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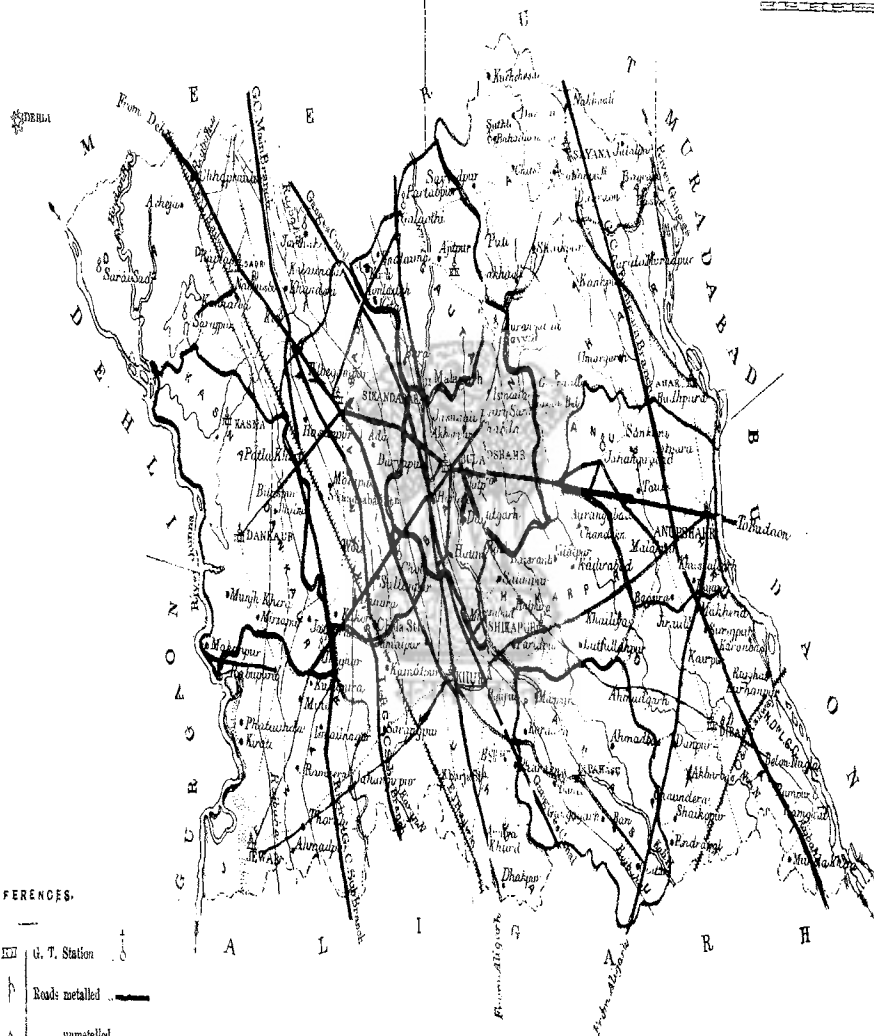
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District
BULANDSHAHR.

Scale 1 inch = 5 miles
Miles

REFERENCES.

Capital Towns ...	U. T. Station
Towns ...	Roads metalled
Police stations ...	" unmetalled
Post-offices ...	village
United ...	Pathways



FROM

THE SECRETARY TO THE BOARD OF REVENUE,

NORTH-WESTERN PROVINCES AND OUDH,

TO

THE CHIEF SECRETARY TO GOVERNMENT,

NORTH-WESTERN PROVINCES AND OUDH.

Dated Allahabad, the 25th April 1893.

SIR,

Present:

J. R. REID, ESQ.

I am directed to submit Mr. T. Stoker's final report on the settlement of the Bulandshahr district, prepared in accordance with paragraph 47 of the rules for the Bulandshahr, Muzaffarnagar, and Saharanpur settlements. The report is accompanied by a review drawn up by the late Commissioner of Meerut, Mr. A. J. Lawrence. Recently, in submitting the final report of the Basti settlement to Government, the Board explained that the settlement rules do not prescribe the submission of a review by the Commissioner, and that, for this and other reasons, they had not thought it necessary to call on the Commissioner of Gorakhpur to prepare one. In the present case there is at least one question of special importance, the duration of the term of the new settlement, on which it has been considered advisable to obtain and lay before the Government the opinion of the administrative head of the division.

2. Bulandshahr is the first of the districts of the Meerut Division in which the revision of settlement under the system prescribed by the rules of Board's Circular No. 9—I (Rules for Bulandshahr, Muzaffarnagar, and Saharanpur settlements) was completed. These rules, as far as the principles of assessment are concerned, are identical with those issued for the Gorakhpur and Basti settlements; but they differ in respect to the operations preparatory to assessment, inasmuch as they direct the settlement to be made on the basis of the existing village maps and records corrected and brought up to date, instead of, as in Gorakhpur and Basti, on fresh records founded on a cadastral survey. The report, therefore, which is now submitted, is of special interest as the first (with the exception of that on Jalaun) in which the full development of the present system of settlement is exemplified; and the first, without exception, in which it is exemplified on a large scale. It contains full details of the different operations of settlement, and furnishes a complete account of the working of the new system.

3. Mr. Stoker commences his report by remarking that it is meant to be a settlement report in the strict sense of the term; that it is framed, primarily, as a narrative of settlement operations and an examination of the results, and that the introduction of collateral matter is limited to what is necessary to make the report self-contained and intelligible. This, indeed, is the intention of the rules on the subject contained in paragraphs 47 to 50 of the settlement circular; and Mr. Stoker has followed generally the provisions of those rules, both in respect to the subjects to be dealt with and the order of arrangement. The report contains a general description of the district, followed by a chapter on its fiscal divisions and economic condition, and another on its fiscal history during the period of the settlement which has expired; a chapter on settlement operations, in which all the operations connected with or preliminary to assessment, as well as the assessment itself and its financial results, are dealt with in detail; and a concluding chapter on the cost of settlement and the services of the officers employed. There are, besides, sections on special matters, such as the settlement of the Chitani estate, the Ganges Canal, and settlement litigation. A separate chapter

has not been devoted to a comparison of the past and present condition of the district (clause 3, paragraph 48 of Circular No. 9—I), but some materials for this comparison will be found in the other sections of the report, principally in Chapters II and III. In the following remarks, which are submitted in review of the report under consideration, the order of arrangement in the report will generally be followed, with such exceptions as may be necessary to bring together and condense references to subjects that are dealt with partly in one section of the report and partly in another. As the Bulandshahr settlement is the first of those recently carried out in the Meerut Division with which the Board have had to deal, they have thought it necessary to review the report somewhat fully.

4. The Bulandshahr district, which may be described as a section of the upper Doab between the Ganges and the Jumna, is of compact shape and average size, its total area being 1,913 square miles. It is divided into four tahsils and thirteen parganas, and it contains 1,613 mauzas and 3,440 maháls. The principal stream, besides the two great rivers that bound it on the east and west, is the Kali Nadi, which flows through the middle of the district, and receives, or but for artificial obstructions would receive, the drainage of all the central tract. The country on either side of the Kali Nadi, between that river and the valleys of the Ganges and the Jumna, is drained by two minor streams—the Choya on the east and the Kharon on the west. The centre of the district west of the Kali Nadi is crossed diagonally by the Ganges Canal; the Anupshahr Branch Canal runs down the narrow strip of land between the Ganges and the Choya; and, in the west, the Bulandshahr (or Mát) Branch Canal flows between the Kharon and the Jumna.

5. The Jumna is bordered, almost throughout its course in the Bulandshahr district, by an extensive tract of *khádír*, or lowland, the northern half of which is traversed by two small rivers, the Hindan and the Bhuriya. Except in the villages along the Hindan, the soil of this lowland tract is generally inferior, and in many places waterlogged (see also paragraph 14 below); and the upper *khádír*, which intervenes between the valley of the Hindan and Bhuriya and the slope to the upland, is described as bad in the extreme, consisting chiefly of salt marsh and waste. The area of this unfertile tract is not, however, considerable. The Ganges *khádír* is of comparatively small extent; only a narrow strip of land, in which there is little permanent cultivation, intervening between the high bank and the course of the river. The rest of the district, the upland portion, is described broadly as a level plain, interrupted by the narrow depressions through which the smaller rivers find their way, and by three raised belts or ridges of uneven land running roughly parallel to the course of the rivers. The lowlands of the Ganges and Jumna are each bordered by one of these ridges. The third runs through the western section of the district, its course being indicated in the map by the line of the Bulandshahr Branch Canal.

6. As in most districts of the Gangetic plain, the character of the soil follows the lie of the country. In the belts of high uneven ground referred to above the soil is generally sandy; in the level tracts between them, which constitute the greater portion of the district, it is chiefly loam, changing to clay in the depressions and in the river lands. The best part of the district is said to be a deep strip which borders the valley of the Kali Nadi on either side, except in pargana Pahasu, where only the land on the west bank is of superior fertility.

7. The actual valley of the Kali Nadi is an exception to the general fertility of the higher lands which border it. In paragraph 15, and again in paragraph 69 of the report, Mr. Stoker refers to the general rise in the spring level that has taken place since the last settlement, which he attributes to the influence of the canal. Though, owing to the imperfect character of the observations made and recorded at the previous settlement, the extent to which the spring level has risen cannot be stated with exactness, there seems little room for doubt that the rise has been considerable. Its effects are naturally most injurious in the more lowlying tracts bordering on the river, and

the valley of the Kali Nadi, which was formerly productive and highly cultivated, has lost much of its fertility and rental value. Measures have been taken by the Canal Department to improve the drainage by straightening and shortening the course of the river, but much of the land along its banks is still swampy and infected by *rekh*. In the lowlands of the Choya a similar process of deterioration is reported to be going on, although the development of *rekh* has been as yet limited. There, 2,301 acres of land formerly cultivated have been submerged or rendered too moist for sowings, and in a large further area, the exact extent of which cannot be stated, the fertility of the soil is reported to have seriously diminished, though the land has not become positively unculturable.

Besides the lowlands of the Kali Nadi and the Choya, other waterlogged tracts are found in the western parganas traversed by the main canal and the Bulandshahr branch, where in a number of localities large shallow ponds are reported to have formed in recent years. The loss of cultivation from this cause is referred to in paragraph 18 of the report. In 155 villages the injury was sufficiently extensive to affect the assessment, and the condition of four of these had become so precarious that temporary settlements for five years only have been made. In these 155 villages the area found to be actually under water was 5,656 acres, besides which a further area of 4,527 acres was too wet for cultivation, and the productiveness of a considerable extent of land still under tillage had been impaired.

Doubtless the recent condition of the waterlogged tracts in Bulandshahr is, in part, the result of the exceptional flood of 1885, and the seasons of abnormally heavy rainfall that have followed it; but the general rise in the spring level, and the formation of swamps and marshes in what was formerly cultivated land, appear to be, to some extent at any rate, the effects of percolation from the canals. The mischief has not as yet attained considerable proportions; but it appears to be on the increase, and it seems advisable that the attention of the Irrigation Department should be invited to those portions of Mr. Stoker's report in which the subject is discussed, in order that such measures as are practicable may be taken to stop its further progress.

8. There is little further in the physical features of the Bulandshahr district to call for special notice. There are no lakes of any size. The district is described as poorly wooded. There are no forests, and artificial plantations are not numerous, the area under groves being 8,845 acres only. With the exception of one or two tracts of *dhák* jungle, the waste consists of *úsar* plains sometimes covered with thorny scrub, and of swampy hollows, locally known as '*dahar*,' overgrown with thatching grass or other rank vegetation. Little of this hitherto uncultivated waste is capable of profitable tillage. The district is mainly an agricultural one, horse-breeding being the only pastoral pursuit which is largely carried on. But it is as fully stocked with stall-fed cattle of a good class as its agriculture requires.

9. The mean annual rainfall is 26·4 inches, but during the five years from 1884 to 1888 this average was considerably exceeded. Owing probably to the abnormal seasons and the rise in the water level, the climate, which was formerly considered healthy, has in recent years become malarious. Mr. Stoker reports that the progress of settlement operations was interfered with by the sickness that prevailed among the staff.

10. In his second chapter Mr. Stoker gives a brief account of the agricultural and economic condition of Bulandshahr, and the castes and tenures of its landowners and cultivators.

The cultivated area is returned as 851,199 acres, within a fraction of the high rate of 70 per cent. of the total area of 1,224,248 acres. The culturable, but uncultivated, area (including the 8,845 acres occupied by groves) is 226,647 acres*; but, except

* The figures of area given in these remarks will be found to differ occasionally from those in Mr. Stoker's report. They are the total figures for the district, including revenue-free estates, taken from the appendices. The statistics given in the body of the report sometimes include those of revenue-free estates, and sometimes do not.

the grove land, the fallow, and land purposely thrown out of cultivation, not much of the culturable area is (as already remarked) really suitable for agriculture, and no further material extension of cultivation in new lands is to be expected.

11. The prevailing proprietary tenure is *zamindári*, or common ownership, to which description 2,446 maháls out of a total of 3,440 belong; of the remaining 994 maháls, 546 are held in *bhaidhára* tenure and 448 in perfect and imperfect *pattidári*. A noticeable feature in the land tenure of the district is the extent to which the land is owned by large proprietors, 62 families or groups of families paying over 52 per cent. of the entire land revenue. Notwithstanding the number of large estates and the prevalence of the *zamindári* tenure, separation of interests and sub-division of property resulting in a large increase in the number of maháls have taken place to a considerable extent, the number of maháls having almost doubled since the last settlement.

In paragraph 31 of the report a table is given showing the areas held by the different castes of proprietors at the last and present settlements, and the transfers that have taken place in the meantime. The total area given in the statement under "present settlement," 1,184,604 acres, is, it should be explained, the area of the revenue-paying estates, exclusive of revenue-free maháls and also of revenue-free plots contained in revenue-paying estates (see Appendix V: 1,194,188—9,584 acres). The largest areas are held by the Musalmán and Hindu Rájputs, next come the Játs, after them the Banias, and then the Saiyids. The area owned by each of these castes exceeds 100,000 acres. The area held by each of the following castes—Patháns, Kayasths, Brahmans, Gujars, and Europeans or Eurasians—falls below 100,000 acres, but is still considerable. None of the other castes own as much as 20,000 acres.

The statistics of transfers are summarized in the table below :—

Description of transfer.	Area transferred.	Land revenue.
	Acres.	Rs.
By order of court	99,359	1,05,592
Private transfers	305,839	4,38,490
For arrears of revenue	1,272	1,050
Total	406,470	5,45,132

It would thus appear that nearly a third of the land in the district has changed owners by means of sale since the last settlement. Of the more important proprietary castes referred to above, those which have lost most heavily are the Rájputs, both Hindu and Musalmán, and the Europeans or Eurasians. Alienations of Ját property have been considerable, but these have been chiefly in one large estate, and a good deal of the alienated property has been bought up by Játs, so that the net loss to the caste as a whole has not been great. The castes which have gained most largely are the Saiyids and the Banias, the latter now ranking fourth among the landowners of the district as regards the area of their possessions. It is said that, as a rule, they are not bad landlords, and that the management of their estates compares not unfavourably with that of the hereditary landowning classes.

Summing up the conclusions to which the comparison of past and present proprietary statistics leads, it may be observed that, while transfers have been numerous, many of them have been between co-sharers or members of the same caste, so that the former landowning classes have not lost ground to the extent that the mere statistics of transfers would indicate. The hold upon the land of the money-lending classes and the great landlords has increased, but the position of the old proprietary communities, as a whole, has not been seriously affected, and it is satisfactory to find that the smaller Ját proprietors, most of whom are cultivators as well as landlords, have

contrived not only to hold their own, but to add to their landed possessions. There are no grounds for attributing the sales of land that have taken place on such an extensive scale to the pressure of the land revenue demand, or, apparently, to the system of revenue law and administration, during the settlement that has expired. Mr. Stoker remarks (paragraph 38) that in only one doubtful case was there any reason to believe that pressure of the revenue had led to alienation of proprietorship. The number of sharers among proprietors of every caste has largely increased. The sub-division of property which such an increase results in, the improvident habits of certain castes and classes, and the social conditions and customs of the people are sufficient to account in Bulandshahr, as in not a few other districts in the province, for extensive transfers of proprietary right.

12. Paragraph 32 of the report contains a table showing the area cultivated by each caste and the number of ploughs. This table, it should be noted, does not include the statistics for revenue-free estates. The principal cultivating castes are the Hindu Rájputs, Brahmans, Játs, Gujars, Chamárs, and Lodhas. Of these the Hindu Rájputs, Játs, Brahmans, and Gujars are also among the chief landowning castes, and much of the cultivation held by them is proprietary. The Ahirs and Játs are said to be the best cultivators, and after them the Lodhas. The area held by Ahírs, however, is comparatively small, and this caste is only found as cultivators to any extent in the three parganas of Sikandrabad, Dadri, and Agauta. The Jats and Lodhas together cultivate 22 per cent. of the total area under tillage. Including the holdings of the Jhojhas, who also are described as excellent husbandmen, one-fourth of the cultivation is in the hands of the more skilful and industrious castes of agriculturists.

The average area per plough is $10\frac{1}{2}$ acres. Mr. Stoker is probably correct in estimating that the average area of a cultivator's holding somewhat exceeds the average area per plough. He puts the average size of a tenant's holding at 12 acres, and considers that even a higher figure would not be unreasonable. The large average size of the holdings in a highly cultivated and productive tract is, as Mr. Stoker remarks, sufficient to account for a high rent-rate combined with general prosperity among the cultivating classes. Accordingly, the agricultural condition of the people of Bulandshahr generally is described as one of marked prosperity. Except in some of the large estates, chiefly in parganas Pahasu and Dibai, where the tenantry have suffered from the oppressive management of the proprietors, and apart from the physical effect of the malarial influences which have prevailed of recent years, the condition of all classes would, it is said, contrast favourably with that in almost any part of the province. Even the day labourers, a class that often lives in poverty, are reported to be well-to-do, commanding fair wages and regular employment.

13. The following figures, taken from Appendix VIII to the report, exhibit the distribution of the rent-paying area between the different cultivating tenures :—

Description of tenure.						Area.	Percentage of total rent-paying area.
Sfr	...	...	...	...	...	118,810	13.6
Khúdkásht	...	...	...	...	...	45,037	5.1
Total, owners' cultivation						163,867	18.7
Ex-proprietary tenants	...	...	...	...	...	3,603	.4
Occupancy tenants	...	...	...	...	...	411,259	46.9
Tenants-at-will	...	...	...	...	...	288,793	32.9
Rent-free holdings	...	...	...	...	...	3,989	1.1
Total, tenants						713,644	81.3
GRAND TOTAL						877,511	100.0

The subject of occupancy rights will be dealt with in a subsequent paragraph. It will be sufficient here to note that nearly half the rent-paying area is held under the protected tenures.

14. The figures of population given in the report are those of the census of 1881. Those of the recent census of 1891, which were not available when the report was written, are shown in the following table :—

Pargana and tahsil.	Population, 1891.	Population, 1881.	Percentage of increase + or de- crease— at the recent census.
1. Sikandrabad	83,754	86,824	-3.5
2. Dadri	88,740	91,303	-2.8
3. Dankaur	51,871	57,939	-10.5
Total, Tahsil Sikandrabad ...	224,368	236,066	-4.9
4. Baran	95,063	90,268	+5.3
5. Agauta	65,826	60,981	+7.9
6. Siyana	74,610	70,821	+5.3
7. Shikarpur	46,429	40,831	+13.7
Total, Tahsil Bulandshahr ...	281,928	262,901	+7.2
8. Khurja	103,132	105,185	-1.9
9. Jewar	55,941	53,554	+4.4
10. Palasu	62,064	53,822	+15.3
Total, Tahsil Khurja ...	221,137	212,561	+4.0
11. Anúpsahr... ..	68,179	67,820	+5
12. Ahar	69,015	66,578	+3.6
13. Dibal	85,287	78,896	+8.1
Total, Tahsil Anúpsahr ...	222,481	213,294	+4.3
Total, District ...	940,914	924,822	+2.7

The average incidence of the population is therefore 497 persons per square mile. The increase, since the census of 1881, in the total population of the district is not large; and in one tahsil, Sikandrabad, which contains the greater portion of the Jumna khádir referred to in paragraph 5 above, there has been a considerable decrease, amounting in one of the Jumna parganas, Dankaur, to upwards of 10 per cent. From these statistics it would appear that in this tahsil at least the effects of waterlogging and the rise in the spring level have told severely on the health of the population. To it especially the very serious attention of the Sanitary and Irrigation Departments may be directed.

The population is almost entirely rural and agricultural. There are no manufactures of consequence, and the only important trade is the export of agricultural produce. Khurja, with a municipal population of 26,349, is the only considerable town, but there are many local bazárs and markets for the sale of produce. The district, as a whole, is well provided with communications, being traversed by two railways, the East Indian and the Oudh and Rohilkhand, and having numerous metalled and unmetalled roads and the waterway of the Ganges Canal.

15. The report contains little information on the methods of agriculture followed in Bulandshahr, and but a brief notice of the character of the crops and principal staples. The Settlement Officer states (paragraph 45) that there has been no appreciable advance in the methods of agriculture since the last settlement, no introduction of new staples, and no addition to the supply of manure. He believes that the better classes of crops

are more largely grown than formerly owing to the increased facilities for irrigation afforded by the canal. But, if the methods of agriculture and the staples grown are the same now as at last settlement, there is little room for doubt that (if the soils of the district have been correctly classified) the general level of agricultural efficiency (to use the favourite expression of high authority) has very considerably risen. As will be seen below, the proportion of the *bára*, or highly manured and irrigated land, upon which the most valuable crops are raised, has very largely increased (paragraph 28 below). In 1293 fasli, the last year for which the report furnishes complete crop statistics, 276,905 acres, or nearly a third of the cultivated area, were under wheat grown alone or in combination with other grains, and 244,890 acres under barley. The area occupied by these two cereals amounted to rather more than five-eighths of the cultivation. In the rains—besides the food crops of maize, *juár*, and *bája*—cotton and indigo are largely produced. From the table given in paragraph 35 of the report the culture of the former of these valuable staples appears to be extending, while that of the latter, owing probably to the oppression practised by some of the large proprietors in attempting to force its cultivation, is diminishing. Sugarcane is not largely grown, and it is confined to a few localities. In the eastern *parganas* safflower is a considerable and valuable crop. The double-cropped area is not stated in the report; according to the returns prepared by the Director of Land Records and Agriculture, it amounted in the year 1297 fasli, corresponding to 1889-90, to 181,358 acres, which is 21 per cent. of the cultivated area of the year of settlement.

16. In Chapter III of the report headed "Fiscal History" Mr. Stoker gives a short account of the former settlement and its working, and then proceeds to examine the causes and extent of the development of rents which has taken place during its currency. In the course of this examination Mr. Stoker enters into some comparison of the past and present condition of the district, and sets forth the material progress which has taken place since last settlement in so far as this has affected, or is connected with, the rise in rents. As has been remarked in paragraph 3 above, the comparison is not complete. Such matters as the past and present statistics of crops and soils, increase of population, and so on, are left unnoticed; but the important facts which bear upon the movements of rents are clearly exhibited and exhaustively discussed.

17. The last settlement of Bulandshahr, shortly after it was completed, gave rise to much controversy, which it is now unnecessary to revive. It will be enough to say that the settlement, which was at first intended to be permanent in all estates that had reached a certain degree of development, was finally sanctioned for the normal term with reluctance, because, within a few years of its conclusion, the revenue it yielded was found to fall materially below the proportion of the rental which is ordinarily considered to belong to the State. Whether the assessment was inadequate on the assets existing at the time it was made, or whether it afterwards became so owing to a sudden and considerable rise in rents, is a question that was much debated, but is now, for the purposes of actual assessment, of no great importance. Mr. Stoker is of opinion that the insufficiency of the former assessment was in part due to under-valuation of the then existing assets, and he shows good grounds for believing that, at any rate, the irrigated area was understated. Being based on a system of general fixed soil rates applied to considerable tracts of varying fertility and rental, the assessment imposed a fuller revenue on the poor estates than on the good ones; but, with the rise in rents which subsequently set in, it very soon became moderate even in the most inferior properties. No revision or alteration of the demand during the currency of the settlement has been found necessary, except in alluvial lands and some of the villages that have deteriorated from over-saturation. The working of the settlement has not been illustrated in the report by statistics of collections and balances of revenue, or of coercive processes; but it may be said that the revenue has been collected with ease, and the Settlement Officer is no doubt correct in stating that whatever difficulties have occurred were due to other causes than over-assessment. The subject of alienations of landed property has been referred to in paragraph 11 above. The conclusion there noted, that the numerous

transfers during the currency of the last settlement were not generally connected with the land revenue assessment, will hardly be disputed after what has been said as to the leniency of that assessment. In the statement of transfers contained in paragraph 31 of the report, the prices for which land has been sold are given; but, as Mr. Stoker considers that these prices are to a great extent nominal and fictitious, he has refrained from drawing any conclusions from them.

18. The comparison between the past and present rentals is attended with some difficulty, owing to the incompleteness of the old rental records and the uncertainty as to how far the assets recorded, or assumed for assessment at the last settlement, corresponded with the real assets existing at the time.* According to the table at page 32 of the report, which shows the recorded rents of last settlement, the average incidence of the tenants' cash rent has risen from Rs. 2-13-10 per acre at last settlement to Rs. 4-9-5, an increase of 60 per cent. Mr. Stoker, however, prefers to take the standard rentals of the old settlement as a fairer means of comparison.† Inasmuch as the standard rental of the old settlement was probably uninfluenced by rents the true amount of which was concealed from the Settlement Officer, even that rental is not altogether a fair measure of comparison with the present rental, which is based upon real assets disclosed in the course of the Settlement Officer's investigations. But taking the test for what it is worth, the total increase in rental appears as 67·7 per cent.; and the Settlement Officer is fully justified on this, as well as other grounds, in coming to the conclusion that there has been a very large and general rise of recorded rents throughout the district. The increase, however, has been unequal, and has been a good deal influenced by the character of the management of individual estates, being greatest in those parts where there are strong and grasping proprietors. As far as the present assessment is concerned, the important fact is that the assessable assets as now ascertained exceed those on which the former assessment was founded by upwards of 60 per cent.

19. The increase in rental is traced to three causes:—

- (1) The rise in prices;
- (2) Extension of cultivation; and
- (3) Extension of irrigation.

Mr. Stoker compares the average prices of grain for the five years 1885 to 1889 with the averages struck at last settlement, and calculates that there has been a general rise in the value of produce in the Bulandshahr district amounting to within a fraction of 91 per cent. This calculation corresponds with that which Mr. Bennett, Director of Agriculture and Commerce, arrived at independently by comparing the average prices in the Cawnpore market for the years 1852 to 1859 with those for 1870 to 1880.‡ From the statement of prices printed as Appendix XIII to the Settlement Officer's report under review, an abstract of which is given in paragraph 44 of the report, it would appear that the greater part of the rise in prices which has occurred took place in the first years of the term of the last settlement. It is only when present prices are compared with the averages of the years immediately preceding and following the penultimate settlement that any considerable advance is perceptible. The comparison therefore of past and present prices depends on the correctness of those averages. So many factors enter into the calculation, and the disturbing elements to be eliminated or allowed for are so numerous that, as Mr. Stoker remarks, it is difficult to obtain an average of the prices prevailing at different periods which can be relied on as perfectly fair and correct; but the broad fact that a very marked and *prima facie* permanent increase in the money value of produce has taken place since 1859, the year when the penultimate settlement expired, is clear. The movements of prices in Bulandshahr have followed much the same course as in other districts in the province. In the

* It should be noted that in the remarks which follow, as in the portion of the report to which they refer, the present statistics of area and rental quoted are those of the revenue-paying portion of the district, exclusive of revenue-free estates.

† The total of the standard rental in column 3 in the table on page 33 differs slightly from that of Appendix IX. The difference (Rs 897) is in pargana Pahasn. It is not explained.

‡ Note by the Director, Agriculture and Commerce, in the blue-book on revision of settlements, page 217.

famine years of 1860-61 prices rose high above the previous average, as they did again in the scarcity of 1868-69, and during most of the years that intervened a general tightness of prices prevailed. The average prices of the first decade of the term of the last settlement were thus in some degree abnormal; but since then, though at first there was some tendency to a fall, prices have never returned to their former level, and during the last five years of the settlement (1885-89) attained even a higher average than that reached in the first decade. The rise of prices in the first instance cannot have been connected with the depreciation of silver, as it had occurred, for the most part, before the fall of silver commenced. The alteration in silver values may possibly have had some effect in maintaining, during a succession of good harvests, the high level reached during a period of comparative scarcity; but it is, mainly, the development of the railway system and the consequent growth of export trade that have kept the value of agricultural produce at its present rates. Prices are now not only higher, but far more stable than they used to be when they depended on the variations of the local harvests.

20. Having examined the rise in the value of produce and its effect on rents, the Settlement Officer proceeds to discuss the agencies which operate on rentals by increasing the amount of produce. The agencies which are described as coming under this category are the extension of cultivation and the increase in the irrigated area. Excluding the areas of revenue-free estates, the increase since the last settlement in the area recorded as irrigated is 184,634 acres, or 57·7 per cent. The difference between the average incidences of the present wet and dry rates applied to this area gives Rs. 576,981, a sum representing an enhancement of 23·3 per cent. on the standard rental of the former settlement. The increase on the cultivated area (exclusive, again, of the increase in revenue-free estates) is 52,511 acres or 6·7 per cent. As most of the new cultivation is of inferior quality, the Settlement Officer calculates its rental value by the average incidence of the standard rental on outlying land, wet or dry. This incidence is Rs. 4-5-4, which is probably a full rate to apply. It gives a rental of Rs. 2,27,548, representing an increase of 9·2 per cent. on the rental of the last settlement. "According to this calculation," to use the words of the report, "the effect of the agencies which have increased the amount, as discriminated from the value of produce, has been to add 32·5 per cent. to the past standard rental." This, however, is not an altogether accurate statement. It is obvious, as the present rent-rates have been applied in the estimate, that the rise in rents due to general causes such as the increase in the value of produce has entered into the calculation. The rental increment of 32·5 per cent. as calculated above is, in fact, the result of both agencies: it is the increase in the amount of produce, due to extension of cultivation and irrigation, *combined* with the increase in the value of that produce due to the rise of prices.

21. A juster method of calculating the extent to which the two factors have contributed to raise the rental is that given in paragraph 50 of the report, where the total increase of rental is analyzed by applying the rates of the former settlement to the present areas, and the rates of the present settlement to the former areas, and thus discriminating between the portion of the increase which is attributable purely to extensions of cultivation and irrigation, and the portion which is due entirely to improvement in rent-rates. The details of the calculation will be found in the report. They may be summarized as follows:—

	Rs.
Total increase of the present standard rental over that of last settlement ...	16,74,355 = 67·7 per cent.
(1) Increase over the former standard rental obtained by applying the former rates to the present wet and dry areas; <i>i.e.</i> , portion of the total increase entirely due to increased cultivation and irrigation ...	5,93,860 = 24 ..
(2) Increase over the former standard rental obtained by applying the present rates to the former areas; <i>i.e.</i> , the portion of the total increase which is due entirely to improvement in rent-rates ...	8,76,046 = 33·4 ..
(3) The remainder of the total increase, being the product of the difference between the former and the present rent-rates and the difference between the former and the present cultivated and irrigated areas; and therefore partly due to improvement in areas and partly to improvement in rent-rates ...	2,04,449 = 8·3

Distributing (3) between (1) and (2) in the proportion which these items bear to the total, the Settlement Officer estimates that, of the total increase in assets of 67·7 per cent., 40·3 per cent. is owing to the rise in rent-rates and 27·4 per cent. to extension of cultivation and irrigation. Subject to the consideration noted in paragraph 18 above, that a portion of the apparent increase in assets is not a real increase, but is owing to under-valuation or insufficient record of assets at the former settlement, the calculation may, the Board consider, be accepted as a fair approximation to the facts.

22. The result is of importance in connection with the consideration of the soundness of the enhancement of the revenue now proposed. It shows that the increase in rental, on which that enhancement is based, is more than justified by the rise in prices and the extension of irrigation and cultivation which have taken place since the former settlement, and is not the result of unrestricted competition which has enabled the andholders generally to wrest from the tenantry a larger share than heretofore of the product of their industry. Apart from mere arithmetical calculations, this conclusion is supported by the generally prosperous condition of the peasantry which has been already referred to, and by the striking growth of occupancy right. Since last settlement the proportion of the area held in right of occupancy has (if records past and present may be relied upon) risen from 26·3 to 47·3 per cent. of the total rent-paying area, and from 33·3 to 58·1 per cent. of the area cultivated by tenants. It seems absolutely certain that, barring possibly the Chitari and some other similarly managed estates mostly in parganas Pahasu and Dibai, the position of the tenantry in respect to fixity of tenure is at least no worse now than it was at last settlement. And the effect of occupancy rights in moderating rents is seen in the incidence of the occupancy rental, which is only Rs. 3-14-4 per acre, while the incidence of the rental recorded as paid by tenants of all classes is Rs. 4-9-5.* There seem to be very good grounds, therefore, for believing that occupancy tenants, at any rate, are better off than they were at the last settlement. Whether tenants-at-will as a body have much benefited by the rise in prices and the material progress of the district is not so evident. The average rent-rate paid by tenants-at-will, Rs. 5-10-7 per acre,† appears sufficiently high; but, on the other hand, when the large average size of the holdings is considered, it is probably not more than they can, on the whole, afford to pay and yet live in comparative comfort. It is moderate in comparison with the average rate of rents collected in some of the more highly cultivated districts in Oudh from the bulk of the cultivators. It is to be prominently noticed, however, that the rates in pargana Pahasu, where the incidence of the rent recorded for tenants of all classes is, for the entire pargana, Rs. 6-5-9 per acre, and for one assessment circle wherein the tenants (through the unre-lenting action of the landlords for the suppression and against the accrual of occupancy rights) are mainly tenants-at-will, as much as Rs. 8-3-7 per acre, clearly indicate the less favourable circumstances of the tenantry in certain estates.

23. Chapter IV, the next and most important section of the report, deals with the entire operations of the settlement, from the revision of the village maps and records to the assessment and distribution of the land revenue demand.

In Bulandshahr the settlement has been carried out without a fresh survey on the basis of the existing maps (revised beforehand by a District Deputy Collector), and of village records corrected and brought up to date mainly by the agency of patwáris and kanúngos, and subsequently verified by the Settlement Officer, his Assistants, and Deputy Collectors. The method adopted by Mr. Stoker in carrying out the provisions of the first chapter of the Bulandshahr settlement rules for correcting the village papers (exclusive of maps), verifying them after correction, and preparing the final copy for record, is detailed in paragraphs 83 to 85 of the report. The actual work in the field was done by the patwáris and tested by the kanúngos under the supervision of a Deputy Collector, who again tested the work of the kanúngos as it progressed. Slips containing the details of the proprietary and cultivating holdings were distributed

* See Appendix VIII to the report.

† See Appendix VIII.

to the persons concerned in order to enable them to make themselves acquainted with the entries made regarding their rights, and these slips were finally attested in the village by the landlords and tenants before the Deputy Collector in the presence of the assembled villagers. The system, being unattended by a general map revision and correction, was expeditious and economical, and the additional merit is claimed for it that it did not tend to promote disputes and causeless litigation. The employment of kanúngos and patwáris, however, as the agency for the preparation of the settlement record does not appear to have secured the essential point in regard to assessment operations—a correct record of rentals in the attested rent-rolls. As had been anticipated from the general inquiry preliminary to settlement made by the Director of Agriculture and Commerce into the condition of the village records, it was found that, while the entries were fairly accurate as regards areas, crops, and irrigation, they were by no means so trustworthy in respect to the record of rent, particularly in the estates of some of the larger proprietors. The subject is referred to in paragraphs 87 to 89 of the report, and a separate chapter (Chapter V) is devoted to an account of the measures that were found necessary in the estate of Nawáb Mahmud Ali Khan, Rais of Chitari in pargana Pahásu,* where falsification of rent-rolls was most deliberately and persistently carried out, and on the most extensive scale.

24. In the estates of this and some other large proprietors, chiefly in parganas Pahasu and Dilai, the rents actually collected had for a long series of years been much in excess of those recorded in the annual village papers, and the proprietors, in the hope of escaping the large enhancement of revenue which the disclosure of their real assets would entail, persisted in understating their rents in the settlement jamabandis. As might have been expected, in the estates where the policy of defrauding the Government by concealment of rents had been deliberately adopted and systematically pursued, the patwáris were the accomplices of the proprietors, and the rent-rolls prepared by the patwáris and kanúngos under the superintendence of the Settlement Department were nearly as worthless for assessment purposes as those of previous years. The difficulty of ascertaining or estimating the true rentals was increased by the fact that the fraudulent concealment was practised over large areas, and that the recorded rents, though far below those collected, were not low compared with those paid in neighbouring parganas the rent-rolls of which were known to be genuine. The rents actually paid in the estates where concealment was extensively practised were, in fact, so high that an adequate estimate of them would not have been obtained by valuations at rates derived from the rents in other villages; so that the proprietors, in all probability, would have profited largely by their policy of concealment if, their real assets not having been discovered, they had been assessed even on estimates of rental framed by the Settlement Officer. The fact, however, that rents were understated in certain estates was notorious, and the landlords defeated their own object by their systematic treatment of their tenantry, especially in regard to the record of occupancy rights. When the Settlement Officer visited the villages the tenants came forward and declared the true rents; and, when once the inquiry was started, many of the patwáris gave up the true rent-rolls. The fraud was thoroughly exposed, and at length reluctantly admitted. The false rents retained their place in the settlement records of not a few villages; but in every case the true rental was ascertained with a close approach to accuracy.

At page 73 of his report the Settlement Officer gives a statement showing, for the estates where the record was willfully and systematically falsified, the recorded rental, the real rental, and the amount concealed. The total figures are as follows:—

	Rs.					
Recorded rental	4,26,467
Real „	5,93,475
Amount concealed	1,67,008

* This gentleman, by a stroke of fortune that even he may look upon as somewhat strange, has quite recently been the recipient of a special mark of favour from the Government, whose interests and wishes as regards the assessment of the land revenue and the maintenance of the well-being of his tenantry, he had, in preceding years, done his best to defeat. See *Gazette of India Extraordinary*, dated January 3rd, 1893, page 3.

or more than 27 per cent. of the real rental. Of the amount concealed, Rs. 1,19,394, or nearly three-fourths, were in the two parganas of Dibai and Pahasu. The concealed rental, which does not include concealment of assets by reduction of cultivation—a device that was also resorted to,—is 4 per cent. of the total assessable assets of the district, and over 5 per cent. of the rent of cash-paying tenants (Appendix XI to the report). Including the rental of the land wilfully thrown out of cultivation, the assets concealed are estimated at nearly two lakhs of rupees. These figures indicate the importance of, at least, the material interests involved, and the serious risk of loss to the State which may result from an assessment simply on the recorded rentals, accepted by an easy-going Settlement Officer. Granted that the principle of assessment upon rentals as they exist is sound, there remains for the Settlement Officer the great practical task of making sure that the village records accurately and honestly represent the existing rentals, a task which the mere inspection of soil areas will not enable him to fulfil. If it be admitted that the rent-rolls of many estates are sufficiently accurate for the purposes of assessment, or will yield a considerable enhancement of the revenue, there still are likely always to be others where the success of fraudulent concealment of the true rent-roll and the acceptance of the false one would be followed not only by pernicious moral results among the people generally, but also by serious loss of public revenue.

25. The circumstances under which the revision of the village maps was effected are explained in paragraphs 90 and 94 of the report. The revision was carried out by the patwáris and kanúngos under the superintendence of Rájá Lachman Singh, district Deputy Collector, in advance of the regular settlement operations, and the revised maps for all but the alluvial maháls and eleven other villages were printed before settlement operations began. It is now evident that this procedure was a mistake, and that it would have been better if the work of map correction had been carried out under the supervision of the Settlement Officer from first to last. The defects in the majority of the maps, resulting from the circumstances under which they were prepared, are referred to in the report, and have been described in the Board's letter to Government, No. ³⁹⁵_{III-96}, dated the 16th November 1891. They result from three principal causes: (1) that the trace was made from whatever copy of the old settlement maps happened to be in the patwári's hands, instead of from the original; (2) that the fields were not re-numbered; and (3) that after the maps as corrected by Rájá Lachman Singh had been printed, extensive further correction was found necessary. Mr. Stoker records his opinion (paragraph 94) that the maps would probably be sufficient for all practical purposes; but the defects in them have been found seriously to impede the work of the patwáris and to render the work of annual map correction impossible; and it has been necessary to undertake the revision of all the Bulandshahr maps except 224, which Mr. Stoker caused to be re-drawn and re-numbered, or which were based on an entirely fresh survey. The number of maps which have been recently revised is 1,459. These have been re-drawn and re-numbered so as to show only the field boundaries existing at the recent settlement, and to give each plot a separate and distinct number. The numbers in the revised maps, however, do not correspond with those of the settlement papers, and indices, or comparative lists of former and present numbers, have had to be prepared. Besides this disadvantage, the re-drawn maps can scarcely be expected to be accurate delineations of locality. At the most, they will only serve as a more convenient index to the khasra than the maps prepared at settlement. It has been explained in the Board's letter referred to above that the Settlement Officer was not responsible for the faulty system on which the maps were prepared, and that, when the defects in them were observed by him, to have stopped the work of assessment until they were remedied would have caused considerable delay and entailed a serious loss of revenue.

26. The revision of the assessment was carried out under the rules approved by the Government of India and published as Board's Extant Circular No 9—I, which, as far as they relate to the assessment of the land revenue in Bulandshahr, are identical with the rules sanctioned for the settlement of the Gorakhpur and Basti districts. The general principles of the rules have been summarized in the Board's review of the final

Settlement Report for the Basti district (No. $\frac{726}{1-20}$, dated the 10th November 1891), and it need only be noted (1) that the concession allowed in Basti and Gorakhpur, of an abatement of 25 per cent. on the valuation for assessment of proprietary sir, was also granted to the Bulandshahr landowners; and (2) that the rules provided for the assessment of maháls benefited by canals and other public irrigation works on the basis, as in other maháls, of their corrected rentals; in other words, the increase in rental due to canal irrigation was to be assessed to land revenue, and, in consequence, the levy of separate canal revenue in the form of owners' rate was to cease with the commencement of the new term of settlement.

27. Working under these rules, the Settlement Officer and his Assistant, when the village records had been corrected and attested, proceeded to inspect each village, and to determine its assessment after testing the rental recorded for tenants' land by personal observation of the character of the estate (its soils, irrigation, cultivating population, crops, rents, and other matters), and comparison with the rents generally paid for soils of a similar kind and with similar advantages. The comparison was made by classifying the soils, by grouping the villages into assessment circles, and by framing for each village a standard or test rental obtained by applying to its ascertained soil areas differential rates deduced from the prevailing rates of the circle.

28. The subject of soil classification is dealt with in the first section of Chapter IV of the report. The natural soils in Bulandshahr, as in other districts of the Doáb, are loam and clay (locally known as *seota* and *dákra*), *pilota*, a yellowish sandy soil, and *bhír*, sand of a whitish colour. The natural character or constitution of the soils, together with the condition of irrigation, make up what the Settlement Officer calls the "natural quality," in accordance with which he topographically (that is, in tracts of unbroken contiguity) divided the greater part of the district into assessment circles, each with its set of standard rent-rates. So far the natural character of the soils influenced the assessment, since the prevailing rents of each circle are said to follow the natural conditions of its soils and irrigation. But within the villages included in each circle the natural soils seem not directly to have been taken into account in the actual assessment. No attempt was made within each village to revise the record of natural soils made at last settlement, which in some cases was very erroneous; and for the practical work of assessment within each village, the soils were, without direct reference to their natural constitution, divided into (1) *bára* or home lands, and (2) outlying, each of these classes being sub-divided into irrigated and dry. This was the classification adopted at the previous settlement; it is that understood by the people and followed in their rent arrangements; and it is in accordance with the usual system of cultivation under which, in most villages, there is a circle of manured and highly cultivated land round the homestead, while the rest of the cultivation is of an ordinary character. The distinction common in some districts of an intermediate belt (known in Bulandshahr as *munda* or *agela*) between the homestead lands and the outlying zone is not very general in Bulandshahr, and was, as a rule, disregarded by the Settlement Officer. He states that the sharply defined and well known *bára* circle could in Bulandshahr be correctly demarcated without difficulty, except in Ját villages, where, owing to the method of husbandry, the *bára* zone is not so well marked as elsewhere. The demarcation of the *bára* soil was made in all cases by the Settlement Officer himself, or by the Assistant Settlement Officer subject to his revision. It resulted in an increase in the area of *bára*, compared with that of the previous settlement, of nearly 14,000 acres, or 31.6 per cent., an increase very much higher in proportion than that in the cultivated area, which, as has been remarked above, is less than 7 per cent. The increase in the area of this soil is attributed by the Settlement Officer mainly to the action of the landlords in raising the rents of fields near the homestead which had formerly been rented as outlying. But some of it must have been due to the formation of new homesteads, improved irrigation, and the other causes which have led to the increased cultivation of the more valuable staples; so that the enhanced rents,

which to some extent guided the demarcation of the bára soil circle, are generally justified by the present agricultural value of the land.

29. The Settlement Officer has devoted a separate section of the report to the irrigable area (Chapter IV, section 2). The object kept in view by him was to ascertain the areas commanded by water, that could be considered as capable of irrigation when planted with crops needing water, and were rented as irrigated land, whether actually watered or not in any particular year. Those fields were, therefore, recorded as wet which had been irrigated in one or more of the three years 1290, 1291, and 1292 fasli. The information was obtained from the village records, which in this respect were found accurate and useful, checked by the records of the Canal Department, and tested by the kanúgos and by the Settlement Officer and his Assistants at inspection. An accurate record of the areas paying or capable of paying rent at wet rates was thus secured, and the attempts which were made to defraud the Government by filling up the wells or otherwise concealing irrigation were frustrated. It was estimated that, owing to rotation of crops and other incidents of agriculture, fields commanded by water come under irrigation, on an average, only once in three normal years; but it was found that, in fact, nearly all the fields recorded as irrigable were irrigated in 1291 fasli, a year of scanty rainfall, the additions on account of 1290 and 1292 being inconsiderable. The areas actually irrigated in a normal year would of course be much smaller than the irrigable area, a fact that partly explains why, as will be noted later, the increase in the land revenue attributed to canal irrigation largely exceeds the annual income hitherto received by the Canal Department in the form of owners' rates. The comparative statistics of irrigation will be found in the table at pages 51—54 of the report. The areas there given include those of revenue-free estates. It will be observed that the area irrigated from masonry wells has, on the whole, slightly increased, notwithstanding the introduction of the canals. Irrigation from other sources, that is, from earthen wells principally, as was to be expected, has diminished. And in comparing the present areas with those of last settlement it has to be kept in mind, firstly, that while now there has been little or no concealment of irrigation (none being practically possible under the existing system of yearly record), fraud was practised in the matter at last settlement, and, secondly, that it is uncertain from the records of last settlement whether the area called irrigated was the irrigable area or only that actually watered in the year of measurement or assessment. Nevertheless, of the very great expansion of comparatively easy irrigation there can be no possible doubt.

30. The method of grouping the villages into circles, of which an account is given in section 3 of Chapter III of the report, is (as already said) described as the topographical one. The district (as has been noticed in paragraphs 4—7 above) was found to comprise tracts throughout which natural qualities and characteristics, to which the prevailing rents in most parganas corresponded, are fairly uniform, and the circles were formed of all the villages included in each of these tracts within the limits of its own pargana. The natural soils apparently lie in extensive and fairly uniform stretches of country possessing similar advantages of irrigation, and these tracts are reported to be fairly homogeneous as regards the prevailing rents paid throughout them. Mr. Stoker, indeed, departed from the general principle of topographical classification in some instances where, owing to the action of the landlords, the rents were found not to follow those generally paid under similar conditions of soil and irrigation. In such cases he was obliged, as other Settlement Officers have been, to form the villages into circles by the rent-rates prevalent in them rather than by their contiguous position and natural soils and irrigation. Examples of this are the division of the circles of pargana Palhasu into two groups of occupancy and non-occupancy villages, and the treatment of the Chitari estate as an independent assessment circle separate from the rest of the tract.

The villages ranking in the first and second circles of the respective parganas are those of the central plain: the third circle estates are those situated in the belts of sandy

soil which run across the district, and the inferior circles, the fourth, fifth, and sixth, contain the villages of the Jumna khádir and a few on the banks of the Ganges. This general classification is illustrated in the map appended to the report, in which, however, the numbering of the khádir circles does not correspond with that given in paragraph 73 of the report itself. But, again, local differences of rental or management have been allowed for by framing different sets of standard rates for the circles in each pargana. The circles in each pargana, although contiguous and similar in physiography and gradation (as 1st, 2nd, 3rd, 4th, 5th, or 6th class) to those of adjacent parganas, are thus distinct, and do not correspond throughout in respect to their standard rates with the circles of similar grade in other parganas.

In this way the district has been divided into 44 assessment circles, not by any means all physically dissimilar, but nearly all differing in their prevailing rents. In 39 of them the circle rates differ to a greater or less extent.

31. In framing standard rent-rates for the different classes of soil (*cf.* paragraph 28 above) in each circle Mr. Stoker found the same cause of difficulty as has been met with by other Settlement Officers in complying literally with the rule in the settlement circular, namely, that there were no differential soil rates or rents recorded in the village papers. The method by which standard rates were ascertained and selected is described in paragraphs 75 and 76 of the report. It is substantially the same as that followed at the recent settlement of the Basti district. Though the recorded rents were invariably lump rents, yet in many villages there were recognised rates of rent by which the lump rents for holdings containing more than one class of land had been originally fixed; and the Settlement Officer and his Assistant, by careful inquiry at inspection, were generally able to ascertain the rates that were recognised as fair and were generally paid (though not recorded) under ordinary circumstances for each recognised class of land. Occasionally, also, holdings consisting of one class of land were met with, the incidence of the rent of which gave a rate for the class of land. The rates noted were verified by the analysis of the lump rentals of holdings, and the most representative and general of them selected as the standard rates for the circle. These again were checked by application to the soil areas of selected villages, and finally tested by a comparison of the result they gave, when applied to the entire areas of the assessment circle, with the actual rental corrected for nominally rented and rent-free lands. The table in paragraph 78 of the report shows how the standard rentals of the different parganas stand the test of this comparison. For the whole district the standard rental is Rs. 41,45,540;* the actual rental, that is, the verified rental for land held by tenants at cash rents with the valuation of sár and other nominally rented or rent-free land (amounting for the whole district to 223,237 acres) at the average rate of tenants' recorded cash rents, whether accepted as fair or not, is Rs. 40,77,524; and the corrected rental, into which the standard rates partly enter as they were frequently used for the purpose of rental valuation where the recorded tenants' rents were not accepted as adequate, is Rs. 42,11,497. The standard rental for the whole district thus stands halfway between the attested rental and the corrected rental, exceeding the former and falling short of the latter by between 1 and 2 per cent. The excess over the attested rental is explained by the falsification of some village rentals and the inadequacy of others; the deficiency as compared with the corrected rental is due to the inclusion in the latter of high actual rentals which could not equitably be taken into account in selecting the standard rates. The incidence of the standard rental is Rs. 4-13-5 per acre (Appendix IX, page 79); the incidence of the rental attested as paid by tenants-at-will is Rs. 5-10-7 per acre; while that of the total rental attested for tenants, both occupancy and non-occupancy, is Rs. 4-9-6 per acre (Appendix VIII, page 75). This last incidence is reduced by the low rate, Rs. 3-14-4 per acre, of the land held by occupancy tenants, which constitutes the greater part of the rent-paying area. These incidences are evidence of the fairness and moderation of the standard rates employed for correction and rental valuations. The standard rates were, as Mr. Stoker explains (paragraph 76), based on both occupancy and non-occupancy rents, and were framed so as to apply

* Rs 41,46,437 according to the statement in Appendix IX.

equitably to villages containing an ordinary proportion of occupancy tenants and paying the normal rates of rent.

32. Having obtained in each village the verified rental for land held by tenants at cash rents, and tested it by comparison with the standard rental (that is, valuation at standard circle rates) and the recorded rentals of previous years, *and by local inspection and inquiry*, the Settlement Officer, after correcting it for *sír*, *khúdkásht*, grain-rented land, and rent-free land, accepted it as the basis of assessment if he judged it to be adequate. If he judged it to be fraudulently under-stated, or seriously inadequate in consequence of the inadvertence or easy management of the proprietors, he framed a substituted or accepted rental with similar correction for the *sír*, *khúdkásht*, grain-rented, and rent-free lands.

33. The area other than that held by cash-paying tenants, which had to be valued, was considerable, amounting (as has been noted above) for the whole district to 223,237 acres out of a total assessable area (excluding revenue-free estates) of 857,116 acres (Appendix XI). The system of correction in villages where the tenants' cash rentals were accepted as genuine and adequate is described in paragraphs 106 and 107. When the areas to be valued were small, rates ascertained to be paid in the village for land of similar quality were employed. Where the areas were more considerable, the standard rates of the circle were generally used in preference to the all round incidence of tenants' cash rentals, composed as these usually were partly of the competition rents paid by tenants-at-will and partly of the low rents of tenants with rights of occupancy. In some cases the rates paid in villages similar in natural quality were applied. When this method of correction was adopted, it would appear from the latter half of paragraph 106 of the report that, in some instances, rates somewhat lower than the character and full rental value of the land would have warranted were employed in order to avoid an unduly large enhancement of the revenue. The propriety of this method of correction seems open to question since it is advisable that the full rental value of the land should be known and placed upon record. But the result, as far as the actual assessment of the revenue is concerned, would have been the same if full valuation rates had been employed and a low proportion of the assets had been fixed as the revenue. The procedure, at any rate, shows that the Settlement Officer endeavoured to moderate his assessments. The valuation of *sír* land actually cultivated by landholders or by their servants, however obtained, was in all cases subject to an abatement of 25 per cent. The total deduction thus allowed is estimated at Rs. 1,23,653,* the revenue on which, calculated at the proportion which the new revenue for the district bears to the total assessable assets, would be Rs. 58,735 (paragraph 120). The incidence of the valuation for assessment of *sír* cultivated by proprietors, on which the rebate of 25 per cent. was granted, is Rs. 3-9-2 per acre; and the valuation of other *sír*, *khúdkásht*, rent-free, and grain-rented land falls at the rate of Rs. 4-8-6 per acre (Appendix XI, p. 95). These incidences may be compared with those given in the preceding paragraph. They indicate that the rates used for correction, while not inadequate, were distinctly moderate compared with those actually paid, and go towards discrediting the statements made, and in some quarters, it is understood, believed, as to the severity of Mr. Stoker's assessment proceedings.

34. In consequence of the extensive concealment of assets that was attempted, either by under-statement of rental or wilful reduction of cultivation (*c/*: paragraph 88 of the report), the number of rent-rolls it was found necessary to reject as fraudulent was comparatively large. The number rejected for inadequacy was still larger, owing mainly to the fact that, in many villages, from causes which are explained in paragraph 100 of the report, the rents of occupancy tenants had become stereotyped, having risen but little, if at all, since the previous settlement, even where the value of land had been increased by the introduction of canal irrigation. The question of the valuation for the purposes of assessment of occupancy holdings held at rents considerably below those paid by tenants-at-will was discussed in the correspondence ending with G. O.

