyed. Otherwise there is no commercial centre of any value. Barwa Ságar and Chirgaon promise to improve, as both stand on the railway line, and have produce to export and no entrepôt interests to suffer. The former is noted for its ginger and other garden products, and the latter is the seat of considerable activity in the export of ghi to Cawnpore. The other towns do no trade. Erich, once a place of some importance under the Moguls, is now inhabited by needy and ignorant Muhammadaans, who do nothing even for the indigenous cloth (*chuneri*) industry. Moth and Baragaon are only overgrown hamlets. There cannot be said to be much necessity for small grain depôts now in the tracts opened up by the railway, Jhánsi having been made sufficiently accessible for all practical purposes. But in the Garotha tahsil the want of a mart is a considerable factor in the backwardness of that part of the district. Gursarai, it is true, has a bazar of some local reputation; but much of the surplus grain of this north-east tract is carried over the Dhasán to Ráth in Hamírpur, and much produce that might be grown is not grown at all for want of a market. Garotha itself is an inconsiderable hamlet, and the road to Mau is impassable during the wet months of the year.

A considerable cattle market is held weekly at Mau, at which cattle from the villages of the tahsil and from those of the neighbouring State of Orchha are brought in for sale.



## Trades and manufactures.

35. There is no manufacture with anything beyond a local reputation. The *āl*-dyed cloth or *kharrā* of Mau-Ranipur is in some request for women's clothing, and a smaller branch of the same industry is carried on at Moti Katra on the Dhasān. The chunneries of Erich are somewhat more artistic, *āl* and indigo dyes being manipulated in different ways: and at Barāru a little cloth stamping is done. Rugs in crude colours are obtainable in Jhānsi city, and both there and in Mau ordinary brass ware is manufactured: but here the list stops.

The census returns show the occupations of the district (including Gursarāi) to be—

Occupation.						Population engaged in it.	Percentage of total population.
Government service	...	...	...	...	...	13,291	3.25
Pastoral and agricultural	...	...	...	...	...	2,14,008	52.27
Personal service	...	...	...	...	...	23,402	5.72
Preparation and supply of material substances	...	...	...	...	...	99,878	24.39
Commerce	...	...	...	...	...	14,250	3.48
Professions	...	...	...	...	...	8,211	2.01
Undefined and independent	...	...	...	...	...	36,379	8.88
Total						4,00,419	100.00

Of the manufacturing classes, 35,529 persons, or 35.6 per cent. of the whole, are engaged on the preparation of cotton, 982 of them being dyers. One thousand nine hundred and sixty persons gain a livelihood by collecting firewood and grass, and 481 by gathering and selling gums, honey and other forest produce.

After agriculture proper the chief occupation of the district is dairy farming, by which a large portion of the agricultural population is helped to subsist, though only 2,043 persons are returned as keepers of milch kine and sellers of dairy produce. There is a growing demand for għi for the Cawnpore market, and a corresponding extension of the grazing areas within reach of the railway is one of the most noteworthy facts that had to be taken into account at the present settlement. In the Moth tahsil in particular large herds of cattle are kept in the Abir villages throughout the cold weather and rains and driven south to the "Chaurāsi" pasture when the local vegetation begins to wither up. Flocks of goats too are found in considerable abundance wherever there are Gadhariyas to tend them: they are said to be largely exported by road in the direction of Saugor, while agents of the butchers of many of the cantonments of the provinces haunt the district in the cold weather for the purchase of sheep.

## Mineral products.

36. The chief animal and vegetable products of the district having already been noted, minerals will not occupy much space. Iron is still smelted at one village, Jer, in the far south of the district; but the lode lies in native territory. Soapstone is found in considerable quantities near Garman. Kankar pits are worked near Jhānsi itself, and good stone (gneiss chiefly) is everywhere procurable, though its hardness makes its use expensive.

## Imports and exports.

37. In connection with these general remarks, Appendices XXIV and XXV have been prepared with a view both to providing statistics of imports and exports, and to illustrate (for use in a later part of the report (*c/* paragraph 159) the effect of the