* Actually Rs. 1,22,418. See Appendix XI, p. 95.

No. ⁴⁹²~~15~~, dated the 13th April 1888. It was therein ruled that, in assessing individual villages, regard must under the rules be had to actual assets, and therefore to the occupancy rates, "provided," to quote the words of the G. O., "that the occupancy rates are not purely nominal rents, nor given at the caprice of the landlord, but represent *bond fide* rents paid in the village concerned by tenants having a right of occupancy, and maintainable subject to the provisions of the Rent Law." The test, therefore, that was prescribed for deciding as to the adequacy of an occupancy rent was whether it could be maintained under the Rent Law if the landlord chose to apply for an enhancement. If, independently of improvements effected by or at the expense of the tenant himself, it fell so unreasonably below the prevailing rates paid by tenants of the same class for land of similar soil and advantages that a Revenue Court would be obliged to grant an enhancement, it was usually rejected. A few of the landlords applied for and obtained enhancements of the rents of their occupancy tenants before their villages were assessed; but in general they waited till their assessments had been declared, and then proceeded to justify the action of the Settlement Officer in rejecting their rents as inadequate by friendly arrangements made with the tenants on the basis of the Settlement Officer's accepted rent-rates, or by applying to him to enhance the rents judicially. Statistics showing the extent to which enhancements of rent were made by the Settlement Courts are given in paragraph 151. The enhancement applications had not all been decided at the time the report was written; but, calculating apparently by the result of those which had been decided, Mr. Stoker calculates (paragraph 100) that the revenue payable out of a rental of Rs. 1,89,657 would have been sacrificed, if the rents which have since been enhanced had been accepted as adequate.

35. Out of the district total of 3,440 maháls, the rent-rolls of 634 were rejected—156 for concealment of assets and 478 for inadequacy (paragraph 96). These figures do not represent the extent to which fraudulent concealment of rental, based upon the old village papers, was attempted, as they do not include the maháls whereof the proprietors, who had at first understated their rents, afterwards, with the concurrence of the tenants, admitted the true rentals at the attestation of the new records. Nor do they include numerous cases, treated as corrections, in which a part only of the tenants' rental was discarded, the greater portion being accepted as genuine and adequate. Including this latter class, the number of recorded rent-rolls wholly or partially discarded was 1,070 (paragraph 99). In 31 per cent. of the maháls to be assessed, therefore, the Settlement Officer was obliged in a greater or less degree to base his assessment on another foundation than the recorded cash rents. Where the rents were fraudulently understated the Settlement Officer, as has been already stated, was generally able to ascertain the actual rents from the admissions of the tenants and patwáris. In these cases he had admitted, though not recorded, rents to go on and was able to substitute for the fraudulent rental a true actual one. Where rent-rolls were rejected as inadequate, rental estimates which, it may be inferred, were subsequently supported by the results of applications for enhancements of rent, were obtained by the methods employed for correction for sir and other nominally-rented or rent-free land, described in paragraph 33 above.

36. Besides the rental of cultivated land, are receipts from natural or spontaneous (sayer) products which the Settlement Officer is authorized by the rules to take into account in fixing his assessments. The sayer income, derived chiefly from grass, wood, gum, water nuts, the fruit of mango groves and gardens, and saltpetre earth, which has been included in the assessable assets, amounts to Rs. 56,067 (paragraph 123).* The amount to be added to the rental on account of sayer was determined by the Settlement Officer in each case by personal inquiry and observation at inspection, after making allowance for the precarious nature of this source of profit. Little assistance

* NOTE.—It may be noted that the figures in column 16 of Appendix X1 headed "Sayer, &c.," the total of which amounts to Rs. 72,295, give the net result of additions to and deductions from the rent-rolls on various accounts, *e.g.*, additions for sayer, wilful deterioration, and rent enhancements, and deductions for improvements, submerged and over-saturated land, &c. Hence the entry against some circles in this column is a minus one.

in ascertaining the amount of sayer appears to have been derived from the village papers or the record of the settlement year.

37. No large deduction could be made from the assessable assets under the rule for the exemption of improvements from assessment (rule 28 of the assessment rules). As Mr. Stoker explains (paragraph 125), in Bulandshahr the only description of improvement that entails expense on the landlord is the construction of wells; and the proprietors in general have not only refrained from constructing wells themselves, but have actively interfered, in a manner which the Government ought in the plainest terms to notice and condemn, to prevent their tenants from doing so (paragraph 126). The actual deduction from the rentals made on account of improvements only amounts to Rs. 7,908. In addition, some allowance, the precise amount of which cannot be stated, was as the Rent Law permits) made in the rental valuations and enhancements for improvements in irrigation effected and maintained by tenants or cultivating communities of proprietors.

38. When the total assets of the mahál had been ascertained or estimated by the processes referred to in the preceding paragraphs, the proportion fixed as the revenue was generally from 45 to 50 per cent. It seldom exceeds 50 per cent., and in only two cases is more than 55 per cent., while in 276 maháls it is less than 45 per cent. In these last the proportion usually varies between 40 and 45 per cent., in a few it goes lower, and there are one or two exceptional assessments in which the revenue is less than 30 per cent. of the assets. The reasons which obliged the Settlement Officer, in so many instances, to assess at considerably less than half the assets have been explained and discussed in the assessment reports for the different parganas and tahsils and in the orders passed upon them by the Board of Revenue. In some cases it was necessary to make special allowance for precariousness of harvests and rental, where there was risk of injury from floods or over-saturation of the soil; but most of the estates in which the revenue falls below 45 per cent. of the assets are those in which rackrenting prevails. The question of the assessment of rackrented estates is one of some difficulty, and the difficulty reaches its climax in parganas Dibai and Pahasu, where, in estates mostly belonging to the members of the Lalkhani family, rents are reported to have been raised to their extreme limit. In these estates the condition of the tenantry appears to have thereby been materially affected for the worse, and they are stated to be distinctly below any other body of tenantry in the district in appearance and standard of comfort. In such cases the State ought not (it might be said), by imposing a half assets assessment, to encourage rackrenting and share in its proceeds; on the other hand, if a moderate assessment be fixed, the landlords chiefly profit by it. In the Dibai and Pahasu villages, where rents are highest, occupancy tenants are few; and there are no means under the existing law by which a share in the benefits of a moderate assessment can be extended to tenants-at-will. Both sides of the question were fully discussed by the Settlement Officer in his assessment report for the Khurja tahsil, and the facts and arguments set forth were carefully considered by Mr. Daniell, late Member of the Board. The conclusion came to—on grounds that may be summed up by saying that, in the estates referred to, if a full half assets assessment were insisted on, the tenants would be the first and chief sufferers, and there would be danger of the settlement breaking down—was that the course proposed by the Settlement Officer of moderating the revenue enhancement was the only safe and wise one. Nevertheless, in pargana Pahasu, where it was necessary to assess at the lowest proportion of the assets, the revenue has been raised by more than 70 per cent. and the new demand falls at the rate of Rs. 2-14-8 per cultivated acre, while the incidence for the district generally is Rs. 2-6-0. Some exception was taken by the Commissioner, in reviewing the tahsil assessment reports, to the number of cases in which the revenue had been fixed at less than half the recorded assets, and the Board's special attention was directed to the Settlement Officer's procedure in this respect. Upon this, not only were all the assessments examined in which the revenue bears a specially low proportion to the assets, but also a large number of those in which the assessment varies between 45 and 50 per cent.

The Board decided that the Settlement Officer had, in the circumstances, exercised a justifiable discretion in determining the jamas.

In return for the moderation shown in fixing the Government revenue of the rack-rented estates, the Settlement Officer endeavoured to obtain reductions of rent for the tenants, but with little success. Only two landlords, the Rais of Pahasu Khas in pargana Pahasu and the Rais of Pindrawal in pargana Dibai consented, at his instance, to grant temporary remissions of high rents paid by tenants-at-will; but both these gentlemen declined to make these remissions permanent, or to secure them by written agreements, although they were given full credit for them in the assessment of their estates. The result even in these two properties can scarcely be looked upon as satisfactory. In the other rack-rented estates the condition of things remained eminently unsatisfactory.

39. When the assessment reports for the different parganas and tahsils were submitted, a large proportion of the assessments of individual estates, including all those in which the rent-rolls were rejected for fraud or inadequacy, and those in which the revenue proposed fell below 45 per cent. or exceeded 55 per cent. of the assets, were (as already said) examined by the Senior Member of the Board, with the result that the Settlement Officer's proposals remained practically unaltered. In a very few cases, chiefly of rejections for inadequacy, where the Board considered that the occupancy rents discarded by the Settlement Officer, though low, were not open to rejection under the rules as nominal, slight modifications were made in the Settlement Officer's assessments.

40. The total revenue, as determined by the Settlement Officer and approved by the Board, amounts to Rs. 19,76,659, of which it is estimated that Rs. 26,646, or 1·3 per cent., is the amount assessed as sayar. The increase over the expiring demand, including owners' rate, is Rs. 6,58,818, or exactly 50 per cent., and the revenue incidence on the present cultivated area has been raised from Re. 1-9-5 to Rs. 2-6-0 per acre. The increase is large; but, as will have been seen from the summary of the earlier portions of the report given in paragraphs 18 to 22 of this review, a very considerable enhancement was inevitable, and the assessment is fully supported by the ascertained assets. The new revenue is 47·5 per cent. of the corrected and substituted rent-roll including sayar, and it bears nearly the same proportion to the rental at standard rates (Appendix IX), in which sir land is valued at full rates, but sayar is not included. On the declared rental corrected for nominally rented, rent-free, and grain-rented land by the full incidence of the rent attested for cash-paying tenants without addition for sayar, the revenue falls at 48·5 per cent.

41. The system of progressive assessments enjoined by rule 25 of the assessment rules has been freely resorted to in estates where the revenue, calculated on the existing rental assets, gave too large an enhancement over the former demand to be collected at once in full without causing serious embarrassment to the proprietors. Briefly, the principle adopted was to graduate the revenue when the enhancement in a particular estate seriously exceeded the average enhancement for the district. The general enhancement being 50 per cent., progressive jamas were ordinarily fixed when the revenue of the estate was increased by 60 per cent. or upwards. A portion of the demand was postponed for five years only when the enhancement does not exceed 100 per cent.; when it exceeds 100, the final demand is to be reached by two gradations for terms of five years each, and will not become payable until the eleventh year. In the case of large landholders it was the enhancement on the entire estate that was considered and not that on a particular mahál. Some exceptions that were made to the general rule thus summarized are explained in paragraph 115. In some estates progressive assessments were not required, as, though the increase in the revenue was large, it was followed by enhancements of rent in the Settlement Courts, so that the proprietor's profits were not seriously diminished. In some other estates, mostly those of small proprietors, though the enhancement of the land revenue was less than the general average for the district, it was necessary to make special allowance for the poverty of the landlords and the backwardness of the pargana in which their villages were situated.

Progressive assessments were made in 775 maháls, in which the temporary remissions of revenue amount to Rs. 1,17,330 a year. Of this, Rs. 1,02,491 have been remitted for five years, and the remainder, Rs. 14,839, for ten years. The initial revenue demand for the district is thus reduced to Rs. 18,59,329, and the immediate increase over the expiring demand to 41·1 per cent.; in the sixth year the revenue will rise to Rs. 19,61,820, and in the eleventh year the final demand of Rs. 19,76,659 will be reached.

42. The Settlement Officer was directed by rule 32(i) of the assessment rules to estimate as closely as possible what portion of the increase in land revenue was to be attributed to an increase in the value of land caused by extensions of canal irrigation effected since the previous settlement. But it was found that the indirect effects of the canal for good or evil could not be measured in figures, nor could the other factors that have operated to produce an increase in rental be entirely eliminated so as to accurately determine the portion of the increase that is solely the result of the extension of canal irrigation. The subject was discussed in separate correspondence with the Settlement Officer, and the method finally adopted in working out the estimate was as follows. The decrease in the area irrigated from wells and other sources was deducted from the increase in the canal-irrigated area in each assessment circle. This gave the net increase in irrigation due to extensions of canals. To this area the difference between the incidence per acre of the standard rentals of the circle for wet and dry land was applied for the calculation of the rental increment due to extension of canal irrigation. As the standard wet and dry rates are founded on the actual rents, they indicate with sufficient closeness the difference between the rental value of irrigated and unirrigated land. The revenue on the rental increment as calculated above was then estimated in the ratio of the revised revenue of the pargana or circle to the assessable assets; and, lastly, the loss of revenue from land which had been thrown out of cultivation by the injurious action of the canal was deducted, and the net gain from extension of canal irrigation obtained.

The details of the calculation are given and the results discussed in paragraphs 146 to 148 of the report. After deducting Rs. 24,185 as the loss of revenue on account of land rendered unculturable by over-saturation or submergence, the net increase in revenue from extension of the canal system since the previous settlement is estimated at Rs. 1,84,401 a year. This estimate largely exceeds the average annual receipts from owners' rate, which for the three years 1883-84 to 1885-86 were Rs. 84,004 only. The difference has attracted attention, and the Board have been requested by the Government to specially notice the subject in their review. To a not inconsiderable extent, the difference is accounted for by the fact, adverted to in a previous paragraph, that the area commanded by irrigation, for which wet rates are paid, is much larger than that actually watered in any normal year, upon which alone owners' rate is in any year charged and paid. In the remainder of the area paying rent as wet land the landlords have hitherto retained the whole of the rental increment resulting from the extension of the canal system. It may be observed, in the second place, that the estimate does not appear to be an immoderate one when it is compared with the figures given in paragraph 50 of the report, where, as has been already noted, the portion of the increase in rental since the previous settlement due to extension of irrigation and cultivation alone is calculated at Rs. 5,93,860. This amount is obtained by applying the rates of the last settlement to the present areas. From it the effect of the rise in rent-rates, due to the increase in the value of agricultural produce and other general causes, is wholly absent. At the district percentage of assessment, 47·5, the revenue on Rs. 5,93,860 would be Rs. 2,82,084; and by far the greater portion of this amount is reasonably attributable to extension of canal irrigation, as the increase in the cultivated area is small, and in the area irrigated by wells inconsiderable. When this is considered, although it is, of course, impossible to say what the revenue would have been had there been no canal, and the degree to which rents have been directly or indirectly affected by improved facilities for canal irrigation cannot be stated arithmetically, the

sum of Rs. 1,84,401, as the net gain of revenue from extension of canal irrigation, may, the Board consider, be accepted as, to say the least, not an excessive estimate of the portion of the enhancement of revenue that may fairly be ascribed to the Canal Department.

43. When the assessments of tahsils Bulandshahr and Khurja were under the consideration of the Board, the question was raised of the term for which the revised settlement should be sanctioned. The full discussion of this question was reserved for the final report; when the facts of the case would be laid before the Government with whom the decision rests. In the meantime the Board directed that, in all but a few exceptionally circumstanced estates, the revenue engagements should be taken for the usual term of thirty years, special warning being given to the proprietors in tahsils Khurja and Anupshahr, in which are included parganas Pahasu and Dibai, that Government had still to determine whether it could approve the term. The subject is referred to in paragraph 128 of the Settlement Officer's report and in paragraph 26 of the Commissioner's review. The main points to be considered in determining whether a longer or shorter period should be fixed as the term of settlement in the Bulandshahr district as a whole, or in certain portions of it are, first, whether the assessment proposed is an adequate one compared with the existing assets; secondly, whether there is reason to expect, in the immediate future, such a further development of agriculture or such an increase in rental assets as would render the assessment inadequate in a comparatively short term after it was made; and, thirdly, whether, with reference to the economic conditions arising from the management of their estates by the landholders, it is desirable that Government should renounce its right of revising the assessments for so long a period as thirty years.

44. The condition of the different parganas with reference to the second of these points is discussed in paragraph 128 of the report. Four parganas—Dankaur, Jewar, Dadri, and Siyana—are reported to be still comparatively backward and undeveloped; but they for the most part are naturally poor parganas, with a population not everywhere industrious and intelligent, in which there is little prospect of any considerable increase in rental, or of any but a very gradual development. The rest of the district is now in general highly developed and fully rented, with little room for further extension of irrigation or cultivation. In pargana Pahasu at least, if not in Dibai, the Settlement Officer considers that the rents are too high to be maintained if a fall in the prices of agricultural produce were to take place. The assessment of the district as a whole is thus based on rents which are, for the most part, well developed. Moreover, there are no grounds for again apprehending that the State has been defrauded of a portion of its revenue by under-statements of rental. On the contrary, Mr. Stoker has succeeded in arriving at the true rental assets with a degree of accuracy that was certainly not attained at former settlements, and not always, perhaps, in those which have been recently carried out in other districts. Further, inadequate, though genuine, rent-rolls have been rejected, and the share of the State has been secured in the considerable enhancements of rent that accompanied or followed the revision of the assessment (cf. paragraph 100 of the report). The settlement, therefore, is not open to the objection that it is founded on undeveloped or inadequate rental assets.

45. The Board also believe, in respect to the share of the existing rental which has been fixed as the land revenue, that it is on the whole adequate. The revenue now imposed, while certainly not higher than the landlords can and ought, especially with the indulgence allowed to them in the valuation of their sir lands and by the system of progressive assessments, to meet without undue pressure, is doubtless as full a one as could safely be taken with due regard to the past revenue history of the district, the comfort and contentment of its people, and the stability of the new settlement. The revenue has in fact been very largely enhanced, and many of the proprietors have had to submit to a serious reduction in their incomes. They would therefore view with dismay the prospect of a still further enhancement after a shorter interval than is usually fixed as the period for which the revenue demand shall remain unaltered. Such an

enhancement, in estates where the tenantry are protected by occupancy right, would be imposed not so much upon fresh additions to their rentals, as upon that share of the rentals which is now being assigned to them. For the district as a whole, therefore, the Board advise that the period of settlement be fixed for thirty years from 1st October 1889.

46. The Settlement Officer remarks that there are stronger reasons for shortening the period of settlement in the rackrented pargana of Palasu than in any other. He refers to the probability that a fall in prices would diminish the rent-paying capacity of the tenants, while a further rise in prices would lead to an increase even in the present high rents. The contingency of a permanent fall in the prices of agricultural produce is altogether too uncertain to be made a ground for the special treatment of particular estates. At the present time the likelihood rather is that prices will be maintained or possibly rise, than that they will fall; so that in rackrented estates, where the tenants have not rights of occupancy or are wholly at the mercy of hard and unscrupulous landlords, it seems more probable that the rents will continue to rise than that they will be reduced. In the possible instability of the prices of agricultural produce, therefore, no sufficient reason exists for any departure from the general district period of settlement. But in the fact that the estates referred to, situated in tahsils Khurja and Anúpsahr are rackrented, because the landholders, by suppressing or hindering the growth of occupancy rights among their tenantry, have secured to themselves the power of exacting rents which the Government may not safely and equitably accept as the basis of its revenue assessment, there is, in the opinion of the present Senior Member of the Board, the very strongest reason for limiting the settlement to such periods as will compel and enable the Government from time to time to gauge the condition of the estates, to watch the treatment of the tenantry, and fully to adjust its own demand in accordance with the income that the landholders insist upon drawing from the estates. In granting a long period of settlement the Government, it is understood, has in view the improvement of estates and the prosperity and comfort of the cultivators of the soil quite as much as its own convenience and advantage and the enrichment of the landholders. As the Settlement Officer of Bulandshahr has shown, the landholders of Khurja and Anúpsahr, in common with landholders in other parts of the district, have during the last thirty years done nothing whatever for the improvement of their estates. On the contrary, many of them have discouraged and actively prevented improvements that their tenants would have carried out. But besides this, several of them have, in total disregard of the forbearance exercised towards themselves at the last settlement in the matter of the land revenue, and of the known wishes of the Government as to the rights of cultivators, been actively engaged and have succeeded in destroying or preventing permanence of occupation at moderate rents by the tenants. To this indictment may be added that the means adopted by the landlords to effect this end were not confined to an unrelenting application of the terms of the Rent Act, but included deliberate fraud and injustice in the manipulation of the village records; and that their policy extended to attempts equally deliberate to deceive the officers of Government as to their true rent-rolls. This reprehensible method of management ought, in Mr. Reid's opinion, to be noticed otherwise than by mere denunciation in the orders now to be passed by Government. One way of doing so is by withdrawing from those guilty of it the privilege of engaging for the revenue for the lengthened period granted to other landholders. As, during the currency of the thirty years' settlement that has expired, these landlords have done nothing to improve their estates, no apprehension need be entertained that, through the shortening of the next period, any change for the worse will take place in the condition of these estates. On the other hand, an amelioration in the circumstances of the cultivators may possibly be enforced if it is distinctly declared that none except short settlements will be made in estates wherein a fair proportion of occupancy tenures is not found to have sprung up or tenancies on long leases to have been registered, and the rents that are exacted are disproportionate to those prevailing in estates the landholders' management of which is milder and more equitable. If, on one side, as the Settlement Officer seems to

fear, the rentals of some of these rackrented estates are not to be counted upon as stable, the Government will, after examination, be able to re-adjust its revenue from time to time. If, on the other, rackrents are maintained and are actually collected from the cultivators, the Government will be under no moral obligation to withhold its hand from the full share of the actual rental prescribed by its general rules. No real merit attaches to such of the offending landholders as have declared their true rent-rolls after these had, or could have, been otherwise ascertained; and the futility of attempts at concealment having been exposed, few such attempts are likely to be made in future. The merit to be acknowledged in the future would be that of landholders who look to the welfare of their tenants. The chief test of that welfare would be the recorded condition of the tenures; and the action of those landholders who may be found to have allowed stability in these, would be fittingly acknowledged by restoring to them the privilege of long engagements for the revenue.

47. The Board would therefore advise that while (as already said) for the district as a whole the new engagements taken by the Settlement Officer for a period of thirty years be approved, the settlement of the rackrented estates of tahsils Khurja and Anúpsahr should be confirmed for 10 years only, the engagements taken by the Settlement Officer for thirty years being cancelled. At the end of ten years the assessment of these estates would be liable to revision, and the period of the revised settlement would be determined with reference to the economic condition in which the estates might then be found. A list of these estates, which has been compiled by the Settlement Officer at the Board's request, is annexed as an appendix to their review.

48. Besides the estates for which the Settlement Officer took engagements for thirty years, forming the greater part of the district, there are certain estates, the special circumstances of which necessitated the proposal by the Settlement Officer, and approval by the Board, of temporary short term settlements. These estates fall into three groups: the first consisting of 13 villages in tahsíl Anúpsahr and one mauza, Runsi, in pargana Pahasu; the second of the 30 villages forming the Chitari estate in pargana

<i>Village.</i>	<i>Pargana.</i>	
Alhabad	Sikandrabad.
Bil Akbarpur	Dadri.
Firozpur	Khurja.
Muhammádpur mazra }	}	Khurja.
Barhgaon.		

Pahasu and one mahál in mauza Shekhupur, pargana Dibai; and the third of the four villages marginally noted, the condition of which has become so precarious owing to canal percolation and the rise in the spring level that it has been necessary to make a

temporary settlement of them for five years only (*vide* paragraph 18 of the report and paragraph 7 above). The settlement of the four villages of the last group expires on

Pinauti.	}	Tahsíl Anúpsahr.
Jargawan.		
Chirauri.		
Rambas.		
Rupaspur.		
Surmastpur.		
Sherpur.		
Kudhaini.		
Gangagarh.		
Muhammádpur khurd.		
Maharájpur <i>alias</i> Ratwa Nagla.		
Mau Nagla.		
Maodeli.		
Runsi, pargana Pahasu, tahsíl Khurja.		

the 30th June 1894. Their future treatment will depend on the condition in which they are then found to be. The 14 estates of the first group, of which a list is given in the margin for facility of reference, are referred to in paragraph 88 of the report. In these estates the proprietors (chiefly Lalkhani raises) adopted the device of throwing land out of cultivation, and the area intentionally left fallow was so large that, if it had been valued and assessed as cultivated land, the assessment would have

been unsafe and in a considerable degree conjectural, especially as it was uncertain how far canal irrigation would be available if the land were again brought under tillage. In these circumstances the Board approved summary settlements of the estates in question for five years. The term will expire on the 30th June 1894. It will be necessary to measure up and inspect the cultivation in the cold weather of 1893-94, and again consider the period for which, with reference to the areas of cultivation and irrigation and the condition of the cultivating tenures, settlement may be made.

In the thirty villages of the Chitari estate and the mahál of mauza Shekhupur a summary settlement has been made for four years only, which will expire on the 30th

June 1893. The extent to which falsification of rent-rolls was carried in the Chitari estate has been already referred to. The results, in respect to the record of rent in the settlement papers, are noted in paragraph 136 of the report. In nine villages the true rents have been recorded; in two the record is partly false and partly true; in six the recorded rent is below what was formerly collected, but the concealment is not very considerable or material; in the remaining thirteen the rents are reported to be altogether false. As the true assets had been ascertained in every case, it would have been possible to make a regular settlement of the Chitari villages notwithstanding the defective record of rental, but for the contest that arose between the tenants and their landlord over the claims advanced by the former to occupancy rights. Numerous applications were preferred to the Settlement Courts by the tenants of every village in the Chitari estate. Efforts were made by the Settlement Officer, the Collector, the Commissioner, and the Senior Member of the Board, Mr. Daniell, to bring about an amicable settlement of the dispute,* but without success; and the claims that had been advanced were left to the decision of the Courts. The decision of the claims of the Chitari tenants was postponed by order of Government, and a special officer was not appointed to adjudicate upon them till the assessment of the district had been completed and the Settlement Officer had quitted the district.† The Settlement Officer explains (paragraph 137) how it was impossible to make a regular settlement of the Chitari estate under the circumstances, and his remarks also apply to the mahāl in Shekhupur which is owned partly by the Rais of Chitari and partly by another member of the same family. Briefly, correct and complete materials for the formulation of proposals for a regular assessment were not available until the status of the tenants was judicially determined, and the rents of those tenants adjusted who succeeded in establishing their claim to occupancy rights. The regular settlement of the estate was therefore postponed for a sufficient time to allow the litigation to be concluded and the rents adjusted. The litigation in all its stages, original and appellate, has been completed; and an examination of the estate with a view to a further settlement is now in progress and will in due course be reported.

49. The Settlement Officer suggests that it might be advisable to arrange different dates for the expiry of the settlement in different groups of parganas, in order to facilitate the operations of the next revision, should it be carried out in a more summary manner than the present one. But the Board are of opinion that this is unnecessary. The method and terms of the next settlement of the Bulandshahr district cannot be definitely determined or foretold now. They are, however, unlikely to be more elaborate and prolonged than those of the settlement just completed; and it will be at the option of the Government, when the settlement comes to be revised, either to commence the operations in time to allow of the re-assessment of all the parganas being completed before the period of the present settlement expires, or to prolong for a year or two, pending revision, the existing assessment after that period expires. At the present moment very little administrative or financial advantage would seem to be gained by shortening by a year or two the period of the present assessment in some parganas and lengthening it in others.

50. The operations of the settlement, the results of which are now reported to Government, were, from first to last, under the charge of Mr. Stoker, who assessed 10 of the 13 parganas of which the district consists, the assessments of the remaining three being made by Mr. Baillie, Assistant Settlement Officer, under his control and supervision. Mr. Stoker was appointed as Settlement Officer on the 23rd September 1886, and the last assessments were reported on the 21st September 1889. The assessment of the district was thus completed in the short space of three years; and it was carried out with economy as well as rapidity. The total cost of settlement operations, up to the end of March 1890, is given in paragraph 151 of the report as Rs. 1,87,770-8-5. Some further expenditure was subsequently incurred by which the total was increased to Rs. 1,95,909-12-0, falling at the rate of Rs. 102-6-6 per square mile, and exceeding

* Government Proceedings in the Revenue Department for September 1888.

† G. O. No. ³⁵⁷₁₋₈₃₁, dated 3rd March 1890.

the estimated rate of Rs. 100 per square mile by Rs. 2-6-6 only. To this must be added a sum of Rs. 8,491-1-7, the cost of the revision of the village maps on account of the defects referred to in paragraph 25 above, which it has been decided should be charged to the Bulandshahr settlement.* This brings up the total to Rs. 2,04,403-13-7, falling at the rate of Rs. 106-13-7 per square mile. On the other hand, credit is taken (paragraph 155) for a sum of Rs. 53,355-10-2 for receipts from stamps and process fees, thus reducing the net cost to Government to Rs. 1,51,048-3-5, and the rate per square mile to Rs. 78-15-4.

The total expenditure, including the cost of the revision of the maps, is less than two-fifths of the enhanced revenue collected in the first year that the assessments came into force. It is evident that the strictest economy has been exercised; a large enhancement of revenue has been obtained with a minimum of expenditure; and the financial advantages of the system under which the revision of settlement has been carried out have been fully demonstrated. The only drawback to the satisfaction with which the results may be regarded is the defective condition of the settlement maps. By a somewhat larger expenditure while the revision of settlement was in progress, it would have been possible to prepare good and serviceable maps, such as, possibly, cannot now be obtained without a fresh mapping and numbering of the fields.

51. In his closing paragraph Mr. Stoker acknowledges the co-operation of the district officers, and refers to the services of his assistants, and the members of his subordinate staff. His remarks on the services of the officers and officials he mentions are commended to the favourable notice of Government. The very good work done by the Assistant Settlement Officer, Mr. Baillic, has been acknowledged by the Board in their orders on the assessment report for the three parganas which he assessed under Mr. Stoker's supervision; and Mr. Stoker has given special credit to Pandit Rama Shankar Misr for the manner in which he carried through the duties entrusted to him.

52. It is scarcely necessary for the Board to add anything in commendation of Mr. Stoker's services as Settlement Officer. Of the excellence and value of these the Government are well aware. The work done is believed to have been thoroughly sound, and the assessment made to be just. In carrying through the settlement Mr. Stoker did not spare his own labour; and the vigilance and courage with which he insisted that the real rentals of estates should be ascertained and made known, not only have been very advantageous to the exchequer, but can scarcely have failed in producing good moral results in the Bulandshahr district and others near it. The revenue which he imposed has hitherto been realized without difficulty and with no more embarrassment than usually accompanies enhanced payments which have to be made out of profits long enjoyed—a proof at least as valid of the fairness of the assessment as the rumours as to over-assessment, bruited for a time in certain quarters, were of the reverse.

I have the honor to be,

SIR,

Your most obedient servant,

JOHN HOOPER,

Secretary.

No. $\frac{7117}{1-42}$, dated the 20th April 1891.

From—A. J. LAWRENCE, ESQ., C.S., C.I.E., *Commissioner, Meerut Division,*

To—*Secretary, Board of Revenue, N.-W. Provinces and Oudh.*

SIR,—I have the honor to submit Mr. Stoker's settlement report of the Bulandshahr district, received from Government Press on the 9th February 1891. Mr. Stoker's report is so exhaustive as to reduce my task to very modest limits. I shall endeavour to summarize the facts, which he has necessarily treated in great detail, and to give due prominence to the main points connected with the condition of the district, and with the settlement which has just been completed.

2. The Bulandshahr district lies between the Ganges on the east and the Jumna on the west. The Káli nadi and several other streams traverse the district between in a direction more or less parallel with these rivers. The Jumna khádir is exceptionally extensive, varying in width from 9 miles in the north to 5 in the south of the district. The Ganges khádir is a narrow belt of land lying at the foot of a hard clay cliff. The Káli nadi, Karon, &c., have also khádirs more or less extensive and well defined. The district thus consists of alternate tracts of khádir and upland, which traverse it in lines parallel with the course of its river boundaries.

3. Since last settlement the canal-irrigated area has enormously extended. The district is now traversed by the Ganges Canal, its right sub-branch, and its Fatehgarh branch. Mr. Stoker gives the net increase of the wet area of the district at 50 per cent. The immense benefit thereby conferred on the district is, however, attended with the very serious drawback that the water level has been greatly raised. This evil always, more or less, follows the introduction of canal water. It is most disastrous, however, in districts where, as in Bulandshahr, khádir and upland succeed one another alternately. The water level in the upland is raised to a level or almost a level with the khádir lands. These lands consequently become saturated with moisture which the streams, by which they are traversed, are unable to carry off. Consequently large areas remain under water, or are, by excess of moisture, either rendered unculturable or deteriorated and *reh* is developed. The tracts which have suffered most from this cause are—

(1) The upper Jumna khádir.

This tract is fortunately not very extensive. Mr. Stoker in his 11th paragraph describes its condition as unspeakably bad.

(2) The Káli nadi valley lands.

These lands were formerly good, but have been so damaged by saturation and *reh* that Mr. Currie remitted Rs. 5,546 from the yearly jama. That this sum has been re-imposed is not due to any improvement in the lands, but to the general rise in rents.

(3) The Choya khádir.

Owing to over-saturation due to the rise in the water level, 2,301 acres have been thrown out of cultivation, and the soil in a large area has deteriorated.

(4) In the western parganas in four villages only a temporary five year settlement could be made, and in these with 151 other villages Mr. Stoker at inspection found 5,456 acres actually under water, whilst 4,527 acres were too wet to allow of sowings. Besides the area actually thrown out of cultivation, a large and undefinable area had been so soured that it no longer yielded good crops. The district which was once one of the healthiest in the provinces is now decidedly unhealthy.

4. No doubt the excessive rainfall of the last four years has much enhanced the mischief. Still the state of things is very serious, and I concur with Mr. Stoker when he says " the question of draining canal-irrigated districts is one which will have to be seriously faced."

Drainage requirements.

The very conformation of the district, which has made the evil so conspicuous, would appear to make the remedy comparatively easy. The district is naturally well drained by the streams which traverse it from north to south.

These streams perhaps only require to be straightened and otherwise improved to enable them to discharge the extra work thrown on them by canal irrigation. Mr. L. Porter reports that in the Saháranpur district drainage works undertaken primarily on sanitary grounds were found by him to have largely increased assets as well. It is not unreasonable to expect that well considered schemes would prove equally beneficial in both respects in the Bulandshahr district, where it must be remembered canal irrigation has not yet reached its limit.

And it must not be forgotten that Saháranpur, at the head of the canals, and Bulandshahr, the fourth district touched by them, are differently situated.

5. The area of the district is practically unaltered. The cultivated area has increased by 83 square miles. The area of culturable waste and old fallow is now about 20 per cent. on the cultivated area. In the area of cultivation no further extension of any importance must be expected.

Statistics.

There is but little jungle, and the area under groves is small, though it has more than doubled during the currency of the last settlement.

Mr. Stoker says, no doubt truly, that the plantation of groves by tenants, like the building of wells, is discouraged by most landlords.

They dislike whatever gives an air of permanency to tenant occupancy. The principle adopted regarding the assessment of groves, was to assess where the grove land was cultivated, if belonging to the landlord; and where it was rented if belonging to a tenant. Where the sayar produce was taken into account rent assets were omitted.

6. The table attached to Settlement Officer's paragraph 30 shows that the total number of maháls has increased from 1,803 to 3,440. Partitions must have been very frequent during the currency of last settlement. The tenure in more than two-thirds of the mahál is zamíndári. This is probably due to the fact that Bulandshahr contains a very unusual proportion of large estates, 61 families paying 52·3 per cent. of the total revenue in the district. The number of zamíndári maháls has notwithstanding more than doubled, while, strange to say, the number of imperfect pattidári maháls remains almost unchanged.

Proprietary tenures.

Turning to caste holdings, we find that by far the largest landholders are the Rájputs. Rájputs, Hindu and Musalman, hold between them 342,259 acres.

Both have lost ground, though not to any great extent, since last settlement. Next to the Thakurs come the Játs with an area of 155,918 acres. Their percentage of decrease is apparently about the same as that of the Thakurs, but, as Mr. Stoker explains, is really small.

The Banias stand next with 114,596 acres. The 29,535 acres by which their holding has increased during the past settlement probably represents with fair accuracy the extent to which the old proprietary communities have lost ground within the same period.

The area transferred by sales, public and private, and for arrears of revenue, comes to the alarming figure of 406,470 out of a total area of 1,184,604 acres. That these transfers must have been to a large extent between co-sharers may be fairly assumed. The total number of sharers has in fact increased largely, being 52,357 against 31,565 at last settlement.

Mr. Stoker is doubtless right in holding that no conclusion as to the severity or otherwise of a settlement can be drawn from the number of sales which take place within its currency.

It is satisfactory to learn that the Baniyas, whose holding is large and increasing, are not bad landlords. Mr. Stoker says they are content with a fair rent, and their management is much less vexatious and rapacious than that of many of the hereditary landowning classes. The worst landlords as a class are the small proprietary communities. We may hope that it is but seldom that large landowners are found to oppress and defraud their tenantry after the manner of the *rajs* of Chhitari as described in Settlement Officer's Chapter V.

7. Eighty-one per cent. of the total rent paying area is held by tenants.

In the western parganas where our holdings are largest it is satisfactory to learn that the proprietors are *bhaiāchāra* communities, who till their own land themselves.

It is to the highest degree desirable that such communities should be proprietary cultivators rather than petty landlords.

The liberal deduction of 25 per cent. on *sir* lands actually cultivated by the proprietors themselves will go far towards securing this result.

Mr. Stoker has had to relate the deliberate attempt to stamp out occupancy rights in certain estates. There has, notwithstanding, been a satisfactory increase in the area held under this tenure. 58.1 per cent. of tenants' land is now so held.

Mr. Stoker places Ahirs and Jāts in the first rank as cultivators. The area held by the former is small.

The largest cultivating castes are Thakurs, Brahmans, and Jāts.

Owing to the fact that cultivators frequently hold from more than one proprietor, it is difficult to ascertain the average area of tenants' holdings. Mr. Stoker takes the number of ploughs as the best basis.

There is an average of 10.49 acres to each plough. Mr. Stoker says that very few tenants have less than one plough, whilst many have more, and that average holdings must therefore be 10.49 acres at least. If this be so, holdings are much larger than I should have expected, and considering the primitive method of cultivation, and the want of capital, are probably quite large enough. It would be interesting to know what effect canal irrigation has on the area of holdings. Amongst kharif crops the area under cotton is exceptionally large. Amongst rabi crops wheat has the largest area, but is closely pressed by barley, which is not the case in the more northern districts of the division.

The area under sugarcane is small considering the extent of canal irrigation. The district is well found in cattle, and horse-breeding is largely carried on. Whether this last business is to any considerable extent in the hands of the tenantry does not appear.

8. The incidence of tenants' rents under the new settlement is Rs. 4-9-5. At last settlement it was Rs. 2-13-10. This gives an increase of 60.2. The figures for last settlement are, however, vitiated to a considerable extent owing to fraudulent under-statements of rent. Mr. Stoker prefers to compare the standard rentals of the two settlements.

This comparison gives 67·7 as the average percentage of increase.

Mr. Stoker has examined with great care the causes to which this immense rise in rents is due, and the relative effect of each cause. The rise in rents he finds must be due to some one or all of the three following agencies :—

- (1) increase in the value of produce ;
- (2) increase in the amount of produce ;
- (3) increase in the share of produce appropriated by the proprietors.

As regards the first agency Mr. Stoker gives the prices of three kharif and three rabi crops struck by Mr. Currie on an average of prices current for 14 years, which he styles "last settlement prices," and their prices for each of the terms of five years since last settlement and up to 1890. Comparing "last settlement prices" with the last of the term of five years, he finds that there has been a rise in cash prices of 90·9 per cent. The Director of Land Records, in a calculation based on Cawnpore market prices, found that a comparison of prices ruling from 1852 to 1859 and from 1870 to 1880 respectively for four out of the six staples selected by Mr. Stoker showed an increase of 91 per cent. The coincidence in the result obtained from these two separate calculations certainly goes far to prove that since the sixth decade of the century prices have risen 90 per cent. Not only have prices risen enormously, but the oscillations are much less violent. Prices no longer fall in years of plenty to the extent to which they fell formerly.

Mr. Stoker rightly holds that this comparative stability of prices has as much effect on rent as the rise in the average of prices calculated on a term of years.

9. As regards the second agency, there has been no change in agricultural methods, any increase in the amount of produce can therefore only be due to extended irrigation or extension of cultivation. The net increase in the total wet area since last settlement is 57·7 per cent., but taking into account the successful concealments of facts at last settlement, Mr. Stoker has estimated the true net increase at 50 per cent.

This accounts for an enhancement of 23·3 per cent. on the standard rental of last settlement, and a somewhat less enhancement on actual rents. Mr. Stoker estimates the increase from extended cultivation at 9·2 per cent. The Settlement Officer sums up as follows :—

The application of the rates of last settlement to present areas gives an increase of 24 per cent. The application of the new rates to the past areas gives an increase of 35·4 per cent. The increase of cultivation, much of which is wet, accounts for 8·3 per cent. Therefore the 67·7 per cent. by which the present exceeds the past standard rental falls under the following heads :—

- 35·4 due to improvement in rates.
- 24 to improvement in areas.
- 8·3 to both agencies combined.

If it be admitted that prices have risen 90 per cent., whilst rates have not improved by more than 40 per cent., it follows that the landlord does not appropriate a larger share of the produce. It also follows that the cultivator is much better off at his high rent than he was at his old and lower rent. He still retains the old proportion of his produce, and he therefore benefits from the rise in prices to exactly the same extent as the landlord.

This seems to prove too much. Mr. Stoker has done good service in proving that the enormous rise in rents is, where not accounted for by extended irrigation, justified to a great extent by the rise in prices.

10. I may dismiss the subject of the cultivators with a few remarks on occupancy tenants.

Occupancy rights in 23·5 per cent. of the land so held have been lost since last settlement. New rights have, however, so largely accrued that the percentage of occupancy to total rent paying area has risen from 26·3 to 47·3. The extent to which the rent-rate of such tenants falls below that of tenants-at-will is not stated.

Bearing in mind, however, the fact that probably half the occupancy tenants have acquired their rights within the currency of the last settlement, and that the Settlement Officer re-adjusted the rents of a large number of such tenants (probably all old holders), I think it likely that the rents of occupancy tenants is about 20 per cent. below that of tenants-at-will. The average rent-rate of the latter is Rs. 5-10-7, and the average rent-rate imposed by the Settlement Officer on occupancy lands is Rs. 4-3-5.

Fifteen to twenty per cent. is, in my opinion, as great a difference as should exist between the rents of old and new tenants.

I have dwelt at great length on this question, because I think that the ascertainment of the true position of the cultivating classes is of the highest importance, and that a settlement provides unequalled opportunities for arriving at correct conclusions. Their position in the Bulandshahr district may be summed up as follows.

The area of their holdings over 10 acres is ample. There has been a large increase in the area held by occupancy tenants,—though in two parganas, Pahasu and Dibai, tenants' right has perished. It now stands at 58·1 per cent. of the total tenant area. It is not, I think, desirable that more than 70 per cent. of the land should be so held. The discrepancy between the occupancy and tenants-at-will rent-rate is not so glaringly unfair as in most other districts.

According to Mr. Stoker, the tenants are at least twice as well off as they were. The landlord's share has not increased, whilst the value of produce has gone up 90 per cent., and the tenant gets the whole advantage of the greater stability of prices. Just as the extension of communications and markets has given comparative stability to prices, so the extension of canal irrigation has given greater stability to outturn. I am myself of opinion that the rise in prices has been much over-estimated by Mr. Stoker, and that the landlord under the rise of rents takes a much larger share of the produce than he did.

The position of the ordinary cultivator is, notwithstanding, I think, probably rather better than it was when prices were worse and rents lower. I do not think it necessary to review Mr. Stoker's remarks on former settlements of the district, but I may be allowed to say that the papers prepared by the last Settlement Officer, Mr. R. G. Currie, and his assistants show that no labour was spared on them, and that their general accuracy has been of great assistance in the present operations.

The disregard of rental returns was a part of the old settlement policy, and was intentional and not an accident.

11. In all alluvial districts the soils found are loam, clay, and sand, and it *prima facie* appears that soil rates should be fixed accordingly. Settlement Officers agree in finding this classification unsatisfactory, first, because it is not recognised by the people, and secondly, because the soils are seldom sharply defined, generally merging one into another.

Mr. Stoker rightly preferred a classification recognised by the people, which gave easily ascertainable areas, and which had been followed at last settlement. He accordingly divided the village areas into (I) *bāra* or home lands and (II) outlying lands, each being of course subdivided into wet and dry. The *bāra* (home lands) area was first marked off, and in this no difficulty was experienced, as it was generally well defined and always well known to the people. The tendency of the landlords to overstate the *bāra* was checked by the tendency of the tenants to understate it.

should be. Wet areas were again subdivided into canals, lift, wells,

Wet areas are now irrigable areas, and not areas irrigated in any given satisfactory as regards canals. A canal can irrigate all the lands, but a well may, within a term of years, have irrigated every field in it can in any one year irrigate only 10 acres on an average. The canal field-books of former years enabled the Settlement Officer to readily detect attempts to conceal the true irrigated area, and he is of opinion that the wet area has been ascertained with the greatest possible accuracy.

Sound bases for a sound settlement have thus been secured: the accurate classification of soils, secondly, of wet and dry areas.

Mr. Stoker discusses the question as to how far the introduction of canal water, and the consequent fall of water level, has injured wells. There can, I think, be little doubt that the injury caused is slight, and that wells are disused because the people prefer them. As bearing on the question of the superiority of well water as a fertilizer, it is to be noted that canal has largely displaced well water in *bára* lands where the farmer is most careful, and the best crops are grown. The large apparent increase in crop yield in circles not irrigated by canal, is, it appears, almost entirely due to the last settlement. The present percentage of wet areas to total area of circles is 26.3, wells 32.8, other sources 1.95, total 60.6.

In the last settlement, circles were formed in pargana Siyana only: elsewhere the only distinction was between *bāngar* and *khādir* (uplands and valley). This practice has been rightly departed from. Separate circles have been formed within the parganas, so as to secure uniformity of local causes afford. But a glance at the excellent map which Mr. Stoker's report shows that the same six great divisions run through the whole

of circles are topographical, including, as far as possible, tracts containing natural qualities and characteristics. This is, in my opinion, a much more sensible plan than that adopted in the Sahāranpur and Muzaffarnagar districts, where, in the strength of a few words in a clause of the settlement circular, villages were grouped together on the basis of similarity of rents, and not of soil and other characteristics. Under his system Mr. Stoker at once detects the villages where rents are unusually low or abnormally high.

Other Settlement Officers, Mr. Stoker in his attempt to fix soil rates found himself confronted with the fact that tenants hold farms at a lump rent, comprising lands of different qualities. Where he succeeded in finding a tenant holding land of one quality only, he usually turned out that the man was a sub-tenant holding a little land for himself at an excessive rent. In forming his rates he got much assistance from the tenants, who could often explain on what principle lump rents had been made up. He tested the rates as far as possible. Sometimes differential rates were found for each class of soil. Occupancy rates were not excluded. The rates framed by Mr. Stoker says, on both occupancy and non-occupancy rents and apply equitably to both, containing "a proper proportion of occupancy tenants." The word "occupancy" marks the defect of admitting occupancy rents in preparing rent-rates. This seems in keeping with the views expressed by Government in the Resolution of the 13th April 1888, where it is stated that occupancy rents may be taken in fixing standard rates. Such rent-rates can be applied satisfactorily only where an average area is held by occupancy tenants. I prefer a rent-rate

derived from competition rents only, and modified when applied to lands held by cultivators other than tenants-at-will.

Mr. Stoker mentions a device resorted to by landlords to escape reducing rates where the tenant refused to pay the rent deduced from them. This is to understate the area of the better soil in the holding. Similarly when rents are paid in kind, landlords often raise their rents by treating each maund of the outturn as though it contained 50 seers and taking 25 seers as their half.

14. In paragraph 78 Mr. Stoker gives for each pargana the standard, actual, and corrected rentals. Standard and corrected rentals in all the parganas correspond with a very satisfactory degree of closeness. As in Sahāranpur and Muzaffarnagar, the attempt to revise the village papers before the commencement of settlement operations was a failure. Mr. Stoker says these preliminary operations do not seem to have been productive of much advantage. And yet a Deputy Collector of great experience and considerable ability had been deputed and allowed a Munshim, English clerk, and muharrir for his staff. The work can be satisfactorily only done by an officer with powers to settle disputes, and, if possible, with experience of present settlement procedure.

Now that settlements are to be based on actuals, the correctness of the village papers is a matter of the first importance.

A word must be said about the village maps. Notwithstanding the preliminary inquiries that have been made in each of the three districts under settlement, the incorrectness of the maps has been a source of much trouble to the Settlement Officer. Here they were generally considered good enough to be reprinted, but it was a fatal mistake not to renumber the fields. In 132 cases this had eventually to be done and new maps made, and the confusion is still so great that in this office No. $\frac{5477}{VII-24}$ of the 3rd March 1891 proposals were made by which all the other district (1,459 cases) maps and indices might be recompiled.

The method followed by the Settlement Officer in revising village papers is described in paragraphs 83—85 of his report.

Instead of reading out the entries to the ignorant cultivators, and expecting them to point out errors, the Settlement Officer, following an old custom, caused each sharer or cultivator to be supplied with a slip containing the entries concerning him. All disputes were decided in the village. The consequence was that there was little litigation, and the work was disposed of rapidly. The work of correction was done by the patwāris under due supervision. Mr. Stoker says that the advantages claimed for this system are that it fully utilizes existing staff and materials, is extremely rapid and simple, and therefore economical, and while affording a full opportunity for correcting errors, it does not excite or invite vexatious litigation.

The want of success which has hitherto attended all attempts to revise the village papers before the commencement of settlement operations is no doubt largely due to the fact that the officers deputed to the work were unable to devise any satisfactory system for carrying it out. Henceforth they will have Mr. Stoker's simple, efficacious, and inexpensive method as a guide.

Mr. Stoker's remarks on the advantages of deciding disputed entries promptly on the spot are important.

Hitherto the official deputed to correct the papers has had no power to decide disputes. These have had to stand over for the disposal of the Settlement Officer, whereby much valuable time has been lost.

15. It appears that owing to the incapacity or neglect of patwāris, and the inefficient supervision of kanūgos, the village papers were far from being as accurate as they are supposed nowadays to be. In some parts of the district wholesale falsifications were carried on with impunity.

In some parganas the Settlement Officer found the general condition of the records excellent. The responsibility of the kanúngos for the accuracy of the village papers of their circles needs to be more rigorously enforced. The systematic attempt to secure a light assessment by means of fraudulent village papers necessitated the rejection of the rent-rolls of 156 maháls. The story of these frauds is told at length in Mr. Stoker's report. Apparently the fraudulent proprietors found not the least difficulty in securing the active co-operation of the patwáris and in evading the scrutiny, such as it was, of the kanúngos. That the patwáris co-operated in the fraud is hardly a matter of surprise when we learn that they were largely employed by the proprietors to collect the rents and discharge the other duties of an agent. Such employment of patwáris seems highly improper as necessarily placing them on the side of the landlord when the latter's interests are in conflict either with Government or with his tenants, and it should be impossible in an ordinarily well managed district of these provinces.

In order, however, to be able to collect rents far in excess of the amounts entered in the rent-rolls, and to enforce the cultivation of indigo for the benefit of the landlord, it was necessary that there should be no appeal to the rent courts, and consequently no occupancy rights.

The rent-rolls were therefore further manipulated, so as to show changes of tenure, which had no real existence. The tenantry, to whom the frauds on Government would have been a matter of indifference, turned on their oppressors, denounced the rent-rolls as fraudulent, and declared their true rents. So aided, Mr. Stoker was master of the situation. Soon he had the fraudulent proprietors at his mercy and got possession of the true rent-rolls. The amount concealed was Rs. 1,67,008.

A minor and more easily detected fraud was the deliberate extension of the area of fallow. The estimated assets of this area are Rs. 31,705.

If these frauds had succeeded, there would thus have resulted an annual gain of over two lakhs to the landowners and a corresponding loss to Government.

16. We come next to the rent-rolls rejected for inadequacy. It is somewhat alarming to find that the rent-rolls in no less than 478 maháls were rejected on this account. These rejections are most numerous in tahsils Sikandarabad and Anúpsahr, and are due to the inadequate rents paid by occupancy tenants in the maháls concerned.

At last settlement the percentage of occupancy area to total tenant area was only 33·3, and at new settlement a large portion of the old occupancy area was found to be no longer so held.

The present percentage is 58·1.

Where so large a percentage of the occupancy area is of recent acquisition, I should not have expected that occupancy tenants' rents would, to any great extent, have been found inadequate. How far *boná fide* rents may be rejected on the ground of inadequacy without violating the principle that *boná fide* assets must be accepted as the basis of settlement, is a question which at present each Settlement Officer must decide for himself.

17. The whole question of occupancy rents needs, I think, careful reconsideration.

I fully concur with the following remarks of Mr. Stoker (paragraph 96) on the advantages resulting from the decision of enhancement cases by the Settlement Officer :—

“ That the proprietors of these parganas should have sued for enhancement of rents before the assessment of revenue was, it may be argued, in every way the best thing that could have happened. The assessing officer is then dealing strictly with actuals, and can fix a fair rent simultaneously with a fair revenue. The proprietor can collect his enhanced rents from the time he is called upon to pay an enhanced revenue, and

the tenants have their rents adjusted by the officer best qualified to determine them with fairness and uniformity. Where the enhancement of rents is left to district courts, after the close of settlement operations, there cannot be the same uniformity or the same fairness. The extended and minute observations of the Settlement Officer place him in a unique position both for deciding what are generally fair rates, and for modifying their application according to the special conditions of each village."

It must also be borne in mind that the Settlement Officer can decide the occupancy rents of an entire mahál in a single proceeding, whilst the District Officers must decide each suit separately at a very considerable cost to the litigants. The unsatisfactory state of the law regulating enhancement of rents of occupancy tenants is one of the main reasons why landlords are so bitterly opposed to the growth of such rights. The Settlement Officer of Saháranpur goes so far as to desire the abrogation of the law which allows the growth of these tenures. And here he seems, without, perhaps, knowing it, to be in unison with section 9 of the last Panjáb Tenancy Act:—"No tenant shall acquire a right of occupancy by mere lapse of time."

Mr. Stoker would be glad to see the present term of 10 years, during which rents once fixed cannot be disturbed, extended to the term of settlement.

For my part I should like to see it enacted that where a landlord has not had the rents of his occupancy tenants adjusted by the Settlement Officer, he should be debarred from suing till the expiry of 15 years from the date of settlement. When the 15 years had expired a special officer should be deputed to the district to dispose of enhancement applications in the same manner in which they are now dealt with by Settlement Officers. The rents so fixed would stand for the remaining term of the settlement.

Mr. Stoker has done much towards facilitating the decision of enhancement cases by the District Officers by having the village rates worked out and noted in the assessment statements for use in every case where future enhancements of rent could be anticipated.

I think it is to be regretted that other Settlement Officers have been debarred from taking a similar course by the Board's unfavorable criticism of Mr. Stoker's procedure in the 21st paragraph of the orders on the assessment of the Anúpshahr tahsíl.

18. It is always interesting to know the principle followed by the Settlement Officer in assessing sár, khúdkásht, and land held at rents in kind. Lands of the last class no longer exist to any considerable extent in the Bulandshahr district. The area under proprietary cultivation, though slightly less than at last settlement, is still large, being 159,629 acres out of a total cultivated area of 779,667 acres.

Section 17 of the rules lays down the procedure to be followed. Mr. Stoker and Mr. Baillie seem to have preferred the method of section 17(3) to that of 17(1) to a greater extent than was intended by the rules. In other words, they preferred circle to village rates. In this, I think, they were right. Where, as in Bulandshahr, the basis on which circles are framed is similarity of soil and other advantages, the rates thence derived should be fairer than the village average rent-rate.

Again Mr. Stoker remarks—"And some regard was also paid to the enhancement which would thereby be effected on the revenue demand. It does not seem reasonable to force up the assumed (corrected) rental by the employment of very full rates and then avoid the consequences by assessing a very low percentage."

I am aware that Settlement Officers have always had to manipulate rates, but a confession of it is generally avoided, and its presence here shows that we are much as we were under the old system. Indeed, I believe somewhat similar procedure will probably be found, if not stated with the same openness, in other settlements. And if so, it seems to me to show that the mathematical accuracy which is now aimed at is an impossibility.

The theory is something as follows.

Government claims as its share half the village assets: under special circumstances it sometimes takes less than half. It directs that *bond fide* rents are ordinarily to be accepted. It lays down rules for the ascertainment of fair rents to be applied to lands held as *sir*, &c.

The Settlement Officer finds fair rents for these latter lands, but he modifies them in order to prevent an undue enhancement of the Government demand. The result is that the village assets and the proportion taken by the Government are alike incorrectly stated, and it follows that the idea that our assessments are accurately fixed may be dropped.

19. The Government demand has at once been raised by 41·1 per cent., and in the eleventh year the gross enhancement will be 50 per cent. on the old jama. Mr. Stoker enumerates the following causes as justifying this large enhancement.

It is estimated that under the old settlement, Government received only 35 per cent. of the assets. Since last settlement cultivation has increased by 6·7 per cent.; the irrigated area by 57·7 per cent.; prices of agricultural produce have risen 90 per cent., and rents from 65 to 70 per cent. I have already expressed my belief that Mr. Stoker's estimate of the extent to which prices have risen is excessive. It depends on the accuracy of the average prices of certain cereals for the 14 years preceding last settlement drawn up by Mr. Currie, at that time a very young officer. If we look at the figures for each term of five years from 1860 we find that within this period of 30 years the rise in prices has not been very marked, though no doubt they oscillate less than of old.

Canals have certainly enormously increased the outturn, and have given it greater stability. Irrespective of the alleged rise in prices, there is ample justification in the enhancement of the Government demand.

The percentage of new jama to assessable assets is for the district only 47·5, and is in no pargana higher than 48·6. The true percentage is even somewhat lower since, as I have pointed out, Mr. Stoker sometimes reduced his assessment rates, in order to prevent too great a rise in the demand. The principle on which progressive jamas have been granted is a sound one, though I have sometimes thought it was occasionally needlessly applied.

20. Mr. Stoker gives an interesting chapter on improvements. As elsewhere, landlords have themselves done little or nothing in this direction and also prevent improvements by their tenantry. In my opinion occupancy tenants should not be required to obtain the consent of their landlords for the construction of irrigation wells. In paragraph 126 Mr. Stoker shows how the landlords use this power.

The list there given contains the names of some landlords from whom better things might have been expected. It is referred to here so as to bring into prominence the fact that the ideas and ways of Indian landlords are directly opposed to those which we hold, and that it is not to men of "light and leading," to the heads of native society, that we must look for concessions or good treatment of their tenantry. Occupancy rights have grown in the villages of small proprietors and where owners and tenants are much on an equality, and improvements are chiefly found where an indulgent man is living among his people.

21. Mr. Stoker's chapter on the Ganges Canal seems to call for no special notice from me. I have already dealt with the subject of its drawbacks, and the calculations made at the Board's instance, which do not satisfy the Settlement Officer, place nearly 2½ lakhs of rupees or 12·4 of the demand now assessed to the credit of the canal.

The fact that the largest increase of revenue is in the pargana where there is no canal irrigation, and that the increase there is 76·5 per cent., should not be lost sight of.

22. The amount of litigation before the Settlement Courts is shown numerically and in connection with the area involved, in the 150th Settlement litigation. and following paragraphs. Mr. Stoker claims credit for easy treatment of occupancy tenants, and with this no one will find fault so long as the rights of the proprietors are not sacrificed. A few cases came before me towards the close of the proceedings, where the Settlement Officers had refused to entertain enhancement applications on the general ground that the rents and rates having been accepted, the tenants were paying sufficiently high.

The district rent courts are frequently ready to throw out such applications, partly from a feeling of consideration to the tenants, partly from a not unnatural ignorance of the subject of rents, and I mention this matter that such courts may not be led to think that the Settlement Court's action is a precedent for their guidance.

23. The cost of the settlement has been returned as Rs. 1,87,770 or Rs. 1,34,415, *i.e.*, at 98·2 or 70·3 per square mile, according as credit is or is not given for consequent receipts. That the cost has been so small is, in the first place, due to the ability and self-sacrifice which Mr. Stoker devoted to his task. It is impossible to speak too highly of his devotion to his work, and it is probably not too much to say that few other officers would have brought to light the concealed assets and the wholesale deceptions practised, and thus, besides bringing a large sum into the Government treasury, have indicated a weak spot in the district administration.

Mr. Stoker speaks highly of the services of the officers associated with him in his onerous task.

24. We now come to the 30 villages in pargana Pahasu for which only a summary settlement is proposed. These villages are Chhitari villages. the property of the *rais* of Chhitari. A deliberate attempt was made by the maintenance of falsified village papers to obtain a settlement based on grossly understated assets. Aided by an oppressed tenantry, the Settlement Officer succeeded in ascertaining the true assets. Apparently a settlement then became possible. There remained, however, two obstacles :—

1st.—Not content with attempting to defraud Government by understating assets, the proprietor attempted to defraud his tenantry of their occupancy rights by entering in the village papers changes in cultivating possession which had not really taken place. The first fraud in fact, as shown by the Settlement Officer, involved and necessitated the second. Time was given to enable the parties to come to an amicable understanding, but without result. Consequently a vast number of suits were brought to establish occupancy rights. These cases have been all decided locally, but some appeals are still pending. Till a final order has been given, assets cannot be accurately estimated, and the records cannot be completed.

2nd.—The *rais* agreed to reduce his exorbitant rents, but his past conduct gives little reason to hope that he will abstain from collecting the highest obtainable rent from those of his tenants who fail to secure from the Courts a recognition of occupancy rights.

It seems to me that the law needs amendment, so as to enable the Government to protect the cultivators from gross and systematic oppression and fraud on the part of their landlords.

The Settlement Officer should be empowered in such cases (with due sanction of the Board or of Government) to fix the rent of every tenant on such estates for the part of or whole term of settlement. As the law now stands, Government is powerless.

25. Chhitari is not the only estate where the tenants have been downtrodden, rights destroyed, and the true rental falsified. Possible causes of maladministration. There are some very sad and locally well known instances of fraud and oppression. The scene of this systematic tyranny is the parganas lying to the south and south-east of the province, and the tracts known as the *riásat* (where it is said Her Majesty's writ did not run) are situated at a considerable distance from the district headquarters. To this accident, to the fact that no Government post higher than a police station was near, to the number of landlords of the same family, all of whom enjoyed the prestige and exercised the powers of an Honorary Magistrate—the native term is “*ghar ghar* Magistrate”—their possession of horses and carriages, the fact of the local officers visiting them and dining at their houses, the knowledge that their landlords built halls and adorned bazárs and gateways at official instance; these are said to be some of the causes which operated to silence the tenants, who believed it impossible to get any evidence against *raises* so situated, and who thought the courts and our officers powerless against these local magnates. For the last two years a Deputy Magistrate has been kept for the best part of the year in that neighbourhood, so that the people might no longer consider themselves deserted, and I think somewhat similar action and much care should be given to these *riásat* tracts in years to come. I gather that the Settlement Officer (paragraph 89) does not consider that the *raises* will be in any way deterred by what has passed from similar action in the future, and if the tenants as well as the landlords are to prosper, and if future settlements are to be made on recorded rents, a change must be made. And I may take this opportunity of saying that under such circumstances as are shown in paragraph 96 I should recommend a different reading be applied to rule 7 of Circular 18, 1st August 1888, even if it necessitated an amendment of section 68 of the Land Revenue Act. It is the Settlement Officer's business to settle disputes, rectify wrong entries, and to facilitate, not to render impossible, the future management of estates.

26. In his chapter on the period of settlement Mr. Stoker suggests that it is not necessary that the whole district should come under settlement at the same time. This is true, but the advantages of the present system are great, and I should be sorry to see it changed, and the work made over to the District Officers. The Settlement Officer gains much by having to deal with a large area such as a district. The experience gained in one part helps him to overcome the difficulties encountered in another. He makes a trained staff, and he has no other work to distract his attention. If only the village papers are brought up to a reasonable degree of accuracy, before settlement begins, the work will proceed as quickly as the health and calibre of the Settlement Officer allows.

And I trust that such a task as the settlement of the district will generally be entrusted to a special officer. I would go further and say that we do wrong to disband the trained staff which has worked through a district settlement; our settlements should so fall in that the staff with ordinary changes should be passed on from district to district; there is ample proof in our various offices that settlements that fall in out of the regular course are not taken up with the knowledge and feeling of responsibility that besets a Settlement Officer.

A glance at the calendar circulated with G. O. No. $\frac{110}{1-348A}$ of 20th January 1890 will show that as in the last settlements, so it will be now, that the officials who gain experience and are trained in the first seven settlements will be lost to us ere the great pressure sets in, and that for the 25 North-Western Provinces districts only, which will come under settlement in the 13 years between 1897 and 1909, officers and men will again have to learn from the beginning.

An adaptation of the Madras practice might perhaps be advisable.

Further, the whole experience of the settlement under review is to my mind against ~~our~~ tying ourselves down to a long period of settlement. The Government is bound,

by the engagements entered into, but the landlords on any and every pretext seek relief from them. It is quite true that the people have become accustomed to a 30 years' settlement and would dislike a change, but there is no special virtue in that over any other term.

Mr. Stoker shows (paragraph 112) that the incidence per cultivated acre of the new jama only equals what the neighbouring district of Aligarh has for years paid. And, as stated, the difficulty has been "to moderate the demand without an undue sacrifice of the just claims of the State." I can remember several instances where it seemed to me that the recorded rents—of many years—would have justified a higher demand than that proposed; but the long period during which inadequate sums have been taken, the consequent growth of a claim to a large share of the proceeds, and the great increase—50 per cent.—which after all has had to be made, seem to show that another concession of a long term of settlement should not be lightly made.

The treatment of 30 Chhitari and 13 other villages wilfully deteriorated will naturally require exceptional care. They fall in again on 30th June 1894.

27. Mr. Stoker has not referred to the revision of patwáris' circles, which unfortunately has hitherto followed each settlement. He was himself unable to carry it out, but Mr. Addis took up the thread, and as sanction to his proposals has just come (*vide* Board's No. ¹⁵⁶ 11—65, dated 7th April 1891), I tabulate the late and future establishments for use of District Officers. As little change as possible has been made and all possible consideration given to vested interests.

Existing establishment.		Future establishment.	
Number of patwáris.	Monthly rate of pay.	Number of patwáris.	Monthly rate of pay.
	Rs. a. p.		Rs. a. p.
143	12 0 0	40	12 0 0
73	11 0 0	26	11 0 0
75	10 0 0	130	10 0 0
68	9 0 0	155	9 0 0
55	8 0 0	94	8 0 0
55	7 0 0	24	7 0 0
25	6 0 0	...	...
4	5 0 0	...	...
Total ...	498	529	4,981 0 0
Assistants ...	38	12	5 0 0
Total ...	38	12	60 0 0
GRAND TOTAL...	536	541	5,041 0 0

28. I may perhaps be allowed to touch on some other points which experience of the Bulandshahr settlement shows require attention. The Board's knowledge may well be utilized in laying down what vernacular returns are from the first to be prepared.

Much time has been lost and money spent in Deputy Collectors, the forerunners, preparing for any and every paper which the most lexigent Settlement Officer may require.

Then I would support Mr. Stoker's regret that the tahsíl has been left without a copy of the settlement khasra, and would recommend that the copying of records for the headquarters and tahsílí offices should not be thrown on the village patwáris.

It is true Government is partly responsible for the payment of these men, but the people do not recognise this, and rapidity of work and economy would be obtained by employing professional copyists. I have already referred to the great question of the enhancement of rents and to the attempt to make settlements with mathematical accuracy. The settlement now under review is not based on recorded rentals, but on a comparison of circle rates with recorded rentals. These latter must necessarily nowadays be a guide, but settlements formed on them alone must be unequal.

Lastly, no adhesion to rules, no following of circulars, however carefully drawn, can take the place of an officer who, like Mr. Stoker, possesses ability of a very high order, combined with an unrivalled knowledge of the district, its people, and capabilities.



APPENDIX.

Tahsil.	Pargana.	Estate.	Mauza and mahál.	Remarks of the Settlement Officer.
Khurja ...	Khurja ...	Danpur ...	Pharakua Ganga gad-di (mahál Danpur).	Belongs to Danpur. Managed most oppressively.
" ...	" ...	Chitari ...	Gaushianpur ...	Belongs chiefly to Chitari Rais. Wilfully deteriorated.
" ...	" ...	Ghahana ...	Keeli Khurd ...	Belongs to Lekhraj Singh, of Ghahana in Aligarh. Management most oppressive and assets falsified.
" ...	" ...	" ...	Mazra Mani ...	
" ...	Pahasu ...	Barauli ...	Fatchabad (mahál Barauli).	Belongs to Rais of Barauli in Aligarh. Management oppressive. Right of occupancy extirpated.
" ...	" ...	" ...	Kamini ...	The rent-rolls were largely falsified for years. Owing to the action of the Mahua Khera tenants, the Rais was forced to give in the true rents a year or two before settlement.
" ...	" ...	" ...	Kailauli ...	
" ...	" ...	" ...	Bedrampur ...	
" ...	" ...	" ...	Mahua khera ...	
" ...	" ...	Kaheliya ...	Ahmadbas ...	Wilful deterioration on a large scale and very oppressive treatment of tenantry. No rights of occupancy.
" ...	" ...	" ...	Azizabad ...	
" ...	" ...	" ...	Kunwarpur ...	
" ...	" ...	" ...	Sulhahanpur ...	
" ...	" ...	" ...	Bahmanpuri ...	
" ...	" ...	" ...	Badarka (mahál Fyzabad).	Belong to the Pindrawal Rája. They were greatly deteriorated from harsh ejections.
" ...	" ...	Pindrawal ...	Kannini Akbarbas ...	
" ...	" ...	" ...	Jagdispur ...	Belongs to the Anona Rais and were wilfully deteriorated.
" ...	" ...	Anona ...	Baraula ...	
" ...	" ...	" ...	Pitampur ...	
" ...	" ...	" ...	Sujalri ...	Belongs to relations of the Chitari and Pahasu Rais. Much falsification and ill-treatment.
" ...	" ...	Burhansi ...	Burhansi ...	
" ...	" ...	" ...	Sikthgarhi ...	Belongs to Hurmat Khan, a Pindrawal manager, and responsible for all irregularities there, much concealment and ill-treatment of tenants.
Anúpsahr ...	Anúpsahr ...	Hurmat Khan ...	Bibiya ...	
" ...	" ...	" ...	Mau ...	Belongs to Narain Singh, Deputy Collector, and Kishan Singh, Tahsildár, and members of their families. Serious falsification of rentals and very severe treatment of tenantry.
" ...	Ahar ...	Jats of Sehra ...	Abhaipur ...	
" ...	" ...	" ...	Palipartabpur ...	
" ...	" ...	" ...	Sihali Jaigyan ...	
" ...	" ...	" ...	Shaukhpur ...	
" ...	" ...	" ...	Bharauli ...	Belongs to the Rais of Dharmpur.
" ...	" ...	" ...	Bhamrauli ...	
" ...	" ...	" ...	Pirpur ...	Extensive falsification and deteriorations with scandalous severity to tenants.
" ...	" ...	" ...	Imiliya ...	
" ...	" ...	Dharmpur ...	Pujana Khurd ...	Belongs to the Rais of Dharmpur. Extensive falsification and deteriorations with scandalous severity to tenants.
" ...	" ...	" ...	Amargarh ...	
" ...	" ...	" ...	Pujana kalan ...	Belongs to the Rais of Dharmpur. Extensive falsification and deteriorations with scandalous severity to tenants.
" ...	" ...	" ...	Madangarh ...	
" ...	Dibai ...	" ...	Jalalpur Jat. ...	Belongs to the Rais of Dharmpur. Extensive falsification and deteriorations with scandalous severity to tenants.
" ...	" ...	" ...	Edalpur. ...	
" ...	" ...	" ...	Udaypur kalan. ...	Belongs to the Rais of Dharmpur. Extensive falsification and deteriorations with scandalous severity to tenants.
" ...	" ...	" ...	Esanpur. ...	
" ...	" ...	" ...	Dharampur. ...	Belongs to the Rais of Dharmpur. Extensive falsification and deteriorations with scandalous severity to tenants.
" ...	" ...	" ...	Barena. ...	
" ...	" ...	" ...	Pohkarpur. ...	Belongs to the Rais of Dharmpur. Extensive falsification and deteriorations with scandalous severity to tenants.
" ...	" ...	" ...	Bamni. ...	
" ...	" ...	" ...	Bhamrana. ...	Belongs to the Rais of Dharmpur. Extensive falsification and deteriorations with scandalous severity to tenants.
" ...	" ...	" ...	Kurakwari. ...	
" ...	" ...	" ...	Chandpur. ...	Belongs to the Rais of Dharmpur. Extensive falsification and deteriorations with scandalous severity to tenants.
" ...	" ...	" ...	Bajhera. ...	
" ...	" ...	" ...	Pesri. ...	Belongs to the Rais of Dharmpur. Extensive falsification and deteriorations with scandalous severity to tenants.
" ...	" ...	" ...	Gokulpur bangar. ...	
" ...	" ...	" ...	" Khádir. ...	Belongs to the Rais of Dharmpur. Extensive falsification and deteriorations with scandalous severity to tenants.
" ...	" ...	" ...	Asalatpur bangar khádir. ...	
" ...	" ...	" ...	Ranghát. ...	Belongs to the Rais of Dharmpur. Extensive falsification and deteriorations with scandalous severity to tenants.
" ...	" ...	" ...	Badipur. ...	
" ...	" ...	" ...	Bijao (8½ biswas) ...	When these do not form separate maháls, it would rest on the owners of the rest of the mauza to procure partition, and get their maháls when formed settled for the full term.
" ...	" ...	" ...	Ghalibpur (12½ biswas). ...	
" ...	" ...	" ...	Nagla Chitu (10 biswas). ...	When these do not form separate maháls, it would rest on the owners of the rest of the mauza to procure partition, and get their maháls when formed settled for the full term.
" ...	" ...	" ...	Unchagaon bangar (5 biswas). ...	
" ...	" ...	" ...	Burhanpur khurd (10 biswas). ...	When these do not form separate maháls, it would rest on the owners of the rest of the mauza to procure partition, and get their maháls when formed settled for the full term.
" ...	" ...	" ...	Alampur Chitmanpur (6½ biswas). ...	
" ...	" ...	" ...	Jarena (10 biswas) ...	When these do not form separate maháls, it would rest on the owners of the rest of the mauza to procure partition, and get their maháls when formed settled for the full term.
" ...	" ...	" ...	Karanbas (8 biswas) ...	
" ...	" ...	" ...	Gobindpur (5 biswas) ...	When these do not form separate maháls, it would rest on the owners of the rest of the mauza to procure partition, and get their maháls when formed settled for the full term.
" ...	" ...	" ...	" ...	

Tahsil.	Pargana.		Estate.		Manza and mahál.	Remarks of the Settlement Officer.
Anúpsahr ...	Dibai	...	Danpur	...	Danpur ...	Extensive falsification and deterioration with scandalous severity to tenants.
"	"	"	"	"	Chavganpur.	
"	"	"	"	"	Tulshigarhi.	
"	"	"	"	"	Kareri.	
"	"	"	"	"	Akbarpur.	
"	"	"	"	"	Chandhera.	
"	"	"	"	"	Badarpur.	
"	"	"	"	"	Nayabas.	
"	"	"	"	"	Hirapur kalan.	
"	"	"	"	"	Rajghat.	
"	"	"	"	"	Dhak nagla.	
"	"	"	"	"	Mamrezpur.	
"	"	"	"	"	Himmatgarhi.	
"	"	"	"	"	Moradpur.	
"	"	"	"	"	Inchawari (10 biswas).	
"	"	"	"	"	Gangapur.	
"	"	"	"	"	Dibai khurd	Managed by Danpur Rais.
"	"	"	"	"	Bhojapur	Used to form part of Danpur estate.
"	"	"	"	"	"	Still managed according to very worst of its traditions.
"	"	"	Chitari	...	Patri Kalan	Belongs to Chitari Rais.
"	"	"	"	"	Shah Dawan	Belongs to small resident Lalkanis
"	"	"	"	"	Rahinkot.	who follow the methods of their leaders.
"	"	"	Aurangabad	...	Paighambarpur	Belonged to Findrawal. Given to a Saiyid of Aurangabad. The rental largely falsified, and right of occupancy extirpated.
"	"	"	Thakur Bania	...	Fatchabad	
"	"	"	"	"	Khushalabad	
"	"	"	"	"	Bichpuri	
"	"	"	"	"	Muhama d p u r	Belong to a "Thakur Bania," whose management is most oppressive and rapacious and whose assets are largely concealed. A very badly managed estate.
"	"	"	"	"	Kalan.	
"	"	"	"	"	Burhanpur kalan	
"	"	"	"	"	Ghusrana Gail	
"	"	"	"	"	Ghusrana Har Singh	



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FINAL REPORT

ON THE

SETTLEMENT OF LAND REVENUE

IN THE

BULANDSHAHR DISTRICT.

INTRODUCTION.

THIS is meant to be a settlement report in the strict sense of the word : that is to say, it is framed primarily simply as a narrative of the settlement operations and an examination of the results.

Scope of this report. All necessary information concerning the general history of the district, its people and its economical resources is already available in the gazetteer, in a district memoir by Rájá Lachman Singh and in Mr. Currie's report of the last settlement. It would be foreign to the object of the present report and to the effort now made to shorten, cheapen and summarize settlement proceedings to reproduce or recapitulate such matters. Still more foreign would it be to attempt those dissertations on ethnology, natural history, anthropology and even philology with which it used to be the custom to enrich settlement reports. When the work occupied one-third or one-half of an official lifetime, it was no doubt well to collect and record the observations on matters bearing even remotely on the revenue assessment which the Settlement Officer had leisure in so extended a period to verify and elaborate. But this is no longer possible when the assessment has to be begun and completed within three years, and every hour of the time has unavoidably to be devoted to the special work in hand.

The introduction of collateral matter in this report is therefore strictly limited to what is necessary to make it self-contained and intelligible. Such matter is chiefly confined to a brief examination of the fiscal and economical condition of the district and its history since last settlement and to such topographical description as may be necessary to explain the arrangement of the assessment circles which have now been formed. To this must be added some remarks on the management of different estates,—a circumstance of the highest importance in an assessment based on actuals, because within certain limits the variations of rent depend more on the character of the management than on the natural conditions and resources of the land.

2. In the five assessment reports which have been already submitted the local peculiarities of each pargana and circle have been fully described. Assessment reports already submitted. It does not seem necessary or advisable to reproduce the whole of this information in the final report, which is intended rather to present a general description of the district and to supply a succinct narrative of the whole settlement and its results. The intermediate assessment reports have designedly been made full in order to admit of reference on points of detail. Matters not found in the present report should be sought in them.

3. The conditions under which the present revision of assessment was undertaken are illustrated, if not explained, by the following extract from the letter in which the Government of India in 1871 pronounced judgment on the settlement which has now expired :—

Circumstances under which the present revision was undertaken.

“ Whether the conditions under which settlements are now being made for a term of 30 years in the North-Western Provinces give sufficient security for maintaining

the just rights of the State and for preventing the sacrifice of any portion of that share of the rental of the land which the State is entitled to receive, is a general question of a very serious character. It can hardly be denied that such instances as the present throw grave doubt upon the sufficiency of the existing system. It is clear that in Bulandshahr the state is obtaining only about 35 per cent. of the rental of the land instead of 50 per cent. which is now considered its equitable share, or instead of 66 per cent. which was the share taken by the Government when the former settlements for 30 years were made. As regards this particular district I am to state that, while the Governor-General in Council accepts the Lieutenant-Governor's conclusion that the confirmation of the settlement is necessary, he does so with extreme reluctance and only because he feels that the loss of revenue is in this case a less serious evil than that which would follow from the long delay which would attend any attempt to revise the principles on which the settlement has been made. It cannot be forgotten that sacrifices of the just rights of the state, such as those which have occurred in the present instance, not only confer no real benefit upon the country, but lead inevitably to the imposition of burdens, which under a better system would be unnecessary, upon other classes of the community."

The inadequacy of the assessment which invoked this censure was ascribed not to any deliberate moderation of the full demand, but rather to a failure to gauge the real revenue paying capacity of the district.

This experience of the past gave prominence to the necessity for avoiding a repetition of the error. The recent change in system, under which the revenue is now to be based on the rents actually collected, gave another strong reason for ascertaining the true assets of each estate with the greatest possible accuracy. It was clear from all the circumstances that an unusually large enhancement of revenue must be expected, and that it would be necessary in many cases and in different ways to moderate the full demand that the Government might, under other conditions, be justified in taking. But obviously the first step was to ascertain with exactness the true rental which would form the basis of assessment. The difficulty as well as the necessity of this task was enhanced by the inadequate character of the expiring assessment.

CHAPTER I.

PHYSICAL CHARACTERISTICS OF THE DISTRICT.

4. The district is of compact shape, with an area of 1,912·9 square miles, stretching across the Doab from the Jumna on the west to the Ganges on the east. The average breadth is rather under 55 miles, and the average length from Meerut on the north boundary to Aligarh on the south is rather over 35 miles.

5. Besides the two large rivers which form its eastern and western limits, the district is traversed by several small streams or drainage lines whose course generally lies from north-west to south-east, roughly parallel to that of the Ganges and Jumna. The chief of these is the Kali nadi, which runs down the middle of the district and was designed by nature to carry off the drainage of all the central parts. The construction of the Ganges Canal, running at a short distance from its right bank, seems to have disturbed its natural functions. The section east of the Kali nadi, between that river and the Ganges, is drained by the Choya, a small stream or drainage line which, commencing near the Meerut border in pargana Siyana in an ill defined shape, has assumed the character of a river with a well marked channel, in the pargana of Dibhai before it enters the Aligarh district. Near Dibhai the Choya is joined by a considerable tributary bearing the same generic name. This western branch rises in pargana Shikarpur near Rewara and carries down the drainage which finds its way

along the country from parts much higher up. The Kharon occupies a similar position in the west part of the district, lying between the Kali nadi and the Jumna. It begins in the north of pargana Dadri, not far from the Meerut border, and traverses parganas Sikandrabad and Khurja. It does not naturally possess all along its course a continuous and well defined channel. But the Canal Department has taken it in hand and is supplying this deficiency by artificial excavation. The work was carried out some years ago in the upper section down as far as the Chola-Bulandshahr road. It is now being carried on from that point into the Aligarh district.

West again of the Kharon and separated from it by an intervening ridge of high sandy land, which runs down the district, is a more or less continuous line of drainage known as the "Pathwaha Bahu."

This formation comes from across the Meerut border at Hasaupur and may be traced all the way down the parganas of Dadri, Dankaur and Jewar and on into Aligarh. There is nowhere any defined natural channel nor anything which could be called a stream. A series of depressions and swamps mark the course in which the surface waters of the surrounding tract collect and find their way along the country. The progress is not uninterrupted. Here and there undulating ground holds up the flood and forms shallow lakes, which disappear again in dry seasons. In other places the canal embankments disturb the natural flow. In pargana Dadri the upper part of this drainage line is cut across by the Kot-Kasna escape, which conveys the surplus water of the Mát (or Bulandshahr) Branch Canal to the Bhuriya river. This channel intercepts the flow of the "Pathwaha Bahu" and diverts its waters also into the Bhuriya.

6. It has been mentioned above that the watershed of the Kharon is separated from the "Pathwaha Bahu" by a ridge of raised sandy soil. This formation may be traced from the northern border of the district at Shadipur Chandauli of pargana Dadri right down to the most southerly point of pargana Jewar where it enters Aligarh. Its line is marked on the map by the Bulandshahr (or Mát) Branch Canal, which skirts this ridge along its whole length. About the trijunction point where the three parganas Dankaur, Sikandrabad and Khurja meet, it widens out and divides. One spur runs east along the north of pargana Khurja through the town of Khurja itself. Beyond that point its eastern extension ceases to be continuous and the last traces of it are lost before the Kali nadi is reached. But a well marked continuation runs south-east from Khurja along the line followed by the Grand Trunk Road and passes into the Aligarh district.

The other spur, or rather the main alignment, keeps on south, running along the eastern side of the Jewar pargana into Aligarh. Between these two main spurs are to be found scattered patches of sandy and uneven soil, sometimes large enough to comprise the area of entire villages.

In its upper section this sandy or "bhur" formation is comparatively narrow and well marked. The loose sand, rising into ridges or hillocks, which forms its crest changes by rapid gradations into the characteristic loam of the district as the undulations disappear and the surface assumes a uniform level to east and west.

In the lower section from the point of bifurcation the sandy zone becomes wider and less defined. The undulations are not so abrupt and the soil is firmer. But a large intermixture of sand may still be observed in it and the character of the crops bears witness to its poverty.

It is as though some vast primeval current had swept down at first in a well defined course and, gradually losing force, had spread out over the country, leaving its sandy deposit to mark the variations of its movement and the sphere of its influence.

West of this again another belt of sandy soil runs parallel with that just described along the edge of the uplands above the great valley of the Western sandy zone. Jumna. It is of varying width, being widest at the north, where the characteristic soil is the yellow sand known as "pilota," and narrowing to the south where the firm loam extends close to the crest, and the intervening belt is of white sandy or gritty soil.

On the east of the district a similar belt of inferior soil runs along the border of the uplands which look down on the Ganges valley. It merges Eastern sandy zone. gradually into the firmer soil of the Choya valley. But the whole of this tract, which is traversed by the Anúpsahr (or Fatehgarh) Branch Canal, is characterized by frequent stretches of poor light or uneven soil.

The watershed between the Choya and the Kali nadi is presumably raised above the low lands on each side. But no connected ridge and no belt Central plain. or zone of inferior soil can be traced. To the eye it presents a uniform level appearance, scarcely broken by any undulations or depressions.

7. It is possible, in a rude way, to picture the upland part of the district as composed of alternate belts of raised sandy soil and of level or General description. lowlying loam and clay. First, on the west is the sandy ridge along the Jumna valley : then the level belt drained by the "Pathwaha Bahu" : then the sandy zone dividing this belt from the wide central plain, which is drained by the Kharon and the Kali nadi : east of that again, and separated from it by an imperceptible rise, is the narrow strip which is traversed by the Choya and is succeeded by the sandy belt above the Ganges valley, now served by the Anúpsahr Branch Canal.

The character of the soil follows these broad natural divisions. In the three sandy General character of the belts it is light, with an uneven or undulating surface. Else- soil. where it is chiefly loam, turning to stiff clay in the depressions and in the river lands. The best part of the district is in the centre a deep belt on each side of the Kali nadi, except on the east bank in pargana Pahasu. The part on the west side of the river is perhaps slightly superior to that on the east, and as it possesses canal irrigation, ranks higher in agricultural value.

In other parts of the district there are small detached tracts of equally, or almost equally, good quality. In particular, on the east side in the region drained by the Choya, and on the west in the region drained by the "Pathwaha Bahu," are blocks much superior to their surroundings in excellence of soil.

8. It remains to describe the lowlands or khádir of the The khádir or lowlands. Jumna and Ganges.

That of the Jumna is by far the most extensive. In the parganas of Dadri and The Jumna khadir. Dankaur, in tahsíl Sikandrabad, it forms a wide tract of country, extending back from the river a distance that varies from about nine miles at the north to about five at the south. At its widest point the khádir here measures about ten miles from the bank of the Jumna to the crest of the upland. At some prehistoric time the stream of the great river must have overrun all this area, and it is still easy to see how at Loksir and Dankaur it must have been turned off by the reefs of hard clay it there encountered and forced into a more westerly course. But in historic times the river seems to have kept fairly to its present line, and its shiftings in recent years have been inconsiderable. Nearly all this lowland is old settled country and the only fluctuating cultivation is along the immediate banks of the Jumna and, in a less extent, of the other streams that traverse it. The head works of the Agra Canal have protected the villages next immediately below them. But a series of spurs have been erected lower down on the western bank and have turned the stream against this district. Some of the villages on this side have lost heavily, and it has been found

necessary to propose reductions of their revenue. As the deepstream rule prevails, they have no chance of recovering their losses. Generally speaking, the tendency of the river at present seems to be eastward. But all the villages exposed to change have now been brought under quinquennial assessment, and the revenue can be adjusted to any local alterations of the stream.

The deposit of the Jumna is inferior. It contains a large intermixture of sand and does not produce first class crops. In the riverain villages where the lowlands are submerged, the crops have to be sown immediately on the subsidence of the water, or the seed will not germinate. In the older and better formed lands which extend back towards the centre of the khádir, the soil is still sandy and there is generally a substratum of pure sand which drains away the surface moisture. In hollows and depressions there are deposits of good alluvial clay which yield well. But the "Jumnaoti" soil, as it is called, is undoubtedly of an inferior type. Except immediately along the river, the autumn crops are regularly grown. But for different reasons the spring harvest is far the most considerable. There is some tamarisk and grass jungle along the river, and in a few places in the interior a large growth of date palms. Notwithstanding the presence still of much waste, both culturable and barren, it must be said that the lowland of the Jumna is much more steadily and highly cultivated than the Ganges lowlands or indeed than land generally in such position.

9. The central part of this tract is drained by two small rivers which run down it and discharge into the Jumna; these are the Hindan and the Bhuriya. The Hindan is at times a considerable stream, though only by the goodwill and pleasure of the Canal Department. In the Meerut district a short way across the border it has been canalized and connected with the Jumna by an escape. It can therefore be either reinforced by the waste water of the Ganges Canal, or its own natural supply can be diverted to feed the Agra Canal and irrigate lands on the western side of the Jumna. In the rains, when it is left to itself, the Hindan carries down considerable floods and, from the nature of the soil through which it passes, its waters hold a fine rich deposit which fertilizes all the land within its influence. This deposit, known as *búk*, requires to be renewed every few years. After this it is apt to get exhausted and *reh* is produced, and the land deteriorates extremely till its fertility is restored by a fresh flood. In their ordinary state the villages along the Hindan are extremely productive. Owing to the floods, the rain crops are more or less precarious, but the spring harvest yields an abundant return for very little labour.

The Hindan at present falls into the Jumna at the very bottom of pargana Dadri, about 13 miles in a straight line from where it entered the district. About four miles above its mouth two channels, one artificial and one natural, connect it with the Bhuriya, and the bulk of its waters had begun in 1886-87 to transfer themselves to the latter stream. It would be well if this diversion were assisted and encouraged. It would prolong the course of this fertilizing stream about 15 miles and immensely improve the country through which it would pass, enriching the present cultivation and rendering culturable much that is now utterly barren and waste. The Canal Department, fearing claims for damages if the Bhuriya (used as a canal escape) were permitted to overflow, were trying to train back the Hindan into its old channel. A suggestion on the subject was made to the Canal Department and the District Officer.

10. The Bhuriya is a small stream which runs parallel to the Hindan and usually two or three miles to the east of it. But the windings of the two sometimes bring them close together, and there are connecting channels by which the Bhuriya is fed from the larger stream. It also receives much water by percolation from the uplands and, though very diminutive where it begins at the top of the district, is quite a respectable little river when it joins the Jumna about 24 miles lower down. In general characteristics it much resembles the Hindan and carries, like it, a deposit of fertilizing clay; but its volume of water is too

small to produce any great results, and so its good effects are confined generally to a narrow strip along its banks. In the lower part of its course, where even in the rains it seems restricted to a deep and well marked channel, it exercises little beneficial influence. Were it reinforced by the waters of the Hindan it could not fail to spread fertilization.

11. Where the valley of the Hindan and Bhuriya does not reach the foot of the uplands the intervening land is unspeakably bad. Close to the upper khádir, the slope the ground is usually lowlying, and here the moisture has oozed to the surface, bringing with it the saline matter with which this soil is largely intermixed. Further out the soil is drier, but almost as sterile, and the saline elements break out in efflorescence. This part is either a salt marsh or a salt waste in which even grass will not grow. Where it improves the chief vegetation is the date palm and *gab* grass which even buffaloes do not care to eat. For want of a better name this part has been called the upper khádir. The little cultivation in it is of the most wretched description, the villages are miserably poor and the inhabitants subsist chiefly by other means than agriculture. Fortunately the area of the upper khádir is not large, and few villages lie wholly within it.

12. The rise from the lowland to the upland is not everywhere abrupt. At the top of pargana Dadri it is about a mile and a half from the crest between bingur and khádir, down to the real alluvial plain, and at the bottom of pargana Dankaur the descent is also very gradual. Elsewhere it is steeper, but, as a rule, the slope is everywhere cultivated and sometimes the cultivation is superior to that immediately above or below. It is generally irrigable from wells near the top, which, owing to the slope, command a large area. The soil in this section is generally "*pilota*" and always light and sandy, whatever its classification. Where the line of the high land is distinct and well marked the rise from the plain is generally about 150 or 200 feet; but often the slope is so gradual that it would be difficult to say where the high land ended and the lowland began. A favourite site for the village is just on the edge of the high ground, and in these villages the *bára* land is on the slope or at its foot.

13. In pargana Jewar, which lies south of Dankaur, the stream has worked right back to the hard high bank and leaves but little khádir land in the upper part of the pargana. At Ballabhnagar, about half-way down, a lofty projecting reef of firm clay and kankar soil throws the current abruptly west and forms a large alluvial plain, from three and a half to four miles wide, which extends to the border of the district, about five miles from north to south. This is the only extensive tract of khádir land in pargana Jewar. It presents the usual features of the ordinary Jumna khádir above described. The soil, as a rule, is sandy and inferior, but it is fairly free from the *rek* which appears in such an aggravated form in parts of Dadri and Dankaur. There is here none of the salt marsh and salt waste which characterize the "upper khádir." This may reasonably be attributed to the circumstance that there is much less canal water supplied to the adjoining high ground. It is this canal water which, percolating down from above, oozes to the surface in the lowlands, bringing with it the saline matter with which the soil in these situations is impregnated. The supply in pargana Jewar appears to be too small to produce any marked result.

There is no river in this part of the khádir. The surface water finds its way direct into the Jumna.

14. The Ganges khádir differs very much from that of the Jumna. The stream runs close to the high bank, and there is not that wide stretch of settled country with old and permanent cultivation which has been described in the lowlands of the western river. As a rule, the khádir of the Ganges is a narrow fringe along the foot of the hard clay cliff, and throughout most of

its length there is no cultivation except of a fluctuating character. But the clay soil left by the Ganges is much superior to the sandy deposit of the Jumna, and where circumstances have permitted its proper cultivation it yields most bountiful harvests. This occurs at two points. At Mubarikpur near the south of pargana Ahar and again at Ramghát in pargana Dibhai the river encounters a hard kankar or clay reef which throws it east and protects the villages lying lower down the stream. At Ramghát the protection is further secured by the defensive works of the Lower Ganges Canal. Behind these bulwarks the rich alluvial soil is regularly cultivated, produces crop of the best descriptions and pays very high rents. The ground is naturally moist. Even sugarcane is grown without artificial irrigation. Shallow wells worked by a lever can be made at any point and are extensively used for garden crops.

Except at these few favoured spots, the Ganges khádir cultivation is generally confined to melon beds and a comparatively small area of cereals with a little sugarcane. The waste is usually covered with heavy grass and tamarisk jungle that harbours droves of wild pigs, and their depredations no doubt restrict the area of khádir cultivation by rendering it insecure and unprofitable.

15. The Kali nadi has a narrow and well marked valley, depressed below the surface of the surrounding country and traversed by a sluggish and winding stream which even in the dry season is kept full by percolation. After heavy local rain it occasionally overflows and floods the whole valley. In 1885 a phenomenal rainfall caused a flood of almost incredible proportions, which wrought great havoc all along its course and swept away numerous bridges as well as the Nadrai aqueduct. The same flood also devastated the Choya valley and there as well as here is known to the people as the "naoroza" from the nine days' rain which produced it.

Up to the time of last settlement the valley lands were very productive and highly cultivated. But the introduction of the canal and the use of the river as a canal escape led to their saturation and to the development of *reh* which almost entirely destroyed their fertility. Mr. R. G. Currie was obliged to revise their assessment and remit revenue on them to the amount of Rs. 5,546 annually. Measures were subsequently taken by the Canal Department to straighten and shorten the channel by cutting through the numerous loops and bends which impeded its sluggish current. Some improvement was thereby undoubtedly effected. At the same time the further extensions of the canal rendered the use of the escapes unnecessary, but this relief was partially at least neutralized by the introduction of surface water from drainage cuts made to tail into the river. In the meantime another agency has been at work against which all preventive measures are powerless. The general rise of the water level by percolation from the canal has produced the same effect on the lowland of the Kali nadi as it has produced in the upper khádir of the Jumna already described.

The depth of this valley below the surface of the upland is generally as great as the depth of the spring level in the upland wells, and but for the drainage of the river much of the valley would probably be always under water. As it is much of it is swampy and much of it is saturated for the greater part of the year. The river is unequal to the task of draining off the excess moisture for more than a very short distance from its channel. Hence it is that the culturable land is always found on the river bank and the worst land at the bottom of the slope. The intermediate space is ordinarily inferior. Under these conditions it is only natural to find that the valley lands suffer from constant saturation, that the *reh* though diminished is still potent and that these defects are most strongly marked in the most lowlying parts and on the west bank where the canal is close at hand. On both sides the condition depends much on the season. When the rains are scanty and the river is low the ground is better drained and both the area and quality of the crops improve.

There are no grounds for anticipating any material improvement in the present condition of the Kali nadi valley. The mischief, it is feared, must be treated as permanent and irremediable. The cultivation, as far as can be foreseen, will always be inferior and much of it fluctuating. An enterprising proprietor might possibly do much by a system of subsoil drainage, but there are no signs of enterprise among proprietors. The remitted revenue was reimposed 11 years ago, when cultivation of some sort became again practicable. The recovery of the land was far from complete, though a considerable area was cultivated and a still further area was and is culturable. With the settlement impending proprietors have not thought it advisable to encourage reclamation. The reimposition of the suspended revenue was attended by no hardship because the great rise in rents since last settlement had both increased the general assets enormously and had made this land as valuable for revenue purposes in its deteriorated condition as it was then in its full and unimpaired fertility.

In some parts there is a good deal of valuable spontaneous produce in the shape of thatching grass. Babul trees also grow freely in many places, unsuited for agriculture, and the land might be turned to useful and remunerative purpose by forming plantations of this valuable timber.

16. The Choya can scarcely be described as a river or stream till below Dibhai, where it commences to have a well marked channel. Above that point it is a series of connected depressions, sometimes forming wide swamps and sometimes narrowing into a defined bed. Its character seems to have changed considerably in recent years. At last settlement it was not recognised by the Settlement Officer as a continuous waterway, and no mark of it appears in the maps of parganas Anupshahr and Ahar. The general rise in the spring level throughout the district, which has taken place since last settlement, naturally shows the most obvious effects in such a formation as these lowlands. There is now a more or less connected and defined stream passing down the centre of the valley. Lands shown on the old maps as cultivated fields were found on the present inspection to be under water for the whole or nearly the whole of the year. When the village maps were corrected the area of previous cultivation actually thrown out was found to be 2,301 acres, of which 1,143 acres were actually under water and the remainder too saturated for sowings. Beyond this again was a large and undefined area, which, though not positively unculturable, had become soured or impoverished and ceased to yield full harvest.

It is not possible to ascertain precisely how long the present state of affairs has taken to develope. The deterioration has been of gradual growth and has apparently not yet reached its full extension. There is no doubt it has been going on for many years. But it appears to have received a considerable accession in the last four or five years of abnormal rainfall. The phenomenal flood of 1855, known to the people as the *naorazu*, which caused such havoc along the Kali nadi, was equally disastrous in its way along the Choya and inflicted damage from which the riverain villages have not yet recovered. If this were the sole cause, it might be confidently expected that the affected tract would recover itself in the course of a few normal years. But there is reason to fear that a more permanent cause is at work. The swamping and saturation of the Choya lands are but the visible signs of a movement of the general water level which seems of a permanent character. The Anupshahr branch canal runs down the narrow strip of land that lies between the Ganges and the Choya. It has been open for irrigation through pargana Ahar since 1866-67, and was extended to parganas Anupshahr and Dibhai in 1878-79. It seems impossible to doubt that the water level has been thereby affected, and that the influence is likely to be permanent. The deterioration is both most extensive and of oldest standing in the Ahar pargana, where the canal has been longest running. The effect on earthen wells of the disturbance of the water level is most marked to the east of the Choya where the canal runs, and though there are special causes which no

doubt exaggerate this effect, yet, with every allowance for these causes, the western villages certainly seem less affected. There is in fact much reason to apprehend that the lands along the Choya are now experiencing the same fate which overtook the valley of the Kali nadi. The progress of the mischief has been less rapid here, as the volume of water in the Anúpshahr branch is so much smaller than that which passes down the main Ganges Canal. But the mischief appears in each case ascribable to the same cause.

As yet there has been very little development of reh in the Choya lands. But it has begun to show itself in some of the upper villages of Ahar, where the deterioration is oldest and most extensive.

The present deterioration and the very uncertain future of the lands which lie within the influence of the Choya have rendered it necessary to exercise the greatest care in their assessment. The fields thrown out of cultivation have been discriminated in the record, and so far as possible the precarious lands have been marked off. As a rule, the former have been exempted altogether from assessment, and for the latter due allowance has been made in the rating. So far as the assessing officer can foresee, the jamas now assessed can continue to be paid, but it would be rash to predict that a readjustment of them cannot in any contingency become necessary. It may not be out of place here to suggest that much might be done to mitigate, if not avert, the mischief above described. If the channel of the river were deepened and straightened where one now exists, and a channel excavated where there is none, a regular flow of water would be established and accelerated, existing swamps would be drained and saturated lands relieved of their superfluous moisture. It would be too sanguine to expect a complete restoration of the old fertility, but much improvement might fairly be anticipated. The people would probably be found willing to assist with free labour in the off season if the work were laid out and supervised by Government officials. The experience of the Kali nadi does not afford much hope that the work would be directly remunerative to Government, but conditions here are rather more favourable. The advantage to the people, and therefore the indirect profit to Government, promises to be substantial. The question of draining canal-irrigated districts is one which will have to be seriously faced. The Government may probably consider it advisable to repair, even by unproductive outlay, mischief which can be traced to its own actions, and which deteriorates private property and seriously impairs the general health of the population.

17. The lakes in the district are few, small and shallow. The most extensive are at Aurangabad Chandokh and Mustafabad in pargana Shikarpur, about Aurangabad in pargana Barran and at Ahmadgarh in pargana Pahasu. But none is of any real importance, and they all contract in dry seasons to very small dimensions.

18. In the western parganas at a number of localities large shallow ponds have formed in recent years under the combined influence of abnormal rains and the permanent rise in the water level due apparently to the action of the canal. The most important are in Bil Akbarpur, Naibasti and Chandauli of pargana Dadri; Sunpera, Aliabad and Gangraul of pargana Sikandrabad; Thasrana and Amipur of pargana Dankaur; Firozpur, Sarangpur, Saunda Habibpur and Saryal of pargana Khurja and Kallupur and Manchar of pargana Jewar. There are many smaller ones in other villages. Most of these lakes dry up wholly or partially for a portion of the year, but not soon enough or long enough to permit cultivation.

Village.	Pargana.	
Aliabad	... Sikandrabad.	In a series of dry seasons they will no doubt improve. In four villages marginally shown the damage was so extensive and the future so uncertain that it was found necessary to propose a temporary settlement for five years only. In these and 151 others, where the mischief was sufficiently serious
Bil Akbarpur	... Dadri.	
Firozpur	... Khurja.	
Muhammaddpur mazra Badhgaon	... Ditto.	

to affect the assessment, though not to necessitate a special settlement, the area found to be actually under water at inspection was 5,656 acres, and besides this a further area of 4,527 acres had not dried up enough to permit sowings. In assessing the revenue allowance was made in each case according to its particular conditions. Besides this land actually thrown out of cultivation, a large, but undefined and undefinable, area in these and other villages had become so saturated or soured that it ceased to yield full crops, and this also affected the revenue assessment by diminishing the rent or by requiring a moderation of the demand which cannot be precisely formulated in figures.

Drainage on a larger scale than anything yet attempted would undoubtedly relieve the waterlogged tracts, but there is little or no prospect that the outlay on it would be directly productive. The indirect advantages promise to be very considerable.

19. In all parts of the district formations are found which are locally known as *dahar*. These are depressions overgrown with thatching grass or other rank vegetation. They are usually more or less under water in the rains, but they soon dry up. The soil is always firm clay and they are often culturable, but the spontaneous produce, particularly near towns, is valuable and yields so good an income that reclamation is rarely undertaken.

20. There is little culturable land under jungle now left in the district. About Dyanatpur in pargana Jewar and Hazratpur, pargana Shikarpur, there are considerable tracts of very heavy *dhák*. But elsewhere the surviving jungle is generally *dhák* and thorn bushes scattered over *úsar* soil. Of this there is a good deal in all parts, but it can scarcely be called culturable and is probably more valuable for its natural growth than it would be if brought under the plough.

21. It may not be out of place here to observe that the absence of large waste grazing grounds does not seem to affect the breed or maintenance of cattle with which the district is as fully stocked as its requirements demand. The experience of this district points rather to the conclusion that cattle can be better and more economically maintained by breaking up the land and devoting a portion of it to fodder crops than by maintaining arable lands as grazing reserves.

22. The absence of natural jungle is not compensated by any abundance of artificial plantations. The district is a poorly wooded one. In the western and central parts the soil does not seem naturally well suited to the growth of the mango, and on many of the large estates the jealousy of the proprietors or their grasping character has restrained the plantation of trees by the tenantry. The eastern parganas, where the soil is more favourable and the management more considerate, possess finer and more numerous groves.

The most characteristic and the most generally useful tree is the babúl or kikar (*Acacia Arabica*). It flourishes everywhere, in good soil and bad, grows rapidly, does comparatively little injury to cultivation and supplies excellent timber for agricultural and domestic purposes.

23. There have always been considerable *úsar* plains in all parts of the district except on the sandy ridges. A comparison with the maps and field books of last settlement does not afford any reason to believe that there has anywhere been a material extension of these tracts. But in other localities *reh* has certainly appeared where it did not exist before or at least did not exist in a form which affected cultivation. The chief of these localities are the valley of the Kali nadi and the khadir of the Jumna, to both of which reference has already been made. Elsewhere also in various parts of the western parganas along the line of the Ganges Canal and its more important

distributaries the same phenomenon may be noticed. Instances may be cited such as Kutaina of pargana Khurja; Jalalabad, Chingraoli of pargana Jewar; Aurangabad of pargana Aghauta; Asgharpur Bisahri of pargana Dadri; Aliabad, pargana Sikan-drabad. The *reh* is not usually sufficient to absolutely prevent cultivation over extensive areas, but it injures and stunts the crops. The development appears undoubtedly due to the rise in water level and must be set down to the action of the canal. It may possibly have been aided by abnormal rains or surface floods, but these are nothing new and would not alone have introduced *reh* where it did not exist before. In a few cases the reclamation of jungle land has also been followed by the development of *reh* and the reclamation was encouraged, if not caused by the introduction of canal irrigation. But in such cases the land appeared exhausted by the excessive use of canal water and constant overcropping. It is reasonable to suppose that in such instances the development of *reh* may be due to exhaustion and might not have occurred under a better system of cultivation.

In the eastern half of the district no extension of *reh* has been observed. Even the Choya lands have yet showed little signs of it. This seems to connect the development of it in the western parganas directly with the canal, as the other conditions are much the same. But the Anúpsahr branch canal has only been open in pargana Ahar since 1866-67 and in parganas Anúpsahr and Dibhail since 1878-79. The volume of water passing down it is very small compared with that carried by the Ganges Canal and its large distributaries. There is no reason to believe that (except perhaps in the Choya) it will ever influence the spring level and surface drainage sufficiently to add to the area infected by *reh*.

24. Taking the district as a whole, the extension of úsar or *reh* in any shape since last settlement, has not been serious, and outside the Kali nadi valley the new area actually sterilized or permanently thrown out of cultivation by it is absolutely inconsiderable. In some instances at least there is reason to believe that any loss of productive power which has occurred is due as much to the abuse as to the use of canal water, and that the cultivators are alive to this fact. For other reasons a system of drainage may be necessary, but so far as mischief from *reh* is concerned no special remedial measure can here be suggested except such improvement as the canal officers may from time to time find it possible to effect in the alignment of watercourses and the distribution of the sluices (kulaba).

25. It is said that this used to be one of the healthiest districts in the province; but for the three years during which settlement operations have been in progress it has certainly been extremely unhealthy. Malarial fever of a quartan type has raged throughout the district; probably not a single man, woman or child has escaped it altogether. Other diseases, as might be expected, have followed in train, and in 1887 there was a smart outbreak of epidemic cholera which carried off several of the leading settlement officials. The illness of the staff has interfered generally with the progress of the work. It is probable that this state of affairs was to some extent abnormal, due to repeated seasons of excessive rain combined with an artificially raised water level.

By the courtesy of Professor Hill, the Meteorological Reporter, a statement has been prepared of the rainfall from the earliest year for which observations exist. It will be found in Appendix XII. One table gives the monthly and annual rainfall with the mean of all the years observed. A second table shows the total rainfall in each of the two chief agricultural seasons.

It will be seen that the mean annual rainfall is 26·4 inches. In 1884 it reached 35·9, in 1885 39·45, in 1886 36·74, in 1887 33·82 and in 1888 29·92 inches. This unique succession of abnormal seasons would account for some of the specially insalubrious conditions of recent years.

Omitting the few very early years and commencing only from 1862-63, the following table shows the character of each season in the several years as judged by its

proportion per cent. to the mean fall deduced from as many years as the records are available :—

Under 50 per cent.		50 to 75 per cent.		75 to 100 per cent.		100 to 125 per cent.		125 to 150 per cent.		Over 150 per cent.	
Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.
1868	1863	1864	1866	1863	1867	1867	1868	1862	1865	1879	1878
1877	1864	1865	1873	1866	1869	1870	1872	1873	1877	1884	1886
1883	1874	1876	1879	1869	1870	1871	1881	1874		1885	
	1876		1885	1878	1871	1872	1883	1875			
	1882		1887	1880	1875	1888	1889	1886			
	1884		1888	1881	1880			1887			
				1882							
				1889							

It will be seen from the above table that of the last 29 years about half were years of average or very fair rainfall, and that the excessively wet years were considerably more numerous than the dry ones.

The following table is interesting as showing the influence on irrigation of variations in rainfall. 1290 fasli was about a normal year, 1291 fasli a year of scanty and 1292 fasli a year of excessive rain. The decrease in rainfall corresponds with the increase in irrigation. Comparing the rabi figures of 1290 fasli with those of 1292 fasli, the comparatively smaller percentage of irrigation in the latter year may be ascribed to the fact that the land retained sufficient moisture from the preceding heavy kharif rains. —

	1290 F. (1882-83.)	1291 F. (1883-84.)	1292 F. (1884-85.)
Total rainfall from June to October ...	18.51	10.57	35.75
Percentage of kharif area irrigated ...	32.5	41.2	24.4
Total rainfall from November to May ...	3.63	0.15	1.95
Percentage of rabi and zaid area irrigated...	54.3	66.2	39.5

CHAPTER II.

FISCAL DIVISIONS OF THE DISTRICT AND ITS ECONOMIC CONDITION.

26. The foregoing description explains the physical features of the district. It has been given in some detail because it has an important bearing on the division into assessment circles, which have been formed topographically, and on the determination of rates which are influenced by advantages of soil and irrigation.

The fiscal divisions.

27. For fiscal purposes the district is divided into four tahsils and thirteen parganas thus distributed :—

Tahsil.	Pargana.	Number of manzas.	Number of mahals.	Total area (square miles).		Cultivated area (square miles).		Uncultivated area (square miles).	
				Past.	Present.	Past.	Present.	Past.	Present.
1	2	3	4	5	6	7	8	9	10
Si- kand- rabad.	Sikandrabad ...	155	416	157.8	157.8	102.8	111.0	55.0	46.8
	Dadri ...	178	416	215.8	215.0	139.5	150.3	76.3	58.7
	Dankaur ...	126	209	153.3	150.7	88.0	91.9	65.3	58.8
	Total ...	459	1,041	526.9	523.5	330.3	353.2	196.6	164.3
Buland- shahr.	Baran ...	145	360	140.0	140.1	90.8	100.2	49.2	39.9
	Agauta ...	91	290	100.6	100.4	72.2	77.3	28.4	23.1
	Siyana ...	83	211	140.9	141.0	95.8	107.2	45.1	33.8
	Shikarpur ...	85	184	96.4	96.4	56.6	62.2	39.8	34.2
	Total ...	404	1,045	477.9	477.9	315.4	346.9	162.5	131.0
Khur- ja.	Khurja ...	162	315	192.4	192.4	126.7	129.8	65.7	62.6
	Jewar ...	95	205	143.2	142.6	90.8	103.8	52.4	38.8
	Pahasu ...	103	193	127.1	127.2	85.1	83.0	42.0	41.2
	Total ...	360	713	462.7	462.2	302.6	316.6	160.1	142.6
Anup- shahr.	Dibai ...	148	294	175.1	175.1	123.6	114.8	52.5	60.3
	Anupshahr ...	106	147	122.0	122.0	82.5	84.1	39.5	37.9
	Ahar ...	136	209	147.3	152.2	91.7	108.3	55.6	43.9
	Total ...	390	641	444.4	449.3	297.8	307.2	147.6	142.1
	District Total ...	1,613	3,440	1,912.9	1,912.9	1,246.1	1,329.9	666.8	583.0

The variations in total area since the last settlement are due to changes in the alluvial villages along the Ganges and Jumna whose boundary, except in the case of five villages in pargana Anupshahr, alters with the movements of the deepstream. Cultivation has spread more or less in every pargana except Dibai and Pahasu where it has fallen off owing to the action of two or three large proprietors* who, following the traditions of the past, have thrown considerable areas of land out of cultivation in the hope of thereby securing an easy assessment. The waste in these parganas, has further been aided by the extremely severe management of the Lalkhani family, who possess a large proportion of them. The deterioration of the Kali nadi valley and the appropriation of land in connection with the Lower Ganges Canal have also contributed something.

28. There is still a considerable amount of unbroken culturable waste in Jewar and some villages of Shikarpur, and in a few isolated estates elsewhere. But the exceptions are few, and taking the district as a whole, the cultivation has now reached a very high limit. The remaining waste is either barren or required for purposes ancillary to agriculture, and no further extension of any importance must be expected in the cultivated area.

The figures in Appendix V (village Statement I) show 70,306 acres of culturable waste and 1,12,149 acres of old fallow, in all 1,82,455, representing about 20 per cent. on the cultivated area. Owing to faulty classification in the past records, the distinction of old fallow and culturable waste has been neglected, and the great bulk of the land entered under the former denomination really belongs to the latter. At last settlement things were much worse, as nearly the entire waste was shown as old fallow owing to confusion between "*banjar kadim*" and "*parti kadim*." The error has been corrected so far as it could be removed without special enquiry. But it does not in any way affect the assessment as neither class of land was assessed to revenue, and it was not deemed advisable, merely to secure a correct classification, to undertake an inquiry which could scarcely fail to give rise to the belief that the waste and fallow were

being assessed to revenue, and which would certainly have opened the door to much annoyance and corruption.

At last settlement the combined area of culturable waste and old fallow was 2,35,605 acres, which has now been reduced by 53,150 acres. A considerable area of land classed as barren at last settlement has turned out to be arable and has been brought under the plough.

29. The area under groves has increased from 3,681 acres to 8,629. As a rule, groves in this district are of scarcely less value than cultivated land. An income is derived from the sale of the fruit, and the ground is commonly sown with rain crops or grows fodder grass. Tenants usually pay rent for their grove land. For assessment purposes the following principles have been followed. If the grove land was owned by a tenant who paid rent for it, it was assessed like any other land at its actual assets: if rent-free, it was exempted from revenue: if the grove was in the possession of a proprietor, it was exempted from revenue unless it was found to be cultivated by him, in which case it was treated as sir or khudkásht: if the sayer produce was taken into account no rental assets were assumed or included in the assessment. The plantation of groves by tenants, like the construction of wells, is discouraged by most proprietors. They do not want to permit any rights or interests but their own to arise in land, and they do not like land removed from cultivation, the condition under which it can bear the highest rent.

30. There is a considerable difference between the class of proprietary tenures prevailing in the various parganas. This is a circumstance which has much influence on rent and revenue. The following table gives the details for each pargana and tahsil, both for the past and present settlement. The total number of maháls has increased from 1,803 to 3,440, and this multiplication has of course affected the comparative figures. But a good deal is also due to changes in classification, which has now been carefully effected.

Maháls.

Tahsil.	Pargana.	Zamindári.		Pattidári.				Bhyáchára.		Total number of maháls.		Detail of col. 4 into	
		Past.	Present.	Perfect.		Imperfect.		Past.	Present.	Past.	Present.	Single.	Joint.
				Past.	Present.	Past.	Present.						
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Sikan- drabad.	Sikandrabad ...	95	239	7	24	18	19	58	134	178	416	64	175
	Dadri ...	100	234	9	20	24	33	68	129	201	416	51	183
	Dankaur ...	62	125	...	10	18	20	36	54	116	209	27	98
	Tahsil Total ...	257	598	16	54	60	72	162	317	495	1,041	142	456
Buland- shahr.	Baran ...	134	269	...	19	13	14	14	58	161	369	113	156
	Agauta ...	71	201	1	17	19	16	20	56	111	290	76	125
	Siyana ...	75	172	...	14	7	9	8	16	90	211	75	97
	Shikarpur ...	86	148	10	8	13	17	11	11	120	184	57	91
	Tahsil Total ...	366	790	11	58	52	56	53	141	482	1,045	321	469
Khur- ja.	Khurja ...	103	225	5	24	52	51	18	15	173	315	58	167
	Jewar ...	42	127	9	11	30	27	27	40	108	205	24	103
	Pahasu ...	80	163	4	7	22	12	3	11	109	193	107	56
	Tahsil Total ...	225	515	18	42	104	90	43	66	390	713	189	326
Anúp- shahr.	Dibai ...	119	234	11	17	36	39	9	4	175	294	92	142
	Anúpshahr ...	110	142	...	...	2	3	3	2	115	147	32	110
	Ahar ...	129	167	6	9	8	8	3	16	146	200	84	83
	Tahsil Total ...	358	543	17	26	46	50	15	22	436	641	208	335
District Total ...		1,206	2,446	62	180	262	268	273	546	1,803	3,440	860	1,586

31. The distribution of the proprietary rights among the different castes is shown in the annexed statement. It has been framed so as to contrast the extent of land held by each at the last settlement with that now held. It shows also the method of alienation and the transfers which have taken place between members of the same caste. The extent of the proprietorship of each caste is shown in acres and in amount of revenue payable, as a mere enumeration of the number of villages and maháls would indicate little. The prices recorded have been ascertained by enquiry from the parties concerned and verified as far as possible. This part of the subject will, however, be treated in connection with the fiscal history of the district. It is sufficient to remark here that the nominal recorded prices, though correct, are quite misleading as a real measure of the value of land.



Caste.	Past settlement.			Present settlement.			Transfer by order of court.					
	Area of share.	Number of shares.	Revenue of share.	Area of share.	Number of shares.	Revenue of share.	To other castes.			Between the same caste.		
							Area.	Price.	Revenue.	Area.	Price.	Revenue.
1	2	3	4	5	6	7	8	9	10	11	12	13
	Acre.		Rs.	Acre.		Rs.	Acre.	Rs.	Rs.	Acre.	Rs.	Rs.
1. Ahir ...	13,345	1,552	18,157	14,195	2,332	27,263	40	3,950	68	1	185	2
2. Ahar ...	5,046	567	4,801	9,392	1,010	12,580	...	...	...	...	...	...
3. Brahman ...	68,316	2,195	72,401	75,994	4,671	1,35,633	2,767	91,812	2,890	595	16,213	527
4. Bania ...	85,061	1,270	85,964	1,14,596	3,306	1,97,020	2,920	1,43,707	3,376	53	3,100	69
5. Biloch ...	15,204	151	15,853	9,879	197	22,515	2,160	74,250	2,491	1	25	1
6. Bhat ...	5,742	119	5,960	4,868	218	7,752	25	672	20	...	...	...
7. Pathan ...	73,189	765	82,057	83,707	1,392	1,42,136	416	22,052	486	1,303	17,191	1,706
8. Taga, Hindu ..	19,681	1,081	23,048	19,136	1,764	30,226	87	770	79	40	775	44
9. Jat ...	1,60,477	3,885	1,88,761	1,55,918	5,996	2,58,415	1,332	35,948	1,472	28,045	46,865	29,922
10. Chamār ...	258	27	302	133	34	248	14	936	23	...	...	...
11. Rājput Hindu ..	1,81,897	7,359	1,91,193	1,62,871	10,891	2,66,847	12,581	2,78,532	12,907	4,430	71,861	4,289
12. Do., Musalman,	1,89,180	2,388	1,98,060	1,79,388	3,949	3,29,353	6,749	78,736	8,713	3,085	97,009	3,938
13. Saiyad ...	73,812	1,373	76,989	1,03,161	2,198	1,88,697	877	30,638	936	477	42,929	428
14. Sheikh ..	22,216	1,720	26,284	19,728	2,442	35,905	1,244	44,195	1,426	9	3,070	139
15. European and Murasian.	85,944	396	66,495	66,723	829	91,985	10,889	2,78,045	10,486	...	...	...
16. Kayasth ...	79,863	762	82,652	76,296	988	1,23,526	675	10,867	819	138	6,525	177
17. Government ...	23,994	1	25,723	13,870	1	150	16,205	5,69,105	16,160	...	...	...
18. Gujar, Hindu ...	63,532	5,407	62,873	68,864	9,324	88,225	1,465	21,566	1,378	252	11,015	303
19. Lodha ...	23	11	35	260	47	629	...	...	...	...	...	...
20. Mughal ..	2,371	45	1,944	1,062	116	2,447	...	...	...	...	...	...
21. Meo and Mewati,	3,282	153	4,327	2,070	234	7,553	4	...	5	...	...	...
22. Miscellaneous Hindu.	585	71	662	563	97	983	21	836	19	...	...	...
23. Do., Musalman,	1,870	267	1,534	1,170	326	1,577	379	5,133	288	...	...	...
Total ...	11,80,798	31,565	12,36,375 + 81,166 owner's rate.	11,84,604	52,357	19,76,659	60,870	10,94,750	64,047	38,489	3,16,763	41,545

Private transfer.						For arrears of revenue.					
To other castes.			Between the same caste.			To other castes.			Between the same caste.		
Area.	Price.	Revenue.	Area.	Price.	Revenue.	Area.	Price.	Revenue.	Area.	Price.	Revenue.
14	15	16	17	18	19	20	21	22	23	24	25
Acres.	Rs.	Rs.	Acres.	Rs.	Rs.	Acres.	Rs.	Rs.	Acres.	Rs.	Rs.
426	42,848	642	25	4,880	55	...	...	...	...	...	...
218	6,350	179	...	...	...	...	...	...	...	...	...
13,727	4,29,540	15,442	1,796	70,277	1,914	54	447	44	...	...	...
30,918	7,03,345	30,678	2,668	75,162	2,974	75	621	62	...	...	...
4,132	89,510	4,139	439	22,556	435	...	...	...	...	...	...
2,845	61,093	2,513	876	4,150	878	..	...	...	...	...	...
10,772	2,24,547	10,144	3,383	1,47,571	3,422	...	...	...	...	...	...
1,416	51,602	1,883	711	16,554	741	...	...	...	...	...	...
23,764	6,27,550	62,457	12,262	3,10,770	17,862	...	...	...	...	...	...
114	2,247	137	...	...	...	...	...	...	...	...	...
25,410	7,38,431	1,71,689	5,512	2,31,373	6,371	...	...	...	...	...	...
33,697	8,60,125	36,304	18,419	1,75,002	18,092	...	...	...	26	240	25
6,758	1,57,056	6,093	4,760	74,500	3,673	144	1,102	119	...	...	...
5,561	1,71,803	6,586	62,061	9,427	248	...	...	...	...	...	...
6,950	2,44,420	6,404	...	...	...	...	...	...	...	...	...
9,909	2,30,262	9,332	1,038	30,584	739	...	...	...	...	...	...
6,848	2,12,532	8,727	...	...	...	...	...	...	...	...	...
4,450	1,52,831	4,570	461	17,039	565	970	2,200	800	...	...	...
...
1,492	17,250	804	...	...	...	...	...	...	...	...	...
1,065	43,820	777	...	...	...	...	...	...	...	...	...
309	15,597	383	1	200	2	...	...	...	...	...	...
634	26,266	635	1	400	1	...	...	...	...	...	...
1,91,426	51,09,025	3,80,518	1,14,413	11,90,445	57,972	1,243	4,460	1,025	29	240	25

The castes which have lost most heavily are the Rájputs, both Hindu and Musalman, Europeans and Eurasians, Jats and Bilochis. Alienations of Jat property have been chiefly on the Kuchesar estate, which was involved in long and costly litigation concerning the right of succession and was also compelled to defend a factitious law suit by a fraudulent claimant. A great deal of the alienated property was, however, bought up by other members of the same caste, and the smaller Jat proprietors have been adding steadily to their landed possessions. So the total net loss of the caste is not great. The European and Eurasian estate has been reduced by the sale to the Europeans and Eurasians. Pahasu rais of some villages owned by Mr. Sanders, a grantee and planter, and by the sale of the private estate of the late Mr. T. B. Skinner to pay the debts of his spendthrift son. The improvident habits of the other castes sufficiently explain their decadence.

Among the Musalman Rájputs the alienations have been by the small proprietors. The wealthy raises of the Lalkhani family have added to their landed property.

The two castes which have gained most largely and almost exactly to the same extent are Saiyyads and Banias. The former is explained by the large purchases made by Saiyad Mir Khan Sardár Bahádur. The latter needs no explanation; the natural tendency is for land to pass into the hands of the money-lending class. It might be added, however, that, as a rule, the banias of this district, with the exception of the family known as "Thakur Banias" of Dibai, are not bad landlords. They are content with a fair rent, and their management is much less vexatious and rapacious than that of many of the hereditary landowning classes.

It will be observed with surprise, that the Gujars have not only held their own, but actually added to their property.

The decrease in Government estates is due to the sale and gift of a number of confiscated villages. It may be added here that a very careful record has been made in the village khewats of all lands found in the possession of Government.

32. A description of the cultivating castes has been given for each pargana in the separate assessment reports. To recapitulate briefly,—the Gujars prevail in the western parganas of Dadri and Dankaur; Jats in parganas Siyana, Agauta and Sikandrabad and a few villages of Jewar and Khurja; Ahírs in Sikandrabad and Agauta; Lodhas in Anúpsahr, Dibai, Ahar, Shikarpur, Baran and Pahasu; Kachhis exist only in a few villages along the Ganges lowlands; Thakurs, Brahmans and the low or mixed castes; such as Chamárs, Meos, Jhojhas, &c., are found everywhere, either in groups or scattered about from village to village.

The Ahírs and Jats divide the honors of being the best cultivators. The Ahír is more minute and exact, devoting himself to his bára and believing in well irrigation. The Jat has a fine broad style, doing equal justice to all his lands, with a preference for general crops and a liberal, but judicious, patronage of canal water. Next, and very close, comes the Lodha, frugal, laborious and a great rent payer; he only wants the physique of the Jat to be his equal as a cultivator. Jhojhas are excellent husbandmen, but terribly quarrelsome. The Gujar is very much what circumstances make him. Where he is under pressure or placed alongside skilful and industrious cultivators he does very well; where he is left to himself he is naturally idle and lazy. The most disreputable cultivation in the district is in the Gujar villages

along the Jumna, where agriculture is carried on as a cover to less respectable pursuits. The Gujar has the physique of the Jat, and if he only had the other qualities, would be a valuable person. As it is, if the two are compared, it must be said that while the Jat is a good tenant and a bad landlord, the Gujar is a bad tenant and a worse landlord.

Areas held by each caste
of cultivator.

The following table gives an approximate statement of the
number of ploughs and area of land held by each caste :—



Pargana.				Cultiva				
				Ahīr.	Brahman.	Thakur (Hindu).	Thakur (Muhamma- dan).	Jat.
1				2	3	4	5	6
1. Sikandrabad ...	Number of ploughs ...	...	...	612	597	1,385	207	909
	Average cultivation per plough ...	...	...	10·55	10·55	10·55	10·55	10·55
	Total cultivation ...	...	...	6,455	6,297	14,608	2,184	9,587
2. Dadri ...	Number of ploughs ...	...	...	385	986	1,579	120	285
	Average cultivation per plough ...	...	...	11·01	11·01	11·01	11·01	11·01
	Total cultivation ...	...	...	4,238	10,853	17,380	1,321	3,137
3. Dankaur ...	Number of ploughs ...	...	...	...	565	892	302	213
	Average cultivation per plough ...	...	...	...	9·37	9·37	9·37	9·37
	Total cultivation ...	...	...	...	5,295	8,359	2,830	1,996
Tahsil Total ...	Number of ploughs ...	...	...	997	2,148	3,856	629	1,407
	Average cultivation per plough ...	...	...	10·44	10·44	10·44	10·44	10·44
	Total cultivation ...	...	...	10,693	22,445	40,347	6,335	14,720
4. Baran ...	Number of ploughs ...	...	...	98	515	985	511	810
	Average cultivation per plough ...	...	...	9·56	9·56	9·56	9·56	9·56
	Total cultivation ...	...	...	937	4,923	9,417	4,885	7,744
5. Agauta ...	Number of ploughs ...	...	...	348	450	497	533	1,357
	Average cultivation per plough ...	...	...	9·70	9·70	9·70	9·70	9·70
	Total cultivation ...	...	...	3,374	4,364	4,819	5,169	13,161
6. Siyana ...	Number of ploughs ...	...	...	...	871	603	58	2,147
	Average cultivation per plough ...	...	...	...	10·18	10·18	10·18	10·18
	Total cultivation ...	...	...	...	8,870	6,141	591	21,865
7. Shikarpur ...	Number of ploughs ...	...	...	55	1,015	261	26	1,138
	Average cultivation per plough ...	...	...	10·15	10·15	10·15	10·15	10·15
	Total cultivation ...	...	...	558	10,302	2,649	263	11,550
Tahsil Total ...	Number of ploughs ...	...	...	501	2,851	2,346	1,128	5,452
	Average cultivation per plough ...	...	...	9·88	9·88	9·88	9·88	9·88
	Total cultivation ...	...	...	4,869	28,459	23,026	10,908	54,320
8. Khurja ...	Number of ploughs ...	...	...	23	1,539	1,681	1,082	899
	Average cultivation per plough ...	...	...	10·89	10·89	10·89	10·89	10·89
	Total cultivation ...	...	...	250	16,757	18,305	11,780	9,790
9. Jewar ...	Number of ploughs ...	...	...	...	876	1,267	159	865
	Average cultivation per plough ...	...	...	...	13·73	13·73	13·73	13·73
	Total cultivation ...	...	...	...	12,028	17,396	2,183	11,877
10. Pahasn ...	Number of ploughs ...	...	...	...	1,011	1,107	150	283
	Average cultivation per plough ...	...	...	...	9·97	9·97	9·97	9·97
	Total cultivation ...	...	...	...	10,077	11,033	1,496	2,821
Tahsil Total ...	Number of ploughs ...	...	...	23	3,426	4,055	1,391	2,047
	Average cultivation per plough ...	...	...	11·40	11·40	11·40	11·40	11·40
	Total cultivation ...	...	...	250	38,862	46,734	15,458	24,488
11. Dibai ...	Number of ploughs ...	...	...	...	1,006	723	256	292
	Average cultivation per plough ...	...	...	...	10·86	10·86	10·86	10·86
	Total cultivation ...	...	...	...	10,929	7,855	2,781	3,173
12. Anūpsbahr ...	Number of ploughs ...	...	...	6	898	625	4	1,033
	Average cultivation per plough ...	...	...	10·53	10·53	10·53	10·53	10·53
	Total cultivation ...	...	...	63	9,453	6,579	42	11,506
13. Ahar ...	Number of ploughs ...	...	...	...	830	1,317	183	488
	Average cultivation per plough ...	...	...	...	9·92	9·92	9·92	9·92
	Total cultivation ...	...	...	...	8,237	13,070	1,816	4,843
Tahsil Total ...	Number of ploughs ...	...	...	6	2,734	2,665	443	1,873
	Average cultivation per plough ...	...	...	10·42	10·42	10·42	10·42	10·42
	Total cultivation ...	...	...	63	28,619	27,504	4,639	19,522
District Total ...	Number of ploughs ...	...	...	1,527	11,159	12,922	3,591	10,779
	Average cultivation per plough ...	...	...	10·49	10·49	10·49	10·49	10·49
	Total cultivation ...	...	...	15,875	1,18,385	1,37,611	37,340	1,13,050

ting Castes.

Jalija.	Chamir.	Kachhi.	Gujar.	Lodhi.	M.B.	Meo.	Miscellaneous Hindu.	Miscellaneous Muhammadan.	Total.
7	8	9	10	11	12	13	14	15	16
...	486	...	1 011	41	137	44	736	139	6,331
...	10 55	...	10 55	10 55	10 55	10 55	10 55	10 55	10 55
...	5,126	...	10,980	432	1,445	464	7,763	1,466	66,807
...	565	...	3,757	...	75	35	733	519	9,359
...	11 01	...	11 01	...	11 01	11 01	11 01	11 01	11 01
...	6,219	...	41,353	...	825	385	8,063	5,414	99,393
209	390	...	2,159	40	13	...	256	313	5 343
9 37	9 37	...	9 37	9 37	9 37	...	9 37	9 37	9 37
1,359	3,655	...	20,147	375	122	...	2,400	2,933	50,071
209	1,441	...	6,948	81	225	79	1,725	902	29,707
10 44	10 44	...	10 44	10 44	10 44	10 44	10 44	10 44	10 44
1,359	15,000	...	72,480	807	2,392	849	18,231	16,013	2,16,271
234	728	...	345	1,005	155	171	541	697	6,705
9 56	9 56	...	9 56	9 56	9 56	9 56	9 56	9 56	9 56
2,237	6,960	...	3,298	9,638	1,482	1,655	5,172	5,803	63,101
171	320	...	496	182	75	185	217	247	5,078
9 70	9 70	...	9 70	9 70	9 70	9 70	9 70	9 70	9 70
1,657	3,103	...	4,810	1,765	727	1,793	2,102	2,304	49,238
...	356	...	82	828	66	36	1,221	199	6,477
...	10 18	...	10 18	10 18	10 18	10 18	10 18	10 18	10 18
...	3,626	...	835	8,433	672	368	12,533	2,027	65,964
...	527	...	...	7	116	98	523	118	3,884
...	10 15	...	...	10 15	10 15	10 15	10 15	10 15	10 15
...	5,348	...	...	71	1,177	994	5,308	1,197	39,417
405	1,931	...	923	2,022	412	490	2,512	1,171	22,144
9 88	9 88	...	9 88	9 88	9 88	9 88	9 88	9 88	9 88
3,894	19,037	...	8,943	19,877	4,658	4,790	25,118	11,421	2,18,720
9	1,009	...	9	...	223	35	748	375	7,630
10 89	10 89	...	10 89	...	10 89	10 89	10 89	10 89	10 89
38	10,986	...	98	...	2,596	381	8 114	3,952	83,077
...	519	...	64	3	24	188	608	267	4,840
...	13 73	...	13 73	13 73	13 73	13 73	13 73	13 73	13 73
...	7,126	...	879	41	330	2,581	8,348	3,666	66,455
...	847	52	5	215	46	370	820	256	5,112
...	9 97	9 97	9 97	9 97	9 97	9 97	9 97	9 97	9 97
...	8,442	319	50	2,143	458	2,688	8,173	2,552	51,251
9	2,375	32	78	218	303	593	2,176	885	17,612
11 40	11 40	11 40	11 40	11 40	11 40	11 40	11 40	11 40	11 40
38	26,554	319	1,027	2,184	3,324	6,650	24,635	10,170	2,99,783
...	610	45	...	2,291	13	190	912	338	6 706
...	10 86	10 86	...	10 86	10 86	10 86	10 86	10 86	10 86
...	6,953	489	...	24,590	141	2,064	9,908	3,672	72,855
...	639	35	54	522	144	186	577	329	5,112
...	10 53	10 53	10 53	10 53	10 53	10 53	10 53	10 53	10 53
...	6,727	368	568	5,495	1,515	1,957	6,073	3,463	53,809
...	696	15	439	1,723	144	63	622	461	6,981
...	9 92	9 92	9 92	9 92	9 92	9 92	9 92	9 92	9 92
...	6,908	149	4,357	17,999	1,450	626	6,173	4,575	69,283
...	1,975	95	493	4,536	301	439	2,111	1,128	18,799
...	10 42	10 42	10 42	10 42	10 42	10 42	10 42	10 42	10 42
...	20,558	1,006	4,925	47,184	3,086	4,647	22,154	11,710	1,95,947
623	7,722	127	8,442	6,857	1,241	1,601	8,524	4,147	79,262
10 49	10 49	10 49	10 49	10 49	10 49	10 49	10 49	10 49	10 49
4,951	81,179	1,325	87,375	70,352	12,860	16,936	90,168	43,314	8,31,721

It would have been interesting to know the average area of land cultivated by each tenant. But this the records do not show. The average area held by each cultivator. of each *holding* is known, but a holding gives only the land held in each mahál under separate engagement. Owing to the great subdivision of estates each tenant often holds lands in several maháls, and it is quite a common thing for him to hold land in different villages also. The records which are by maháls do not therefore give the entire holding of each tenant. But we are not entirely without information on the point. The ploughs have been carefully counted, and the foregoing statement shows that the average area to each plough is 10·49 acres. Now very few tenants have less than one plough and a very large number have more than one; so it is certain that the average area of land cultivated by each tenant cannot be less than 10·49 acres and must be more. Taking one part of the district with another, it would certainly not be an excessive estimate to place the average area as high as 12 acres, and even a higher figure would not be unreasonable. This large average area of holdings would account for the high rent rate, combined with the general prosperity of the cultivating classes.

33. The growth or decline of occupancy rights and the proportion of land now held by protected tenants will be considered in dealing with the fiscal history and rise of rents. But it may be briefly noted here that excluding proprietary cultivation, 58·1 per cent. of the tenants' land is now held under occupancy rights, the proportion of the occupancy area to the entire rent paying area being 47·3. The figures show for the whole district a decided improvement on those of last settlement, though the destruction of occupancy rights on certain large estates has been deplorably great.

34. No statistics are here given of agricultural stock, because those available appear to be useless and misleading. But there is no doubt that the district is well found in cattle of a good class, even though the prevalence of canal irrigation diminishes the demand for stock. Horsebreeding is largely carried on, and the annual fair is probably richer in breeders' produce than any other show in the provinces.

35. The general condition of the people is undoubtedly one of marked prosperity. A considerable and lamentable exception must be made of the tenantry of some of the large proprietors, chiefly in the parganas of Pahasn and Dibai. The rapacity of the management in the matter of rent cesses and forced cultivation of indigo has distinctly lowered the standard in these villages much below that of the district at large, and is naturally attended with much discontent on the part of the tenants. But outside this black area, and apart from the physical deterioration of late years due to malarial influences, the condition of all classes would contrast favourably with that of almost any other part of the provinces. Even the day labourers are well-to-do and command fair wages and regular employment.

The population (9,24,822 at last census) is nearly all rural and agricultural. There is no large town, the most considerable being Khurja with a population of 27,190; but there are many local bazárs and markets in which produce finds a ready sale. The district is well off in the way of communications, having two railways, the canal for navigation and numerous metalled and unmetalled roads. The only parts not fully open to access are portions of the Junna khádir in parganas Dadri and Dankaur, the north part of pargana Ahar and the south part of pargana Dibai.

There are no important manufactures, and the supply of artificers and artizans is rather deficient. The only trade worth mentioning is the export of agricultural produce. There are two cotton screws at Khurja, where cotton is pressed for export chiefly to Calcutta and Bombay.

The character of the crops calls for little remark. They consist nearly altogether of the ordinary cereals—wheat, barley, gram and combinations thereof in the spring harvest; juár, bájra, maize and the low growing pulses in the rains. Oilseeds are a small crop, the principal being mustard and rape seed. Fodder crops, juár, guár, lucerne grass and oats (cut green) are grown over a considerable area. There is little sugarcane, and it is confined to a few localities, but has been extending of late years. Indigo is a very large crop and might be very profitable, but the conditions under which it is grown often render it a curse to the cultivators. Tobacco is extensively grown as a hot weather crop chiefly in the western parganas. Cotton is very largely raised and is a highly valuable staple. In the eastern parganas safflower is a considerable and valuable crop: in the same parts cheena is grown in the bára lands during the hot weather.

The following statement gives the relative area of the principal crops :—



Year.	Kharif.										Rabi.						Zaid crops.	Remarks.
	Cotton (alone and in combination).	Indigo.	Maize.	Juar (alone and in combination).	Bajra (alone and in combination).	Sugarcane.	Miscellaneous.	Total.	Wheat (alone).	Wheat (in combination).	Barley (alone and in combination).	Gram and peas.	Tobacco.	Safflower.	Miscellaneous.	Total.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1285 fasli ...	60,001	44,483	46,544	87,733	41,488	12,003	21,553	3,13,875	1,56,340	80,336	2,70,538	56,416	4,435	15,680	55,298	6,33,021	4,636	In 1294 fasli and 1295 fasli, owing to settlement operations, no crop statistics were available for some of the parganas and for them, to complete the district, figures of 1293 fasli have been repeated.
1286 " ...	63,502	50,404	63,738	1,42,401	84,144	12,877	42,023	4,60,140	1,59,027	70,845	2,43,533	30,315	5,141	6,706	14,422	5,35,000	6,480	
1287 " ...	60,298	43,726	62,450	1,46,031	98,038	12,360	33,232	4,57,423	1,30,151	74,028	2,53,302	41,833	2,811	7,044	12,738	5,28,386	3,237	
1288 " ...	62,818	40,581	68,361	1,44,044	84,016	9,236	42,640	4,51,734	1,61,353	84,675	2,30,533	38,377	6,437	14,143	16,401	5,53,780	2,817	
1289 " ...	56,506	59,464	64,312	1,31,866	78,768	10,402	46,224	4,57,650	1,64,024	70,351	2,11,033	48,570	6,070	8,903	11,974	5,32,531	3,526	
1290 " ...	57,808	65,702	75,350	1,35,820	73,901	13,671	50,037	4,87,865	1,72,844	92,276	2,09,926	41,032	3,312	14,672	14,481	5,45,363	3,903	
1291 " ...	77,217	57,609	73,882	1,25,341	75,906	6,863	55,613	4,72,402	1,80,316	77,638	2,23,585	28,308	295	7,925	20,488	5,38,315	9,216	
1292 " ...	76,461	76,178	82,136	1,41,446	90,141	5,153	53,413	5,24,030	1,73,773	1,13,901	2,15,400	36,207	546	9,736	22,237	5,77,866	10,830	
1293 " ...	71,440	51,761	71,353	1,02,364	80,666	10,381	47,142	4,35,137	1,61,463	1,15,443	2,44,831	60,830	435	8,122	34,681	6,23,176	9,431	
1294 " ...	88,886	34,973	71,193	94,814	85,342	10,323	55,063	4,40,557	1,41,199	1,10,627	2,29,177	65,678	389	11,565	29,587	5,87,222	9,773	
1295 " ...	87,808	35,213	71,426	95,237	83,687	11,178	55,322	4,39,873	1,41,146	1,10,067	2,29,347	65,722	391	11,258	29,884	5,87,825	9,778	

36. To complete this brief sketch of the agricultural conditions of the district, it

The chief estates of the district and the effect on them of the new assessment. is only necessary to add a statement of the principal estates, showing the extent, assets and revenue of each :—

Table showing the effect of the new assessments on the estates of the chief families who possess any considerable landed property in the district.

Family.	Number of villages.		Expiring jama plus owner's rate.	Assessable assets.	New jama.		Percentage of increase on old of new jama.		Percentage of new jama to assessable assets.	
	Whole.	Part.			Initial.	Final.	Initial.	Final.	Initial.	Final.
1	2	3	4	5	6	7	8	9	10	11
			Rs.	Rs.	Rs.	Rs.	Rs.			
1. Skinner estate ...	69	69	71,644	2,05,351	1,00,533	1,00,733	40.3	40.6	49.0	49.2
2. Rais of Pandrawal ...	18	8	17,477	60,911	25,165	28,545	44.0	63.3	41.3	46.9
3. „ Dampur ...	19	2	14,921	55,824	23,805	26,320	59.5	76.4	42.6	47.1
4. „ Sikri ...	7	13	9,995	31,450	14,256	15,144	42.6	51.5	45.3	48.2
5. „ Jahangirabad ...	9	2	12,217	37,158	16,755	17,100	37.1	40.0	45.1	46.0
6. „ Khelia ...	7	2	5,668	23,829	8,550	10,915	50.8	92.6	35.9	45.8
7. „ Chitari ...	35	12	39,088	1,50,814	67,475	67,620	72.6	73.0	44.7	44.8
8. „ Anona ...	7	1	4,328	17,156	6,750	7,735	56.0	78.7	39.3	45.1
9. „ Barauli ...	5	3	2,859	11,181	4,293	5,083	50.2	77.8	38.4	45.5
10. „ Chhaprawat ...	1	2	1,807	8,107	3,151	3,451	91.0	91.0	42.6	42.6
11. „ Dharanpur ...	32	9	25,466	91,405	39,230	42,595	54.1	67.3	42.9	46.6
12. „ Dataoli or Malakpur estate ...	25	4	23,027	74,803	35,498	35,778	54.2	55.4	47.5	47.8
13. „ Jansath ...	8	...	9,190	29,462	13,470	14,220	46.6	54.7	45.7	48.3
14. „ Asrauli ...	3	1	2,717	10,669	4,190	4,710	54.2	73.4	39.3	44.1
15. Riyasat Mohi-ud-dinpur ...	15	4	18,166	54,100	26,533	26,656	46.1	43.7	49.0	49.3
16. Kuchesar estate ...	30	9	41,496	1,21,028	57,552	58,892	38.7	41.9	47.6	48.7
17. Sahampur „ ...	15	3	22,915	66,309	32,350	32,745	46.9	48.7	48.8	49.4
18. Daulatpur „ ...	7	2	7,794	25,527	11,563	11,763	50.1	52.7	45.3	46.1
19. Saiyads of Aurangabad ...	29	11	26,459	90,240	38,775	42,751	46.6	61.6	43.0	47.4
20. Saiyad Ahmad Shah of Farida ...	3	...	2,592	7,770	3,850	3,850	48.5	48.5	49.5	49.5
21. Saiyads of Shikarpur ...	1	10	2,479	13,752	5,590	6,317	87.6	112.1	40.6	45.9
22. Heirs to Saiyad Jan (deceased), ...	3	...	1,200	8,961	2,115	3,955	76.3	229.6	23.6	44.1
23. Sardar Bahadur ...	20	21	23,876	86,465	36,563	40,321	53.1	68.9	42.3	46.6
24. Jats of Sibi ...	4	2	3,744	13,526	5,930	6,365	58.4	70.0	43.8	47.1
25. „ Bhimrauli ...	3	...	850	3,585	1,480	1,730	74.1	103.5	41.3	48.3
26. „ Sehra ...	3	1	3,198	8,805	4,420	4,420	38.2	38.2	50.2	50.2
27. Thakur Banias of Dibai ...	10	7	7,743	26,097	12,110	12,726	56.4	64.4	46.4	48.8
28. Thakurs of Belau ...	8	3	7,653	19,960	9,684	9,684	26.5	26.5	48.5	48.5
29. „ Karanbas ...	2	10	8,951	26,770	12,560	12,790	41.4	42.9	47.3	47.8
30. Pandas of Belau ...	4	4	4,135	12,685	6,062	6,236	46.6	50.8	47.8	49.2
31. Chaudhri of Jewar ...	1	10	5,402	18,864	7,195	8,768	33.2	62.3	38.1	46.5
32. Qazi of Jewar ...	...	4	1,112	3,656	1,606	1,698	44.4	52.7	43.9	46.4
33. Rai Dhiraj Lal ...	5	3	2,321	11,423	3,491	4,958	50.4	113.2	30.6	43.4
34. „ Murli Dhar ...	3	...	1,470	4,253	1,780	2,100	52.1	79.5	41.9	49.4
35. Munshi Danoodar Sarup of Sikandarabad ...	3	12	7,860	27,001	12,808	13,186	63.0	67.8	47.4	48.8
36. Munshi Gauga Sarup of Sikandarabad ...	3	4	2,515	8,750	4,024	4,126	60.0	64.1	46.0	47.2
37. Munshi Jamna Sarup of Sikandarabad ...	1	9	1,618	5,115	2,348	2,433	45.1	59.4	45.9	47.6
38. Other Kayasths of Sikandarabad, ...	11	44	18,541	60,789	27,547	29,531	48.6	59.3	45.3	48.6
39. Raja Harnarain Singh ...	5	...	6,665	23,480	9,265	11,480	52.8	89.3	39.5	48.9
40. Kuar Narpat Singh ...	1	12	1,575	4,253	2,075	2,075	31.7	31.7	48.8	48.8
41. „ Tara Singh ...	4	4	2,423	8,636	3,738	4,055	54.3	67.4	43.3	47.0
42. „ Lekhraj Singh of Gabhana, ...	2	...	3,362	10,590	5,275	5,275	56.9	56.9	49.8	49.8
43. Rani Kishori Kuar ...	7	10	8,915	28,063	13,644	13,844	53.0	55.3	48.7	49.4
44. Musammatt Gend Kuar (Nabi-nagar) ...	7	...	3,890	12,759	6,135	6,135	57.7	57.7	48.3	48.3
45. Chaudhrai Lachhman Kuar ...	18	19	13,336	51,732	19,630	23,335	47.2	75.0	37.9	45.1
46. Lala Babu or Paikpara estate, ...	61	...	47,313	1,27,813	62,823	62,823	32.8	32.8	49.1	49.1
47. „ Kishan Sahai of Meerut, ...	2	4	4,072	11,672	5,679	5,679	39.5	39.5	48.7	48.7
48. Chaudhri Dalip Singh of Shikarpur ...	2	8	3,310	11,665	4,780	5,446	44.4	64.6	41.0	46.7
49. Seths of Muttra ...	8	3	7,301	23,726	11,154	11,154	52.8	52.8	47.0	47.0
50. Phul Chand, Bania of Hathras, ...	1	3	1,651	5,832	2,785	2,785	63.4	63.4	47.8	47.8
51. Pathan Basi ...	6	2	3,815	14,083	5,727	6,502	50.1	70.4	40.7	46.2
52. Nawab of Palasn ...	20	12	17,765	64,245	26,920	29,936	51.5	68.5	41.9	46.6
53. Ahmad Ali Khan and other Pathans of Khurja ...	13	17	16,716	55,386	25,271	26,446	51.2	58.2	45.6	47.7
54. Muhammad Raza Khan of Pandrawal ...	3	...	2,983	13,092	4,720	6,180	58.2	107.2	36.0	47.2
55. Azam Ali Khan ...	11	12	14,537	45,422	20,630	21,610	41.9	48.7	45.7	47.9
56. Abdulla Khan of Kanarsi ...	4	9	6,874	20,812	9,578	9,754	39.3	41.9	46.0	46.9
57. Rao Khushi Ram ...	7	4	8,192	31,813	12,681	14,521	54.8	77.3	39.8	45.7
58. Munshi Narain Singh and Kishan Singh ...	4	1	2,375	10,191	3,993	5,033	68.1	111.9	39.2	49.4
59. Ghulam Shabbir ...	3	...	2,916	12,554	4,965	5,655	39.4	93.9	32.4	45.0
60. Munshi Maharban Ali, C.I.E. ...	2	6	5,815	20,375	8,286	9,748	42.5	67.6	40.7	47.8
61. Bilochis ...	5	11	7,701	36,827	12,598	16,947	63.6	108.4	34.2	43.6

Columns have been added to show the effect on each of the new settlement, and the figures may be usefully consulted when the assessment comes to be examined and explained. Bulandshahr contains perhaps a greater proportion of large proprietors than any other district of the North-Western Provinces. No less than 52·3 per cent. of the total revenue of the district is paid by the 61 families or groups of families included in the foregoing statement.

In these various estates there is naturally much variety of management, comprising every degree of severity and of lenience. Frequent allusion will be found throughout this report to the style of management of different proprietors and the character of each, and all have been noticed in the separate assessment reports. It is unnecessary to reproduce here the information which has already been fully recorded in them.

CHAPTER III.

FISCAL HISTORY.

37. The penultimate settlement expired in 1859, the revision operations which had been interrupted by the mutiny were resumed in 1858 and the assessment of all parganas except Dadri had been completed by 1864. In August of that year the orders of the Supreme Government were received to make a permanent settlement of all villages in which the cultivation was sufficiently advanced to permit the Government demand being fixed in perpetuity; where the culturable waste did not exceed 20 per cent. of arable area, the final demand was at once imposed; where the culturable waste exceeded 20 per cent., the demand was made progressive, the final permanent revenue being reached at the end of seven or fourteen years; where the demand was made progressive, the proprietor had the option of either accepting it in permanence or taking a temporary settlement at the initial revenue. Pargana Dadri was assessed on these principles, the assessment of the other 12 parganas revised on the same lines, and the settlement of the entire district reported by Mr. R. G. Currie by April 1865. The additions made in view of its permanent character to the revenue already assessed on the 12 parganas are not stated clearly in his report, but there is enough to show that they were absolutely inconsiderable.

The permanent jama was at once introduced in 988 out of the 1,563½ revenue-paying villages of the district; a progressive permanent jama was offered in 368½, accepted in 307½ and refused in 61. In the remaining 146 villages, owing to the great extent of culturable waste, the backwardness of agriculture or other special cause, a permanent settlement was not offered. In this category were included all the alluvial villages along the Ganges and Jamna and the deteriorated villages in the Kali nadi valley. The net result was a permanent settlement in 1,356½ and a temporary settlement in 207 villages. Mr. Currie observed:—

“In the canal-irrigated villages the permanent jama would not have been so generally accepted had there been an option given in all cases, and not merely in the case of progressive assessments. * * * Although the offer of a permanent settlement has been very generally accepted, yet the people do not look upon it as a very great boon; nor do they attach near so much importance to it as was generally expected.”

Later in 1865 the orders of the Secretary of State disallowing progressive permanent jamas were received, and the 368½ settlements of that class were revised by the Collector in 1866, with the result that a permanent jama was at once introduced in 211½ and the settlement made terminable in 157. The number of permanently settled revenue paying villages then stood at 1,199½, yielding a revenue of Rs. 9,77,106, while 364 villages with a revenue of Rs. 2,97,831 remained under temporary settlement only.

Before these arrangements had been confirmed by Government a fresh revision became necessary. The Secretary of State, in his despatch of the 23rd March 1867, directed that all estates should be excluded from the permanent settlement whereof the assets were likely to be increased by 20 per cent. or upwards owing to extension of canal irrigation within the next twenty years. A further review of the settlement was accordingly undertaken in 1868 by the Collector, Mr. Cairnes Daniell, in order to bring it into conformity with this new condition. It happened that at this time the attention of Government was forcibly drawn to the inadequacy of the land revenue recently assessed on the Muzaffarnagar district, owing either to an imperfect estimate by the Settlement Officer of its real rental assets or to a sudden and extraordinary increase of rents immediately after settlement. The Meerut district was at the same time under settlement, and it was discovered there that certain conditions, such as the retarded development of rent in some tracts and the enormous increase in others, rendered it impossible to impose at once a revenue which would, even for the time, represent all the State was entitled to claim, while the same causes put a permanent settlement entirely out of the question. These discoveries in two neighbouring and similar districts, coupled with the low rate of revenue just assessed in Bulandshahr and supported by observations which he made on tour in the division, caused Sir W. Muir to doubt the adequacy of the Bulandshahr settlement as a permanent or even as a fair temporary arrangement. Accordingly in May 1868 Mr. Daniell was directed to enlarge his commission and to make a general inquisition into the sufficiency of the assessment.

This was carried out during the following year, and the results fully realized Sir W. Muir's apprehensions. In May 1869 Mr. Daniell estimated on the materials then before him that, judged by the existing standard of assessment, the revenue of the district was from $3\frac{1}{2}$ to 4 lakhs short of a full moderate demand. In a detailed report submitted later in the same year after a more extended examination and close analysis of further material Mr. Daniell gave it as his final and deliberate opinion that on two-thirds of the district an assessment on then existing assets would secure a revenue enhancement of at least Rs. 1,80,400. Apparently the excluded one-third represented the proportion of rent-rolls which had not materially increased since Mr. Currie's settlement. This was, be it remembered, but four years after the date of Mr. Currie's final report. If the rise had extended to all villages, the revenue which has now expired would even then have been susceptible of an enhancement of Rs. 2,70,600.

It is shown in Mr. Daniell's report that only an inconsiderable proportion of the rise in rents could be ascribed to extensions of cultivation or irrigation. It was due simply and almost entirely to an absolute increase in the recorded cash rents paid by tenants.

In the voluminous and polemical correspondence which followed, no one attempted to deny the accuracy of the increase in recorded assets as reported by Mr. Daniell; the controversy centred round the causes of the increase. Mr. Daniell found reason to think that even at the time of assessment rents were really higher than they appeared to be on paper, and that the Settlement Officer had failed to ascertain them accurately. The officers concerned in the assessment, on the other hand, protested that the increase had taken place after the jamas were given out, and that the assessment was a fair and full one on the then existing assets. The provincial authorities adopted the latter view; the Government of India seem to have inclined rather to the former. If it may be permitted to one writing twenty years later, in the light of much local experience, to offer an opinion, the fact seems to be that both causes were at work. There was inadequacy of valuation, there was concealment of assets and there was shortly after the assessments a real and very substantial rise of rents. It may be

doubted whether the inadequacy of valuation was due so much to the use of insufficient rates as to their application to incorrect areas. The remarks which will be found elsewhere on the increase of recorded well irrigation since last settlement will give some indication of the extent to which the real wet area was then understated. The application of even fair rates to such wrong areas would explain much inadequacy of assessment.

In the light of present revelations and discoveries it is impossible to doubt that on certain estates the assets were wilfully misrepresented and that the revenues assessed bore a very small proportion to the real collections. But it may well be doubted whether this concealment was of much importance under a system of assessment which scarcely professed to consider actuals, but was based on the application of assumed rates to wet and dry areas. The falsification of rent-rolls was chiefly pernicious so far as it affected the Settlement Officer's assumed rates, and in this direction its influence does not seem to have been very important. It certainly served to blind the Settlement Officer to the possibilities to which rent could attain under severe management. But it may be doubted whether such abnormal rents would have been largely used in calculating standard rates. On the other hand, it was only to be expected that a real rise in rents should follow a settlement which lasted eight years, which began in a mutiny and was continued in a famine and which had the inevitable effect besides of checking progress and improvement while it lasted. The number of years, moreover, during which the rise has continued is itself some proof that it was not merely the result of a suddenly correct declaration of previously concealed assets. All this is, however, at the present day a matter of comparatively small interest. The importance of the point rests now in the fact that the view maintained by the settlement authorities and accepted by the Local Government resulted in the confirmation of Mr. Currie's assessments for the full term of 30 years. Had the conclusion been that those assessments were inadequate on the assets existing when they were made, there would undoubtedly have then and there been a further revision. But notwithstanding the admitted inadequacy of the revenue when measured by the assets of 1869, it was considered on all grounds unadvisable to renew operations which had already extended over more than a decade or to shorten the normal term of settlement of which only 20 years then remained to run. For that period the proprietors were confirmed in the enjoyment of their disproportionate profits. The decision of the Government of India was conveyed in a letter of May 1871, whereof an extract has been given at the commencement of this report.

38. In this brief sketch of the events connected with the last settlement two circumstances prominently claim attention. The first is that it was only by a series of accidents that the revenue was not fixed in perpetuity for over three-fourths of the district, and the future increment lost for ever to the State. The second is that, whatever the expiring assessment may have been at its inception, it had in a few years become entirely inadequate when measured by the usual standard, and that on the next revision an enormous enhancement would be inevitable.

Under such conditions it is unnecessary to say much about the working of the late settlement. It could not fail to work easily and smoothly in spite of many inequalities in the pressure of the demand. Being inadequate it worked easily. Owing to the mechanical system of applying fixed rates to recorded (and often incorrect) areas and to the adoption of a single set of rates for large tracts containing villages of very varying capabilities, the revenue had a tendency to fall heavily on bad estates and very lightly on good ones. For instance, in the poor country lying in and along the lowlands of the Jumna the demand was generally full, perhaps in a few instances even excessive, while the same rating applied with great lenience to the fine irrigated villages in the uplands. Divergences were still further accentuated by extensions in some localities of canal irrigation. But with hardly an exception it may be said that even the highest jamas

were tolerable, and under the rapid increase in material prosperity which set in soon after settlement became fair or even moderate. The instances in which a reduction has now been proposed are extremely few and are due either to physical changes or to

No alienations owing to the lenient terms now given to cultivating proprietors. In only one doubtful case in the whole district was there any reason to believe that pressure of revenue had led to alienation of proprietorship. The estates in which any revision or alteration of demand was found necessary during the

No reductions of revenue necessary except in alluvial and precarious mahāls. currency of the settlement are limited to the alluvial lands along the Jumna and Ganges, the deteriorated villages in the Kali nadi valley and some of the lowlands along the Lower Ganges Canal which became saturated and soured by percolation from it and were finally taken up by the Canal Department.

It is therefore natural to find that the revenue demand was always realized with ease and completeness. Whatever difficulties occurred have been due to other causes than over-assessment. For instance in bhāiā-chāra villages the minute subdivision among a large body of proprietors, each paying his own little quatum, must inevitably cause delay and trouble in collection, no matter how light the revenue may be. In the Sikandarabad tahsil no village gives more trouble than Chanduru. It belongs to a family of spendthrift Bilochis. It has a corrected rent-roll with sayer of Rs. 8,717 (excluding muāfi), and on this the expiring demand (Rs. 1,486 including owner's rate) had an incidence of 17·0 per cent. only. Or take Chaundera in pargana Pahasu or Chandiyana in pargana Ahar, always the last to pay up their revenues, which fell at 31·0 and 29·4 per cent. on their assets. The table printed on pages 16 and 17 shows that 1,272 acres were sold for arrears of revenue.

Sales for arrears of revenue explained. The whole of this is comprised in two villages,—(1) Hatimpur, pargana Shikarpur, sold in 1863 while the last settlement was still in progress. Its revenue was Rs. 250, which has now been raised to Rs. 630 on an admitted actual asset of Rs. 1,396; (2) Haraula Makanpur, pargana Dadri, a jāgīr village belonging then to the heirs of Santa Bai, a Mahratta lady. It was sold in 1866 by the court at the suit of the assignee of the revenue. The rights of the assignee have since been acquired by Government, and the revenue, which was Rs. 800, has on the present revision been raised to Rs. 1,100.

A statement of coercive processes in this district would throw no light whatever on the inadequacy or excess of the expiring jama. It would be merely an index to the character and habits of the proprietors. Its real use has been to guide the assessing officer to those cases where lenience had to be exercised in favour of embarrassed or improvident revenue payers.

For similar reasons the statements now supplied of alienations of proprietary right during last settlement possesses an interest quite disconnected with the revenue and its pressure upon the land. It is scarcely too much to say that these alienations would have been almost as numerous if there had never been any land revenue at all. An increase in the demand has no doubt accelerated a crash which was sure to come sooner or later, but no case could be shown in which it has ruined a solvent proprietor. The very great enhancement which has followed the present revision will undoubtedly bring things to a crisis with those proprietors who have reached the final stage of embarrassment and insolvency. But the true cause of the alienations of property which must follow will be their own improvidence or misfortune. A relaxation or abandonment of the increased demand would only postpone the inevitable transfer, and the concession would be made not to the old proprietors, but to their creditors. In the case of such estates alienations must follow large enhancements, and large enhancements are inevitable under long term settlements. This seems one of the consequences which must be faced when the land revenue is fixed for a whole generation.

39. Just as light revenue proverbially means easy collection (*jama narm tahsil garm*), so it implies high prices of land, and prices undoubtedly have been, and still are, high. But to investigate

prices of land in order to work down from them to an estimate of the pressure of revenue upon it would be a superfluous and roundabout process when the actual amounts of both revenue and assets are now known with very considerable accuracy. An attempt to ascertain the true prices from any of the official sources of information has shown that the figures so compiled would be misleading or worthless. Except by the single process of sale for arrears of revenue, land is seldom or never sold free of encumbrances. This circumstance altogether vitiates any conclusions which might be drawn from the nominal prices of recorded sales. No purchaser will pay a high price for property subject to encumbrances of which even the full extent may be unknown to him. A person, on the other hand, who has a lien on an estate will bid up to the full amount of his claim even though it may exceed the real value of the land. Then, again, fictitious prices are quoted in order to defeat claims to pre-emption or to get an advantage of creditors and co-sharers. Without a complete knowledge of the private affairs of the parties concerned in each transaction it would be impossible to say how far the nominal price was a real and fair one.

Some confiscated estates were sold by Government after the last settlement, and their selling price was extremely high. In fact, it was some of these transactions which helped to arouse suspicion as to the adequacy of the jama. But even these prices are apt to be misleading. For different reasons a very low nominal revenue was generally assessed by Mr. Currie on such villages. They naturally fetched disproportionately high prices. Take, for instance, Ramgarh Chamraoli in pargana Dadri. It was assessed at Rs. 692 and was bought by Rao Khushi Ram for Rs. 26,000. Had the profits been only equal to the revenue his investment would have yielded but 2·6 per cent. instead of the 4·5 which is considered a fair moderate interest on such an investment. But the profits had latterly been over Rs. 3,400 yearly, giving an interest of 13·0 per cent., which shows that Khushi Ram knew the real value better than Mr. Currie. Other purchasers again who were less cautious or worse informed paid prices that from any point of view were extravagant. The satisfactory character of the title and the antagonism of rival bidders ran up prices to absurd heights. The late Saiyad Mir Khan, Sardār Bahādur, was a large purchaser at these auctions and made it a point of honour not to let any one outbid him. It is said that only one man ever did. Shadi Ram, a wealthy Jat, determined to buy the village of Kazimabad which lay under the walls of his ancestral home, Prangarh. He found a rival bidder in the Sardār Bahādur and had to offer Rs. 38,000 before he secured the estate. The jama was Rs. 590, and if this had represented half the assets the profits would have yielded only 1½ per cent. on the purchase money. Even in late years the profits have not much exceeded Rs. 1,600; so the investment represented in its best period an interest of only about 4½ per cent. It was the boast of the Sardār Bahādur that against every other competitor, including his own brother, he remained victor, whatever price he had to pay. Many of the prices were quite absurd and, as investments, must be called unremunerative. Conclusions based on such prices would be entirely misleading.

In ordinary transactions the value of land is calculated according to the net profits and a price fixed which will render to the purchaser a certain number of annas interest monthly on each Rs. 100 of the purchase money. Six annas has generally been considered a fair moderate price. It represents Rs. 4-8-0 per annum. Four annas is a high price and eight to ten a very low one. The only indication to be gained from prices so calculated is the proportion between the Government demand and the gross collections. That is already known in a more direct and trustworthy way.

For the foregoing reasons no table has been compiled from the registration books or sale records to show the nominal prices of land; but while preparing statistics of the transfers of land, since last settlement between the different castes the prices were, so far as possible, ascertained and recorded. They will be found in the statement of transfers on pages 16 and 17. These figures fully justify the foregoing remarks and show how uncertain and untrustworthy are the nominal prices. The rates vary without

reason from Rs. 8 to Rs. 28 per acre. Under the head of sales for arrears of revenue, where alone some fair conclusion might have been drawn, the transactions are too small and exceptional to permit any general conclusions to be drawn. The prices given in the table above quoted certainly far understate, even when highest, the real selling price of land. Observations made during the course of village inspections have shown that in sales of small plots among neighbours as much as Rs. 100 per bigha is not a very uncommon price, and that Rs. 50 would be regarded as moderate for average land. Since the new jama was given out a case has been quoted in mauza Segra, pargana Agauta, in which Rs. 200 per bigha has been paid.

Material progress of the district. 40. The material progress of the district presents different points of interest according to the direction from which it is approached.

For settlement purposes the leading and essential point is the development of rents. To this everything else is ancillary. Prices may have risen, communications improved, irrigation extended and trade expanded: but unless these movements have affected rents, they can exercise no immediate influence on the land revenue assessment. It is proposed therefore to examine first the movement of rents which has taken place since last settlement, and then endeavour to estimate both its causes and its effects.

41. There are two ways in which past and present rents may be compared. Movement of rents how tested. Either the rent-rolls attested at last settlement may be contrasted with those now attested or the standard rental then framed by applying assumed rates to the settlement areas may be contrasted with the standard rental now similarly framed. The former method Actual rentals, past and present, compared. first was tried.

Even if the attested rent-rolls of last settlement had been carefully and accurately recorded, there would still have been some difficulty in obtaining a just basis of comparison. A very large area was formerly held under grain rents which have nearly all been since converted to cash. There was, moreover, and still is, a large amount of proprietary cultivation paying only nominal rates, and there was a considerable area against which, for one reason or another, no rent at all was recorded. What alone can be compared is tenants' land paying cash rents. Another disturbing element is this. Under the grain rent system it was usually the best lands, such as bāra, which paid cash. The average incidence of the past cash rents had thus a tendency to be unduly inflated, and the increase of the all round incidences now shown to be understated. Other reasons might be added, but a more serious difficulty has dwarfed them all. At last settlement so little regard was paid to declared rentals that Mr. Currie's records do not contain any intelligible or useful statement of them. The village rent-rolls were usually left untotaled. Incompleteness of past records. The figures which exist do not discriminate between the grain rented, rent-free and cash rented areas, either of the several holdings or the entire village. It was therefore found impossible to compile from those records a statement of the area and rent of tenants' cash paying lands.

But when Mr. Daniell made his revision in 1869 he drew up pargana books which Comparison therefore made with rentals drawn up by Mr. Daniell on his revision. contained entries for each village, showing the declared settlement rents and the rents found existing at time of revision. The former, it has been ascertained, were compiled by the patwāris on the basis of the imperfect settlement records, and they show the rentals of all tenants' land in a lump, the assets of the grain rented lands having been reduced to cash at village rates. It is impossible to say how much of the area represents actual cash and how much converted grain rents. Nor after this lapse of time can the accuracy of the figures be tested. No doubt there were then materials, which are no longer available, to assist the patwāris in their calculations. So far

as reference to the imperfect statistics now existent can show, the cash rents seem to be fairly stated; but whether the corresponding areas are correct and the cash

Past and present record- valuation of grain rents has been fairly effected are doubtful ed rents contrasted. matters. However, these materials, such as they are, being the best available, the following table has been compiled from them. One more point only requires mention. The present, as well as the past, rents are those attested and recorded under the rules, whether true or false. But there is no doubt that at last settlement a large amount of false rents were attested, and at the present revision the same thing happened in a good many villages of parganas Pahasu and Dibai under circumstances which will be explained further on. No comparison whatever can of course be made between the total areas and rents in this statement. It is the rates and ratios which alone admit of comparison.

Pargana.	Tenants' actual cash rents of last settlement.			Tenants' actual cash rents of new settlement.			Excess of column 7 over column 4.	Percentage of variation.	Percentage of revenue enhancement.
	Area.	Rent.	Incidence.	Area.	Rent.	Incidence.			
1	2	3	4	5	6	7	8	9	10
	Aeres.	Rs.	Rs. a. p.	Aeres.	Rs.	Rs. a. p.	Rs. a. p.		
1. Sikandarabad ...	40,208	1,20,121	2 15 10	41,831	2,11,448	4 12 4	1 12 6	59.6	51.8
2. Dadri ...	55,688	1,23,668	2 6 0	60,533	2,12,836	3 8 3	1 1 9	46.1	44.3
3. Dankaur ...	20,625	57,658	2 12 9	32,971	1,12,694	3 6 8	0 9 11	22.2	27.7
Tahsil Total ...	1,16,521	3,11,717	2 10 10	1,37,828	5,36,978	3 14 4	1 3 6	45.5	43.0
4. Baran ...	52,089	1,78,228	3 6 9	57,179	3,09,111	5 6 6	1 15 9	59.0	57.6
5. Agauta ...	33,814	1,07,717	3 2 11	35,379	2,14,624	6 1 1	2 14 2	90.7	53.7
6. Siyana ...	52,898	1,44,611	2 11 9	59,093	2,09,313	3 8 8	0 12 11	29.5	34.4
7. Shikarpur ...	29,059	86,667	2 14 9	31,302	1,67,488	5 5 5	2 6 8	82.7	76.5
Tahsil Total ...	1,68,460	5,17,323	3 1 2	1,83,013	9,00,536	4 14 0	1 13 7	60.2	52.9
8. Khurja ...	65,146	2,09,883	3 3 7	65,709	3,45,564	5 4 2	2 0 7	68.2	51.9
9. Jewar ...	37,441	94,063	2 8 7	43,702	1,54,809	3 8 8	1 0 1	39.6	35.9
10. Pahasu ...	49,347	1,23,951	2 8 2	44,154	2,61,820	6 5 9	3 13 7	153.3	70.4
Tahsil Total ...	1,51,934	4,28,797	2 13 2	1,50,565	7,62,193	5 1 0	2 3 10	79.3	52.4
11. Dibai ...	69,173	1,94,838	2 13 1	61,667	3,03,848	4 14 10	2 1 9	74.9	47.9
12. Anupshahr ...	53,043	1,49,628	2 13 2	53,680	2,10,614	3 14 9	1 1 7	38.3	41.3
13. Ahar ...	58,594	1,52,326	2 13 8	64,942	2,75,943	4 4 0	1 6 4	48.9	65.4
Tahsil Total ...	1,75,610	4,96,792	2 13 3	1,80,289	7,90,435	4 6 2	1 8 11	55.1	61.0
District Total ...	6,12,525	17,54,629	2 13 10	6,51,695	29,90,142	4 9 5	1 11 7	60.2	50.0

Defective as this statement undoubtedly is, yet, dealing with very large areas and influenced by errors which are to some degree mutually corrective, it may be taken as giving a fair general indication of the growth of rents since last settlement. The slow progress in parganas Dankaur, Siyana, Anupshahr and Jewar entirely coincides with what has been

otherwise ascertained concerning those parganas; while the utterly abnormal growth in pargana Pahasn corroborates the extensive concealment known to have been effected there at last settlement and the extreme severity of management in the greater part of the pargana.

For convenience of comparison a column has been inserted which shows the percentage of revenue enhancement in each pargana. In this connection it will save reference to note here that the excess of the ratio of revenue over rental increase is due in pargana Ahar chiefly to fresh cultivation, and in parganas Dankaur, Siyana and Anūpshahr to rent enhancements effected after attestation.

42. Looking at the uncertainty which surrounds the actual rentals of last settlement, it is probable that the standard rentals afford a juster basis for comparison. Here, at least, accurate and complete statistics are available. The standard was in both cases formed on actual prevailing rates, and, though the individual rentals will be above or below the standard, yet the tendency of such divergences is to mutually neutralize one another, and over the very large areas concerned they may be trusted to disappear. A proof of this will be found in the close coincidence of the standard, the actual and the corrected rentals given at page 63. The standard rental of last settlement was practically the statement of assets on which the assessment was based. On the present occasion the standard rental has been used merely to check and test the declared rentals, but as a whole it also represents very closely the actual assessable assets, and therefore any increase is a reason or justification for the revenue enhancement now proposed.

The following statement compares the past and present standard rentals:—

Pargana.	Standard rental of last settlement.	Standard rental of present settlement.	Percentage of increase.	Percentage of increase of actual cash rental.	Percentage of revenue enhancement.
1	2	3	4	5	6
	Rs.	Rs.			
1. Sikandarabad	1,90,286	3,25,861	71·2	59·6	51·8
2. Dadri	2,42,074	4,13,281	70·7	46·1	44·3
3. Dankaur	1,84,399	2,07,043	54·5	22·2	27·7
Tahsil Total	5,66,759	9,46,785	67·1	45·5	43·0
4. Baran	1,99,253	3,73,959	87·2	58·0	57·6
5. Agauta	1,73,965	3,13,247	80·1	90·7	53·7
6. Siyana	2,11,698	2,89,789	36·9	29·5	34·4
7. Shikarpur	1,18,166	2,17,440	84·0	82·7	76·5
Tahsil Total	7,03,082	11,93,435	69·7	60·2	52·9
8. Khurja	2,75,116	4,59,849	67·1	63·2	51·9
9. Jewar	1,59,649	2,65,833	66·5	39·6	35·9
10. Pahasa	1,73,520	3,18,626	81·5	153·3	70·4
Tahsil Total	6,10,285	10,44,308	71·1	79·3	52·4
11. Dibaī	2,62,827	4,09,753	55·9	74·9	47·9
12. Anūpshahr	1,59,993	2,52,561	57·8	38·9	41·3
13. Ahar	1,63,239	2,98,638	77·5	48·9	65·4
Tahsil Total	5,91,059	9,61,012	62·6	55·1	51·0
District Total	24,71,185	41,45,540	67·7	60·2	50·0

These figures require little comment or explanation. The rate of increase here shown, 67·7 per cent., is a truer index of the improvement in the letting value of land than the 60·2 per cent. shown in the comparative table of actual rents. The two last columns are added to permit easy comparison of the relative growth of both rentals and of the revenue. In the rack rented parganas of Pahasu and Dibai the increment of actual rents rises high above the standard from which abnormal and extravagant rates had to be omitted: conversely, in parganas such as Dankaur and Jewar the preponderance of nominal rents has left the actual increment far below the standard.

The divergences of revenue from rental increase depend partly on the inequalities of the old assessment and partly on the abatements now granted on proprietors' cultivation or other measures for avoiding violent enhancements.

The brief, but very clear, conclusion to be drawn from all the above statistics is that there has been a very large and general rise of recorded rents throughout the district, averaging between 65 and 70 per cent.; that the increase has been unequal and has been influenced chiefly by the character of the management, being greatest in those parts where there are strong and grasping proprietors.

43. The growth of rents since last settlement has now been examined, and the next step is to ascertain the causes to which that growth is due and the relative effect of each.

Rise of money rents may broadly be ascribed to three agencies—

1st.—Increase in the value of produce.

2nd.—Increase in the amount of produce.

3rd.—Increase in the share of produce appropriated by the proprietor.

44. Increase in the value of produce may for the present purpose be taken as synonymous with increase of prices. This powerful factor will be first examined. It has been fully demonstrated that rents do follow prices, but at uncertain intervals and by unequal steps. Even were there no other causes at work a close co-ordination of the two must not be expected.

It has always been found in this country very difficult to obtain a correct statement of prices prevailing at even comparatively recent periods. The collation of different authorities displays serious and bewildering discrepancies. Moreover, the violence of the oscillations renders it difficult to strike a fair average. But an examination of the best available sources discloses one broad and undoubted fact. It is that a very marked rise in prices set in towards the close of the sixth decade of the century, and that prices have never since fallen back to anything like their old level.

This somewhat simplifies matters because the present calculations are concerned only with the rise which has occurred since the end of the sixth decade and must commence with the average prices then found prevailing. Such prices are given in Mr. Currie's final settlement report and were struck on an average of prices current for 14 years, apparently 1851—1864, omitting the abnormal famine year. They are shown in the following table as the "last settlement prices." A reference to the various tables contained in Mr. Plowden's "Wages and Prices" and to the similar tables in the district memoir will show as close an agreement between the different authorities as can be expected in such matters, and give an assurance that these initial prices at least have not been understated.

For the years following 1859 the authorities consulted have been—

- (1) The Government Gazettes. Up to October 1869 there were no special entries for Bulandshahr and the Aligarh prices have been taken. They would rule a little higher than the Bulandshahr prices.
- (2) Price lists obtained from private traders at Khurja, Malagarh, &c.
- (3) Price lists included in the tahsíl record.
- (4) Mr. Plowden's work on Wages and Prices (Meerut 1871).
- (5) Price lists given in the district memoir by Rájá Lachman Singh, 1874.

As a rule, the gazette figures have been followed in the lists now prepared and printed as Appendix XIII to this report. The staples selected are wheat, barley, gram, bejhar (wheat and peas) and safflower for the spring harvest and juar, bájra, maize and cotton for the autumn harvest. The prices are given at seed time and harvest time, and also the mean annual prices. The whole term of 30 years has been divided into six quinquennial periods and the following abstract prepared to show the average prices in each per rupee :—

Period.	Kharif.			Rabi.		
	Juar.	Bájra.	Maize.	Wheat.	Barley.	Gram.
	M. s. c.	M. s. c.	M. s. c.	M. s. c.	M. s. c.	M. s. c.
Last settlement ...	1 5 8	1 4 4	1 8 0	0 37 8	1 12 0	1 5 0
1860—64 A.D. ...	0 24 4	0 25 0	0 20 12	0 21 12	0 30 11	0 25 8
1865—69 " ...	0 21 3	0 19 10	0 27 10	0 17 7	0 25 0	0 22 7
1870—74 " ...	0 24 5	0 23 3	0 31 8	0 20 12	0 30 2	0 22 12
1875—79 " ...	0 23 1	0 21 4	0 28 10	0 20 3	0 28 1	0 25 7
1880—84 " ...	0 25 7	0 21 14	0 30 1	0 20 3	0 27 10	0 22 15
1885—89 " ...	0 22 0	0 20 1	0 25 5	0 18 14	0 27 13	0 25 12

Taking the six representative grains, wheat, barley, gram, juar, bájra and maize, it appears that by last settlement rates the amount obtainable per rupee was (omitting fractions) 45 *sírs*. The amount now obtainable at the average rates of the last quinquennial period, similarly calculated, is 23 *seers*. There has been a rise in cash prices of 90·9 per cent.

In his note published, in the blue book on the revision of settlements (page 91) Mr. Benett, Director, Agriculture and Commerce, made a similar calculation based on the prices of the Cawnpore market comparing the figures of 1852—59 with those of 1870—80.

He took as test staples wheat, bijhra, juar and bájra and found that the price had risen from 42 *sírs* to 22, an increase of 91 per cent. The coincidence of these two entirely independent calculations from different sources may be accepted as showing that the rise in prices since the sixth decade of the century, at the close of which the penultimate settlement expired, has been in round numbers not less than 90 per cent. It will further be apparent that the greater part of this rise took place in the

first five years of the seventh decade. The average of wheat, which had been 33 *sírs* 15 *chatáks* per rupee in the preceding five years, 1855—59, rose then to 21 *sírs* 12 *chatáks*. In the last five years 1885—89 it has risen only to 18 *sírs* 14 *chatáks*. Not merely has the average of prices risen, but these averages are not made up of extremely high and extremely low prices. A high level has been consistently maintained, and within the last decade prices have acquired very remarkable stability. The following table is meant to show the oscillations in the average of each five-yearly period and also in the maximum and minimum annual averages of wheat :—

				Average rate.	Highest rate.	Year.	Lowest rate.	Year.
				M. s. ch.	M. s. ch.		M. s. ch.	
Aligarh	...	...	1840-44	0 30 7	0 25 0	1840	0 38 8	1844
Ditto	...	...	1845-49	0 36 7	0 31 0	1847	0 39 4	1849
Ditto	...	...	1850-54	0 35 10	0 27 8	1854	0 46 0	1851
Ditto	...	...	1855-59	0 33 15	0 28 10	1857	0 39 0	1855
Ditto	...	...	1860-64	0 21 12	0 14 2	1861	0 30 9	1862
Aligarh and Bulandshahr	...	...	1865-69	0 17 7	0 11 6	1869	0 20 8	1867
Bulandshahr	...	...	1870-74	0 20 12	0 14 14	1870	0 24 9	1871
Ditto	...	...	1875-79	0 20 3	0 14 10	1878	0 27 9	1876
Ditto	...	...	1880-84	0 20 3	0 19 5	1883	0 21 9	1884
Ditto	...	...	1885-89	0 18 14	0 16 0	1888	0 24 3	1885

Not only have quinquennial averages run high, but prices have never on any occasion sunk to the low point they used to attain. This is a matter of the first importance, having perhaps even more effect on rents than the high prevailing quinquennial and decennial averages. Under the old order of things prices rose to a high point when the local harvests failed and the cultivators had little or no surplus which they could sell at the profitable rates. But in good years when the yield was bountiful and large surplus stocks available prices fell so low that profits were still small. The persons who gained were grain dealers who laid in large stores in the cheap seasons and sold at a high profit when the crops failed.

But with the introduction of railways and telegraphs, a better commercial system and a large export trade things have changed. Prices still go up when there are bad years, but the depression is caused not merely by local failure, but by short crops in other parts of India or even in other parts of the world. In good seasons prices still remain comparatively high and the cultivators sell their surplus stock to such advantage that they gain large profits, which with ordinary providence would carry them through bad years. They in fact secure much of the profits which used to be absorbed by the local grain dealers.

Take, for example, the famine year of 1861. Wheat that year averaged 14 *sírs* 2 chatáks and touched at its lowest 10 *sírs* 4 chatáks. But in the next year when a full harvest brought relief the cultivators got but 30 *sírs* 9 chatáks for their wheat and for a time as little as 36 *sírs*. In 1869 there was distress in other parts of the country, which sent up wheat to 11 *sírs* 6 chatáks for the year, the price at one time being as low as 8 *sírs*. The failure of the harvest in this district was not extensive or general and what produce was available for export fetched very high prices. With the return of full harvests in 1870-71 the prices went no higher than 24 *sírs* 9 chatáks, the average price current in 1871, the maximum of that year reaching only 27 *sírs* 8 chatáks. The last five years 1885-89 have been without exception years of more than average plenty: yet wheat shows the extremely high average of 18 *sírs* 14 chatáks, in no year falling below 24 *sírs* 3 chatáks and on no occasion falling below 26 *sírs* 4 chatáks. The cotton crop of 1888 was the best seen for many years, and yet the prices rose to the highest point they had reached since the American War.

It cannot be doubted that this state of affairs is more conducive to high rents than an alternation of cheap and dear seasons in which the price varies inversely with the amount of local produce. High prices, when the result of short harvests, so far from causing a rise in rents, are only an indication of bad collections. It is high prices along with good harvests which mean agricultural prosperity, and this is the distinguishing feature of the last 25 years.

The East Indian Railway was opened from Aligarh to Gháziabad in 1864. The Oudh and Rohilkhand Railway commenced traffic through the district in 1872. These and the further extensions of the railway system throughout India which have been effected within the last 15 years, and the great development of export trade within the same period, have been with the help of another agency the cause of the high level and unusual stability to which prices have attained. That other agency is the depreciation of currency, caused by the demonetization of silver in the west. It is impossible here to make any attempt to investigate the precise effect of that agency. But any examination of the rise of prices would be incomplete which omitted to notice it. The only observation which it seems appropriate and possible to add without entering into a discussion of a very intricate question is that the depreciation of silver did not commence till the eighth decade of the century, and by that time the greater part of the present increase in prices had already occurred. The future movements of silver cannot be foreseen. Conceivably, its fluctuations in value might become so serious as to affect prices of agricultural produce permanently to an extent which would materially influence rents and revenue. But such possible difficulties must be left for adjustment if they arise hereafter. For the present they can at most be taken as one reason for dealing discreetly with very inflated rentals. To go further would introduce unnecessarily the element of speculation into the present revenue arrangements.

It is easy now to trace consecutively what has happened. To begin with, prices received a serious shock in the mutiny year owing to the disturbed condition of the country. Before the effects of the mutiny had worn away came the famine of 1860-61 and kept them up. There was a partial return to old rates in 1862, but the great demand for labour on railways and canals then under construction and the rapid advance of the East Indian Railway up country seem to have kept up prices till the markets of all India were opened to the produce of the Doáb, and before long its crops began to reach the seaboard and enter into the competition of the outside world. The American War sent cotton up to a phenomenal price in 1863, 1864 and 1865, and this circumstance is alleged by those who have local knowledge to have largely affected the rents of cotton lands and even to have influenced competition rents generally and permanently.

Excluding always the silver question, there is full reason to believe that the causes which have brought about the rise of prices are of a permanent character, and such as are naturally associated with general progress and an increase of material prosperity. The rise in rents which has followed in train may accordingly be deemed to possess the same characteristics, and may safely be taken, with a sufficient margin, as the basis of corresponding revenue enhancement.

Agencies which affect the amount of produce. 45. The next step is to examine those agencies which affect the amount of produce. They appear to be—

- (1) Extensions of cultivation.
- (2) Improvements of land already cultivated.

Extensions of cultivation. The former affects the total amount of rent, but only influences the rate of rent in so far as it is generally the worst lands which are last broken up.

Improvements may, for all practical purposes, be limited to the single head extensions of irrigation. There has been no appreciable advance in the methods of agriculture, no introduction of new staples and no addition to the supply of manure. There seems no doubt that

the better classes of crops are more largely grown, but this again is due exclusively to the spread of irrigation which is necessary to their growth.

The alterations which have occurred in the irrigated area will be examined in full detail under the appropriate heading. It will be sufficient here to merely state the abstract results. The following statement shows the net increase in the cultivated and wet areas :—

Pargana.				Percentage of increase or decrease of cultivation.	Increase or decrease of irrigation in acres.		Percentage of net increase of total wet area.
					Canals.	Wells and other sources.	
1				2	3(a)	3(b)	4
1. Sikandarabad				8.1	22,195	-3,555	64.9
2. Dadri				12.0	19,985	-6,953	34.3
3. Dankaur				4.4	16,795	-7,295	58.8
Tahsil Total ...				8.9	58,975	-17,806	49.7
4. Baran				10.3	8,767	7,110	56.8
5. Agauta				7.3	8,682	2,383	34.6
6. Siyana				11.4	12,315	2,528	77.9
7. Shikarpur				9.8	-1	7,896	59.9
Tahsil Total ...				9.8	29,763	19,917	53.9
8. Khurja				2.4	21,769	-4,202	45.4
9. Jewar				14.3	13,847	940	91.4
10. Pahasu				-2.4	12,826	443	60.4
Tahsil Total ...				4.7	48,433	-2,819	59.4
11. Diba				-7.0	21,307	-2,935	59.2
12. Anupshahr				1.9	12,685	-2,103	49.3
13. Ahar				18.1	13,658	5,559	121.9
Tahsil Total ...				3.2	47,650	521	70.6
District Total ...				6.7	1,84,821	-187	57.7

The net increase of the total wet area of the district is no less than 57.7 per cent. But for reasons which will appear hereafter, there can be no doubt that a good deal of the recorded increase of well irrigation merely represents irrigation which was successfully concealed at last settlement. But though concealed from the Settlement Department, it must have had its influence on rents and cannot be reckoned among the agencies which have helped to raise rents. It is naturally impossible to ascertain exactly the extent of increase due to past concealment, and any estimate of it must be very conjectural. But if it be put at about 27,000 or 28,000 acres, the actual net increase of the wet area of the entire district will be about 50 per cent., or say 164,000 acres. It has elsewhere been calculated that the difference between the incidence of wet and dry rents is Rs. 3-2-0 per acre. The rental at this rate of the new irrigation would be Rs. 5,12,500, a sum which represents an increase of 20.7 per cent. on the standard rental of last settlement. But the standard rental did not take account of the concealed irrigation. It was based on the recorded areas, and its increase must be measured by the total recorded irrigation. In this the increment has been 184,634 acres, representing at Rs. 3-2-0, a rental of Rs. 5,76,981 and accounting for an enhancement of 23.3 per cent. on the standard rental of last settlement.

The net increase in cultivation for the entire district is 52,511 acres. The all round incidence of the attested tenants' rental is Rs. 4-9-5 per acre. But this would be much too high a rate to apply to newly reclaimed lands, which are generally of inferior quality and always of inferior situation, including none of the valuable bara. A fairer, though still a high, rate to apply to these lands will be the average incidence of the standard rates on outlying land, wet and dry. This is Rs. 4-5-4, and it gives a rental of Rs. 2,27,548, representing 9·2 per cent. on the standard rental of past settlement. According to this calculation, the effect of the agencies which have increased the amount, as discriminated from the value of produce, has been to add 32·5 per cent. to the past standard rental.

46. It now remains to consider whether in the division of the gross produce there has been any increase in the share appropriated by the proprietor. When rents were paid in kind this could have been ascertained perhaps closely enough; but with cash rents the question becomes much more difficult. Owing to the rise in prices, the proprietor's share is undoubtedly much more valuable than it was. But whether it is a larger share than before may well be doubted. The figures already given show that the rise in rents has not been nearly in the same proportion as the rise in prices. Rents by the highest calculation have gone up 67·7 per cent., while prices have risen 90, and we have just seen that rents might have been influenced to the extent of 32·5 per cent. by increase in the amount of produce irrespective of its value.

47. Some light will be thrown on the subject by examining how far tenants have remained privileged or protected against competition rents, and how far they are exposed to conditions under which the proprietor will exact the highest obtainable rent. This will be clearly shown by a statement of the growth and decline of occupancy rights since last settlement. The statistics collected on this point in previous enquiries were erroneous; those now given may be taken as correct. The following table shows the extent to which old occupancy rights have been lost and new occupancy rights have accrued. :—

Taluk.	Pargana.	Total rent paying area.		Area held in occupancy right at last settlement.	Area of column 5 which is now held in occupancy right.	Loss of occupancy right now in area held with these rights at last settlement.	Percentage of loss.	Area now returned to be held in rights of occupancy.	Net increase found in area compared now to last settlement.	Percentage of net increase.	Percentage of occupancy to total rent paying area.	
		Last settlement.	New settlement.								Last settlement.	New settlement.
1	2	3	4	5	6	7	8	9	10	11	12	13
Sikandarabad	Sikandarabad	61,800	68,474	10,160	8,053	2,107	207	27,341	17,181	169.1	16.4	39.9
	Dudri	88,743	1,05,725	20,218	15,462	4,756	23.5	42,135	21,917	108.4	22.8	41.4
	Dankaur	47,954	51,463	10,585	8,467	2,118	20.8	21,397	11,312	105.9	22.3	42.7
	Total	1,98,506	2,21,662	41,063	31,982	9,081	22.1	91,473	50,410	122.8	20.7	41.3
Bahadurshahr	Bahadurshahr	58,110	65,368	6,178	5,265	833	14.3	36,405	30,727	497.4	10.6	56.5
	Baran	45,892	49,225	6,151	3,999	2,151	33.1	17,246	11,465	189.4	13.4	34.5
	Aganva	59,209	70,153	23,729	22,691	2,068	8.4	40,842	25,113	101.6	41.8	71.0
	Sikarpur	35,899	40,000	11,067	7,233	3,824	34.6	16,495	5,438	49.2	30.8	41.2
	Total	1,92,110	2,25,446	45,115	30,179	8,936	19.6	1,20,488	72,373	150.4	24.2	53.4
Khurja	Khurja	81,114	86,082	10,967	8,254	2,713	24.7	38,391	27,234	248.3	13.5	44.4
	Jewar	58,494	68,937	12,053	8,573	4,083	32.3	23,468	16,752	81.9	21.6	34.0
	Pahasu	52,534	52,378	7,510	3,477	4,033	53.7	11,211	3,701	49.2	14.3	21.4
	Total	1,92,142	2,07,397	31,133	20,304	10,829	34.8	72,820	41,687	133.9	16.2	35.1
Anupshahr	Anupshahr	78,349	75,015	27,926	16,829	11,096	39.5	33,518	5,092	29.5	35.5	44.7
	Amphalhar	52,758	56,707	30,137	25,478	4,659	15.6	40,487	10,350	34.3	57.1	71.4
	Alar	68,723	70,889	26,924	23,144	3,780	14.0	46,723	19,869	73.8	45.8	60.0
	Total	1,99,849	2,02,611	84,987	65,442	19,445	22.9	1,20,738	35,911	42.3	44.7	59.6
District Total		7,79,007	8,37,116	2,05,198	1,56,907	48,291	23.5	4,05,579	2,00,381	97.7	26.3	47.3

Pahasu, as might be expected, stands first and Dibai second among the parganas where tenant right has perished. It is well known that on those estates where occupancy rights have been suppressed, the rents have been worked up to the highest pitch, and over this area it may be assumed that the share of produce appropriated by the proprietor is greater than it used to be. In the 1st non-occupancy circle of pargana Pahasu the average tenant rate is Rs. 8-3-7 per acre, that for the entire district being Rs. 4-9-5.

It is of course no consolation to the rack rented peasantry of these villages to know that their neighbours are better off. But taking the district as a whole, the protected area is substantially greater than it was. The above table shows the occupancy area to be 47·3 per cent. of the total rent paying area. But this understates the case. A large portion of the rent paying area is cultivated by proprietors. Occupancy rights cannot be acquired in such land, which, moreover, for economic purposes stands on the same footing as protected cultivation. The following table has therefore been framed to show for each pargana the proportion of the occupancy area to tenants' cultivation only :—

Pargana.	Total rent paying area.		Extent of tenants' cultivation.		Extent of proprietary cultivation.		Percentage of occupancy area to total rent paying, excluding proprietary cultivation.	
	Past.	Present.	Past.	Present.	Past.	Present.	Past.	Present.
1	2	3	4	5	6	7	8	9
	Acre.	Acre.	Acre.	Acre.	Acre.	Acre.	Acre.	Acre.
1. Sikandarabad ...	61,800	68,474	41,202	45,620	20,417	22,845	24·5	59·9
2. Dudri ...	88,743	1,01,725	54,785	63,427	33,958	38,298	36·9	66·4
3. Dankaur ...	47,954	51,463	30,616	34,704	17,338	16,750	34·0	63·4
Tahsil Total ...	1,98,506	2,21,662	1,26,793	1,43,760	71,713	77,902	32·4	63·6
4. Baran ...	58,110	65,368	51,507	59,005	6,603	6,363	12·0	62·5
5. Agauta ...	45,892	49,925	34,013	36,901	11,879	13,024	18·1	46·7
6. Siyana ...	59,209	70,153	51,930	63,465	7,279	6,688	47·6	78·5
7. Shikarpur ...	35,899	40,000	31,068	35,368	4,831	4,632	35·6	46·6
Tahsil Total ...	1,99,110	2,25,446	1,68,518	1,94,739	30,592	30,707	28·6	61·9
8. Khurja ...	81,114	86,082	61,737	71,301	19,377	14,781	17·8	53·6
9. Jewar ...	58,494	68,937	35,529	46,568	22,965	22,369	35·6	50·3
10. Pahasu ...	52,534	52,378	46,834	48,768	5,700	3,610	16·0	23·0
Tahsil Total ...	1,92,142	2,07,397	1,44,100	1,66,637	48,042	40,760	21·6	43·7
11. Dibai ...	78,343	75,015	70,659	69,894	7,684	5,121	39·4	48·0
12. Anupshahr ...	52,783	56,707	51,530	55,486	1,253	1,221	58·5	73·0
13. Ahar ...	58,723	70,880	53,165	66,971	3,558	3,918	48·8	60·9
Tahsil Total ...	1,89,849	2,02,611	1,77,354	1,92,351	12,495	10,260	47·9	62·8
District Total ...	7,79,607	8,57,116	6,16,765	6,97,487	1,62,842	1,59,629	33·3	58·1

The figures of the various parganas appear here in a very different light. Dibai for instance, which in the first table showed a larger occupancy area than the parganas of Sikandarabad tahsil, Jewar or Khurja, takes its true place far below

them, while the deficiency of pargana Pahasu becomes still more accentuated. Of the total tenants' land the very considerable proportion of 58·1 is now recorded as held under occupancy rights.

48. The large growth of cash rents has already been stated. But it has not nearly kept pace with the rise in prices, and about half of it might be explained by increase in the amount of produce, had there been no improvement in its value. It seems therefore reasonable to assume that over the protected area the tenants are not paying a larger share than before of their produce in the shape of rent, but are presumably even paying a smaller share. This is certainly the case with the old occupancy tenants who still pay the rents of last settlement. Those who have most recently acquired rights of occupancy pay rents which have been adjusted by competition. Between the two are rents of all grades, and a proportion of them are no doubt below what the grain rents of last settlement would represent in cash at the prices now current. During the course of the present settlement operations the greater part of the remaining grain rents have been converted to cash. The area concerned was inconsiderable; but it was observed that the proportions of produce falling to tenant and landholder were generally those of the last settlement. Half and half was the ordinary full rate, while favoured tenants paid two-fifths or one-third or even one-fourth. The cash value of the proprietor's share had of course risen, but so had that of the tenant, and both were so far better off than before.

49. The general conclusion which may be drawn is that in spite of the enhancement which has undoubtedly taken place on certain severely managed estates, there has not been, taking the district as a whole, any increase in the share of produce appropriated by the proprietors, and that no part of the total rent enhancement of the district can be put down to this cause. The rise in rents has now been examined and formulated and its causes investigated and defined. They were found to be—

1st.—Increase in the prices of agricultural produce.

2nd.—Increase on the amount of produce owing to extensions of cultivation and irrigation.

50. It will be useful and interesting to enquire how far each of these agencies has contributed to the gross result.

Prices have had their influence by increasing the rates of rent, while the amount of produce has depended on alterations in areas. The problem therefore is to find how much of the total increase of rents is due to rise in rates and how much to improvement in areas by conversion of waste to cultivation and of dry to wet.

The standard rental has risen from Rs. 24,71,185 to Rs. 41,45,510, or by 67·7 per cent. The rates of last settlement applied, to the present areas would give Rs. 30,65,045, and it is clear that the whole of the difference between this and the old standard rental (Rs. 5,93,860) must be due entirely to improvement in areas. This accounts for 24·0 out of the 67·7 per cent.

Similarly the rates of the present settlement applied to the areas of the past give Rs. 33,17,231, which exceeds the old standard by Rs. 8,76,046, and the whole of this sum is due entirely to improvement in rates. This represents 35·4 out of the 67·7 per cent.

There remains then a sum of Rs. 2,01,449, being 8·3 of the gross increase, 67·7 per cent., and this is due partly to new areas and partly to new rates. There has been a substantial increase of cultivation, much of which is wet, and in framing the new standard this of course has been rated at current rates. Out of the total increase 67·7 per cent.—

35·4 is due to improvement in rates.

24·0 to improvement in areas.

8·3 to both agencies combined.

It may be fairly assumed that each agency has contributed to the latter joint item in the same proportion as it has contributed to the general increase. If the 8·3 be distributed in this proportion it will be found that out of the total enhancement of 67·7 per cent. 40·3 is due to improvement in rates and 27·4 to improvement in areas, or, stated in fractions of 100, the proportions will be 59·6 and 40·4.

The figures for each pargana possess some interest in connection with the varying rates of rent and revenue enhancement. They are therefore given in the following table :—

Pargana.	Standard rent of past settlement.	Standard rent on past areas at present rates.	Standard rent of present settlement.	Standard rent on present areas at past rates.	Increase per cent. of present standard rental (+) over past standard rental (-).	Proportion due to—	
						Rates.	Areas.
1	2	3	4	5	6	7(a)	7(b)
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. Sikandarabad ...	1,90,286	2,57,976	3,23,861	2,42,339	71·2	40·3	30·9
2. Dadri ...	2,42,074	3,37,690	4,13,281	2,95,719	70·7	45·3	25·4
3. Dankaur ...	1,34,399	1,73,537	2,07,643	1,57,157	54·5	35·1	19·4
Tahsil Total	5,66,759	7,71,203	9,46,785	6,95,215	67·1	41·2	25·9
4. Baran ...	1,90,253	2,91,576	3,72,959	2,56,053	87·2	51·0	33·2
5. Agauta ...	1,79,965	2,51,128	3,13,247	2,11,604	80·1	53·2	26·9
6. Siyana ...	2,11,698	2,29,531	2,39,789	2,08,712	36·9	5·0	31·9
7. Shikarpur ...	1,18,166	1,75,120	2,17,110	1,18,726	84·0	51·6	29·4
Tahsil Total	7,03,082	9,41,655	11,93,435	8,88,125	69·7	39·2	30·5
8. Khurja ...	2,75,116	3,83,904	4,59,810	3,38,232	67·1	42·5	24·6
9. Jewar ...	1,59,649	1,99,713	2,65,833	2,19,441	66·5	26·7	39·8
10. Palasu ...	1,75,520	2,69,893	3,18,626	2,91,580	81·5	62·3	19·2
Tahsil Total	6,10,285	8,53,450	10,44,308	7,62,253	71·1	43·7	27·4
11. Dibai ...	2,62,827	3,54,810	4,09,753	2,96,808	55·9	40·8	15·1
12. Anupshahr ...	1,59,993	2,17,182	2,52,561	1,85,314	57·8	40·1	17·7
13. Ahar ...	1,68,239	2,08,931	2,98,698	2,37,330	77·5	28·7	48·8
Tahsil Total	5,91,059	7,80,923	9,61,012	7,19,452	62·6	37·4	25·2
District Total	24,71,185	33,47,231	41,45,540	30,65,045	67·7	40·3	27·4

CHAPTER IV.—SETTLEMENT OPERATIONS.

SECTION 1.

THE SOIL CLASSIFICATION.

51. The natural and artificial divisions of the district have now been described, and its physical conditions stated with necessary detail and its fiscal history brought down to date. The circumstances under which the present settlement was undertaken have therefore, it is hoped, been made clear, and it is now possible to commence a narrative of the operations subsidiary to the revision of assessment. This will naturally begin with a description of the soil classification, premising that no change has been made in the nomenclature or classification found existing. It has proved to be still that best suited to the conditions of the district.

Existing soil classification and nomenclature maintained.

52. The natural soils are four in number *seota*, *dakra*, *pilota* and *bhur*.

The natural soils.

Seota is well described as a "rich loam or mould which is white or light grey when dry and becomes; of a very dark rich deep colour when moistened. It varies much in fertility, being better where it is least mixed with sand and firm, forming into hard clods, and poorer where it is mixed with sand. It is capable of producing all sorts of crops." It is the soil known as *dumat* in Rohilkhand.

Seota.

Dakra is simply a dark stiff clay, free from sand and generally found in natural depressions. It is rather difficult to work, but very strong and productive, growing crops of the better kinds in both harvests.

Dakra.

Pilota is a friable soil, containing a large admixture of sand. It is distinguished by its peculiar colour, which is yellow with a reddish or brownish tinge. The best *pilota* contains some clay or loam and, except in colour, is apparently the same as the inferior *seota*. Wheat is sometimes planted in it, especially where irrigation is available, but is not usually good. The inferior crops only thrive well, such as *bājra* in the autumn and barley, gram and the coarser rapeseeds in the spring harvest. It is not often double cropped and is usually unexhausted, and where rains are favourable or irrigation abundant it sometimes yields surprisingly well. Bad *pilota* is mere yellow sand.

Pilota.

Bhur is sand of whitish colour. When it contains any appreciable mixture of loam it is classed as inferior *seota*. Its quality depends more on situation than texture. Where it drifts or rises into ridges and hillocks it is worthless; where it is level and unbroken it produces fairly, and when under favourable conditions as to rain or irrigation often yields abundantly. It is a soil that improves much by cultivation and manuring. Only inferior crops do well in it.

Bhur.

53. The natural soil classification has been completed by entry of the lands which have been broken up since last settlement. But no attempt has been made to revise this part of the record, though it is sometimes very erroneous. It is really of no practical use. It is not very clear with what object the classification was undertaken at last settlement, because, having been made, it was discarded and an entirely different classification adopted for working purposes, and there is nothing to show that the distribution by natural soils was ever turned to any practical use. Here and there rents were fixed, after assessment, according to natural as well as artificial soils, but the rating, being too elaborate for ordinary use, was soon abandoned in favour of lump rents or all round rates and has ceased to be recognised. But it was a mistake to neglect the natural differences of soil altogether, and the neglect led to inequalities in assessment.

Natural distinctions neglected at last settlement.

The desired end has now been secured in another way by the formation of circles. But now taken into account. according to natural quality. As the soil of each circle is fairly uniform, the rates are thus adjusted to natural as well as artificial distinctions.

54. For assessment purposes an artificial classification was adopted at last settlement and has now been maintained. It is extremely simple. Round the homestead there is a small circle of manured and highly cultivated land known as *bára*; the rest is all treated as "outlying."

The lands so discriminated are again divided into irrigated and unirrigated and the entire area thus distributed into four classes :—

I.—Bara wet.		III.—Outlying wet.
II.—Bara dry.		IV.—Outlying dry.

The classification is that recognised and used by the people themselves. It gives the only division of soils for which differential rates actually exist and can be ascertained over sufficiently large areas. In some villages a further distinction is recognised of the fields known as *munda* or *agela*, which lie between the *bára* and the outlying. But the distinction is not general enough to justify the formation of two more classes, and so, following the practice of last settlement, the few superior *munda* fields have been treated as *bára* and the rest included in "outlying."

Even the distinction of *bára* and outlying is far from being invariably recognised for the purpose of rating. In very many villages only lump rents and all round rates are used, and the inequalities of soil adjusted by assigning to each holding a fair proportion of the better and worse sorts. Some entire circles do not afford any instances of differential rates, and some too few to furnish a basis of calculation. In some cases, again, the distinction of *bára* and outlying is observed, but that of wet and dry neglected; in other cases the latter only is observed and the former neglected. So far as possible, these variations have been in each case recognised and followed and the village assessment statement No. VII has been so framed as to admit of their recognition.

Besides being in accordance with the custom of the people, the classification now followed had another great advantage. It could be carried out with absolute accuracy and it left nothing to the discretion of subordinate officials. The *bára* circle was marked off on the spot by either the Settlement Officer himself or the Assistant Settlement Officer, subject to the Settlement Officer's revision. It was only necessary, then, to except from the field book the wet or dry area of the small *bára* circle and the remaining areas were gained by a simple arithmetical process. There was little difficulty in demarcating the *bára* circle; it is generally well marked and always well known to the people, and where the special *bára* rate exists it afforded another safe guide in cases of doubt. The tendency of last settlement, and, naturally enough, the tendency of the proprietors since then, has been rather to overstate than to understate the *bára*. The tenants, on the other hand, have always been ready to complain of any over-statement and much care has been taken to prevent wrong classification. Nevertheless the *bára* area has risen from 44,216 acres, to 53,183 acres or by 31.6 per cent. Some of this increase is due to the formation of new homesteads, but most of it is owing to the action of proprietors increasing the rent of the home fields. It is possible also that isolated fields here and there may have been wrongly included

in the *bára* circle. If so, the error must come to light if rent is claimed at the *bára* rate. The system exists and has necessarily been recognised, but it seems a bad one, leading to defective husbandry and unequal rental increments. Jat cultivators recognise this and take their manure to all parts of the village, though no doubt the *bára* gets the largest share besides all the spontaneous manuring. In Jat villages therefore the *bára* is not so well marked as elsewhere.

SECTION 2.

THE IRRIGABLE AREA.

55. In order to complete the soil classification it next was necessary to classify the fields as wet and dry. It should be clearly understood that the settlement record purports to show as wet those lands which are *irrigable*, not merely those which happened to be *irrigated* in any one particular year. The object assumed was to ascertain the lands which have recently been actually irrigated from existing sources and which could therefore be considered ordinarily capable of irrigation when required. The area actually irrigated in any given normal year would of course be much smaller.

56. The irrigable area is discriminated according to the sources of irrigation into

Canal { Flow.
Lift.

Wells.

Other sources.

The detailed particulars under each head were obtained primarily, village by village, from the patwáris' papers and the records of the Canal Department. It has been estimated that, owing to rotation of crops, peculiarities of season and other causes, fields actually commanded by water come under irrigation only once in three years. The observations which have now been made and the scrutiny which the records have now undergone justify a belief that this is an under-estimate, and that irrigable fields are watered oftener than once in three years, especially where canal water is available.

However, there can be no doubt that a list of fields irrigated in any one of three consecutive years would, if the years were fairly representative ones, give the area ordinarily receiving water when required. Such a list was prepared from the village and canal papers of 1290, 1291 and 1292 fasli (1882—85); 1290 fasli was a normal year, 1291 a year of scanty and 1292 a year of excessive rain. The records of 1291 were first taken up and the number and area of each field therein shown as irrigated entered in a list containing columns divided under the proper headings. The canal irrigation was taken from the canal records, and the irrigation from wells and other sources from the village field-books. When these entries for 1291 were completed the papers of 1290 and after them of 1292 were taken up and those fields not already in the list were added to it which appeared as irrigated in either year. In practice it was found that nearly all the irrigable fields had been irrigated in 1291 fasli, and the additions in the other two years were usually inconsiderable. From these lists, when checked and tested, the necessary entries were made against each field in the field-book (*khasra*) of the settlement year.

57. The years subsequent to 1292 fasli were left out of account, because it is still a common practice to let down irrigation on the approach of settlement. There were many clear indications that this device had not been neglected on the present occasion. But with the actual areas of a few years past on record, the attempt at deception was not only easily detected, but absolutely futile.

58. The system now described has only become possible from the possession of fairly accurate field-books of past years. On no point were the village records found so accurate and so useful. The canal returns were of the highest utility, giving the areas with almost absolute accuracy. The irrigation entries in the field-books were further checked on the field testing by kanungos and on local inspection by the Settlement Officer and his assistants. The number of bullock lifts (*lao*) fit for work in each village were counted, and as it is known that a lift can ordinarily irrigate from nine to ten acres, a check was thereby obtained on the well irrigated area.

59. The merit of the present system is that it is based on actual facts, not on conjecture or estimate of possibilities, and that it minimizes, if it does not altogether eliminate, the errors due to the negligence, dishonesty or overzeal of the subordinate officials. The errors discovered on local examination were always inconsiderable, and it is believed that the present returns give, with the greatest attainable accuracy, the present area which is ordinarily watered whenever artificial irrigation is required. It is therefore the area on which a wet rent ought to be paid, which is precisely the area required for the calculation of standard and substituted rentals.

60. It must of course be understood that the wet area now recorded is liable to variations hereafter as new means of irrigation are developed or old means fail. It is very unlikely that any such extensive failure of existing sources of irrigation in any village will occur as to necessitate a revision of the revenue. But it is possible that rents now fixed may occasionally require readjustment as wells fall in or canal channels are altered.

61. It is a common complaint that unprotected earthen wells generally become impracticable after the introduction of canal irrigation into the vicinity. The point is one of considerable importance, and the most careful observations have been made and the best authorities consulted about it.

It is a matter of fact that well irrigation diminishes greatly with the advent of the canal (as a glance at the statement printed a little further on will show), and that unprotected earthen wells disappear most rapidly and completely. This is only what might be expected from their temporary and precarious nature. But masonry and half-masonry wells also fall into disuse, though the rise in spring level actually adds to their working power. The main cause of the decrease of well irrigation where canal water becomes available is undoubtedly the preference most tenants show for the latter. Well watering is severe labour and requires a full stock of cattle. Canal watering requires no labour and a much smaller stock. It also admits a much larger double cropped area. It is infinitely less troublesome and for inferior cultivators is more profitable. But in its effects on the soil and in the yield of produce the superiority of well water is generally recognised, and the best cultivators still employ it when they can. Even in canal villages it is very largely used for the *bāra* where cultivation is most careful and the best crops grown, while good cultivators, such as *Abīrs* and *Jats*, work their wells fully in the outlying fields also.

The fact that the canal has replaced unprotected earthen wells does not prove that they have become impracticable, but it may in certain cases raise an inference that they have become less stable and profitable. It is important to observe that wells even of this class are in this district invariably worked by bullock lifts. The "*gharra*" or man-power lift of *Shāhjahānpur* and the "*charkhi*" or double bucket and wheel hand lift of the *Rohilkhand* districts are entirely unknown. Except in a few localities in the *khādir*, the *dhenkli* or lever hand lift of the eastern districts is scarcely ever used. The people absolutely refuse to try them. They have been accustomed

for generations to deep wells, which could not be worked by such means. Now when the water level has risen so much that all these appliances could be easily used over very extensive tracts, the conservative instincts of the country bar their adoption. A bullock lift exhausts the water rapidly, and the tread of the cattle and the pressure of the heavy uprights tend to dislodge the clay. It therefore requires a large strong well, which is difficult and in bad soil dangerous, to make, and proves expensive unless durable. The hand lifts can be worked in a much more cheap, more fragile and precarious well, and could therefore be profitably used in formations of soil which would not admit of a bullock lift. When the people can be induced to adopt the more laborious and less effective methods suited to the altered condition of the underground water supply, they will supplement the direct irrigation from the canal by an indirect utilization of its water, which will add much to its benefits, though not to its revenues.

62. Whether the replacement of well by canal irrigation has been optional or compulsory is not in itself a very important matter in the present connection. Whether watered from canals or wells the wet area can pay wet rates. But the canal has affected

Effect of the canal on wells in tracts which it has not yet reached.

the water level in tracts which its channels have not reached. Here it became very important to determine whether the canal had impaired the old sources of irrigation without replacing them by another. This difficulty arose chiefly in the tract between the Choya and the Kali nadi, which is and is likely to remain entirely destitute of canal irrigation. Over this tract earthen wells had been abundant up to a very recent period. For the last few years they disappeared almost entirely. The people with one voice declared that they had ceased to be practicable and could no longer be made and worked. The following extract from the Baran assessment report concerning

Experience in East Baran.

the irrigation of the circle lying east of the Kali nadi describes fairly what took place over the whole tract.

“57.1 per cent. of the cultivated area is now irrigable from all sources. This is a large increase on the recorded wet area of last settlement, which was only 38.1 per cent. of the total cultivation. The percentage of increase of the wet area in this circle is 66.9; in the west circle it is only 46.4, though the extension of the canal system in the latter has afforded facilities for irrigation which had no existence before. The increase must be attributed almost entirely to the concealment which was success-

Due to concealment at last settlement.

fully practised at the last settlement, and of which there are unmistakeable indications. Tracts then classed as dry are now irrigable and have recently been irrigated from earthen wells. Nothing has occurred since 1859 to make these wells practicable where they were not practicable before. Percolation from the canal has not materially affected the water level in this circle, which is cut off on each side by drainage lines. The cultivators were just as well aware then, as they are now, of the value of water and just as ready to utilize it. The pargana books disclose instances in which well irrigation which had been absent at Mr. C. Currie's measurements and inspections in 1859, had appeared or reappeared at Mr. R. G. Currie's revision for permanent settlement in 1864. It is comparatively easy to conceal well irrigation and particularly when it is from earthen wells. They can be filled in and levelled, and the channels ploughed up. There is reason to believe from different authorities that such things actually were done. This can be the more readily credited because the same proceeding

Concealment attempted on the present occasion.

was attempted on the present occasion. For two or three years past the earthen wells have in very many villages been dismantled or allowed to fall in, and the fields which they commanded reduced to dry cultivation. This operation has been facilitated and encouraged by the character of the seasons; the very abnormal and excessive rainfall of 1885, 1886 and 1887 both naturally led to the destruction of temporary wells and rendered their use unnecessary. But at the same time it might be observed that

the wells in the valuable bára circle were always kept up : it was only in the outlying parts they disappeared. This strategy of the people was, however, frustrated by the

Frustrated by the use of method adopted for the calculation of the irrigable area which back records of irrigation. is taken from the areas actually irrigated in 1882-83, 1883-84 and 1884-85, in the manner described in the assessment report of tahsíl Sikandarabad. The concealment did not begin usually till 1884-85. Often and often was the Settlement Officer greeted with the cry that the village was a dry one, and often and often did a reference to the record show a substantial part of it to be under irrigation. In such cases a close scrutiny never failed to disclose the marks of the old wells. In this connection, too, the crop statement was a very useful indication. Some crops cannot be habitually grown without irrigation, and the double

And crops.

cropped area is almost always commanded by water."

Mr. Baillie's experience. Mr. Baillie, Assistant Settlement Officer, reports similarly for the east circle of pargana Agauta :—

"Irrigation statistics have here, as in all other parganas, been extracted from the patváris' records for 1290, 1291 and 1292, which in the matter of irrigation are sufficiently accurate, the tendency, naturally being to understate rather than overstate it. The value of this system

Irrigation statistics how compiled.

Intentional reduction in irrigation during settlement.

has here, as in Baran, been amply evidenced by the considerable fall in irrigation and means of irrigation which zamíndárs and tenants have, in preparation for settlement, brought about within the last three years. The great mortality, so to speak, naturally produced amongst earthen wells of late years by the unusually heavy rainfall and high water level has aided this preparation, and it has only been necessary for cultivators to refrain from making earthen wells to be able to show many villages which now contain not a single earthen well, although, as the irrigation statistics and the circumstances of surrounding villages show, earthen wells are usually numerous. In such villages it is stated of course that earthen wells are not made or have become impracticable of late years, but there are honest villages enough to completely disprove this and affirm the accuracy of the statistics. For this intentional depreciation the zamíndárs are for the most part responsible, but in easily managed estates occupancy tenants, who know that a new settlement probably means a new distribution of rent, have undertaken it on their own account."

The same state of affairs was observed in parganas Shikarpur, Siyana and the parts of Anúpshahr, Ahar and Dibai lying west of the Choya.

Within the canal tracts also temporary wells were thrown out which had been working in 1290, 1291 and 1292 fasli.

Such observations as have been possible since the inspections were finished or the jamas given out show that the wells at once began to revive, and are now being made and worked again in places where they were said to be impracticable in the settlement years.

Revival of wells since settlement.

These circumstances leave no doubt that the recorded irrigation may *prima facie* be safely accepted as representing facilities still existing, and that the general disappearance or disuse of wells while the settlement was in progress was the result of a general desire to conceal irrigation aided by the fortuitous concurrence of successive seasons of abnormally favourable rains. A very marked proof is thereby afforded of the great advantage of maintaining a continuous and careful record of agricultural statistics.

Recorded irrigation may be accepted.

At the same time it seems impossible to doubt that under certain conditions and in certain formations of soil a change in the water level may render unprotected wells more unstable and more difficult of construction, if not altogether impracticable. A rise, for instance, in the spring level may bring the water up to a stratum of sand which

But the unprotected wells may suffer from change in water level.

it formerly did not reach. Rapid exhaustion of water would then hollow out the bottom of the well and render it liable to fall in. On the other hand it may happen that a change of spring level will raise or lower the water away from such a sandy stratum and bring it to firm clay where a lift can be worked. It also seems true that saturation or continued dampness of the ground from above and below, such as follows a high water level, is adverse to the construction of such wells. It is, however, also calculated to render artificial irrigation unnecessary.

63. On the whole, the conclusion seems to be that disturbances in the spring level do, in certain conditions, affect unprotected wells prejudicially; that there has as yet been no general or permanent failure of these wells in localities where they supply the only means of irrigation, and that the recent disuse of them has been due, as a general rule, to the preference of the cultivators for canal water and the desire to conceal the real wet area. Complaints that such wells have become difficult or impracticable may occasionally be true, but should be received with much caution.

This point has been treated with some detail because it seemed necessary to verify the permanence of the sources from which much of the recorded irrigation is drawn. The large increase on the recorded wet area of last settlement is one justification of much of the very great enhancement of revenue. It was essential therefore that it should be tested in every possible way before being accepted as part of an arrangement designed to last for thirty years.

64. The facts now brought to light, moreover, give some explanation of the inadequacy of the expiring assessment. The revenue was calculated by the application of standard rates to wet and dry areas. Any understatement of the wet area therefore involved a proportional underassessment of revenue.

65. This seems therefore the proper place to state the figures which show the increase in irrigation since last settlement :—

सत्यमेव जयते

[illegible]

[illegible]

Khurja.	First	32,020	33,934	4,926	11,944	413	16,983	53.0	16,388	9,381	611	26,350	77.7	11,762	...	198	11,960	...	2,563	...	2,563	55.3
	Second	26,042	26,023	630	10,853	261	11,744	45.1	7,131	9,488	388	15,807	65.4	6,501	...	127	6,628	...	1,365	...	1,365	41.8
	Third	23,043	23,120	1,117	8,660	130	9,607	43.0	4,614	7,932	259	12,806	55.4	3,437	...	129	3,620	...	728	...	728	29.3
Total		81,114	83,077	6,373	31,457	804	38,634	47.6	28,133	26,801	1,258	56,192	67.6	21,760	...	454	22,214	...	4,656	...	4,656	45.4
Jowar.	First	15,633	21,780	...	4,094	71	4,165	26.6	4,825	4,850	74	9,749	44.8	4,825	756	3	5,584	...	...	...	...	134.1
	Second	25,160	24,635	...	8,410	43	8,453	33.6	7,065	7,088	26	15,079	61.1	7,065	...	...	7,065	...	422	17	439	78.4
	Third	11,597	14,001	...	2,487	108	2,595	22.4	1,957	3,305	32	5,294	37.8	1,957	818	...	2,775	...	...	76	76	104.0
	Fourth (Khadir)	5,752	5,979	...	740	229	969	16.8	...	772	73	847	14.2	...	32	...	32	...	...	154	154	126
Total		58,142	66,455	...	15,731	451	16,182	27.8	13,847	16,915	207	30,969	46.6	13,847	1,606	3	15,456	...	422	247	669	91.4
Palas.	First, { A. non-occu- pacy group. B. occupancy group.	7,011	7,174	2,448	1,883	70	4,401	62.8	5,520	817	229	6,563	91.5	3,072	...	156	3,228	...	1,066	...	1,066	49.1
		11,742	12,703	3,195	4,901	24	8,120	69.2	7,064	8,580	311	10,355	86.2	3,869	...	287	4,156	...	1,321	...	1,321	34.9
	Second, { A. non-occu- pacy group. B. occupancy group.	14,456	12,465	474	3,407	65	3,946	27.3	...	5,122	694	5,816	46.7	...	1,715	629	2,344	474	...	...	474	47.4
		6,512	6,437	64	1,655	497	2,216	34.0	...	2,579	348	2,927	45.5	...	924	...	924	64	...	149	213	32.1
	Third, { A. non-occu- pacy group. B. occupancy group.	13,448	13,306	2,127	2,618	19	4,764	35.4	9,182	1,375	113	10,676	80.2	7,055	...	94	7,149	...	1,243	...	1,243	124.0
		1,298	1,098	...	99	11	110	8.5	...	173	6	179	16.3	...	74	...	74	...	...	5	5	62.7
Total		51,467	53,183	8,308	14,563	686	23,557	43.3	21,766	13,640	1,698	37,110	69.8	13,996	2,713	1,166	17,875	538	3,630	154	4,322	57.5
Dibul.	Tahsil Total	1,93,723	2,02,715	14,981	61,751	1,941	78,373	40.5	63,748	57,362	3,163	124,271	61.3	49,608	4,319	1,623	55,545	538	8,708	401	9,647	58.6
	First or West	32,888	31,334	...	17,233	887	18,120	55.1	16	20,778	493	21,287	67.9	16	3,545	...	3,561	...	...	394	394	17.5
	Second or East	46,193	42,171	...	12,269	835	13,104	28.4	21,813	6,550	296	28,653	68.0	21,813	...	...	21,813	...	5,719	539	6,258	118.7
Total		79,081	73,505	...	29,502	1,722	31,224	39.6	21,829	27,328	789	49,946	67.9	21,829	3,545	...	25,374	...	5,719	933	6,652	60.0

Tahsil.	Pargana.	Circle.	Total cultivated area.		Past wet area.					Present wet area.					Increase of wet area.				Decrease of wet area.				Percentage of net increase of total wet area.		
			Past.	Present.	Canal.	Wells.	Other sources.	Total.	Percentage of wet to total cultivation.	Canal.	Wells.	Other sources.	Total.	Percentage of wet to total cultivation.	Canal.	Wells.	Other sources.	Total.	Canal.	Wells.	Other sources.	Total.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Antyushahr.	Antyushahr.	First Second Third Fourth	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.		
			16,811	17,822	...	8,789	197	8,986	53.5	...	10,309	65	10,374	58.2	...	1,520	...	1,520	...	1,520	132	132	15.4
			25,235	24,996	...	6,662	250	6,912	27.4	8,512	6,274	132	13,918	55.7	8,512	8,512	...	8,512	...	1,388	118	1,506	101.4
			7,823	8,207	...	5,194	77	5,271	67.4	4,101	2,902	13	7,016	85.5	4,101	4,101	...	4,101	...	2,292	64	2,356	33.1
			2,923	2,784	...	288	13	301	10.3	72	665	7	744	26.7	72	377	...	449	6	6	147.2	49.3	
		Total	52,792	53,809	...	20,933	537	21,470	40.7	12,085	19,150	217	32,052	59.0	12,085	1,897	...	14,582	...	3,680	320	4,000	40.3		
Ahar.	Ahar.	First Second Third	37,665	43,060	9	10,672	955	11,636	30.9	6,300	17,396	570	24,266	53.8	6,291	6,724	...	13,015	385	385	108.5	
			11,426	13,167	...	2,272	115	2,387	20.9	6,896	1,308	57	8,261	62.7	6,896	6,896	964	58	1,022	246.1	
			3,594	11,026	...	1,647	97	1,744	18.2	471	1,967	19	2,457	22.3	471	320	...	791	78	78	40.9
		Total	58,686	69,283	9	14,591	1,167	15,767	26.9	13,667	20,671	646	34,984	50.5	13,658	7,044	...	20,702	...	964	521	1,485	121.9		
		Tahsil Total	1,90,558	1,96,597	9	63,026	3,426	68,461	35.9	48,181	67,149	1,652	1,16,982	59.5	48,172	12,486	...	60,658	...	10,363	1,774	12,137	70.9		
		District Total	7,97,509	8,51,169	33,741	2,78,118	21,022	3,27,881	41.1	2,24,178	2,78,674	12,886	5,15,738	60.6	1,91,142	53,181	1,688	2,46,211	705	47,025	10,024	58,354	57.9		

66. For canal irrigation the figures of last settlement are subject to some modification. The area stated is that of the measurements: but between them and the time of assessment there was some extension. The details of this area are nowhere stated. But it is said in Mr. Currie's final report (para. 78) that the increase for the whole district was about 2 per cent. of the cultivated area. The Settlement Officer constantly noted in the village statements of certain parganas that an extension had taken place, and to some undefined extent took account of it in his assessment. Two per cent. on the cultivated area of last settlement would represent 15,950 acres, but nothing like so large an increase on the wet area of the measurements was treated as wet for assessment purposes. Mr. Currie seems to have had some sort of mistrust of canal irrigation and, where he could, he moderated its effect in his calculations.

It is not quite clear whether Mr. Currie meant to show the irrigable area as above defined, or the lands found to be actually watered in the year of settlement. So far as it is possible to ascertain, there seems to have been a mixture of both methods. The average area per *lao*, $8\frac{1}{2}$ acres, certainly represents more than the watering of a single season. On the other hand, there is nothing to show any systematic inquiry into the capacity for irrigation of the different estates, and there are abundant indications that recently existing sources of irrigation were overlooked.

67. The very striking increase of well irrigation in those circles where the canal has not supplanted it may be ascribed to three possible causes:—

1st.—The *bond fide* development of wells.

2nd.—Concealment at last settlement.

3rd.—Errors of record at last settlement.

It is from the nature of the case impossible to formulate precisely the value of each cause. But it may be affirmed with much confidence that the effects due to the first mentioned cause are very inconsiderable, and that the great bulk of the increase is due to the second cause.

It will be observed that in the first circle of pargana Sikandarabad, notwithstanding the extensive facilities for canal irrigation, the well watered area has largely extended. The reason seems to be that a great deal of this circle is cultivated by Ahirs and Jats, who understand the superior merits of well water and are sufficiently laborious and enterprising to develope it.

68. Canal irrigation in the whole district has increased from 33,741 acres to 224,178, or by 565 per cent.; well irrigation has risen from 273,118 to 278,674 acres, or by 2 per cent. only. The total irrigated area has grown from 41.1 per cent. of the cultivation to 60.6, and of this latter figure 26.3 is due to canals, 32.8 to wells and 1.5 to other sources.

Some of the increase is due to spread of cultivation, though the exact amount cannot be stated. For this addition to the wet area the canal is probably entitled to the chief credit, as facilities for obtaining canal water encourage reclamation of waste land.

A map accompanies this report which will show at a glance the localities and areas of canal extension and will readily illustrate the figured statement above supplied.

69. This seems the fitting place to notice the very striking rise which has taken place in the spring level of the district since last settlement. It is both the effect and the cause of extended facilities for irrigation. Mr. R. G. Currie wrote in April 1865—

"The depth of water from the surface in the tracts of inferior land along the high banks of the Ganges and Jumna varies from 24 to 30 feet, whilst in Jewar it is 40 feet. In the body of the district generally the water level is some 18 feet below the surface of the earth *or was before the last four or five years*, since which time, as mentioned elsewhere, the water level has been much disturbed in those parganas or parts of parganas where there is a great network of the canal and its branches and distributing channels."

The further allusion seems to be a remark that "the immediate effect of the canal upon the country has been a general rise in the water level of about six feet on the average all over that part of the country traversed by the main canal and its rájbahas and irrigating channels. This has been caused in a great measure by percolation from the canal and its watercourses, but also by the superfluous irrigation given all over the country where flush or direct irrigation '(tor)' from the irrigating channels is available. The result has been the wholesale destruction of temporary or 'kachcha' wells and their almost entire supersession by the canal irrigation. In villages amongst the network of canals, but more especially near the main Ganges Canal, the water comes up to within three or four, and even two, feet of the surface of the earth in the rainy season, and water can be taken by the hand out of what ordinarily is a well of from 12 to 15 feet deep and in which water used to be from 18 to 20 feet below the surface of the earth before the canal was made."

The figures given for the average spring level in each pargana are here noted. They are apparently those of the years of measurement :—

<i>Pargana.</i>					<i>Average spring level.</i>
Dankaur	...	...	...	...	20'·9"
Dadri	...	...	...	...	20'·8"
Sikandarabad	...	...	...	...	22'
Pahasu	...	...	...	...	18'
Khurja	...	...	...	...	19'
Jewar	...	...	...	...	28' (East 24'·5" west 32').
Agauta	...	...	...	...	24'
Baran	...	...	...	...	20' (Baran khans 11½).
Shikarpur	...	...	...	...	19'·4"
Siyana	...	...	...	...	18'·4"
Anúpsahr	...	...	...	...	27'
Ahar*	...	...	...	...	18'·8"
Dibai	...	...	...	...	24'·10" (in west part 22').

* Between canal and Ganges 25' to 30'; elsewhere 18'·6."

These figures must be taken for what they are worth, as they do not seem to have been gained by continued observations in different years and at different seasons of the year. The high level, for instance, of Shikarpur and Siyana, and perhaps of Ahar also, must be partly at least due to some variation in the method or conditions of measurement.

For the present water levels the following figures have been taken from the annual report of the Irrigation Department for 1887. They are the mean for the years 1884, 1885 and 1886 and are the abstract of observations taken along lines drawn—

- (1) From Jewar on the Jumna to Hartala on the Kali nadi.
- (2) From Dankaur on the Jumna to Asawar on the Kali nadi.
- (3) Along the Bulandshahr-Anúpsahr metalled road from the Choya bridge to Anúpsahr.

The number of stations is five in pargana Jewar, nineteen in pargana Khurja, three in pargana Dankaur, six in pargana Sikandarabad, six in pargana Agauta, four in pargana Anúpsahr.

The results are—

<i>Pargana.</i>	<i>Spring level.</i>
Jewar	17'6"
Maximum 36' at Jewar on the bank of the Jumna.	
Minimum 4' at Ali Ahmadpur, close to the Mat Branch Canal.	
Khurja	8'9"
Maximum 12' at Munda Khera on the main canal.	
Minimum 5' at Batwara on the Kali nadi.	
Dankaur	9'
Maximum 11' at Dankaur on the Jumna.	
Minimum 7' at Sanauta on the main canal.	
Aghauta	9'8"
Maximum 13' at Gulaoti above the Kali nadi.	
Minimum 4' at Asawar in the Kali nadi valley.	
Anúpsahr	19'1"
Maximum 28' at Karanpur above the Ganges.	
Minimum 12'5" at the Choya bridge.	

For the other parganas no returns are available. The Settlement Department had no means of making continued observations at different seasons and of a trustworthy character; but the above figures will clearly indicate the great change that has occurred in the spring level and how much it depends on the influence of the canal. The latter point has been clearly brought out by observations made throughout the Doab by Dr. Swcený, Deputy Sanitary Commissioner, and recorded in his annual report for 1885. Though the Settlement Department cannot quote measurements of its own, still its general observations entirely bear out the conclusions to be gained from the foregoing figures and references. By the universal declaration of the people there has been an enormous and permanent rise in the spring level, directly proportioned to the supply of canal water and greatest in those parts traversed by large and constantly flowing high level channels.

SECTION 3.

THE ASSESSMENT CIRCLES.

70. The classification by soils and irrigation has now been described. The next step is to explain the formation of the assessment circles. Here the ground was altogether new. At last settlement circles were formed in pargana Siyana alone. Elsewhere the only distinction drawn in any pargana was between *bāngar* and *khádir*, and even it was incomplete. Each pargana was treated as a circle, and there was really very little difference between the rates of different parganas. Yet the formation of homogeneous circles was of much more importance under the old system, where the revenue was directly calculated by the application of standard rates, than in the present system, where the standard rates are only used as a test or measure of adequacy and the revenues are based primarily on actual assets. The employment of uniform rates over tracts it has been the business of unequal natural capability produced much inequality in the assessments, which the present settlement to remove. In one sense there are much more and greater inequalities now than ever there were before. But now they are determined by the varying capacity and rental assets of different estates. The old inequalities were in the proportion of revenue to profits; new inequalities will be found in the incidence of revenue on area.

71. The present circles have been formed topographically. So far as was found consistent with compactness, they include tracts possessing the same natural qualities and characteristics. The only features from the topographical arrangement have been where the unequal pressure management has assimilated rents over tracts which are naturally of different

capability or has differentiated the rents over tracts of naturally equal quality. With but few exceptions the rents have, as might be expected, been found to follow the natural conditions of soil and irrigation. The circles are therefore fairly homogeneous both as regards the prevailing rents and the resources of the villages which belong to them.

It has, for different reasons, been found necessary and convenient to discriminate the circles by parganas, but there will of course be found much similarity between adjoining circles of neighbouring parganas.

The sketch which has already been given of the natural features of the district, together with the map which accompanies this report, will make it easy to understand the arrangement of circles now devised.

72. Commencing in the centre of the district, each of the parganas Agauta, Baran, and Pahasu which is traversed by the Kali nadi, has been divided into two circles representing the land lying on either bank of the river. In pargana Pahasu each circle has been divided in two groups, (A) non-occupancy and (B) occupancy, while the 30 villages of the Rais of Chitari have been kept in a separate group by themselves. This peculiar arrangement is due to the rapacious management of the large proprietors, which rendered it impossible to frame a single set of rates applicable fairly to both their villages and to those managed on more reasonable principles.

The west circle is in each pargana the best of the two, both because the soil is superior and because complete irrigation is supplied from the Ganges Canal. At the north the same formation extending farther west has been included in the first or best circles of parganas Sikandarabad and Dadri. The villages situated on the two sandy belts which run down the district have been marked off into circles by themselves, forming the third circle in each pargana,—Dadri, Sikandarabad, Jewar and Khurja. The villages in the level belts lying along these sandy ridges go to make up the second circles of these parganas so far as not allotted to the first circles.

In pargana Jewar, where the sandy zone becomes ill-defined, the soil of the second circle is generally light and more closely allied to that of the third circle.

In pargana Khurja the second and third circles are somewhat intermixed, owing to the interposition of the sandy spurs which run down the pargana.

Two detached tracts of exceptionally good soil lying between the two sandy zones supply the first circles of parganas Jewar and Dankaur and contribute a few villages to the first circle of pargana Dadri. The Jumna khádir is divided into (1) that of the Jumna proper, (2) that within the influence of the Hindan and Bhuriya and (3) that small tract in parganas Dadri and Dankaur described as the upper khádir.

The tract along the east of the Kali nadi forms, as already observed, the second circles of parganas Agauta, Baran and Shikarpur. To it are added the villages of Agauta which lie in the Kali nadi valley. It includes also the whole of pargana Shikarpur, which, being of a homogeneous character, contains but one circle. The same formation extending eastward up to the Choya includes the first circles of parganas Siyana, Ahar, Anúpsahr and Dibai. The tract east of the Choya forms but one circle in pargana Dibai. In pargana Anúpsahr it has been divided into three according to the varying quality of the soil. In Ahar a portion of it has been included in the first circle because, owing to pressure of management, the same rents were found to prevail, though the natural conditions are inferior. The remainder has been divided into two circles. The Choya rises in pargana Siyana and does not form a natural division between the eastern and central parts. The latter is characterised by inferiority of soil and liability to injury from surface water. The villages so affected have been marked off into the third circle, and the eastern part form the second. This pargana only touches the river at one point, and its eastern circle does not possess the

same natural defects as the eastern parts of the other parganas which lie along the Ganges khádir.

The Ganges khádir is too inconsiderable to contain a separate circle or series of circles by itself. It is included in the adjacent upland circles.

For fuller information concerning the structure and characteristics of the circles the various assessment reports must be consulted. In them the subject has been treated with detail which could not be reproduced in the present report.

73. The whole district is divided into 44 assessment circles or groups, thus distributed :—

Tahsil Sikandarabad.

Pargana Sikandarabad—1st Circle.

2nd Circle.

3rd Circle (bhur pilota).

Pargana Dadri—1st Circle.

2nd Circle.

3rd Circle (bhur pilota).

4th Circle (Hindan Bhuriya khádir).

5th Circle (Jumna khádir).

6th Circle (upper khádir).

Pargana Dankaur—1st Circle.

2nd Circle.

3rd Circle (bhur pilota).

4th Circle (Hindan Bhuriya khádir).

5th Circle (Jumna khádir).

6th Circle (upper khádir).

Tahsil Khurja.

Pargana Jewar—1st Circle.

2nd Circle.

3rd Circle (bhur pilota).

4th Circle (Jumna khádir).

Pargana Khurja—1st Circle.

2nd Circle.

3rd Circle (bhur pilota).

Pargana Pahasu—1st Circle (A) non-occupancy.

(B) occupancy.

2nd Circle (A) non-occupancy.

(B) occupancy.

3rd Chitari group (A) non-occupancy.

(B) occupancy.

Tahsil Baran.

Pargana Baran—1st Circle (west).

2nd Circle (east).

Pargana Agauta—1st Circle (west).

2nd Circle (east).

Pargana Shikarpur—1st Circle (only one circle).

Pargana Siyana—1st Circle (west).

2nd Circle (east).

3rd Circle (central).

Tahsil Anúpsahr.

Pargana Dibai—1st Circle (west).

2nd circle (east).

Pargana Anúpsahr—1st Circle (west).

2nd Circle.

3rd Circle (Malakpur group).

4th Circle (includes khádir land).

Pargana Ahar—1st Circle.

2nd Circle (Daulatpur group).

3rd Circle (includes khádir and bhur villages).

The number of circles has of course been increased by the necessity of keeping the circles of each pargana separate and complete in themselves. But for this the number might have been possibly reduced to twelve. This would have allowed three circles for the Jumna khádir, one circle for the sandy formations where bhur and pilota soils prevail, two circles for the remainder of the central plain and three circles for the tract east of the Choya. To this would have to be added three separate circles or groups for the non-occupancy and Chitari villages of the Palasu pargana. But with such an arrangement it would not have been possible to graduate the circle rates according to all the varying conditions of rents and tenures. These rates are based on actual rents, and true actual rents vary in different parganas from other causes than natural quality of soil. Pressure of management, prescription, caste, kinship, relations of proprietor and tenant, proximity of towns and markets, available waste, subsidiary industries, these and many other causes go to determine the movement of rents. On the whole, no doubt, the rents do follow natural advantages, and the higher rates in the better circles, with few exceptions, reflect faithfully the higher range of rents actually paid. But there are minor, though not unimportant, distinctions in the various local divisions, and advantage has been taken of the distribution of circles by parganas to adjust the standard rates accordingly. The rates are identical in only 5 out of the 44 intra-pargana circles, and in 39 the rates differ to a greater or less extent. This latter figure therefore represents the minimum number of circles which would have been formed had the district been destitute of subdivisions and assessed and reported as a whole. The excess is due to the necessity which existed of keeping the figures of each tahsíl and pargana separate and of completing and reporting the assessment in corresponding instalments.

SECTION 4.

CIRCLE SOIL RATES.

74. The assessment circles having been formed and their areas classified according to soil and irrigation, the next step was to frame the soil rates or standard rates for each circle.

The primary object of these rates, it may be once again stated, is to admit the calculation of standard or test rentals, by comparison with which the adequacy or correctness of the recorded rentals may be judged. They also serve a very useful end in assisting the calculation of the assumed or substituted rental of nominally or inadequately rented lands. The circle rates have often, though not invariably, been found the most suitable for this purpose and have been freely employed thereon.

75. The rule for selecting standard rates (rule 15 of Board's Book Circular 9—I) provides that "the Settlement Officer will select a general standard rent rate for each class of soil in the circle. The rent rates selected should correspond as closely as possible with the rents recorded as actually paid by cash paying tenants in the villages which form the circle."

As *rates* cannot be compared with *rents*, the meaning of the rule presumably is that the selected rate for each class of soil is to be such that its resultant, when applied to the same soil area, will agree with the rent recorded as actually paid for that soil area either in separate villages or in the circle as a whole. Literal compliance with this rule was absolutely impossible here because there is no such thing in the village papers as either a recorded soil rate or a recorded soil rent. Soil rates are to a greater or less extent recognised among the people themselves, and the present recorded rents have undoubtedly at some time or other been framed, however rudely, upon them. But they find no place in the record, and have to be ascertained

by careful and patient enquiries in the villages. The rent, however originally gained, is now invariably shown as a lump rent for all classes of land. It was impossible therefore to either ascertain the differential soil rates from the record or to test them by application to different soil areas, each with its own separate rent. No such record existed anywhere in the district. The rates were ascertained by local enquiries and they were tested by comparison of their total resultants when applied to the soil areas of whole villages or circles with actual total rentals recorded as paid for those villages or circles.

76. The selection of circle soil rates was entirely the personal work of the assessing Method followed in officers. In the course of their inspections very careful selection of rates. enquiries were made to ascertain the rates current in each village. The instinctive or inherited tendency of all classes to deceive the Settlement Officer added something to the difficulty just noted that the rents are always stated as lump rents. It was necessary to go back to the period, often remote, when the present rents were fixed and to recover, as far as possible, the process and rates by which they were calculated. Occasionally a tenant was found who held but one class of land and the incidence of his rent gave a rate: but these were generally sub-tenants holding small patches for short periods and paying excessive rents which could not safely be taken into account. However, such rents gave a maximum, as the revenue rate gave a minimum of the possible demand.

The patwāris, where so disposed, were often able to render much assistance, as they were concerned in the fixation of the lump rents and were acquainted with the rates on which they were usually based. Their statements were verified by enquiries from tenants or proprietors and by analysis of holdings.

Sometimes differential rates were found to exist for each class of soil; sometimes the distinction was only between wet and dry, and sometimes only between bāra and outlying. In many cases there was only a single rate for all lands and, in some cases no real rate, but only a rental incidence of lump rents, which were determined more by the opportunities of the proprietor and the necessities of the tenant than by natural distinctions. There were often considerable variations from village to village according to the character of the management. But it was generally possible to ascertain rates which were recognised as fair and were actually paid under ordinary circumstances. Even where rates were extraordinary or were incorrectly stated from design or ignorance they might still be useful as showing the relative rates for each class of soil.

All these facts were carefully noted as the inspections proceeded. When the circles were formed and the villages grouped, all the ascertained rates were collated and averaged and those selected which were most fairly representative and current over the largest areas. In making these calculations all rates were discarded which were either inordinately low or excessively high.

Occupancy rents were not excluded, but naturally the abnormally low rents were in most cases paid by occupancy tenants because the same causes which kept down the rent encouraged the growth of occupancy rights. But the rates framed are based on both occupancy and non-occupancy rents and apply equitably to villages containing a proper proportion of occupancy tenants.

The rates thus gained were checked by their application to certain selected villages ascertained on local enquiry to be of fair average Checks employed. quality and reasonably and intelligently managed. Finally the rates were tested by their application to the entire circle areas and comparison with the actual rental corrected for nominally rented and rent-free lands.

Sometimes these processes necessitated a reduction of the rates originally taken. It seemed strange that this should be the case when the rates selected were those actually current and some pains were taken to ascertain the reason. The explanation was generally found to be not in the rates, but in the areas employed by the people for adjusting rents. Where rents were fixed by mutual agreement a compromise was

ordinarily effected not by reducing rates, but by altering areas. Where the use of the full correct areas brought out a total rent which the tenant considered excessive and abatement was conceded, it was reached by calling the bura or wet area less than it really was and the case was thus settled on its own merits. A reduction of rate might have involved a reconsideration of all the other rents too. Where rents had been fixed by an order of court or where management was strict the rates were fully applied. But their full application over an entire circle to villages of every description would give an unduly high result. For obvious reasons the settlement areas could not be altered, and therefore the necessary adjustment was secured by modifying the rates.

As Mr. Baillie has well observed "the circle rates so arrived at are *natural*, that is, they depend entirely, or almost entirely, on ascertained fact and not on the opinion of the Settlement Officer as to their propriety or impropriety. The proportion borne by the rate for one class of soil to that for another is fixed by the village rates. The absolute amount of the different rates is—the proportion being determined—absolutely fixed by the necessity for agreement between the actual and the circle rate rent-rolls."

Statement of rates finally selected.

77. The rates finally selected are per acre :—

Tahsil.	Pargana.	Circle.	Bara, wet.	Bara, dry.	Outlying, wet.	Outlying, dry.	All round.	
1	2	3	4	5	6	7	8	
			Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
Sikandarabad.	Sikandarabad.	First ...	10 0 0	5 8 0	5 8 0	3 4 0	5 7 0	
		Second ...	9 8 0	5 0 0	5 0 0	3 0 0	4 9 0	
		Third or bhar pilota ...	8 12 0	4 0 0	4 8 0	2 8 0	3 9 0	
	Dadri ...	First ...	10 0 0	5 8 0	5 8 0	3 4 0	5 5 0	
		Second ...	9 0 0	5 0 0	5 0 0	3 0 0	4 9 0	
		Bhar pilota ...	8 0 0	4 8 0	4 8 0	2 4 0	3 3 0	
		Hindan-Bhuriya khádir ...	8 0 0	4 0 0	3 8 0	3 8 0	3 9 0	
		Junna khádir ...		General rate.			3 4 0	
		Upper khádir ...		Ditto.			2 8 0	
	Dankaur ...	First ...	9 8 0	5 4 0	5 4 0	3 4 0	5 3 0	
		Second ...	9 0 0	5 0 0	5 0 0	3 0 0	4 8 0	
		Bhar pilota ...	8 0 0	4 8 0	4 8 0	2 8 0	3 8 0	
		Hindan-Bhuriya khádir ...	8 0 0	4 0 0	3 8 0	3 8 0	3 9 0	
		Junna khádir ...		General rate.			3 0 0	
		Upper khádir ...		Ditto.			2 8 0	
Bulandshahr.	Baran ...	First or West ...	15 0 0	6 8 0	6 8 0	3 4 0	6 12 7	
		Second or East ...	12 0 0	6 0 0	6 0 0	3 0 0	5 1 9	
	Agauta ...	First or West ...	15 0 0	7 0 0	7 0 0	3 10 0	7 8 6	
		Second or East ...	11 3 0	5 10 0	5 10 0	2 13 0	5 8 11	
	Siyana ...	First or West ...	11 3 0	5 0 0	5 0 0	2 10 0	4 5 9	
		Second or East ...	12 0 0	5 3 0	5 3 0	3 0 0	4 8 5	
		Third or Central ...	10 13 0	4 13 0	4 13 0	2 5 0	3 4 9	
	Shikarpur ...	...	15 0 0	6 0 0	6 0 0	3 4 0	5 7 0
	Khurja ...	Khruja ...	First ...	14 8 0	6 0 0	6 0 0	3 4 0	6 0 5
			Second ...	13 0 0	5 4 0	5 4 0	3 4 0	5 1 4
Third ...			13 0 0	5 0 0	5 0 0	3 0 0	4 10 3	
Jewar ...		First ...	9 0 0	5 0 0	5 0 0	3 0 0	4 1 8	
		Second ...	9 0 0	4 8 0	4 8 0	2 12 0	4 0 8	
		Third ...	8 0 0	4 4 0	4 4 0	2 12 0	3 7 5	
		Fourth (khádir) ...	7 0 0	5 0 0	3 0 0		3 1 10	
Palhasu ...		First { A.—Non-occupancy group. B.—Occupancy group.	17 0 0	7 8 0	7 8 0	3 8 0	7 14 5	
			14 0 0	5 14 0	5 14 0	2 8 0	6 1 3	
		Second { A.—Non-occupancy group. B.—Occupancy group.	16 0 0	6 0 0	6 0 0	3 0 0	5 2 3	
			14 0 0	5 8 0	5 8 0	2 8 0	4 8 0	
Anúpsbahr ...	Dibai ...	First or West ...	14 0 0	6 0 0	6 0 0	2 12 0	5 12 2	
		Second or East ...	14 0 0	5 12 0	5 12 0	2 8 0	5 3 10	
	Anúpsbahr ...	First ...	12 8 0	5 6 0	5 6 0	2 8 0	4 10 1	
		Second ...	12 0 0	5 0 0	5 0 0	2 4 0	4 1 8	
		Third ...	12 0 0	5 8 0	5 8 0	2 8 0	5 7 9	
		Fourth { Bángar Khádir	12 0 0	5 0 0	4 0 0	2 0 0	3 7 10	
			13 0 0	13 0 0	4 8 0	4 8 0		
	Ahar ...	First ...	12 8 0	5 6 0	5 6 0	2 8 0	4 7 0	
		Second ...	12 0 0	5 0 0	5 0 0	2 8 0	4 5 10	
		Third { Bángar Khádir	12 0 0	5 0 0	4 12 0	2 4 0	3 1 10	
			13 0 0	13 0 0	4 8 0	4 8 0		

A general explanation of the variation of these rates will be gathered from the foregoing remarks. For detailed information the various assessment reports must be consulted. In them the divergences are explained and the subject treated at length. The wide range of rates for the different classes of soils and the different localities shows the necessity for a large number of circles and affords some guarantee that the revenue has been graduated according to the varying local conditions.

73. The ultimate test under the rules of the correctness of the standard rates is the coincidence of their resultant standard rental with the actual rent-rolls. The following table has been framed to illustrate the coincidence of these two and also of corrected rent-rolls. In all three rentals the abatement for sir is omitted. The actual rental, column 4, is the actual cash rent with addition at cash rates for sir, khudkásht, batái and rent-free land. The corrected rent-roll is the total of village assessment statement No. VII with the sir abatement added. Without these adjustments the comparison of column 3 with columns 4 and 5 would have been misleading.

Tahsil.	Pargana.	Standard rental.	Actual rental.	Corrected rental.
1	2	3	4	5
		Rs.	Rs.	Rs.
Sikandarabad	Sikandarabad ...	3,25,861	3,52,225	3,52,209
	Dadri ...	4,13,281	3,88,353	4,23,894
	Dankaur ...	2,07,643	1,81,980	2,00,553
	Total ...	9,46,785	9,22,558	9,76,746
Bulandshahr	Baran ...	3,72,959	3,67,008	3,71,370
	Agauta ...	3,13,247	3,24,308	3,13,629
	Siyana ...	2,89,789	2,77,120	2,92,682
	Shikarpur ...	2,17,440	2,21,206	2,20,791
	Total ...	11,93,435	11,89,642	11,98,472
Khurja	Khurja ...	4,59,849	4,71,895	4,66,355
	Jewar ...	2,65,833	2,51,164	2,69,297
	Pahasu ...	3,18,626	3,31,260	3,27,146
	Total ...	10,44,308	10,54,319	10,62,798
Anúpsahr	Dibai ...	4,09,753	3,76,605	4,00,466
	Anúpsahr ...	2,52,561	2,25,203	2,54,737
	Ahar ...	2,98,698	3,09,197	3,18,278
	Total ...	9,61,012	9,11,005	9,73,481
	District Total ...	41,45,540	40,77,524	42,11,497

The variations in the different parganas have been explained in the assessment reports. It may generally be observed that the standards have been kept low to avoid severity and unnecessary rejections and to admit the free use of standard rates for the calculation of substituted rentals. In every tahsil the standard falls below the corrected rental, which is raised by the inclusion in it of high genuine rentals.

The actual (recorded) rental, on the other hand, is sometimes lowered by the presence of fraudulent and nominal rent-rolls and sometimes inflated by a preponderance of high genuine rents. It therefore sometimes rises above and sometimes falls below the other two. For instance, in pargana Pahasu, where rents run very high and (excluding Chitari villages) have been now correctly recorded, the actual rental is above both the standard and the corrected rent-rolls. In pargana Dibai, where there was much attestation of fraudulent rent-rolls, and in pargana Anúpsahr a large proportion of inadequate rentals, it is well below both.

Looking at the magnitude of the sums involved, the correspondence between the corrected and the standard rent-rolls for the whole district is very close, and the excess of both over the attested rent-rolls is sufficiently explained by the falsification of some village rentals and the inadequacy of others.

79. It would be little use entering into a comparison between the rates now fixed and those of the last settlement which were framed in a different way and for a different purpose. They are merely placed here for reference, if required :—

Pargana.	Bara, wet.	Bara, dry.	Outlying, wet.	Outlying, dry.	Khádir lands bearing two crops and sugarcane lands.	Khádir lands bearing one crop.
1	2	3	4	5	6	7
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
1. Sikandarabad ...	9 0 0	4 0 0	3 12 0	2 0 0	...	...
2. Dadri ...	8 0 0	4 0 0	3 8 0	1 12 0	5 8 0	2 8 0
3. Dankaur ...	8 0 0	4 0 0	3 10 0	2 0 0	5 8 0	2 8 0
4. Baran ...	9 8 0		4 4 0	2 0 0	...	...
5. Agauta ...	9 9 7		4 2 0	2 0 0	...	...
6. Siyana, { Western ...	12 0 0	5 0 0	5 4 0	2 8 0	...	...
{ Eastern ...	10 8 0	4 8 0	4 8 0	2 0 0	...	...
{ Central ...	11 0 0	5 0 0	5 0 0	2 4 0	...	...
7. Shikarpur ...	12 0 0		4 0 0	2 0 0	...	...
8. Khurja ...	12 0 0	6 0 0	4 0 0	2 0 0	...	...
9. Jewar ... { Bángar ...	11 0 0	5 0 0	3 12 0	2 0 0	...	...
{ Khádir ...	11 0 0	5 0 0	4 0 0	2 4 0	...	...
10. Pahasu ...	11 0 0		4 0 0	2 0 0	...	...
11. Dibai ...	11 0 0	7 0 0	4 0 0	2 0 0	9 4 0	3 12 0
12. Anúpshahr ...	10 0 0		3 10 0	1 12 0	7 8 0	3 0 0
13. Ahar ...	10 8 0	7 0 0	4 0 0	2 0 0	8 0 0	3 0 0

The results have been separately considered in tracing the growth of rents since last settlement. In pargana Siyana alone the present standard rates are lower than those of the past. Concerning this Mr. Baillie writes—

“ It must not for a moment be supposed that in any part of the pargana there has really been a fall in rent rates ; on the contrary, there has been a * * * real and well marked rise. The explanation is that Mr. Robert Currie’s assessment rates, more particularly in the west circle, were far above the rent rates then paid and actually far above the rent-rates decreed in the settlement courts in enhancement cases. * * * The result is that rent rates in the west of Siyana have not yet risen to Mr. Currie’s assessment rates, and that the rise in land revenue is solely derived from extension of cultivation and irrigation. ”

SECTION 5.

REVISION OF VILLAGE RECORDS.

80. It has been mentioned that Mr. Benett, then Director of Agriculture and Commerce, examined and reported on the village maps in 1882-83. Preliminary operations. Mr. Benett’s enquiry in 1882-83. This was only part of a general enquiry into the condition of the village records with the object of ascertaining how far they could be used for settlement purposes. The general result of Mr. Benett’s investigation was to show that in the matter of cultivation, crops, irrigation and areas generally the village records and the kanúngo’s registers were, on the whole, as accurate as could be expected and would furnish valuable and trustworthy material. It may be observed here that the general results of the present settlement operations have justified Mr. Benett’s anticipations. As regards the recorded rent-rolls the conclusions were not so satisfactory. It appeared that in the villages of small proprietors and ordinarily throughout the district the rents were stated with fair accuracy. But there was reason

to expect concealment on the estates of large proprietors, and there was something to show that rents had been let down upon paper in view of the approaching settlement. The Commissioner, Mr. E. Colvin, took a stronger view of the incorrectness of the recorded rentals. It will be seen hereafter that these apprehensions were fully justified.

With a view of removing such errors as existed and of bringing the records generally up to the highest attainable degree of accuracy, a Deputy Collector was placed on special duty for each of the three following cold weathers in order to thoroughly overhaul, test and correct the village papers as well as look after the map correction. Rāja Lachman Singh was selected for this duty and allowed a munsarim, a muharrir and an English clerk. There is no report on record to show exactly what was done during these preliminary operations, but it appears that, in addition to the ordinary annual testing of village papers, the rent-rolls were read out to the tenants, and seem to have been by them admitted as correct quite as a matter of course and entirely irrespective of the real facts. Rāja Lachman Singh also prepared for nine parganas a pargana book, which showed the past and present statistics of each village, the recorded rents and also the rent at fair average rates which he framed for each pargana. He also added a note on the character of the village and the correctness or adequacy of its rent-roll. These books were found of some service to the assessing officers, and it is clear from the entries that in many, perhaps most, instances the concealment of rental was known or suspected, though its extent was not discovered nor the real rental ascertained or recorded.

On the whole these preliminary operations do not seem to have been productive of much advantage. They were useful at most in stirring up the patwāris to greater punctuality and completeness in their work, but it may be doubted whether they succeeded in eliminating any large proportion of error. One undesigned effect, however, was accomplished. Those proprietors who had systematically falsified their returns were lulled into a false sense of security when they found how easy it was to escape exposure, and falling into the belief that they had no more formidable ordeal to fear, they became negligent or overconfident and omitted precautions which they might otherwise have taken. Discovery was thereby facilitated when a serious effort was made to ascertain exactly the real state of affairs.

81. According to the principles now in force, the revenue assessment rests on the actual rent-rolls, unless they are shown to be fraudulent or unreasonably inadequate. A new and very great importance thereby attaches to the village papers. In the absence of a fresh survey they alone supply the areas and, subject to check and correction, they also furnish a primary statement of the assessable assets. It is necessary therefore at this stage to give some account of the condition and accuracy of these records and of the measures taken to revise and correct them. Moreover, the system of revision here adopted was in many respects entirely new, and for this reason also a brief description of it will not be out of place.

82. In previous settlements it has been usual to construct an entirely new record based on a fresh survey and a new field book from which the other records were compiled. If the existing records were not discarded altogether, they were certainly turned to little account. This was inevitable where the maps and records had fallen into an obsolete and erroneous state, owing to want of continuous supervision and correction, and could not by any reasonable measure of mere amendment be worked into a satisfactory basis for a new settlement. Recent years have, however, seen a great reformation in this respect. With the inauguration of a special department in 1875 under Sir Edward Buck as Director, the work of patwāris was brought and has since been kept under systematic control and revision.

Revision by Rāja Lachman Singh, Deputy Collector.

Importance of actual rent-rolls under present system.

Old method of record revision.

Change effected by Department of Land Records and Agriculture.

It was expected, as already shown, that they would be found in this district sufficiently accurate to furnish all the information required for settlement purposes. Though this expectation has not been fully realized, they had certainly advanced so far towards accuracy and completeness that there was no longer any necessity to undertake the construction of a new record. The much more summary measure adopted was to have

Summary method of revision now adopted.

the ordinary annual papers prepared under the supervision of the Settlement Department, on whom devolved the duty of verifying, attesting and correcting them up to date in accordance with admitted facts. The annual records so prepared form the settlement records and from them the statistics necessary for framing and supporting the assessments were abstracted. So far as possible the kanungo and patwari staff were fully utilized for all these operations.

83. The first step was to cause the patwaris under the supervision of kanungos to make a rapid field inspection of their circles, noting in a list all the changes which had been made in the holdings of the previous year. This occupied about a fortnight, and for the villages which were to come earliest under attestation was completed by the middle of August. For all villages to which operations were to extend it was complete by the middle of September. The patwaris were then brought into the head office and a draft rent-roll (*jamabandi*), field-book (*khassra*) and proprietary registers (*khewat*) were prepared. The basis of these was the records of the preceding year, such corrections being made as the summary inspection showed to be necessary to represent the altered conditions of the current year. This part of the work involved the correct classification of occupancy and non-occupancy holdings and of *sir* as distinguished from *khudkash*, the entry of natural soils from the last settlement field-book and the determination of the irrigable and dry areas in the manner already described. This work was done by the patwaris and kanungos only, checked, tested and supervised by the special settlement staff. The classification of holdings and *sir* simply followed the recorded facts. If a tenant was down as of 12 years' standing or upwards, he was entered as occupancy unless shown in the record as legally disqualified by reason of holding under lease, in lieu of service, &c. Similarly, proprietary cultivation was classified according to the recorded facts ascertained by reference to the papers of previous years. This part of the work was rather troublesome as the village papers did not contain any entry of the length of continuous *khudkash* cultivation and the records for a series of years had to be consulted.

The *jamabandi* and *khewat* were drawn up on slips or loose sheets, each containing the holding of a single tenant. Where there were several *mahals* the holdings in each were entered on a single slip, each being separately discriminated.

When these rough records were ready the patwari was then sent back to his circle, taking with him the *jamabandi* and *khewat* slips and the draft *khassra*. A second draft of the *khewat* was retained by the Deputy Collector. The patwari at once distributed the slips to the occupants recorded in each. He then set to work to carefully test the field book and correct the field map, making out a list of changes and errors as he went along. The village was then visited by a kanungo, who had to test every field entry on the spot, perfect the map and at the same time complete and check the patwari's list of alterations and prepare a statement of grove lands and Government property. He also filled in the natural soil entries for lands which, having been brought under cultivation since last settlement, had no entries against them in the old records. This part of the work was done under the direct supervision of the Deputy Collector who kept the kanungos working near him and constantly tested their work as it progressed. Four kanungos were ordinarily attached to each Deputy Collector's camp, their place in the tahsil being supplied by apprentices. As soon as the field testing was completed, on the day fixed for attestation the tenants and proprietors all assembled at the Deputy Collector's tent with their *jamabandi* and *khewat* slips. These were first compared with the lists of changes and errors and corrected in accordance with admitted facts. Then they were read out one by one in the presence of everybody and their correctness verified by the persons concerned. If any entry was challenged,

the dispute was decided summarily there and then, if possible, and recorded in a dispute list or summary suit register. If the dispute did not admit of summary decision or if either party applied for a formal enquiry and decision a regular suit was framed, heard and decided as soon as possible in the ordinary way. On a few estates owing to peculiarities of management and systematic falsification of the records, there was widespread and bitter antagonism between proprietors and tenants. Here the litigation, being extensive and hotly contested, all took the shape of regular suits. Some special classes of cases, such as the claims of tenants to privileged status in Kuchesar and Paikpara estates, had also to be tried out in the same way. But under the ordinary conditions which prevailed over the great bulk of the district the disputes which arose admitted of rapid and summary decision. It was found that where there were no causes to specially discredit the records or predispose the people to contest the existing entries, there was little disposition to bring frivolous or groundless claims or to contest fair ones. Coming at once before a superior officer without any of the preliminaries which are apt to excite the passions and stimulate the imagination, and being in presence of all those whose acquaintance with the real facts exercises a restraining influence on false allegations, both tenants and proprietors abstained from unnecessary contests and acquiesced readily in an expeditious and equitable settlement of such difficulties as arose. This was just what might have been expected. Under their own village tree and in the presence of their friends and neighbours men will not ordinarily resort to the falsehood and fraud which the atmosphere of a court and the presence of legal advisers seem naturally to generate.

To this circumstance may be attributed that very unusual paucity of litigation, which will be noticed under the proper head.

When the slips had been attested and the disputes settled, the three records (*khasra*, *khewat* and *jamabandi*) were there and then compared and brought into complete accordance. This was done in camp by a small special staff attached to each Deputy Collector. This arrangement secured a very thorough and prompt despatch of this part of the business. Where discrepancies were discovered they could be at once adjusted on the spot and in the presence of the parties who were still at hand. The delays consequent on references back from the head office to the camp office, and on summoning of parties and reopening of proceedings long closed, were avoided. It was also found that work proceeded much more rapidly in camp where hours are longer and distractions fewer. In old settlements this operation, known as *tartib*, was lengthy and expensive. As carried out here it occupied only a few days and cost proportionately little.

When the record was complete it was sent to the head office to be fairied. This work also was done by the patwari, under the supervision and check of the sadar munsarim and his staff.

84. The advantages claimed for this system are that it fully utilizes existing staff and materials, is extremely rapid, simple and therefore economical, and while affording a full opportunity for correcting errors, it does not excite or invite vexatious litigation. Besides the Settlement Officer and Deputy Collector, no one is permitted to come in contact with the people except the patwari and kanungo, and they are only seen doing what the patwari and kanungo may be seen doing every year. There are no amins or munsarims or other temporary employees sent round to stir up litigation under pretence of allaying it. The Settlement Officer and Deputy Collector come for a day or two and are off. Under ordinary conditions this is the first and the last the people see of the settlement operations.

85. The bulk of the village papers are written in the Persian character, but a proportion are in Nagri. The original character was followed in fairing the settlement records, which, as already explained, are the annual papers of the year of attestation. Out of 1,613 villages 1,281 were prepared in Persian and 332 in Nagri.

At first the practice was to prepare—

I.—A volume for record in the Collector's office, containing—

1. Field book (khasra).
2. Statement of grove lands.
3. Corrected field map (shajra).
4. Rent-roll (jamabandi).
5. Proprietary register (khewat).
6. Memorandum of village customs (dastur dehi).
7. Settlement engagement (darkhwast malguzari).
8. Statement of distribution of revenue (fard phant).
9. List of old and new khasra numbers.
10. Final proceeding (rubkar akhir).
11. Index.
12. List of errata and erasures.

The village assessment statements (statistical) in vernacular have been bound in volumes by parganas and deposited in the Collector's office along with the village records.

II.—A volume for record in the tahsil, containing—

1. Field book.
2. Statement of grove lands.
3. Corrected field map.
4. Rent-roll.
5. Proprietary register.
6. Memorandum of village customs.
7. Statement of distribution of revenue.
8. List of old and new khasra numbers.
9. Index.
10. List of errata and erasures.

III.—To provide the patwari with a copy of the—

1. Field book.
2. Abstract of areas (milan khasra).
3. Statement of grove lands.
4. Corrected field map.
5. Rent-roll.
6. Proprietary register.
7. Memorandum of village customs.
8. Statement of distribution of revenue.
9. List of old and new khasra numbers.
10. Index.

The records of parganas Sikandarabad, Dadri, Dankaur and Baran were compiled on this principle. But at that stage the practice was altered under the orders of the Board. The collectorate and patwari copies still contain the records above mentioned; but the tahsil copy for the remaining nine parganas contains—

1. Statement of grove lands.
2. Corrected field map.
3. Rent-roll.
4. Proprietary register.
5. Memorandum of village customs.
6. Statement of distribution of revenue.
7. List of old and new khasra numbers.
8. Index.
9. List of errata and erasures.

The tahsil, it will be observed, has under this arrangement been left without a copy of the settlement *khasra*, a deficiency which is likely to be productive of inconvenience.

Except the copy left to the unsafe custody of the patwári, the collectorate volume contains the only copy of this most valuable record.

For parganas Sikandarabad, Dadri, Dankaur and Baran the attested records are those of the year 1294 fasli (1886-87) ; for parganas Khurja, Jewar, Pahasu, Dibai and Shikarpur those of 1295 fasli ; for parganas Aghauta, Siyana, Ahar and Anúpshahr those of 1296 fasli.

The attestation of records of parganas Sikandarabad, Dadri and Dankaur was carried out by Rája Lachman Singh, Deputy Collector, Pandit Rama Shankar, S.C.S., and Mr. Stoker, Settlement Officer ; of parganas Baran and Khurja, Dibhai and Shikarpur by Pandit Rama Shankar and Maulvi Hamid-ud-din, Deputy Collector ; of parganas Pahasu, Anúpshahr and Ahar by Pandit Rama Shankar ; of parganas Aghauta, Siyana and Jewar by Maulvi Hamid-ud-din, except some villages in Aghauta and Siyana which were taken by Mr. Baillie, Assistant Settlement Officer.

86. It may not be out of place at this point to offer some remarks on the character of the existing records. They were subjected, as above described, to a very thorough testing, which could scarcely fail to bring to light such errors as existed, and very many were brought to light. On the whole, the accuracy of the village records fell considerably below the expectations which had been formed. There were errors due to neglect or incompetence, and there were errors due to systematic and wilful falsification. The former must be ascribed to the deficiencies of the officials immediately concerned. In the case of the parganas Dadri, Dankaur, Anúpshahr, Jewar and perhaps Siyana the condition of the records indicated an absence of proper control and supervision on the part of the supervisor kanúngos. Non-residence and nonage of patwáris were generally at the root of the evil. There was a certain proportion of absolutely inefficient men, incapable under any circumstances of doing their work, and a proportion of men who neglected it in favour of some other occupation. Patwáris were found who were habitually absent from their circles. This was particularly the case in the khádír villages, where the conditions of life are not pleasant. These persons generally carried on some other business, as, for instance, Bahádár Singh, patwári of Tughalpur, pargana Dankaur, who being missed from his circle at the time he should have been pushing on the work of field testing, was, on search, captured in charge of a convoy of sugar carts which he was taking to the Meerut market. Perhaps the *ne plus ultra* was reached in the case of Har Parshad, patwári of Morna, who was quite illiterate and had his work done by an absentee agent. Records prepared by such persons naturally required extensive correction, which in some cases might almost be called reconstruction. The errors, however, were generally of a nature which affected the interests of the people rather than the interests of Government. Mistakes in tenure, possession and status were frequent, but there was little understatement of cultivation. The rent-rolls were often loosely framed, but in the class of circles now referred to there was not often any extensive misrepresentation of the assets.

It would, however, be too much to expect to find the records everywhere free from error. In so large a staff, appointed mostly under the old conditions, there necessarily was a certain number of incompetent or negligent men. The new system will have to be worked carefully some time longer before they are altogether eliminated. The excellent condition of the records generally in parganas Aghauta, Baran, Khurja, Ahar, Sikandarabad and Shikarpur shows how much can be done under competent supervision.

Though the errors due to neglect and incompetence were not inconsiderable, yet, on the whole, it need not be said that they offered any serious obstacle to the equable and rapid progress of the settlement operations. Their general nature, their sporadic character and their restriction to the less important classes of entries both facilitated their discovery and correction and also diminished their importance in connection with the revenue assessments.

87. A much more serious and important class of errors were those due to deliberate falsification. The primary object in such cases was to conceal the real assets and to prevent the growth of any rights on the part of the cultivators. The one result was necessary in order to achieve the other. Unless the tenants were kept in absolute subjection it would be impossible to both collect high rents and also prevent any disclosure of them. The tenants could not be kept in absolute subjection unless sedulously deprived of all rights which might make them independent. Hence it is that deliberate falsification of records was always found to coexist with rackrenting, oppressive or illegal management and entire absence of recorded occupancy tenure. The system, for the practice fully deserves that name, seems to have originated on the estates of certain large proprietors in the parganas of Pahasu and Dibai, but it had begun to spread and had even made some progress among smaller landholders. In the assessment reports of tahsils Khurja and Anúpshahr some account has been given of the state of affairs found to exist in the estates of the raises of Chitari, Dharampur and Daupur, in whom the system found its leading exponents. The first step was to gain over the patwári, and this seems to have been always achieved without any difficulty. The arrangement which leaves the nomination of patwáris to the proprietor secured the appointment of persons devoted to his interest. The substantial considerations he was able to offer secured a continuance of their devotion. The official salary formed only a small portion of the emoluments of patwáris who joined in such conspiracies. In return for these advantages he rendered services of a private nature, collecting the rents, arranging the letting of fields and doing generally the work for which an agent is kept. He was entirely in the hands of the proprietor and prepared the official records altogether in his interest. Year by year rent was put down very far short of the sums actually collected and entries of occupancy rights were carefully excluded from the papers; sometimes even groves of old trees planted by tenants were shown as of a few years tenure only. All this seems to have been done in a regular systematic business-like way. The declared rentals, though far below the actuals, were still returned at a figure which would allow a considerable enhancement of the current demand and thus, it was supposed, would avert suspicion and yet ensure a low assessment which would leave the proprietor in the enjoyment of very large profits.

The existence of this state of affairs was foreshadowed in Mr. Benett's report, to which reference has been already made. The very earliest enquiries showed it to be a matter of general notoriety among officials of all classes, though few, perhaps, realized the extent to which it had gone. There were cases undoubtedly which had escaped every one's notice, but they were isolated cases of villages owned by small proprietors. The very first instance which opened the eyes of the Settlement Department was one of these. At the very commencement of field work one of the earliest villages to come under settlement was Gesupur, pargana Sikandarabad, the property of a family of Belochis. It happened by accident that the Settlement Officer had himself undertaken the attestation of its records. No suspicion had so far been thrown upon their accuracy. But as soon as the Settlement Officer entered the village the tenants came forward in a body and declared that the rents they really paid were far in excess of those shown in the rent-roll, and that in other respects also the village records had been systematically falsified in the interests of the proprietor. After a feeble effort at denial the falsification of the rental was admitted by both the proprietor and the patwári, though in some other respects accuracy was claimed for the returns. A long series of suits followed between landholder and tenant, and in the end a large number of tenants succeeded in establishing rights which had been rigorously excluded from the old falsified returns. The real assets of the village were discovered to be over Rs. 16,000; those returned for the year before settlement were Rs. 10,528.

This incident is mentioned as it anticipated what afterwards took place on a large scale in the parganas of Pahasu and Dibai. It also affords a good illustration of the temper of the tenantry where they had been exasperated by oppressive management and the suppression of their legal rights.

It shows also their determination to bring matters to an issue before a renewal of the settlement engagement had confirmed the position of the landholder for another generation. The tradition of the past pointed to the settlement as a time when the position and rights of the tenants as well as the proprietors would be investigated and determined. It is said that on those estates where the tenantry had latterly come to find their condition so exceptionally unsatisfactory as to be no longer tolerable, they had determined to wait for the advent of the impending settlement as the best opportunity of making an appeal to the authorities for interference and redress.

There is no doubt that this attitude of the tenants immensely facilitated the discovery of the true rents and exercised therefore an important effect on the progress of assessment operations. Apart from the general obligation which rests on the Settlement Department to prepare correct records, the present system of assessment and the rules of practice require the Settlement Officer to ascertain what rentals are inadequate or fraudulently understated and to substitute for them correct assets on which to base the revenue. The circumstances of the expiring settlement rendered it specially necessary to avoid a repetition of the censure it invoked from the Government of India, reproduced in the opening paragraphs of this report.

In dealing with men of dignity and position, and therefore presumably men of honour and integrity, it would be difficult to give any satisfactory assurance that their rents were fraudulently concealed without some trustworthy indication of the sums actually collected. Where the falsification extended over large areas it would neither have been possible to secure a standard which would in all cases support the rejection of the falsified rent-rolls as inadequate nor to substitute rentals which would at all represent the actuals. From all points of view therefore it was a matter of much importance to ascertain the genuine assets with demonstrable exactness. Besides general notoriety and the knowledge—where it could be extracted from them—of the local officials, there were many unmistakeable indications to show where falsification was practised.

But in the face of a general combination to carry out concealment it may have seemed a hopeless task for a temporary establishment to secure a full statement of the real facts in the very short time allowed for its operations. There was however much in the nature of the case to render it less difficult than it seemed. Falsification of rentals implies much severity of rents. Where they are fair and moderate there is no occasion to conceal them. It further implies harsh and oppressive management. The real rents cannot be collected by any legal process. Suits would have to be based on the falsified returns. Arrears have therefore to be realized by illegal duress and violence, which on some estates are said to have been practised so systematically and extensively as to have replaced the ordinary operation of the law. Ejectments by legal process were also infrequent, as proceedings before courts might lead to disclosures and the private methods were more summary and economical.

Under such a system much had necessarily to be left to agents, and the proprietor was not in a position to check their excesses or control the further exactions made on their own account. If he attempted to do so he had to fear exposure at their hands. This circumstance added still further to the oppressive character of the management.

Besides the exaction of very high rents, it was the practice generally on these estates to force the cultivation of indigo and take the plant for the proprietor's factories at a price fixed by himself. The area of indigo required from each tenant was often so excessive as to render proper cultivation impossible and to disturb the conditions of profitable agriculture. The price was much below that obtainable in the open market. The cultivation of indigo therefore became absolutely hateful to the people, and one of the first results of their resistance to the proprietor was its discontinuance.

It was natural on estates so managed to find the tenants estranged from the proprietors and ready to impeach them to the authorities when an opportunity offered. Such an opportunity occurred with the settlement, which brought both their rental and status under direct enquiry. Their object was to discredit the patwari's records, which excluded all entry of the occupancy rights which they wished to claim. This object they accomplished by showing that in the important matter of rentals the papers were dishonestly prepared in the interest and at the dictation of the proprietor in order to defraud the Government revenue. From that they argued that records so falsified could not be accepted when put forward by the proprietor as proof that no rights adverse to him had been acquired by them.

When it is remembered that besides the tenants, the true rentals were known to all the patwaris and to other officials, to most of the neighbours and many others inimically disposed to the proprietors, their rapid and complete discovery may cease to be a matter of surprise.

The action of the tenantry.

However, the action of the tenantry alone effectually settled the question.

It has been seen how they came forward in the first village Gesupur. In talhsil Sikandarabad there was no more serious trouble, as extensive and systematic falsification was not practised in these parganas. The real difficulties began with pargana Palasu, where the peculiar conditions above described were first encountered on an extensive scale. What happened there is thus narrated in the Khurja assessment report :—

“ From many signs and tests it would have been easy to know that falsification existed, and even to ascertain the particular villages in which it was practised. But it might have been a very difficult matter to discover the full extent of it, and to obtain details of the true rents actually collected. At first the patwaris stood firmly and falsely true to their real employers, and it became necessary to suspend all who persisted in furnishing what were unmistakeably false returns. But this step did not by itself secure true ones. The difficulty was solved by the action of the tenantry. The raises attempted too much. They might have treated their tenants fairly and falsified their rent-rolls with comparative impunity, or they might have abstained from falsification and exacted what rents they pleased. But they tried to combine falsification of rentals with extreme severity of management. They failed : the tenants were probably not aware of the systematic falsification, or at least they ignored its importance till they found the proprietors employing pressure to enforce their connivance. They saw for the first time a systematic and authoritative inquiry into the accuracy of this part of the records, and they were relieved from the influence of the patwaris, who wished to conceal their own misconduct. In spite of the most extreme efforts of the zamindars, the tenants came forward and disclosed the real rents. The Chitari tenants who had suffered most gave the lead, and the whole pargana followed. They had their own objects of course ; but in doing what they did they rendered a conspicuous service to Government. When the old patwaris found that the tenants were wavering, many of them surrendered, and gave up the true rent-rolls. There did not remain in the whole pargana a single village in which the real assets were not discovered from one source or another, with a very close approach to accuracy. The exposure was so complete and overwhelming that further denial became impossible and was soon abandoned. The Rais of Pindrawal had been led by bad advice and bad example to share practices which would not be expected from a man of his character. At an early stage he yielded to friendly advice and abandoned his false position. He placed the whole of his private rent-rolls and office unreservedly in the hands of the Settlement Officer, and withdrew all pressure and opposition. At the same time he set to work to conciliate his tenants and redress their grievances, and he succeeded in averting the greater

The concealment exposed by the tenantry.

The Rais of Pindrawal.

part of the troubles which befell the Rais of Chitari and others. His example in furnishing true returns was followed by several others, including two very important proprietors in pargana Dibai. These proceedings had considerable influence on the further progress of the settlement. After the events of the Pahasu pargana there was throughout the district no more trouble about concealment of assets. Where the zamíndárs in a few

The true assets now discovered for the first time.

isolated instances persisted in their tactics, the patwáris and the tenants decided the question. The Government has now for the first time been placed in possession of the real rental assets of the district. The figures for this pargana show what large interests were involved.

Importance of the discovery.

The rents over very large areas where concealment was practised stood uniformly so high above any hitherto observed that no Settlement Officer would have ventured on standard rates and substituted rentals which would adequately represent the real profits. It follows therefore that even if the falsified rentals had been rejected as the basis of assessment, and the actual rentals had not been discovered, the proprietors would still have remained in a position of advantage. For instance, the actual assets of the 30 Chitari villages are now known to be over Rs. 1,22,000. The standard rental at the rates of the non-occupancy group would be Rs. 1,01,869. These latter rates are themselves based in a large part on discoveries now made and admitted by the parties. If these discoveries had not been made and the rates employed had been those taken from the adjoining and simliar circle of pargana Khurja, the standard rental would have been only Rs. 85,678; while if it had been necessary to use the standard rates of the occupancy groups, the rental would have been no more than Rs. 80,093. It is probable that the proprietors who adopted the policy of concealment counted on this contingency, and anticipated that even if their rent-rolls were not accepted, their estates would still be assessed on assumed rates derived from neighbouring estates or circles where much lower rents were collected."

The annexed statement shows the amount of concealed assets for each pargana. It

Extent of concealed assets.

includes only estates where the record was systematically and wilfully falsified. It leaves out of account casual misstatement owing to negligence or error, and without being absolutely exhaustive affords a fair and close indication of the interests involved :—

Pargana.	Jamabandi rental.	Real rental.	Amount concealed.
1	2	3	4
	Rs.	Rs.	Rs.
1. Sikandarabad	12,652	25,447	12,795
2. Dadri	9,642	13,410	3,768
3. Dankaur	4,760	7,514	2,754
4. Baran	8,672	11,110	2,438
5. Aganta	24,865	28,225	3,360
6. Siyana	2,602	2,277	275
7. Shikarpur	5,633	7,071	1,438
8. Khurja	12,359	15,820	3,461
9. Jewar	20,411	24,083	3,672
10. Pahasu	1,48,300	2,21,900	73,600
11. Dibai	1,25,006	1,71,300	46,294
12. Anúpsahr	12,427	18,752	6,325
13. Ahar	39,328	46,366	7,228
Total	4,26,437	5,63,475	1,67,008

The total sum Rs. 1,67,008 is certainly not an overstatement, and had the proprietors concerned succeeded in their attempt they would have gained the advantage of the whole of the revenue payable on this large sum and the State would have lost that amount annually.

88. Besides concealment of actual assets, the old device of throwing lands waste was

Extent of assets kept down by wilful deterioration.

adopted by a few proprietors. It had been practised with some success at last settlement and was now usually tried in those villages where the increase of revenue promised to be very great

With the cultivated areas of past years on record, attention was at once directed to the large fallow areas, and on local enquiry detection became easy and inevitable. It is unlikely that this silly and obsolete stratagem will be repeated in any regular settlement of this district. The following statement shows the areas concerned in each pargana with their assets calculated at village rates :—

Pargana.						Area thrown out of cultivation and excluded from rent paying area.	Assets of column 2 at village rates.
1						2	3
						Acres.	Rs.
Shikarpur	...	...	...	...	...	650	3,767
Pahasu	...	...	...	...	...	1,162	5,017
Dibai	...	...	...	...	...	4,584	23,011
Total						6,396	31,795

The great bulk of these lands are in villages owned by the Rais of Dharmpur, Danpur and Kahliya.

The following extract from the Anúpsahr assessment report explains how Cases of wilful deterioration how treated. these cases of wilful deterioration were treated:—“Wherever the area of deterioration was not too extensive the fallow wilfully caused has been assessed at assumed rates and the jama made progressive so as to admit time for the cultivation to be restored. That the restoration can and will be rapid is shown by such cases as that of Runsi in pargana Pahasu, where the cultivated area rose by 176 acres in the year after the Settlement Officer's inspection, or of Mau Nagla of pargana Dibai, where cultivation similarly jumped up from 68 acres to 216. But in some instances this course was found impracticable. The waste had sometimes gone so far that the whole of the present assets would not suffice to pay the proper jama, and the assessment must have been largely conjectural. Unsatisfactory as this would be, it still might have been possible to fix a jama rising by progressive stages if the area of cultivation alone had been in question. But an additional complication was introduced by the uncertainty of irrigation. The waste began immediately on or after the introduction of the canal, and there is in fact reason to suspect that land has been both thrown and kept waste in order to prevent the application to it of canal water and its consequent assessment at wet rates. This view is confirmed by the observations of the canal officers who have been consulted, Mr. Richardson, Executive Engineer, and Mr. G. P. V. Horst, Assistant Engineer. The latter gentleman writes—

‘The reason ascribed by the cultivators for a general decrease in irrigation in the pargana is the settlement. The zamíndárs do not want their kashtkárs to irrigate. In places close to distributaries land has been left uncultivated purposely to get off an enhancement of revenue.’

An instructive case is that of Maharájpur Ratwa Nagla. It consists of two maháls with fields intermixed: one belonging to the Dharmpur Rais and the other to miscellaneous proprietors. In the former only 118 bighas are canal-irrigated out of 411 bighas now under cultivation; in the latter 135 bighas out of 216 bighas. Moreover in the Dharmpur mahál a quantity of land commanded by the canal has been thrown waste.

It is impossible to foretell how far the canal irrigation may spread on those waste and fallow lands. It depends not merely on the action of the proprietor, but also on the extent to which the available water-supply has been already appropriated elsewhere, and how far it may be increased when the Nadrai aqueduct has been again opened. Under these exceptional circumstances it has been found necessary to propose a quinquennial settlement for the following 13 villages where the extent of the deterioration and the

Quinquennial settlement
proposed for 13 villages. uncertainty of future development are greatest :—

Pinauti, east circle.

Jargawan, east circle.

Chirauri, talúka Jargawan, east circle.

Rambas, east circle.

Rupaspur, east circle.

Surmastpur, east circle.

Sherpur, west circle.

Kudhaini, east circle.

Gangagarh, east circle.

Muhammadpur khurd, west circle.

Maharajpur *alias* Ratwa Nagla, east circle.

Man Nagla, east circle.

Maodehi, east circle.

To these must be added manza Runsi of pargana Dibai which was entirely devastated by the Rais of Danpur in pursuance of his policy of suppression of occupancy rights.

Manza Runsi.

It should be very clearly understood that if at the end of the five years for which these estates have now been settled the proprietors have not entirely abandoned their old policy, brought the lands under full cultivation *and irrigation* and furnished a full and true record of the assets, that a regular settlement will again be withheld. The danger is that the rentals may be purposely kept down in order to secure a long term assessment at low rates. On this point the past recorded rentals before deterioration began and the present rental incidences will be useful guides.

89. It would be out of place to attempt in this report an enquiry into the causes and conditions under which the wholesale falsification of records on these estates became possible. But it may not be inappropriate to add a few words about their future maintenance. There is no reason to believe that patwáris will be more honest and trustworthy in the future than in the past, nor is it likely that the more important proprietors will voluntarily abandon their old policy and system of management. On the contrary, there are already indications that some of them will endeavour to renew the old methods which are temporarily in abeyance. These persons will exert themselves to bring their tenants again into a state of absolute subjection, and if they succeed, the old excesses will be renewed and the records lapse into their former state. But this is not likely to occur without a series of struggles in which the peace and good order of the district may be seriously disturbed. If, on the other hand, the proprietors concerned can be influenced to adopt a system of management more humane towards their tenants and more straightforward towards Government, they will no longer have the same object in falsifying the land records, nor the same power to effect it. If the tenants find that the result of their present action is to leave them in the same position as before, aggravated by the exasperation of the proprietors which their disclosures will naturally cause, they are unlikely to ever again come forward to the help of the authorities. The administrative considerations

will no doubt receive the attention of the proper authorities. But concerning the records which have now been prepared in the Settlement Department, it may be safely affirmed that all that has been done will be of no effect for the future unless it is made clearly manifest that the practice of falsification will not be tolerated nor pass unpunished. So far the delinquent proprietors are no worse off than their honest neighbours, and wherever they have escaped detection they are better off. If the policy proves to be certainly safe and perhaps profitable, it is sure to extend. If it becomes general, the new system of assessment on actuals will become impossible and the alternative will be to acquiesce in the unsatisfactory conditions which have characterized the past and in the return to some hypothetical system of assessment. If the present settlement is fixed for the usual full term before honest and considerate management has been assured on these estates, it will probably never be enforced. To leave the settlement open to revision at the end of a short term of years seems the indispensable preliminary to any real reformation of the management.

SECTION 6.

REVISION OF VILLAGE MAPS AND THEIR PRESENT CONDITION.

90. The examination of the village maps seems to have begun as far back as 1878 when the Collector reported them to be generally accurate except in the matter of land recently taken up for canals. In 1879 a portion of the maps were tested by the district staff and reported to be usually correct. In 1880 the following classification was made by the Collector of 1,638 district maps, excluding those of alluvial mahals.

I. Those requiring no revision	...	...	...	188
II. (a) Those requiring only such correction as patwáris could effect	...	...	...	278
(b) Those that must be corrected by amins	...	...	...	408
III. Those that must be redrawn	...	...	...	764

A small staff of amins with a munsarim was appointed to carry out the revision in 1880-81. But doubts were thrown on the correctness of the classification and the operations were stopped by the Board 184 maps had then been corrected.

In the following cold weather, 1881-82, Rája Lachman Singh, Deputy Collector, examined a large number of maps and reported that, as a rule, the requisite corrections were not beyond the ability of the patwáris nor such as to require a special agency. He estimated that all but 122 patwáris could carry out what was wanted, and application was made for amins to assist in these 122 cases. This was refused. But in the meantime the work had been pushed on by the patwáris themselves with the help of friends and privately paid amins.

91. Mr. Benett, then Director of Agriculture and Commerce, visited the district in 1882-83 and made a very full and careful enquiry into the condition of the maps and records. His conclusion was that the areas in all the villages whose maps had recently been revised were quite accurate enough for all practical purposes, and that the maps of the remaining villages, including alluvial mahals could be revised in the same way except in the few cases where the area of new cultivation had been unusually great and the maps would have to be redrawn by fresh survey. He proposed that a small supervising staff should be appointed to control the rest of the revision and test and pass all maps not yet printed.

Up to that date the number of maps revised had been 1,034, and 466 more were under revision, 111 alluvial villages were excluded and for eight villages new maps would be required owing to the large areas of new cultivation. Of the revised maps 802 had gone to be printed.

The work was completed under the supervision of two selected kanúngos placed on special duty for the purpose. But it cannot be said that their control was very effective or efficient. With the exception of the alluvial maháls and seven other villages omitted for some unexplained reason, the whole of the maps had been revised and printed before the settlement operations began.

Supervision left to kanúngos.

Revision and printing completed.

92. As Mr. Benett had shown, the areas and general configuration of the maps were undoubtedly quite accurate enough for all practical purposes.

Character of the maps.

But two defects were discovered which make it a matter of regret that the expense of printing the maps was incurred without some further correction. The maps employed for revision were those which happened at the time being to be in the patwáris' hands. These were not the original settlement maps, but tracings of them, or rather the results of many successive tracings. The tracings had been unskilfully made on inferior material, and hence the form of the original maps had become distorted. The general configuration was preserved, and it was in nearly every case quite possible to trace the fields, but from the shrinkage or stretching of the material the proper proportions of the boundaries or polygons had been lost. Areas and distances could not be ascertained from the maps, and the boundaries of contiguous villages no longer coincided. As the fields could still be traced and as the areas had been obtained correctly enough by actual measurement, this defect did not interfere with the progress of settlement work; but it would have been well if it could have been remedied before the maps were printed.

Their defects.

The second point is that in all villages the field boundaries had been more or less altered by the division and combination of fields or by extensions of cultivation. Notwithstanding this, the original numbering of fields was retained on the revision and the changes expressed by fractional signs. Where the alterations were few this could be done without inconvenience; but in a very large number of cases the alterations were so numerous and complicated that the use of fractional signs became highly inconvenient in every way. Sometimes a single field would have to be indicated by as many as 10 or 15 fractional symbols, and this both retarded the field testing and introduced much complication and delay in the compilation of the records.

Between the date of revision and the settlement attestation many fresh changes also were effected, and the printed maps had to be corrected accordingly.

93. Owing to the above causes it was found necessary to undertake a certain amount of map revision. It was kept within as narrow limits as possible, but still those maps had to be redrawn where the numbering had become hopelessly confused owing to extensive alterations or where the boundaries and configuration had become most seriously distorted.

Revision work effected by the Settlement Department.

A fresh survey was not undertaken in such cases, but the boundaries were correctly drawn according to the last settlement map. The subsequent interior changes were then carefully and accurately delineated, the fields renumbered and a clean tracing made. A comparative list showing the old and new numbers of each field was also prepared and included in each copy of the settlement volume. This process was found necessary in 132 cases, and so far the previous outlay on revision and printing was entirely thrown away. In 1,459 cases the necessary corrections were made on the printed maps already supplied and a corrected copy placed in the settlement record, besides one furnished to the támil and one to the patwári. All the corrections were made on field testing by the patwáris and kanúngos under the supervision of the Deputy

132 maps redrawn.

1,459 maps simply corrected.

Collectors. The further processes of redrawing and correcting duplicate copies were carried out in the office by a special staff of amíns and munsarims.

Ninety alluvial villages were resurveyed and entirely fresh maps prepared. The survey was partly done by kanúngos and partly by special survey amíns. Two other non-alluvial villages it was also found necessary to resurvey, as the revised maps were imperfect and incorrect. The following abstract shows briefly the details of map correction and the present character of the 1,683 settlement maps:—

(1) Corrected at field testing and not redrawn	...	... 1,459
(2) Ditto ditto redrawn and renumbered	...	... 132
(3) New maps drawn by fresh survey	...	... 92
Total		... 1,683

94. The maps now in the patwáris' hands are quite good enough for all practical purposes. It is true that areas cannot be taken out of them, nor can they be, in all cases safely used in determining boundary disputes; but the areas have been obtained and when wanted can again be ascertained by actual measurement. In the event of a boundary dispute reference can always and easily be made to the last settlement map, of which there is a copy both in the tahsíl and the Collector's office. For all ordinary purposes of administration the present maps will be found sufficient; but whenever any revision is undertaken the fields should be renumbered and the fractional symbols discarded. There are even now many maps in which it would be very convenient if this improvement could be effected, and the number will go on increasing yearly.

SECTION 7.

RENT-ROLLS REJECTED AS BASIS OF ASSESSMENT.

95. At different stages of the settlement a different practice prevailed as to what rent-rolls should be treated as accepted or rejected for assessment purposes.

At no time were corrections made on account of proprietary cultivation, rent-free or grain rented lands, considered as rejections. Such lands have no real recorded rents and have necessarily to be valued at assumed rates for assessment purposes. But in parganas Sikandarabad, Dadri, Dankaur and Baran wherever any substantial part of the rental of tenants paying fixed cash rents was set aside as inadequate or fraudulent and an assumed rental substituted as the basis of assessment, the process was considered a rejection and the rent-roll classed as rejected. This involved the rejection of many rent-rolls of Bhaiyáchára and other estates where, owing to kinship, prescription or lax management, tenants had been permitted to hold at unreasonably low rates.

In their orders on the Sikandarabad report, the Board took exception to this classification and required all rent-rolls to be treated as accepted in which the inadequate rents might be considered "nominal" and the substitution of a reasonable rent styled a "correction" only. In the remaining parganas therefore this principle has been followed, and the returns of the first four parganas have been revised in the same light. Appendix II shows the rejections for the entire district classified according to the Board's instructions. In practice, however, much difficulty has been felt in determining which rents should be called inadequate and nominal and which inadequate without being nominal. There is little or nothing to guide the Settlement Officer in the discrimination. The question after all seems to be one of words only, and it would be difficult in every case to defend a classification based on an undefined and vague distinction. The appendix embodies opinions rather than facts.

96. The following abstract shows the number of rent-rolls in each pargana rejected

Number of rejected rent-rolls. for fraud or wilful deterioration and for inadequacy :—

Parganas.	Total.		Rejected for fraud or wilful deterioration.		Rejected for inadequacy.		Total rejection.	
	Mahāls.	Manzas.	Mahāls.	Manzas.	Mahāls.	Manzas.	Mahāls.	Manzas.
1	2	3	4	5	6	7	8	9
1. Sikandarabad ...	416	155	7	5	69	37	76	42
2. Dadri ...	416	178	12	8	67	49	79	57
3. Dankaur ...	209	126	4	3	63	40	67	43
Tahsil Total ...	1,041	459	23	16	199	126	222	142
4. Baran ...	360	145	10	6	47	27	57	33
5. Agauta ...	290	91	3	2	5	4	8	6
6. Siyana ...	211	83	...	...	11	7	11	7
7. Shikarpur ...	184	85	1	1	6	3	7	4
Tahsil Total ...	1,045	404	14	9	69	41	83	50
8. Khurja ...	315	162	14	14	15	13	29	27
9. Jewar ...	205	95	17	8	23	9	40	17
10. Pahasu ...	193	103	21	21	12	5	33	23
Tahsil Total ...	713	360	52	43	50	27	102	70
11. Dibhai ...	294	148	61	36	46	27	107	63
12. Anūpshahr ...	147	106	...	...	65	48	65	48
13. Ahar ...	200	136	6	6	49	34	55	40
Tahsil Total ...	641	390	67	42	160	109	227	151
District Total ...	3,440	1,613	156	110	478	303	634	413

The figures in columns 4 and 5 do not by any means represent the extent to which fraud and wilful deterioration had gone. Where the true rentals were declared and admitted by both parties at attestation, they were recorded and accepted and therefore do not appear in this statement. Where the proprietor at the time persisted in affirming the old false rents or in denying the accuracy of those disclosed by the tenants, the attesting officer was bound by settlement rule 7 [following section 68 (4) of the Land Revenue Act] to maintain the old entries, however false. In these cases and in cases where both parties combined in declaring false rents the rent-rolls have been shown as rejected when not taken as the basis of assessment. But in many instances rentals known to be false have still been accepted as adequate and excluded from Appendix II.

The special state of affairs already described in Dibhai and Pahasu explains the preponderance of rejections for fraud in those parganas.

There is much diversity in the number of rejections for inadequacy in the different parganas. An explanation will be found in Mr. Baillie's report on Agauta, Siyana and Shikarpur. He writes—

“The great difference between the proportion of rejections for inadequacy in these and in parganas previously reported on by Mr. Stoker is not due to any difference in the principles on which we worked. The rigidity of occupancy rents in Bulandshahr and the success with which a united body of tenants resist any attempt at enhancement throughout the whole of a period of settlement necessitates the rejection of a much larger proportion of occupancy rent-rolls here than in Basti, where occupancy rents advanced *pari passu* with non-occupancy, unless, as in these three parganas, the zamīndārs themselves before or during assessment apply for enhancement. My assessments were made shortly before the expected termination of settlement operations,

and the zamīndārs began to see that if they were to get enhancement at settlement and not have to fall back on the uncertain and troublesome process of enhancement in district courts applications must be made at

once. The consequence was that up to this time I have judicially enhanced the rent-rolls of 117 maháls, and therefore been able to assess on actuals in them; a large proportion of the rent-rolls of the 117 maháls would have had to be rejected had this not been the case. They would not all have been rejected, as I have granted enhancement in many cases in which I could not under the rules have rejected. The 22 rejections are almost entirely of occupancy rentals. In considering the incidence of the occupancy apart from the non-occupancy rental, I have been guided by the principles already clearly enunciated by Mr. Stoker in the Sikandarabad and Baran reports, and which I do not therefore refer to further. Similarly I have classed all rent-rolls in which any material part was rejected in the list of rejections. Any change in the system would render comparison of the statistics of my parganas and those of Mr. Stoker's impossible."

In his covering letter the Settlement Officer observed on this—

"Mr. Baillie's remarks on the enhancement proceedings will be read with much interest. That the proprietors of these parganas should have sued for enhancement of rents before the assessment of revenue was, it may be argued, in every way the best thing that could have happened. The assessing officer is then dealing strictly with actuals and can fix a fair rent simultaneously with a fair revenue. The proprietor can collect his enhanced rents from the time he is called on to pay an enhanced revenue, and the tenants have their rents adjusted by the officer best qualified to determine them with fairness and uniformity, and are secured for at least 10 years against any further interference. One would only like to see this 10 years extended to the whole term of settlement, and the occupancy rents revised along with the revenue, and then only. Where the enhancement of rent is left to district courts, after the close of settlement operations there cannot be the same uniformity nor the same fairness. The extended and minute observations of the Settlement Officer place him in a unique position both for deciding what are generally fair rates and for modifying their application according to the special conditions of each village. Where the Settlement Officer has not discarded the attested rent-roll, but has assessed on it, the proprietor gets the whole advantage of past settlement enhancements, and where the rent-roll has been discarded the accurate connection between assets and revenue is lost.

It would have been much more satisfactory if a larger number of proprietors had come forward in the other parganas and claimed before assessment to have their rent-rolls brought up to a fair level. Most of them, however, not unnaturally held off, hoping to get their rents enhanced after they had secured a low revenue assessment on inadequate rent-rolls. There was no idea current through the district that the Settlement Officer had no discretion but to assess on attested rentals, however inadequate, and it was only towards the end of proceedings that the fallacy seems to have been discarded."

97. In tahsíl Anúpsáhr pre-assessment enhancement suits were only brought on the 21 villages of the Dauloháris, and for these fair rentals were fixed before assessment. As soon, however, as the new revenues were announced, proprietors throughout the

Rent enhancements after assessment. district hurried to bring their enhancement suits before the completion of settlement operations should throw them back on the "uncertain and troublesome process of enhancement in district courts." Such suits have been filed in 585 villages, and rents have been judicially fixed at the settlement village rates on which the revenue was based where rent-rolls were rejected. In other villages also enhanced rents have been fixed by friendly arrangement without resort to judicial proceedings, the rates being supplied by the Settlement Officer. To this extent the rejected rent-rolls have been replaced by adequate ones, and the new revenue must be considered as based on actual assets. Details of the area and rent will be found under the head of "Litigation," page 113.

98. The parganas of Baran, Khurja, Agantá and Shikarpur presented from the first the largest proportion of correct and adequate cash rent-rolls, and it is therefore in these parganas that the new revenue has been most exclusively based on assets both attested at settlement and recorded for a series

of years before it. In Ahar and Sikandarabad, too, there was comparatively little occasion to depart from the old rentals. The number of rejected rent-rolls may seem considerable, but the villages concerned are not usually important ones and the amount of the rejected rentals is proportionately much less formidable. The following figures indicate how far in these parganas it was found possible to act on the records which the Settlement Department found ready to hand :—

						Actual corrected rental.	Final corrected or substituted rental.
						Rs.	Rs.
Baran	...	...	...	...	...	3,67,008	3,71,370
Agauta	...	...	...	...	...	3,24,308	3,13,620
Khurja	...	...	...	...	...	4,71,895	4,66,355
Ahar	...	...	...	...	...	3,09,197	3,18,278
Sikandarabad	...	...	...	...	...	3,52,225	3,52,299
Shikarpur	...	...	...	...	...	2,21,206	2,20,791

In pargana Ahar additions had to be made for fraudulent concealment. In parganas Khurja and Agauta the deficiency of the corrected rent-rolls is due to the application of easier rates to Sir, &c., than the very high prevailing tenant rates. In these parganas the revenue is most extensively based on the soundest of all foundations—a genuine actual rental recorded and proved by the experience of a series of years. In parganas Dadri, Dankaur Jewar, Anupshahr and Siyana the presence of a large number of bhyachara villages with nominal rentals or of leniently managed estates with inadequate rentals such as the Skinner, the Kuchesar, the Paikpara and the Dataoli estates, rendered it necessary to have recourse much more frequently to substituted rentals or rent enhancements. In these parganas, therefore, a larger proportion than elsewhere of the rental now taken as the basis of assessment has to stand the test of time. In view of this circumstance it will be found that the demand has been kept lower in these parganas than in others of equal quality by the employment of easy rates for valuation and enhancement purposes. In parganas Pahasu and Dibai the extensive concealment has necessitated recourse generally to assets which, though genuine, have not hitherto been recorded.

99. Appendix No. II and the foregoing abstract of it do not, as already explained, show definitely the number of rent-rolls on which the Settlement Officer found himself, for one reason or another, unable to base his assessments. In a settlement founded on actual assets such a return seems to possess much interest and value. It alone can show how far the conditions of land tenure, the development of acknowledged cash rents and the completeness of the record have enabled the assessing officer to discard hypothetical calculations or assumed assets and form his judgment on actual admitted facts. The following table has therefore been prepared to show the total number of instances in which the recorded rent-rolls were discarded in whole or part for any cause :—

Pargana.	Total.		Rejected for fraud or wilful deteriora- tion.		Discarded for any other cause.		Total rejection	
	Mahals.	Mauzas.	Mahals.	Mauzas.	Mahals.	Mauzas.	Mahals.	Mauzas.
1	2	3	4	5	6	7	8	9
1. Sikandarabad ...	416	155	9	6	127	54	136	60
2. Dadri ...	416	178	12	8	204	103	216	111
3. Dankaur ...	209	126	4	3	102	66	106	69
Tahsil Total ...	1,041	459	25	17	433	223	458	240
4. Baran ...	360	145	10	6	101	32	111	38
5. Agauta ...	290	91	3	2	5	4	8	6
6. Siyana ...	211	83	...	...	11	7	11	7
7. Shikarpur ...	184	85	1	1	6	3	7	4
Tahsil Total ...	1,045	404	14	9	123	46	137	55
8. Khurja ...	315	162	22	21	54	21	76	45
9. Jewar ...	205	95	26	13	65	33	91	46
10. Pahasu ...	193	103	35	35	16	8	51	43
Tahsil Total ...	713	360	83	69	135	65	218	134
11. Dibai ...	294	148	70	45	53	31	123	76
12. Anupshahr ...	147	106	8	6	70	51	78	57
13. Ahar ...	200	136	6	6	50	35	56	41
Tahsil Total ...	641	390	84	57	173	117	257	174
District Total ...	3,440	1,613	206	152	864	451	1,070	603

It must not, however, be imagined that the returns of all the villages shown in this table have proved entirely useless for assessment purposes. This statement includes all villages in which a portion of the actual tenant cash rental was set aside and in the great majority of villages only a portion was so set aside. Where fraud existed it was confined to the non-occupancy rental. Inadequacy, on the other hand, was almost invariably found in the occupancy rental. In each case only the defective part was discarded.

100. It seems convenient to explain here the principles which have been followed in determining the rejection of rent-rolls on the ground of inadequacy. The state of affairs was somewhat exceptional. Throughout the province generally the incidence of occupancy rents is higher than that of non-occupancy rents. The figures in the Board's annual report for 1887-88 are Rs. 3-13-4 and Rs. 3-10-5, respectively, per acre. Here the opposite is the case. The occupancy incidence as attested was Rs. 3-14-4 per acre, the non-occupancy was Rs. 5-10-7. This was not due to any inferiority of occupancy holdings. Where they exist at all, the protected tenants hold the best lands. It must not be imagined that occupancy rents were invariably low or unreasonably inadequate. In the majority of instances they have risen to some extent in sympathy with non-occupancy rents or in train of improvements such as canal extensions. In a small proportion of estates they have even reached the full level of competition rents. But there remained a considerable number of cases where, in defiance of the causes which were operating all round to produce a rise, the occupancy rates have shown no upward movement at all or only a nominal movement. They have thus, in these cases, become separated from not only competition rents, but from other occupancy rents, by so wide an interval that measured by any reasonable standard they must now be called inadequate. It is to such rentals the following remarks apply. The low occupancy rate was due partly to the action of the authorities and partly to special conditions of management. At last settlement a condition was commonly inserted by the Settlement Officer in the *wajib-ul-arz* that the occupancy rents should not be enhanced during the term of settlement. The superior authorities subsequently took exception to the entry as illegal and *ultra vires* and directed the *wajib-ul-arz* to be cancelled. But copies had been issued and the belief disseminated through the district that occupancy rents could not be enhanced, and only the more intelligent and pushing proprietors apparently ever came to realize that it was incorrect. There was comparatively little enhancement by the action of courts, and still less by private arrangement. In fact the enhancement rules with their elaborate procedure and complex safeguards have always been a bar to judicial enhancements. On severely managed estates occupancy rights were extinguished: on fairly managed estates they were maintained at easy and reasonable rents. In neither of these did any difficulty arise about their treatment. But in many estates out of apathy, laxness, the misconduct of agents or from considerations of kinship, prescription or service, the recorded rents remained at an inordinately low level, even where in the same estates the non-occupancy rental had progressed with the general growth. In many such villages what ought to have represented the rental increment was appropriated by agents as their perquisites and pickings. In some rent enhancements had for years past been designedly postponed till the new settlement should be completed on the unenhanced assets. This was particularly the case where canal irrigation was of recent introduction. In such estates it is usual to find the greater part of the area held under occupancy tenure and the total village rental accordingly much below the general standard. It was also commonly found that substantial portions of these occupancy areas were sublet at rates much in excess—double or treble the head rents.

The difficult problem which presented itself was, how to deal with these rents which had got stereotyped for the term of settlement or, as recorded, had failed to rise in at all a reasonable proportion with the growth of rents generally throughout the pargana or district or with the material improvement of the lands on which they were paid.

To accept such rents would involve either the abandonment in the proprietors favour of the revenue enhancement which might be expected on such lands or the creation of a class of intermediate sub-proprietors between the revenue payer and the actual cultivator. The first contingency is that which presumably would happen. The acceptance of an inadequate rent for assessment purposes would give the tenants no title to maintain it. At any time he pleased the proprietor could secure a judicial enhancement and remain for the rest of the settlement in full enjoyment of the addition to his assets. The result would be an indefensible sacrifice of the just claims of the State. In this district the sacrifice would be aggravated by the circumstance that vast improvement has been effected by the outlay of State capital on canals, and that the State looks for much of its return indirectly in the shape of additions to the land revenue. The proprietors have already enjoyed much of this during the expiring settlement. With the discontinuance of owner's rate they would enjoy the whole of it for another term if rent enhancements were postponed till after settlement and the assessment based on the old order of rents. The extent of the post-settlement enhancements may be judged from the figures supplied under head "Litigation" at page 113. The revenue payable on a sum estimated as Rs. 1,89,657, including additions now being made, would have been absolutely lost to the State by the acceptance of inadequate rentals to the exclusive benefit of the proprietors. Besides the loss of revenue, much inequality would have been introduced in the assessment of similar villages, which could not fail to excite discontent and to present a serious obstacle to any further simplification of the method of settlement.

The rules provide that an inadequate rent-roll should be usually accepted if it gives a reasonable increase on the expiring demand. The question was discussed in the Sikandarabad Assessment Report and in separate correspondence which ended with the issue of G. O. No. ⁴⁹²/₁₋₁₉, where full details will be found. It may here be briefly stated that a "reasonable increase" has in the present settlement been interpreted to mean not merely an increase which might add substantially to the expiring demand, but such an increase as might reasonably be expected, according to the general standard, from a fairly managed estate of such capacity and advantages. The test applied in considering the adequacy of a rent was primarily whether it was such a rent as could be maintained under the rent law if the proprietor were to apply for an enhancement. If it could be maintained it was accepted and taken as the basis of assessment. If it fell so unreasonably below the prevailing rates that a court would be forced to grant an enhancement, it was ordinarily rejected and a rental at fair rates substituted. This seems the only principle which, as the law now stands, can secure the rights of the tenant, the State and the proprietor.

The assessment in these cases is not in any respect one on prospective assets or dependent on future contingencies. It is, on the contrary, an assessment on assets which are now and under existing conditions capable of realization, which under fair management would be realized and which a rent court would on application at once decree.

The process was much simplified where the landholder applied, as some did, for his enhancements of rent *before* the revenue assessment. The co-ordination of rent and revenue was then complete. But in every case where a future enhancement of rent was even anticipated the village rates have been worked out and noted in the assessment order. This circumstance should be carefully kept in mind by the district authorities. The future business of rent enhancement should be immensely simplified for them by finding village rates ready to hand instead of leaving every successive rent court to work them out for itself. To this precaution may be attributed the ease and rapidity with which the settlement courts have been able to dispose of a vast amount of enhancement work.

SECTION 8.

Settlement statistics.

101. When the vernacular records had been faired they were totalled and abstracted.

Method of preparation. This was done by a special staff of trained statistical clerks. No part of the work required more care and supervision than this.

These totals and abstracts formed the ground work of the assessments. In devising the statistical tables, both for the use of the assessing officer and for the revising

Principles observed. authorities, the leading principle kept in view was to employ such headings that the columns could be filled in by transfer from the ordinary vernacular records, past and present. In this way only could existing materials be properly utilized. Once the arrangements of the ordinary records is abandoned it becomes necessary to resort to the laborious, expensive and tedious process of extraction field by field from the detailed papers. Besides other disadvantages the chances of error are multiplied and the automatic checks are lost. Even trifling departures become of importance. It would be manifestly irrational to keep up one set of headings for the annual returns and then employ a different set for settlement purposes. Much of the rapidity, economy and accuracy with which the statistics were compiled is due to the close adherence of the settlement tables to the headings and arrangement of the village papers.

The assessment statements described. 102. There were eight assessment tables filled up for each village (mauza):

No. 1 (Appendix V) is an abstract of the field book and gives the areas. It explains itself.

No. 2 (Appendix VI) gives the jamas of past settlement, the owner's rate and the new jama.

No. 3 (Appendix VII) shows the recorded rent paying areas and rentals of past years, divided under the heads of tenants' cash rented land, tenants' grain rented land, sir and khudkásht. It also shows sayer. The last line gives the figures for the settlement year taken from the attested records. The area only of grain rents is shown for this year, as the value of grain rents was unknown at attestation. Indeed, the cash equivalents of grain rents are rarely anything but nominal. The figures for past years were extracted from the kanúngo's mahalwár register, checked by reference to the rent-rolls.

No. 4 (Appendix VIII) gives the details of holdings and rentals under the different heads. It was filled up from the abstracts of the vernacular rent-rolls.

No. 5 (Appendix IX) gives the circle soil rates, areas and rentals. The total is the standard rent-roll of the village. The rates are those fixed by the Settlement Officer. The areas were rapidly and easily calculated by a process of deduction when once the small bára areas had been obtained by extraction.

No. 6 (Appendix X) shows crop statistics for past years. No attempt was made to compile crop areas for the settlement year. Such statistics are difficult to collect and of very doubtful value. The crop areas of a single isolated year may be quite misleading, particularly when it is a year in which the people have a direct interest in misrepresenting the resources of the land and have perhaps been forced to extend their dry crops by concealing their normal irrigation. The statement for a series of past years gives a perfect crop history of the village and is obviously a safer guide than the figures for a single year. This table is not exhaustive. It shows only the leading and characteristic crops of the circle, selected for the purpose after local enquiry, and the double cropped area. It has been found to answer its purpose completely.

This table was compiled from the kanúngo's manzawár register.

No. 7. (Appendix XI) is the corrected or perhaps, more accurately speaking, the corrected-substituted rent-roll. Its total areas and recorded rents are transferred from statements 3 and 4. The employment of this statement will be further explained along with the method of assessment. The figures for each mahál are separately shown.

No. 8 shows the details of proprietary rights under the following heads :—

- Tenure.
- Caste of proprietor.
- Aggregate shares held by the caste.
- Area in acres.
- Number of sharers $\begin{cases} \text{Resident.} \\ \text{Absentee.} \end{cases}$

These details are given separately for each mahál.

103. Abstract statistics for every village are brought together in the circle and general assessment registers which differ only in the serial numbering of the villages. It is unfortunate that the headings of this register have not been made to agree with the headings of the village tables, and the columns cannot all be filled up by direct transfer from the latter or from the vernacular papers, but to some extent require a separate set of calculations.

104. It may be well here to observe that the village statements and these registers have primarily been prepared by villages (*mauzawár*). Details of rents, holding and tenures have been further shown for each *mahál* in the village Statements VII and VIII, and in a *mahálwár* supplement to the circle register. This was found, after much discussion, to be the only convenient and practicable method. Details of area do not exist *mahálwár* in the village records. The map, field book and statistics which follow it are prepared *mauzawár* and would have to be thrown over altogether if the statements were compiled *mahálwár*. The statistics for the settlement year could be obtained *mahálwár* only by the slow and costly process of excerption field by field from the vernacular papers. But this could not have been undertaken for the statistics of past years, and the invaluable check afforded by comparison with those statistics would have been lost altogether or at least very seriously impaired. Even the comparison of rents and holdings, which are shown *mahálwár* in past as well as present records, could have gone back no further than the last partition. Nor is it easy to see what would be gained under a *mahálwár* arrangement of the statistics, which is not equally secured under the system here adopted. The details shown in village Statements VII and VIII, together with his own notes and observations, enable the assessing officer to fix the revenue of each *mahál* on its own merits and supply all the requisite materials for judging the propriety of the assessment. It was a practice of old settlements for the Settlement Officer to merely assess the *manza* and leave the distribution of the revenue among the *maháls*, as among the *pallis* and *khatas*, for the Deputy Collector to carry out. In this district there would still be some excuse for such a practice. A vast number of *maháls* have been created and are being created by the process known as “khetbat :” that is to say, the *maháls* are not compact blocks, but are formed by distribution of fields scattered all over the area or even by subdivision of each field between the different *maháls*. So little restraint has been placed on this process that *maháls* have been formed so minute that the total area is only $\frac{1}{40}$ of an acre, and so numerous that 37 are found in a single village.

Under such conditions it would be quite impossible to have a separate map and field book for each *mahál*, and so long as the statistics of cultivation, waste, fallow, irrigation and crops are prepared *mauzawár* it may be safely affirmed that whatever nominal arrangement may be ordered for settlement purposes, the assessing officer must base his major assessment on the only statistics he can find complete for past and present years and must work down from it to the *mahálwár* details.

SECTION 9.

METHOD OF ASSESSMENT.

105. The primary basis of the assessment was the actual rental declared by the parties and recorded in the village papers. This was in every case checked by comparison with the test rental (village Statement No. V) obtained by applying the circle rates to the

soil areas of the village and also by a reference to the recorded rentals and rent-paying areas of the previous ten years. These tests were further supplemented by the Settlement Officer's local enquiries and village inspections.

The circumstances under which declared rentals were rejected for fraud or inadequacy have already been fully described.

106. Though actuals have been accepted wherever it was possible to accept them, yet there were very many instances in which to a greater or less extent some other form of rating had to be adopted. There are comparatively few villages which consist entirely of tenants' land at cash rents. Even where there is no proprietary cultivation there are generally a few acres of rent-free or service lands or fields for which grain-rent is paid. Where these areas were (as in very many cases) quite inconsiderable, village rates were nearly always available. These rates do not always agree with the incidence recorded in the statement of holdings and rentals (village statement No. IV) but are the rates found applicable to fields of the class concerned and are usually nearer some of the circle rates.

Where the area to be valued was considerable, much care had to be exercised in the selection of fitting rates. The tenants' cash rental is often made up of excessively high rents paid by tenants-at-will and excessively low rents paid by occupancy tenants, neither affording a fair rating for tenants' land. Sometimes it would happen that even the compound or average of the two, though accepted as a basis of assessment itself, simply because it was an actual, did not give a rate which could be fairly taken for valuation purposes. In such cases the circle rates were often employed. Mr. Baillie almost invariably used them. Or rates were selected from neighbouring villages of similar quality. In doing this allowance had to be made for the natural character of the village, which might be above or below average. And some regard was also paid to the enhancement which would thereby be effected on the revenue demand. It does not seem reasonable to force up the assumed (corrected) rental by the employment of very full rates and then avoid the consequences by assessing a very low percentage. This may give an assumed appearance of moderation where there is really none. The moderation of the assessments now made on assumed assets should be judged not merely by the proportion of the corrected rent-roll taken as revenue, but also by the nature of the rates assumed for valuation purposes.

107. The valuation or correction rates employed in each case are shown in column 2 of the village Statement No. VII, which contains the substituted or corrected rent-roll adopted as the basis of assessment. This statement, it will be seen, divides the tenants' cash paying land under two heads, occupancy and non-occupancy. This follows the classification of the village records. Each head contains a column (1 and 7) for the recorded rent and a second column for the accepted rent; that is the rent finally taken as the assessable asset. If the recorded rent is accepted the entry in column 4 or 7 is repeated in column 5 or 8. If in either case it is rejected the rent entered in column 5 or 8 is the substituted or assumed rent gained by applying the rates of column 2 to the areas of columns 3 or 6. Proprietors' cultivation and other nominally rented or rent-free land necessarily bears an assumed rental gained as before by applying the rates of column 2 to the areas of columns 9 and 12. *Sir* cultivated by a proprietor himself has a separate heading, because it alone enjoys the privilege of a 25 per cent. abatement on the full rent.

This statement is described as the "corrected rent-roll" and where the recorded rental is accepted the description is strictly accurate. But where the recorded rental is rejected it might be more accurate to call this the "substituted" or the "substituted—corrected" rent-roll. It is a mere matter of words. However called, this statement gives the asset finally adopted as the basis of assessment. It was not in practice found necessary to include in the record a "corrected" as well as a "substituted" rent-roll where the latter had to be worked out. Comparison between the incidences of the declared rentals of occupancy and non-occupancy tenants in village

Statement No. IV. and of both with the incidence of the standard rental in village statement No. V, is the best, if not the only, test of adequacy. It attains more rapidly and clearly the same end which would be gained by a comparison of the standard with the "corrected" rent-roll. Any further explanation or illustration which may be required finds its proper place in the assessment remarks. This system has the very distinct advantage of dispensing with an additional tabular statement.

To compile village Statement No. VII. with full details of soil and irrigation under each head was a tedious and costly process. The abstracts of the village papers supply no such details and they had to be obtained by extraction, field by field, from the vernacular field book and rent-roll. Wherever possible this was avoided. It is obvious that wherever the actual rent-roll was accepted as adequate and the revenue assessed upon it, it would be quite superfluous to undertake an analysis of the holdings. Equally would it be superfluous to work out soil details of the cash lands whose rent had been accepted in order to get at a fair rating of the nominally rented or rent-free land: again where a whole village or a large and representative part of it had to be assessed at assumed rates it was unnecessary for this purpose to do more than work out the fair rates for the entire area and employ their incidence as an all-round rate in village Statement No. VII, without going through a preliminary analysis of all holdings.

The preparation of full soil details in village Statement No. VII was therefore restricted to the maháls and headings where they were required for assessment purposes. In this way a great economy of time and money was effected and a fruitful source of error was minimized. In some instances it must be admitted, that the employment of an all-round rate or incidence for valuation purposes led to inequalities. This was chiefly the case where there were a large number of small maháls. But such cases, which were few in number, were necessarily brought to notice when the revenue came to be distributed or the rents to be enhanced and have been adjusted as they appeared.

SECTION 10.

RESULTS OF NEW ASSESSMENT.

108. Of the 13 parganas of the district three, Aghauta, Shikarpur and Siyana, were assessed by Mr. Baillie, Assistant Settlement Officer under the general supervision of the Settlement Officer who countersigned all the assessment statements. The remaining 10 parganas were assessed by Mr. Stoker, Settlement Officer.

The preceding pages of this report have made it clear that a very large and general enhancement of revenue was inevitable. So far back as 1869 a very large enhancement was inevitable. the revenue was reported by Mr. Daniell to be short by a sum which would represent Rs. 2,70,600 for the whole district, and the Government of India calculated that the State was receiving only 35 per cent. of the assets instead of the 50 per cent. to which it was entitled. It has now been shown that since last settlement cultivation has increased by 6·7 per cent, the irrigated area by 57·7 per cent; that prices of agricultural produce have risen 90 per cent; and rents from 65 to 70 per cent. It may be well also to repeat that the whole of the increase of irrigation has been due to the State outlay on canals. The result has been very much what these figures indicate that it would be. Results of new assessment. The expiring demand including owner's rate is Rs. 13,17,841. This has been raised at once to Rs 18,53,329, or by 41·1 per cent. In the sixth year a further addition will be made of Rs. 10,2,491 and the increment will then amount to 48·9 per cent. The final revenue in the eleventh year when all the progressive enhancements have been effected will be Rs. 1,76,659 being a gross enhancement on the old demand of Rs. 6,58,818 or 50·0 per cent.

The corrected or corrected and substituted rent-roll on which this assessment is based, amounts, including Sayer, to Rs. 41,61,348. The incidence on it of the new initial demand is 44·7 per cent. rising on the sixth year to 47·1 and in the eleventh year to 47·5. In order to illustrate further the proportion which the new revenue bears to the assets of the district, it may be observed that by an assessment at half assets the standard rent-roll would yield a revenue of Rs. 20,72,770, the actual rent-roll, a revenue of Rs. 20,38,762, the corrected rent-roll with sayar, a revenue of Rs. 20,80,674, while the sum actually assessed is Rs. 18,59,329, rising in ten years to Rs. 19,76,659.

It will be seen from Appendix I that in 279 mahals the final jama is below 45 per cent. of the assets.

Pargana and tahsil results compared.

109. The following table gives the details of the new and old demand for each pargana :—

Pargana.	Expiring demand plus owner's rate.	Revised demand.			Percentage of enhancement (final).
		Initial.	Intermediato.	Final.	
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	
1. Sikandrabad	1,04,894	1,48,457	1,57,124	1,59,254	51·8
2. Dadri	1,34,141	1,86,740	1,92,215	1,93,575	44·3
3. Dankaur	72,848	92,597	93,062	93,062	27·7
Tahsil Total	3,11,883	4,27,794	4,42,401	4,45,891	43·0
4. Baran	1,13,716	1,67,321	1,78,456	1,79,201	57·6
5. Agauta	92,684	1,26,058	1,39,907	1,42,462	53·7
6. Siyana	1,05,509	1,38,703	1,41,625	1,41,810	34·4
7. Shikarpur	57,463	86,253	99,513	1,01,447	76·5
Tahsil Total	3,69,372	5,19,335	5,59,501	5,64,920	52·9
8. Khurja	1,44,021	2,04,740	2,17,750	2,18,775	51·9
9. Jewar	91,477	1,17,862	1,23,671	1,24,311	35·9
10. Pahasu	87,646	1,39,920	1,48,930	1,49,365	70·4
Tahsil Total	3,23,144	4,62,522	4,90,351	4,92,451	52·4
11. Dillhai	1,33,104	1,89,835	1,96,203	1,96,798	47·9
12. Anupshahr	89,900	1,24,239	1,26,668	1,27,008	41·3
13. Ahar	90,438	1,36,604	1,46,696	1,49,591	65·4
Tahsil Total	3,13,442	4,50,778	4,69,567	4,73,397	51·0
District Total	13,17,841	1,59,329	19,61,820	19,76,659	50·0

110. It is useful to compare the incidence and growth of the revenue demand with the past and present areas of irrigation and the average rent-rates. The next statement abstracts and brings together the figures which illustrate these points.—

Pargana.	Incidence of jama per cultivated acre.			Percentage of increase in cultivation.	Percentage of wet area to total cultivated area.	Percentage of increase in wet area since last Settlement.	Incidence of non-occupancy tenants' rental per acre.	Incidence of total tenants' rental per acre.	Remarks.
	Old.	New.	Increase.						
1	2	3	4	5	6	7	8	9	10
	Rs. as. p.	Rs. as. p.	Rs. as. p.	Acres.	Acres.	Acres.	Rs. as. p.	Rs. as. p.	
1. Sikandarabad,	1 9 5	2 6 2	0 12 9	8.1	70.9	61.9	5 15 1	4 12 4	The entries in columns 8 and 9 included for Chit-tari estate in Pargana Pahasu and mauza Shaikhupur in pargana Dibhai are based on the facts as recorded in the "parchas" (slip jamabandis) which latter have not yet been faired being dependent on the cases which still remain undecided under orders of the Government.
2. Dndri ...	1 7 0	1 15 2	0 8 2	12.0	51.3	34.3	4 3 9	3 8 3	
3. Dankaur ...	1 6 5	1 13 9	0 7 4	4.4	51.2	58.8	3 12 4	3 6 8	
Tahsil Total ...	1 7 7	2 1 0	0 9 5	8.9	57.3	49.7	4 11 11	3 14 4	
4. Baran ...	1 13 10	2 12 9	0 14 11	10.3	68.4	56.8	6 7 4	5 6 6	
5. Aghauta ...	1 15 4	2 14 4	0 15 0	7.3	87.4	34.6	7 2 11	6 1 1	
6. Siyana ...	1 10 9	2 2 5	0 7 8	11.4	51.4	77.9	5 5 11	3 8 8	
7. Shikarpur ...	1 9 7	2 9 2	0 15 7	9.8	53.5	59.9	6 3 6	5 5 5	
Tahsil Total ...	1 12 6	2 9 4	0 12 10	9.8	64.9	53.9	6 6 9	4 14 9	
8. Khurja ...	1 10 8	2 10 2	0 15 6	2.4	67.6	45.4	6 1 2	5 4 2	
9. Jewar ...	1 7 6	1 13 11	0 6 5	14.3	46.6	91.4	3 12 9	3 8 8	
10. Pahasu ...	1 8 5	2 14 8	1 6 3	2.4	68.7	60.4	6 13 4	6 5 9	
Tahsil Total ...	1 9 1	2 7 3	0 14 2	4.7	61.0	59.4	5 12 7	5 1 0	
11. Dibhai ...	1 8 9	2 11 3	1 2 6	7.0	67.8	59.2	5 9 6	4 14 10	
12. Anupshahr ...	1 9 4	2 5 9	0 12 5	1.9	59.6	49.3	4 15 6	3 14 9	
13. Ahar ...	1 6 9	2 2 7	0 11 10	18.1	50.5	121.9	5 5 11	4 4 0	
Tahsil Total ...	1 8 4	2 6 8	0 14 4	3.2	59.4	70.6	5 6 2	4 6 2	
District Total ...	1 9 5	2 6 0	0 12 7	6.7	60.7	57.7	5 10 7	4 9 5	

The figures in column 2 are those of last statement calculated on the areas of that time and do not include owner's rate, which had then no existence. It will be observed that the revenue rate varies with the rent-rate and both have usually a direct proportion to the irrigable area. Divergences are explained by peculiarities of management. Pargana Pahasu for instance with a smaller wet area than Aghauta or Sikandarabad and naturally inferior to both has a higher rent-rate than either, owing to the character of its proprietors and the absence of proprietary cultivation. Dankaur is at the bottom of the list in both rental and revenue incidence, though in natural advantages and irrigation resources it is better off than both Siyana and Jewar. This must be ascribed to the lenience or laxness of the landholders generally and to the large area which they cultivate themselves. In pargana Dibhai the recorded rent-rates have been kept down by mis-statement, but it still stands much higher above the other two parganas of the same tahsil, than its natural conditions alone would justify. The explanation will be found in the character of the larger proprietors.

111. The foregoing figures contrast the conditions of the past and present settlements at the time when each commenced. It will be perhaps a matter of more practical interest to consider the immediate effects of the new assessment in each pargana and tahsil. It is shown in the following table The incidence of the expiring demand (column 4) differs from that in column 2 of the

last table because it includes owner's rate and has been calculated on the present area of cultivation :—

Pargana.	Percentage of new jama to assessable assets.	Increase per cent. of new jama over expiring demand (including owner's rate).	Incidence per acre of demand including owner's rate on present cultivated area.		
			Expiring demand (including owner's rate).	New (final) Jama.	Increase.
1	2	3	4	5	6
	Rs.	Rs.	Rs. as. p.	Rs. as. p.	Rs. as. p.
1. Sikandarabad ...	47.7	51.8	1 9 1	2 6 2	0 13 1
2. Dadri ...	48.5	44.3	1 5 7	1 15 2	0 9 7
3. Dankaur ...	48.3	27.7	1 7 3	1 13 9	0 6 6
Tahsil Total ...	48.2	43.0	1 7 1	2 1 0	0 9 11
4. Bawan ...	47.8	57.6	1 12 5	2 12 9	1 0 4
5. Agauta ...	47.1	53.7	1 14 1	2 14 4	1 0 3
6. Siyana ...	48.6	34.4	1 9 7	2 2 5	0 8 10
7. Shikarpur ...	45.5	76.5	1 7 4	2 9 2	1 1 10
Tahsil Total ...	47.4	52.9	1 11 0	2 9 4	0 14 4
8. Khurja ...	47.8	51.9	1 11 9	2 10 2	0 14 5
9. Jewar ...	47.7	33.9	1 6 0	1 13 11	0 7 11
10. Pahasu ...	45.1	70.4	1 11 4	2 14 8	1 3 4
Tahsil Total ...	46.9	52.4	1 9 9	2 7 3	0 13 6
11. Dibhai ...	47.6	47.0	1 13 3	2 11 3	0 14 0
12. Anupshahr ...	48.2	41.3	1 10 9	2 5 9	0 11 0
13. Ahar ...	47.1	65.4	1 4 11	2 2 7	0 13 8
Tahsil Total ...	47.6	51.0	1 9 7	2 6 8	0 13 1
District Total ...	47.5	50.0	1 9 4	2 6 0	0 12 8

As a rule the incidence of the new jama on assets varies in the inverse ratio to its increase on the old demand. Where the increment is largest, the revenue has been kept lowest. The incidence per cultivated acre has been raised by Rs. 0-12-8 and now stands at Rs. 2-6-0.

112. The neighbouring and somewhat similar district of Aligarh was settled between 1866 and 1874. The new revenue, given out in the latter year, had an incidence of Rs. 2-6-3 per acre. This close coincidence with the result here attained may perhaps be taken as a sign that the true demand has been fairly estimated and when it is remembered that in the sixteen years which have elapsed since the Aligarh settlement, rents have been steadily rising, prices gaining an unknown stability of high level, and very large extensions of canal irrigation have been effected, it will appear a further justification of the large increase now imposed that it still leaves the revenue demand lower than that assessed on Aligarh.

113. It has already been noticed more than once that the vast growth of ascertained rents since last settlement rendered a very large revenue enhancement inevitable. Throughout the greater part of the district the difficulty in framing the new jamas, has been to moderate the demand without an undue sacrifice of the just claims of the State. These difficulties reached their climax in dealing with the rack-rented estates of parganas Pahasu and Dibhai.

The conflicting reasons and considerations which influenced the assessing officers have been fully stated in the Khurja assessment report. It might no doubt be possible on some grounds and in some instances to justify a higher assessment than that proposed, and it would certainly have been well if the concessions could have fallen in a larger degree to classes or persons who deserved them better. But in dealing with all classes of

Principles observed in assessment. estates the object kept in view has been to assess a fair jama which, looking at all the circumstances of the estate and its

owners, could be regularly and fully collected. It is impossible to deny that the enhancement on the district as a whole is very considerable and must be felt at first by those who have to pay it. But it has been moderated in every reasonable way and the demand has been carefully adjusted to the natural advantages and rent-paying capacities and

Working of the new assessments. actual assets of the different estates. The new revenues became payable in the current year 1889-90 and the first half yearly

instalment has been collected without any fresh difficulty. Those who paid punctually before, have paid punctually now and those who have always been backward have remained so. There has been so far nothing to show that the increase of the revenue has added to the difficulty of collection. It is unfortunate that the new patwari's cess

Additional pressure caused by the new patwari's cess. has been introduced simultaneously with the new revenue. It not only adds 4 per cent. to the cesses which now amount to

16 per cent. in the revenue, but it is of course calculated on the enhanced demand and swallows up all the margin left by the assessing officers to allow for bad debts and seasons.

SECTION II.

PROGRESSIVE ASSESSMENTS.

114. It may be well to explain at the outset that the sole object of granting progressive assessments has been to moderate sudden and violent enhancements which, though entirely justifiable on the existing assets, might, if introduced at once, prove ruinous to the proprietors. An assessment has never been made progressive in order to reach prospective assets, nor is this form of relief a substitute for a low assessment but is oftener a supplement to it. Wherever the final jama however low its incidence, has involved a greater enhancement than the proprietor could at once meet without the risk of serious embarrassment, a progressive demand has been proposed. A direct proportion will thus always be observed between the extent of the enhancement and the proportion of revenue postponed for future collection.

Regulated by the revenue increment.

115. In obedience to the Board's instructions the general rule has been to fix a progressive jama wherever the expiring demand was raised by 60 per cent; as the average enhancement for the district was 50 per cent. this was a fair general limit. But it had very often to be relaxed. The revenue increment varies from 27.7 in pargana Dankaur to 76.5 in pargana Shikarpur and the variation between different circles is even greater. Attention had in each case to be paid

The circumstances of the proprietors considered.

to the circumstances of the proprietor. A rich man would be able to bear easily a demand which might cripple his poorer neighbour. In the case of large landholders the increment was calculated on the

Large estates how treated.

whole estate in each tahsil and the initial abatement was regulated accordingly. The results on the leading estates have been already shown in the table printed on page 25.

The assessable assets shown in that statement take account of the additions since made to the proprietor's profits by rent enhancements in the settlement courts. In several estates which have been laxly or very leniently managed, these additions are so considerable that the proprietor has suffered no substantial diminution of his profits or may even be ultimately in a better position than he was before settlement; such for instance is the case in the Skinner's estate, the Paikpara estate, the Dataoli (Malakpur) estate

Effect of rent enhancements considered.

and the three branches of the Kuchesar estate lying in pargana Siyana, In such cases of course no progressive jama has been proposed. In those estates on the other hand, such as the Lalkhanis, the Sirdar Bahadur, the Chaudhrain of Shikarpur and the smaller Jât proprietors, where the rents have from the first been worked up to a high pitch and the owners have long enjoyed abnormally high profits, there can be little or no increase of rent and the revenue increment must mainly come out of those profits. In these cases progressive jamas have been freely granted and the initial demand brought within moderate limits. In dealing with small proprietors the line has been drawn even lower. In pargana Jewar, for instance, though the total enhancement of revenue is only 35.9 per cent., a substantial portion of it 19.6 per cent. has been postponed

Treatment of small proprietors.

on account of the backward character of the pargana and the want of resources among its proprietors. In short, the rule of practice has been to moderate by a progressive assessment, every considerable enhancement whose immediate imposition might seriously

The progressive rises how fixed.

embarrass the revenue payer. The progressive rises extend in each case over five or ten years, where the revenue increment did not exceed 100 per cent., an initial jama was fixed for five years. It was usually calculated by making an addition of 50 per cent., to the expiring demand. The full final jama was then imposed from the sixth year. Where the revenue enhancement exceeded 100 per cent., the initial jama was usually fixed as above; a second or intermediate jama involving an equal increment was fixed, to come into force in the sixth year and the full final jama was then reached in the eleventh year. In the few cases where the revenue was raised by over 150 per cent., the increment was equally distributed over the initial, intermediate and final jamas.

In no case has the postponement been for less than five or more than ten years. The former was considered the shortest period which would permit a proprietor to make a proper adjustment between his income and expenditure. If the final demand could not be reached in 10 years that was taken as a sign that it was excessive and should be reduced.

The results.

116. The results are shown in the following table :

Pargana.	Expiring jama plus average owner's rate.	Jama of 105 alluvial mahals under quinquennial rules.	Jama of 50 bhanger mahals settled summarily for short terms.	NEW JAMA.				REMARKS.
				JAMA OF OTHER MAHALS.				
				775 mahals in which it is progressive.				
				Initial or for 1st five years.	Interme- diate or for second five years.	Final or for 11th and re- main- ing years.	2431 mahals in which no progressive jama is proposed and the final jama is to come into force at once.	
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1. Sikandarabad.	1,04,394	...	200	36,833	45,500	47,630	1,11,424	Column 4 against parganas Pahasu and Dibai includes some mahals which have been settled for four years only. They are representing Chitari estate in pargana Pahasu and one mahal in mauza Shekhpur of pargana Dibai. Their jamas are included as Rs. 18,550 and Rs. 3,165 respectively.
2. Dadri ...	1,34,141	3,210	1,150	27,070	32,545	33,905	1,55,310	
3. Dankaur ...	72,848	5,535	...	2,550	3,015	3,015	84,512	
Tahsil Total ..	3,11,883	8,745	1,350	66,453	81,060	84,550	3,51,246	
4. Baran ...	1,13,716	...	...	45,765	56,900	57,645	1,21,556
5. Agauta ...	92,684	...	...	51,883	65,738	68,293	74,163
6. Siyana ...	1,05,509	200	...	16,523	19,445	19,630	1,21,980	
7. Shikarpur ...	57,433	...	...	48,914	62,174	64,108	37,339
Tahsil Total ...	3,60,372	200	...	1,63,091	2,04,257	2,09,676	3,55,044	
8. Khurja ...	1,44,021	...	2,030	55,165	68,175	69,200	1,47,545	
9. Jewar ...	91,477	6,520	...	26,310	32,119	32,759	85,082	
10. Pahasu ...	87,646	...	50,400	33,920	42,930	43,365	65,600	
Tahsil Total ...	3,22,144	6,520	52,430	1,15,395	1,43,224	1,45,324	2,88,177	
11. Dibhai ...	1,33,101	2,094	14,549	31,394	37,762	38,357	1,41,798	In making entries in columns 5, 6, and 7 where only two graduations have been found, the second step has been repeated in column 7.
12. Anupshahr ...	89,900	2,996	...	10,111	12,540	12,880	1,11,132	
13. Ahar ...	90,438	1,913	...	38,143	48,235	51,130	96,518	
Tahsil Total ..	3,13,442	7,003	14,549	79,648	98,537	1,02,367	3,49,478	
District Total ..	13,17,841	22,468	68,329	4,24,587	5,27,078	5,41,917	13,43,945	

One hundred and five alluvial maháls with a revenue of Rs. 22,468 are under quinquennial settlement. In 50 other maháls with a revenue of Rs. 68,329 it has for reasons elsewhere explained been found necessary to make a summary settlement for four or five years. In all these of course no progressive assessment was necessary or possible. In the remaining 3,206 maháls with a jama of Rs. 18,85,862, the demand has been made progressive in 775 maháls with a final jama of Rs. 5,41,917. Out of this latter sum, Rs. 1,02,491 have been postponed for five years, and Rs. 14,839 have been postponed for ten years. The capitalized value of these concessions is Rs. 5,86,650 and this represents the loss which the Government revenue will suffer by the grant of progressive assessments. The assessable assets of these estates with sayar amount to Rs. 11,70,653. The aggregate initial demand is Rs. 4,24,587 being an increase of 49·6 per cent. At the end of five years, this will rise to Rs. 5,27,078, being an enhancement of Rs. 24·1 per cent. on the initial and 85·7 per cent. on the expiring demand. The full jama reached in the eleventh year represents an advance of 27·6 per cent. on the initial and 90·9 per cent. on the expiring demand. The result for the entire district of the progressive increments is that the expiring demand (Rs. 13,17,841) is raised at once to Rs. 18,59,329 (41·1 per cent), in the sixth year to Rs. 19,61,820 (48·9 per cent.) and in the eleventh year to Rs. 19,76,659 (50·0 per cent).

117. The object of these progressive jamas is to mitigate the severity of the initial enhancements. The following table illustrates this result here by comparing the proportion of revenue increment in each pargana with the proportion of it which has been deferred till the sixth or eleventh year :—

Pargana.		Percentage of increment on old jama.	Percentage of increment deferred.	Remarks.
1		2	3	4
		Rs.	Rs.	
1. Sikandarabad ...	...	51·8	19·9	There are some estates which owing to very exceptional causes have been settled for the present for four years in some cases and for five years in others. If these are excluded from the account the figures in column 3 will stand as below :—
2. Dadri ...	...	41·3	11·5	
3. Dankaur ...	...	27·7	2·3	
Tahsil Total	...	43·0	13·5	
4. Baran ...	...	57·6	18·1	Sikandarabad ... 19·8
5. Agauta ...	...	53·7	33·0	Dadri ... 11·6
6. Siyana ...	...	34·4	8·6	Tahsil Sikandarabad ... 13·5
7. Shikarpur ...	...	76·5	34·5	Khurja ... 18·7
Tahsil Total	...	52·9	23·8	Pahasu ... 24·3
8. Khurja ...	...	51·9	18·8	Tahsil Khurja ... 20·4
9. Jewar ...	...	35·9	19·6	Dibai ... 11·9
10. Pahasu ...	...	70·4	15·3	Tahsil Anupshahr ... 14·7
Tahsil Total	...	52·4	17·7	District Total ... 18·0
11. Dibhai ...	...	47·9	10·9	
12. Anupshahr ...	...	41·3	7·5	
13. Ahar ...	...	65·4	22·0	
Tahsil Total	...	51·0	14·2	
District Total	...	50·0	17·8	

In pargana Jewar where the proprietors are necessitous and rentals unequal the concession has been most liberally granted. In pargana Palasu the result is obscured by the summary settlement of the Chitari estate. Excluding it the percentage of increment is 64·2 per cent. of which 24·3 has been deferred. With these corrections it will be observed that there is a direct proportion between the extent of the revenue enhancement and the proportion of it which has been postponed.

SECTION 12.

PROPRIETORS' CULTIVATION.

118. The following table shows the proportion of land in each pargana cultivated by proprietors and tenants.
Relative extent of owners and tenants' cultivation.

Pargana.	Total rent paying area in acres.	Tenants' land in acres.	Percentage of column 3 to 2.	Proprietors.			
				Sir cultivated by proprietors themselves in acres.	Percentage of column 5 to 2.	Other sir and khud Kasht in acres.	Percentage of column 7 to 2.
1	2	3	4	5	6	7	8
1 Sikandarabad ...	68,474	45,629	66·6	17,866	25·4	5,479	8·0
2 Dadri ...	1,01,725	63,427	62·4	28,535	28·0	9,763	9·6
3 Dankaur ...	51,463	34,704	67·4	12,941	25·2	3,815	7·4
Tahsil Total ...	2,21,662	1,43,760	64·9	58,845	26·5	19,057	8·6
4 Baran ...	65,388	59,005	90·3	3,754	5·7	2,609	4·0
5 Agauta ...	49,925	36,961	73·9	7,863	15·6	5,221	10·5
6 Siyana ...	70,153	63,165	90·5	4,009	5·7	2,679	3·8
7 Shikarpur ...	40,000	35,368	88·4	2,314	5·8	2,318	5·8
Tahsil Total ...	2,25,446	1,94,739	86·4	17,880	7·9	12,827	5·7
8 Khurja ...	86,082	71,391	82·8	8,367	9·7	6,414	7·5
9 Jewar ...	68,937	46,568	67·5	13,365	19·4	9,004	13·1
10 Palasu ...	52,378	38,768	73·7	1,186	2·9	2,124	4·0
Tahsil Total ...	2,07,397	1,66,637	80·3	23,218	11·2	17,542	8·5
11 Dabai ...	75,015	69,894	93·2	2,664	3·5	3,027	4·0
12 Anupshahr ...	56,707	55,486	97·9	515	0·9	706	1·2
13 Ahar ...	70,889	66,971	94·5	1,736	2·5	2,152	3·0
Tahsil Total ...	2,02,611	1,92,351	94·9	4,875	2·4	5,885	2·9
District Total ...	8,57,116	6,97,487	81·4	1,04,318	12·2	55,311	6·4

The bhyachara tenure which prevails among the Jats, Ahirs, Gujars and Thakurs of the western parganas accounts for the large extent of land there in the holding of proprietors themselves and it may all be reckoned as *bona fide*. These men do habitually till their own lands themselves and it is by this cultivation that they subsist. The proprietary profits of their minute shares are inconsiderable.

119. In some parts of the district a tendency to overstate sir was observed. Sometimes this was done in view of settlement in order to conceal the real assets as in mauza Bibiyana of pargana Anupshahr, mauza Ghesupur pargana Sikandarabad, or mauza Khushalabad and Fatehabad of pargana Dillahi. Sometimes it was done in order to get the better of co-sharers or defeat possible claims to rights of occupancy. Owing to the system under which sir entries were verified in the office by reference to the records of past years such frauds and errors were easily detected. The field testing and verification of records brought them again under examination and the erroneous entries were set right at attestation. The present figures may be accepted as substantially correct.

120. Throughout the whole of the district an abatement of 25 per cent. was made on *sir* lands actually cultivated by the proprietors themselves. The following table shows the result of the concession :—

Pargana.				Area in acres.	Assumed rental.	Abatement at 25 per cent.	Remarks.
1				2	3	4	5
					Rs.	Rs.	
1	Sikandarabad	17,866	85,693	21,424	Column 4 represents the sums of village totals and not the results of separate calculations.
2	Dadri	...	...	28,535	1,24,610	31,160
3	Dankaur	...	...	12,944	50,931	12,740
	Tahsil Total	...	...	58,845	2,61,294	65,324
4	Baran	...	...	3,754	22,306	5,551
5	Agauta	...	...	7,803	51,103	12,765
6	Siyana	...	...	4,009	18,733	4,680
7	Shikarpur	...	...	2,314	12,330	3,095
	Tahsil Total	...	...	17,880	1,04,522	26,091
8	Khurja	...	...	8,367	44,595	11,152
9	Jewar	...	...	13,311	54,379	13,588
10	Pahasu	...	...	1,486	8,099	2,020
	Tahsil Total	...	...	23,164	1,07,073	26,760
11	Dibai	2,094	11,000	2,763	
12	Anupshahr	...	...	515	2,670	668
13	Ahar	...	...	1,766	8,118	2,017
	Tahsil Total	...	...	4,375	21,818	5,478
	District Total	1,04,264	4,94,707	1,23,653	

The average incidence for the district at large of the jama upon the assessable assets is 47·5. At this rate the amount of revenue remitted would be Rs. 58,735, and this may be taken as the entire loss which Government has sustained by the consideration shown to the most deserving and valuable class of the community. It is impossible to speak too highly of the beneficial and salutary character of this measure. Of all the schemes for moderating the revenue demand this is perhaps the only one under which the relief is not monopolised by persons who have generally done nothing to deserve it. The revenue, as it is, has been pushed as high as it could safely go and if this abatement had not been made in its present form it must have been made in some other. No better method could have been devised. The concession is a highly judicious one to the only improving class of proprietors, a valuable and loyal body of yeomanry who supply a large number of recruits to the native army and various civil departments. It is a concession moreover which can lead to no invidious comparisons on the part of other proprietors.

SECTION 13.

QUINQUENNIAL SETTLEMENT OF ALLUVIAL MAHÁLS.

121. Excluding six revenue-free maháls in three villages of pargana Dankaur, the result of the present revision has been to effect a summary settlement of 105 alluvial maháls comprised in 87 villages of parganas Dadri, Dankaur and Jewar on the Jumna and Dibhai, Anupshahr, Ahar and Siyana on the Ganges. This has involved some change in the number of estates previously falling under this category. Two maháls were added to the district, having been transferred by diluvion from the Panjáb. Similarly one mahál was lost by transfer to the Panjáb. In four villages of Dadri and Dankaur alluvial maháls were formed where none existed before. In pargana Dibhai one mahál was struck off the list by its incorporation in the parent mauza. Full details of these changes will be found in the various assessment reports.

The physical features and agricultural characteristics of the khadir lands of the Jumna and Ganges have been already described in the opening chapter of this report.

The demarcation of all alluvial maháls was carefully revised and in many instances extensive changes were found necessary. The old boundaries were discovered to be generally defective, not following any natural formation and not being based on any general survey of the characteristics of

the alluvial tract or the topography of particular villages. A full account of the alterations will be found in the special reports submitted for each pargana and tahsil.

122. The following table shows in a very comprehensive form the present condition of these estates and the results of the new assessment:—

Pargana.	Number of villages.	Number of mahals.	Season of inspection.	Expiry of last quinquennial settlement.	When next resettlement will be made.	Total area in acres.	Cultivable area in acres.	Barren area in acres.	Total rent paying area in acres.	Average incidence per acre of declared tenants' cash rents.	Incidence per acre of corrected rental.	Incidence per acre of standard rental.	Corrected rental.	Sayer.	Additions for fallow, &c., &c.	Total assessable assets.	Jama assessed.	Percentage of jama to assessable assets.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Dadri ...	12	12	1886-87 ...	30th June 1887 ...	1st July, 1892 ...	4,740	1,891	2,148	701	2,013	Rs. a. p. 2 11 10	3 1 2 3 5 6	6,190	Rs. 410	131	6,731	3,210	47.7	
Dankaur,	25	27	1886-87 ...	30th June 1887 ...	Ditto	9,021	3,752	3,346	1,893	3,923	2 12 1	3 0 10	10,763	344	180	11,300	5,535	49.0	
Jewar ...	15	21	1887-88 ...	30th June 1888 ...	1st July, 1893 ...	9,767	3,730	4,689	1,348	4,139	2 13 4	3 1 3	11,857	660	882	13,329	6,520	48.7	
Siyans ...	1	4	1888-89 ...	30th June 1889 ...	1st July, 1894 ...	329	84	154	91	87	8 2 8	3 15 5	345	63	...	408	200	49.0	
Debai ...	13	17	1887-88 ...	30th June 1889 ...	1st July, 1894 ...	4,683	399	2,311	1,973	449	5 15 0	6 2 6 2 10 1	2,765	942	303	4,010	2,994	52.2	
Anupshahr,	10	11	1888-89 ...	30th June 1890 ...	Ditto	5,454	781	2,222	2,451	828	4 15 2	5 12 10 5 13 11	4,805	1,045	189	6,039	2,996	49.6	
Ahar ...	11	13	1888-89 ...	30th June 1889 ...	Ditto	8,897	551	4,972	3,374	566	3 11 6	4 13 9 5 1 5	2,750	942	205	3,987	1,913	48.0	
Total ...	87	105	...	...	...	42,891	11,218	19,842	11,831	12,005	3 6 7 3 4 7 3 6 5	39,478	4,406	1,900	45,874	22,468	49.0	

The current quinquennial settlement of the pargana Anúpsahar villages will expire on the 30th June 1890, and it is proposed to renew it for a period of four years only so that it may expire concurrently with the settlement of the alluvial villages of the other three parganas which lie along the Ganges. It is unnecessary and unadvisable to fix different dates for each pargana; the whole can be easily revised by one officer in a single season.

Under this arrangement, the 27 villages of parganas Dadri and Dankaur will come under revision in 1892, the 15 villages of pargana Jewar in 1893 and the 35 villages on the Ganges in 1894.

In villages of this class a substantial part of the assets naturally consists of sayer. It has been reasonably estimated at Rs. 4,406 which has an incidence of three annas and seven pies per acre on the culturable waste leaving the unculturable land out of account altogether.

The additions for fallow are chiefly on account of melon beds and other hot-weather cultivation which had not been begun when the measurements were made and the records attested. The average area and assets of past years were ascertained from the record. Something must be added in pargana Jewar for land thrown out of cultivation in anticipation of a thirty years settlement but which by a change in demarcation, came under quinquennial rules.

It so happened that all these parganas except Anúpsahar were inspected in the last year of the expiring settlements. In each case a further survey was made at the commencement of the following year to ascertain what changes had taken place in the past rains and the assessment has been based on the condition of each estate in the first year of the new term. For pargana Anúpsahar it will be necessary to make a similar survey after the rains of 1890 and revise the proposed assessments according to the results of it.

Owing to the extensive changes in demarcation it is not possible to compare the new and the expiring assessment. But it may be generally said that the Jumna villages were found to be over-assessed and the jama's now fixed are on the whole rather more lenient than those which have expired. This was probably the result of the application at last settlement of similar rates to the excellent upland estates and the poor lands along the river.

The Ganges villages on the other hand were found to be under-assessed. The soil in them is usually superior to that of the uplands and had never been overrated. In some villages the revenue was kept low by concealment of the real assets—, a device which succeeded in securing an inadequate assessment no further back than 1887.

The whole of the alluvial villages have been resurveyed, fresh maps and records made, prepared and the boundaries correctly laid down.

SECTION 14.

SAYER.

123. The assessable Sayer assets for the entire district have been put at Rs. 56,067, and the amount of jama thereon comes to Rs. 26,646. The details for each pargana and tahsil are as follows :—

Pargana.						Sayer in- cluded in assessable assets.	Jama as- sessed on sayer.	Propor- tion per cent. of sayer in column 2 to total assess- able assets.
1						2	3	4
						Rs.	Rs.	Rs.
1	Sikandarabad	...	...	...	...	2,813	1,342	0·8
2	Dadri	...	...	...	...	6,612	3,207	1·7
3	Dankaur	...	...	...	...	4,103	1,982	12·1
Tahsil Total						13,528	6,531	1·5
4	Baran	...	...	...	...	6,414	3,066	1·7
5	Agauta	...	...	...	...	3,350	1,578	1·1
6	Siyana	...	...	...	...	3,315	1,611	1·1
7	Shikarpur	...	...	...	...	3,244	1,476	1·5
Tahsil Total						16,323	7,731	1·4
8	Khurja	...	...	...	...	5,781	2,763	1·3
9	Jewar	...	...	...	...	3,790	1,808	1·5
10	Pahasu	...	...	...	...	4,085	1,842	1·2
Tahsil Total						13,656	6,413	1·3
11	Debbai	...	...	...	...	4,963	2,362	1·2
12	Anupshahr	...	...	...	...	2,808	1,353	1·1
13	Ahar	...	...	...	...	4,789	2,256	1·5
Tahsil Total						12,560	5,971	1·3
District Total						56,067	26,646	1·3

The jama has not been separately assessed on sayer but on the total assets including sayer. The sums entered in column 3 of the above table have been gained by proportion.

124. The chief sources of sayer income are thatching and fodder grass, grazing fees, dhak wood, gum and leaves, water-nuts, and fruit of groves and gardens. All mineral products have been reserved to Government and have been left out of account. This includes kankar pits, but does not include saltpetre and salt earths, which under the special orders of Government have been treated as sayer and the income from them assessed to revenue. Due regard has been paid to the precarious nature of the sayer income and such sums have been fixed as seemed capable of regular realization. The produce of mango groves is more valuable and more regularly made a source of income in this district than in most parts of the provinces.

Manorial dues not in the nature of produce from land such as weighment fees and fines on marriage, have been excluded from the assessable assets. Other cesses of the nature of rent have, where ascertained and admitted, been amalgamated with the rent. In some parts these manorial dues were very heavy and vexatious, a list of them has been given in the Khurja assessment report.

In one case only, mauza Rajghat, pargana Dibhai, were ground rents found a sufficiently large and stable source of income to be added to the assessable assets.

SECTION 15.

IMPROVEMENTS BY PROPRIETORS.

125 This chapter might almost be as brief as that devoted to snakes in the history of Iceland. Taking the district as a whole improvements effected by proprietors have been absolutely insignificant. Government has done a great deal and tenants have done a good deal, but the owners of land have, as a class, done nothing to improve it. The structures on which they have preferred to spend their money are indigo factories and imposing dwelling-houses.

Reclamation in this highly cultivated district has been a trifling matter and has been attended with no expense. The process has generally consisted in cutting down dhāk jungle, selling the timber and permitting tenants to plough the land. Improvements resolve themselves into the single item of well construction. Among the few proprietors who have done anything in this direction are the late Munshi Mihrban Ali, C.I.E., of Gulaoti, the late Saiyid Jan and Rai Mannu Lal, of pargana Ahar. The sums actually deducted from the assessable assets on account of wells constructed by proprietors are Rs. 3,375 in tahsil Baran, and Rs. 4,533 in tahsil Anúpsahr. But this does not represent the total allowance made for improvements. Where the rent of tenants had to be enhanced or assumed assets substituted for inadequate rentals due allowance was made for tenants' improvements and for the annual cost imposed on cultivators or owners for the up-keep of unprotected and temporary wells. Similarly in dealing with bhyachara villages where the same persons are cultivators and proprietors due allowance was made in the estimate of assets for irrigation supplied at the expense of the people. But such items could not be reduced to precise figures in the same way as additions made to the rent on account of a proprietor's well.

The most improving class of the community is the cultivating proprietors of bhyachara villages and they have in different ways been treated with lenience and consideration.

Very few *bona fide* applications were made for revenue abatement on account of improvements, but all such cases were taken up and examined by the assessing officers at local inspection even where no claim had been made. After the jamas were fixed and proclaimed, when objections were being filed it became a practice of the petition writers or vakils to insert, among other grounds, a claim to reduction on the ground of improvement, but except in very rare cases such claims were not seriously meant or supported.

126 The proprietors of this district have not only failed to improve their property, but their policy has been directly and actively designed to prevent and obstruct improvements. It is almost the universal practice for landowners to prevent their tenants from making masonry, half-masonry or in extreme cases, earthen wells. Where an unqualified prohibition is not pronounced, the assent is surrounded by conditions which neutralize it altogether. The terms usually imposed are—

- (1) That the tenant shall at once pay wet rates.
- (2) That he shall make over the well to the landowner, renouncing his own title to it.
- (3) That he shall bind himself to claim no compensation in the event of his ejection.

Naturally tenants will not invest their money under conditions which contrast strangely with the liberal terms offered by Government to the proprietors themselves. The practice appears to be contrary to law, as it is certainly opposed to the public

interest and the declared policy of Government. But landowners have been enabled to enforce it by the aid of the Civil Courts which issue decrees closing wells that have been constructed without their permission. Instances were brought to notice where wells had been closed by order of the Civil Courts at the suit of the Muttra Seth, the Nawáb of Chitari, the Skinner estate and others.

Action of the Civil Courts.

Special instances.

These precedents have been sufficient to deter tenants all over the district from constructing wells without the zamindar's permission, a permission usually accorded only on impossible conditions. A great number of applications were presented to the Settlement Courts by tenants praying for permission to build wells. In such cases the proprietor was summoned and consulted.

Applications by tenants.

Action of proprietors.

As a rule he refused his consent. Even on such laxly managed properties as the Paikpara, Malakpur and Skinner's estate, instances were not wanting where tenants were prohibited from building wells. Rao Umrao Singh, of Kuchesar, may be mentioned as one of the very few proprietors in the district who has given full and free permission and encouragement to his tenantry to improve their holdings. It seems a strange thing that persons should object to their own property being improved at the expense of others. But landholders here seem to believe that they gain more advantage in absolute control over their tenants and in preventing the growth of any adverse rights of any sort. They wish to remain in a position to monopolise every advantage arising from the general progress of prosperity or the movements of trade and prices. To this end they are willing to sacrifice prospective and even immediate benefits. In some instances cultivators have claimed an abatement of rent on the ground that earthen wells had become impracticable or precarious and expensive, and that the landowner would not permit the construction of permanent wells. In such cases the landowners have preferred to submit to an abatement of their rents rather than accord the desired permission. One proprietor, Bhola Nath, Bania of Fatehabad, pargana Dibhai, actually dismantled a masonry well of his own when his tenants established claims to occupancy rights in the fields irrigated from it.

The result of this perverse and mischievous policy has been, so far as it goes, to curtail the area of well irrigation and to restrict the tenant to the use of unprotected earthen wells which are precarious, expensive and liable to fail when most wanted. By so much therefore it leaves the district less protected against failure of crops and more likely to be a source of expense and trouble to Government in years of drought. Looking at the importance of the question to the cultivators and the community at large and at the efforts made by Government to encourage and assist works of protection against famine, it seems deplorable that the landowners of this district should pursue such a ruinous policy.

Result of this policy.

SECTION 16.

DISTRIBUTION OF JAMAS.

127. The distribution of the jamas was commenced in April 1889 and occupied about six months. After general principles had been fixed the entire control of the work was left to Pandit Rama Sankar, Assessment Settlement Officer, and was carried out chiefly by the patwaris under the supervision of a small staff of moharirs and munsarims.

Time occupied and staff employed.

The first step was to obtain an accurate statement corrected up to date of the various proprietary shares, major and minor. The attested Khewat first corrected up to date. or settlement khewats were for four parganas, those of the third year before 1886-87 and for five parganas those of the previous year 1887-88. For four parganas only the Settlement khewats were those of the current year 1888-89. The first step was to ascertain what structural changes had taken place mean time in the khewats. Mere mutations of name did not affect the distribution as long as the shares remained unchanged. The tahsildár's books would show the names up to date

against each share and so were available for the purposes of collections. The mutation registers showed all structural changes which had taken place since attestation. They were obtained from the tahsíl and checked by reference to the Sadr kanúngo and the patwáris. A skeleton khewat was then drawn up which contained an accurate list of all the proprietary shares and sub-divisions at the time of distribution. This was in fact a khewat without the names; it was called the "Fard Phánt" or distribution list.

The procedure in distribution is governed by rule 42 of the Settlement Rules. The co-sharers were assembled and various methods of distribution with their results were carefully explained to them. When the method to be adopted had been determined the quatum of revenue falling on each thok, patti and holding (khata) of the khewat was calculated with the assistance of tables and formulæ drawn up for the purpose. Care was taken to reproduce in the distribution, the features of the mahalwar assessment. A special formula was employed to secure that the special abatement made on sír lands should reach the proper recipients and no others. Similarly allowances made in assessment for injured or inferior lands or special additions for Sayer, &c., were reproduced in the distribution. The results were checked by the scrutiny of the special staff and by the use of automatic tests.

The work proceeded very rapidly and smoothly. Objections have been very few and subsequent alterations quite inconsiderable. The success of these operations is largely due to the care and patience with which they were conducted by Pandit Rama Sankar and the assistance of the useful forms and calculation tables which he devised. The few instances in which unsatisfactory results have come to light are due to the defective character of the rules which leave no discretion to distributing officer but compel him to adopt the opinion of the proprietors present, if unanimous, and limit his authority even when they disagree. Special cases of such a nature have been reported to the Board.

When the distribution was completed, the revenues were inserted in the skeleton khewats, one copy placed in the settlement volume and another sent to the tahsildárs in time for collection of the first half-yearly instalment. They were found to answer all the purposes for which they were designed and no difficulty has been experienced in collecting the revenue according to them.

SECTION 17.

THE PERIOD OF SETTLEMENT.

128. Except in the alluvial maháls, the Chitari estate and those villages which for special reasons have been summarily settled for short terms the engagements have, under the orders of the Board, been taken for the usual period of 30 years. But proprietors in tahsils Khurja and Anúpshahr have been specially warned that this is subject to the decision of Government with whom it rests to fix the period for which settlement is to be made. It has been intimated that the Settlement Officer should notice the point in his final report.

There is no imperative reason why the settlement of each division of the district should be fixed for the same period. It may be expected that the next settlement will be carried out by the ordinary district staff and in even a more summary manner than the present one. Such an arrangement would no doubt be much facilitated if different parganas or groups of parganas came under settlement in different years and the district officer could take them in turn without derangement of his ordinary work.

The same conditions do not prevail over the whole of the district, and it may perhaps assist a solution of the question if the case of each pargana is briefly stated. The most heavily assessed parganas are Baran and Shikarpur, the rents run uniformly high and there is little proprietary cultivation, the increase in both has also been very large and there is no reason to expect any increase in irrigation or cultivation. Any considerable rise in rents is not under present circumstances to be expected. At the same time the present rents are actuals which have stood the test of some years. No special reason could be found for shortening the usual term of settlement. The same may be said of pargana Ahar and pargana Khurja, though not perhaps in such a marked degree.

Pargana Aghauta is highly developed in every way. The large area of proprietary cultivation has kept down the revenue incidence or it would have been, where its natural quality places it, at the head of the list in incidence of jama. There is no reason why the present demand should not be fully and punctually collected for the full term, but there is no prospect of any such increase as would require the usual full term to be shortened. Pargana Sikandrabad is much in the same category, but there is perhaps more room for growth of rents.

Pargana Dankaur and Jewar are still comparatively backward and undeveloped. Rents have not risen in the same measure as elsewhere and here if any where in the district improvement may be expected before very long. But Jewar at least is naturally a poor pargana and the limit of possible enhancement is not wide. Pargana Dadri follows Dankaur and Jewar. There has been more advance but it is unequal and the character of the people is opposed to rapid or great improvement. In pargana Siyana rents are still low, but the pargana is a poor one and the strength of the tenantry and the conditions of management forbid the prospect of any but very gradual development. Pargana Dibhail is highly rented but canal irrigation has not yet reached its limit 13 villages wilfully thrown waste have been settled for five years only. In pargana Anupshahr rents are still fairly easy though unlikely to increase much in the immediate future except on account of extensions of canal irrigation which may to some extent be still expected. Pargana Pahasu is distinctly overrented, and though the revenue has purposely been cast low on the actual assets, yet any occurrence, such as a fall in prices, which would diminish the rent paying power of the tenants might affect the collections so far as to trench on the proprietor's half profits. On the other hand any change in the other direction will certainly lead to an increase even of the present high rents. There are more reasons for shortening the term of settlement here than in any other pargana.

The objections apparently to a long term settlement are that (1) it deprives the state for an unnecessarily long time of the profits to which it is entitled, and (2) that it involves a very large and embarrassing enhancement at the end of the time. These reasons lose much of their force when applied to a settlement based on well-developed rents, which has just added 50 per cent. to the previous demand. There are at most three or four parganas of this district to which they could apply and even there, the application would be somewhat doubtful and speculative.

On the other hand there can be no doubt that any abbreviation of the usual term of 30 years would be extremely unpopular with all classes except perhaps the rack-rented tenantry. Land-owners attach much importance to a long term and would probably, if the choice were offered to them, rather submit to a higher demand than be made liable to a revision after a short period of that now offered to them. It is for Government to determine how far it would be safe or politic to ignore this feeling. In the writer's opinion it should receive great weight.

There are certain estates on which a full term settlement should not be accorded till order, honesty and humanity in their management have been assured. To this, allusion has already been made elsewhere, and in view of the summary system which may possibly be adopted at the next settlement it may be advisable to arrange different dates of expiry for different groups of parganas. With these exceptions the weight of argument seems to be in favour of fixing the settlement for the ordinary period of 30 years.

CHAPTER V.

SUMMARY SETTLEMENT OF THE CHITARI ESTATE.

129. Thirty villages in pargana Pahásu belonging to the Rais of Chitari are for the present excluded from the regular settlement. In accordance with the instructions of the Board they have been settled summarily for a short term of years. To explain the causes of this exceptional treatment it is necessary to understand the condition of the Chitari estate, its method of management, and the action of the proprietor and the tenants since the settlement operations commenced. The circumstances have been fully narrated in the assessment report of tahsíl Khurja.

130. The head of the family is Nawáb Mahmud Ali Khan, the youngest son of Thákur Mardan Ali Khan, from whom the principal Lálkháni proprietors are descended. About seven years ago the property was divided by him among the members of his family. The eldest son, Kunwar Lutf Ali, and the third son, Kunwar Yusuf Ali, got estates in the Aligarh district, and the valuable Bulandshahr property all practically passed into the possession of Kunwar Abdul Ali the second son and his father's favourite. The present report is concerned with 28 whole and 2 half villages in pargana Pahásu. The old Nawáb divested himself almost entirely of the ownership of the estate, retaining in his own name only parts of two villages, and even they are entailed on Kunwar Abdul Ali. Of the other 28½, 17 are recorded in the name of Kunwar Abdul Ali as sole proprietor, 9½ in the name of his sisters, and two in the name of the youngest brother, Kunwar Abdus Sammad Khan. The estates in Kunwar Abdul Ali's own name are all the most valuable canal villages, with very profitable indigo factories. The villages recorded in his sisters' and brothers' names have been by express condition retained under his management, so that the whole property is practically in his hands. The old Nawáb, though no longer recorded proprietor, seems to have exercised some general authority or control while leaving the details of the business to his son and the servants of the estate. Latterly, he appears to have withdrawn almost altogether, and to have remained a good deal in ignorance of what was going on, till the present occurrences again aroused him.

131. The management of the estate was always severe and the assets, so far as can be ascertained, always largely understated. But so long as the Nawáb himself administered the estate, the tenantry were not absolutely driven to extremes. Some control was exercised over the agents, who were entrusted with the collection of rents and the details of village administration. The rents were high, indeed very high; but some consideration was shown in their collection, and occasional concessions were made in times of necessity or distress. The standard of subsistence or comfort seems to have been below that of the district generally, but was not so lowered as to cause serious discontent. But ever since Kunwar Abdul Ali became proprietor, things seem to have been going from bad to worse. He was apparently unable to carry out a system of efficient management, and he fell under the influence of bad advisers. What the actual facts of the matter are, it is extremely difficult to say. But the management passed from strictness into the most extreme and intolerable severity. The rents were worked up to a very high pitch, how abnormally high the figures quoted at page 73 will

show. They were aggravated by all sorts of cesses and benevolences. A still further

Forced cultivation of indigo. aggravation was the forced cultivation of indigo. It is a very common practice among the proprietors of this district to keep

indigo factories and to compel the tenants to grow a certain amount of plant for them. It is not considered that the owner of a canal village gets the full benefit of his property unless he works an indigo factory in it. In the Chitari estate the system has latterly been pushed to an unknown extreme. The tenants were compelled to cultivate an enormous area of indigo including it is said, all their outlying fields except the swampy or dry sandy lands where the crop would not grow. It was not possible of course for the Raïs always to secure the whole of this area. But the indigo cultivation was forced to an extent which disturbed the whole conditions of agriculture, unduly restricted the area of maize and other coarse food-grains on which the people subsist, and threw such a strain on the cultivators and the canal, that the tillage of the indigo itself became imperfect and unprofitable. The plant was all taken by the Raïs for his own factories at a price fixed by himself, generally Rs. 17 per 100 maunds, the price being credited to the rent in the following kharîf instalment. This is far below the market price. Indigo has latterly sold throughout the district for cash on delivery at from Rs. 30 to Rs. 40 per 100 maunds; grown in advances, the price is much lower; but in this case it was the tenants who made the advance, for they did not even get credit for their plant till some months after its delivery. Of all their grievances this was perhaps the one most felt by the cultivators. In the recent attempts to effect a compromise between them and the Raïs, they were found irreconcilable on this point. They would not consent to any arrangement which involved a compulsory cultivation of indigo.

132. Besides the demands which proceeded from the proprietor himself, the people complain that they were subject to the exactions and ill-usage of the peons and karindas of the estate, who were allowed to do very much as they pleased. It is easy to understand what pleased them. This was a necessary consequence of the system of management. Kunwar Abdul Ali was in these men's hands. His peculiar position in the family estranged him from the other members of it, and he had to rely much on his subordinates. His rent-rolls were all falsified, and he could not collect his rents by any legal process. He was, therefore, obliged to collect them by other measures and methods. It is not necessary to enter into details on this point; but besides the illegal duress and distraint of which all the tenants complain, he had hanging over their heads the threat of summary ejection. He kept the patwâris in his interest, and having their books under his control took care to have all the cultivators recorded as tenants-at-will. It was in this way among others he was able to force the cultivation of indigo, from which in many villages the whole or nearly the whole of the kharîf rent was realised.

The system was essentially a defective one. It could benefit no one but the agents employed to carry it out. The Raïs apparently failed to recognise that his own real interest lay in a system of honest and considerate management. The system actually pursued could not escape exposure when it once came within the scope of inquiry, and as the Collector has pointed out, once exposed it became impossible for the future.

133. When the settlement operations commenced, the first object of the Chitari management was to carry on the concealment of assets and secure the acceptance of the falsified rentals. The patwâris were secured by their complicity in what had already been done. But the slips containing the false rents had to be read to and attested by the tenants in the presence of an Assistant Settlement Officer. It became necessary to obtain their acquiescence. To this end pressure was brought to bear upon them and violence employed. They were told that they must affirm whatever rents were read out to them, and threatened with pain and penalties if they disclosed their real rents to the Settlement officials. Those who showed signs of mutiny were subjected to violence and indignity.

134. Meanwhile, the papers of every patwári had been subjected to a close scrutiny in the Settlement Office. It was not a difficult matter to fix upon those which had been falsified. Some patwáris admitted that their returns were untrustworthy, and said they had entered what the Rais furnished. Some affirmed their correctness, and some were silent. They were all allowed a certain time within which to produce true returns. After this every patwári whose records were unmistakeably false, and who persisted in withholding the true ones, was suspended from office. It has been already explained that they were employed by the Rais as his agents to collect rents, and so were well acquainted with the real demand. The temporary removal of these patwáris deprived the proprietor of one very considerable restraint over his tenants, and they began to gain more courage. Seeing that the tenants were wavering, the truth coming out, and their own position insecure, the old patwáris nearly all surrendered, gave in the true rentals, and exposed the whole system in their testimony. During this crisis the Rais and his agents redoubled their efforts to keep the patwáris on their side and compel the silence of the tenantry. So far did this go that his action brought the Nawáb himself within the cognisance of the Criminal Courts. This and other proceedings before the Magistrate show the embarrassing character of the opposition which the Settlement officials had to encounter. But all this violence and pressure had an effect exactly contrary to that which its designers intended. Each act led to another complaint and another disclosure. The tenantry, led by Thakurs of the same family or caste to which the ancestor of the Jálkhánis belonged, became more combined and more determined.

135. Up to this point the Settlement officials had not entered these villages. The preliminary operations of preparing the rough records had been carried out at the Head-office, and what information had been gained was obtained by examining patwáris and other officials, by a scrutiny and collation of the village papers of the pargana, and by applications filed by persons aggrieved by the action of the Rais and his agents.

What happened when the local work of village inspection and attestation of records commenced is within the cognisance of the Board. These operations in all but a few outlying villages were purposely held over till the Senior Member and Secretary arrived on tour in the pargana. The leading villages of the estate were first visited by them and the Collector and the Settlement Officer. In village after village the whole body of tenantry turned out, disclosed the true rents which they were paying, and appealed for protection against the mismanagement and violence of the Rais and his people. After a feeble attempt to deny the real state of affairs and to ascribe the attitude of the tenantry to other causes, the Rais, in a conference held at Chitari, practically admitted the concealment of rents and their severity. He did not then, and he has not to this day furnished, like other proprietors, a statement from his private records of the true rental assets of his estates. But those assets have been discovered from other sources, chiefly the declaration of the tenants and the private rent-rolls supplied by the patwáris. In the majority of instances, when so discovered, their accuracy has been formally admitted by the Rais and his agents. But no information on their part has ever been spontaneously forthcoming to elucidate the real state of the demands, collections, and arrears of the estate.

136. When attestation proceedings first commenced, the full and true rents were disclosed by the tenants. It was at that time the policy of the Rais to persist in affirming the truth of what had been previously recorded. In these circumstances the attesting officer was bound by the rule (No. 7) to record the old (false) rent. For this reason the rentals recorded in the settlement papers for thirteen villages are not the true rentals, but the old false ones. The true assets are, however, in every case known from the declarations of the tenants and the private rent-rolls produced by the patwáris. At a later stage, when a compromise of the litigation was attempted and

the Raís agreed to offer an abatement of 25 per cent. of the old rents, the truth of the full rentals now disclosed was practically admitted by taking them as the basis on which the reduction should be granted. As the work of attestation progressed, the Raís began to see the futility of persisting in the accuracy of the old records. He also found the result of his persistence to be that when tenants made good their claim to rights of occupancy they were recorded at the old false rent, and at once refused to pay any more. So his tactics were changed, and the rents stated by the tenants thenceforth admitted and duly entered in the settlement records. At a later stage, again, some of the tenants began to declare rents which, though a great deal in advance of those hitherto recorded, were yet short of the real rents they had been paying. The Raís did not correct these, but simply affirmed whatever the tenants said.

For this reason in six villages the recorded assets were still below those which used to be collected. The real rents are, however, known, having been ascertained from the private rent-rolls and from the tenants themselves before their new departure. The concealment is not very considerable or material, and still leaves even a higher rental than might be taken as the basis of assessment.

In Chitari Khas, and Kasba Daddhu, a portion of the tenants stood by the Nawáb and affirmed the old false rents and were followed in their affirmation by the Raís' agents. In these two villages also the recorded rents, though partially true, give a total rental which is much below that actually collected. The real assets have in both cases been ascertained with sufficient accuracy. In the remaining nine villages the true rents are now fully recorded.

137. It has always been the policy of the Chitari management to permit no rights of occupancy to appear on the records of any village of the estate. In pargana Pahásu this was easily effected. The Rais kept the patwáris in his service and had the records completely under his control. The papers show periodical changes of holdings; and the tenants, though resident for generations in the same village, have always been recorded as of a few years' standing. At the time of attestation the majority of the tenants in nearly every village laid claims to rights of occupancy. Their contention was that the village records had been manipulated at the instance of the Rais and changes of holding effected on paper, but that they had continued in fact to cultivate the same fields without any change. In the whole of these 30 villages the number of such claims, all of which were tried as regular suits, amounted to 1,426. Of these 209 had been decided by the Assistant Settlement Officer, Pandit Rama Shankar Misr, M.A., of the Statutory Civil Service, when further proceedings were stayed under the orders of Government, in order to permit, if possible, some compromise being effected between the parties. The efforts which were subsequently made to bring about an amicable settlement do not enter into the scope of this report. It is sufficient to say that they all failed, and it became quite certain that the parties would not willingly come to terms. The cases have all reached the very last stage; but permission to proceed with the decisions has not yet been received. They consequently remain undecided. One hundred and forty-six appeals against the decisions of the Lower Court have been filed, and the hearing of these also is suspended.

Until this litigation has been finally decided, it will not be possible to make a regular settlement of these estates according to the rules. Many of the entries will depend on the issue of the cases, and till they are concluded the records cannot be completed, faired, and abstracted. So far as possible this has been done, and the areas are in every case available; but the entries of tenures, holdings, and rents in 23 villages must remain for the present blank. In seven villages the cases had been decided by the Lower Court before proceedings were stayed. For these the ordinary statements have

been prepared. But the results may be modified by the issue of the appeals now pending. But in the others it has not been possible to abstract and present the various assessment statements by which the proposals for regular settlement require to be supported. Moreover, the final determination of the rental assets will depend largely on the final results of the litigation. In the 13 villages above stated, where the true rentals have not been attested, it will generally be possible to take the recorded assets as the basis of assessment so far as the tenants obtain right of occupancy and the proprietor is debarred from arbitrary enhancements. But where the tenants fail to obtain that protection, the Raís will undoubtedly again collect what he has hitherto been taking, or as much of it as he can get. This will be very much in excess of what has been entered in the settlement papers, and any assessment based on the latter would, under these conditions, prove entirely inadequate. In the nine villages where the true rents are on record the Raís has continued to collect them. But if the tenants secure right of occupancy, they will certainly sue under section 72 of the Land Revenue Act for abatements, and as the rents they now pay are not only enormously in excess of any occupancy rates, but much above the rates paid elsewhere, even by tenants-at-will, it seems probable that some reduction would have to be judicially made on the present demand. The figures given above at page 73 show that the application of the non-occupancy rates for the same circle would involve a reduction of over Rs. 16,000, and of the occupancy rates a reduction of nearly Rs. 38,000 on the 30 villages here in question. In the eight villages for which the recorded rents are partly true and partly false, it may similarly in each case become necessary, on the conclusion of the litigation, to fix judicial rents, or determine how far the recorded rents can be accepted as the basis of assessment.

138. A regular settlement of these estates being therefore under such circumstances impossible, it was decided, under instructions from the Senior Member, to effect a summary settlement for a short term of years. As Government is now in possession of all the rental statistics, this was easily done, and the assessment based strictly on actuals. The villages were divided into five groups according to the truth or falsehood of the attested rentals and the progress made in determining the dispute rights of occupancy. The full details will be found in the Khurja Assessment Report. It is sufficient here to summarize the results for the entire estate. They will be found in the following table.

Villages.				Recorded rental of 1294 fashi corrected for rent- free and sir.	Tenants' rental as declared by them.	Tenants' rental as recorded in the attested papers.	Real assets known to have been collected, including sayer, sir, &c.	Present assessable assets, including sir, sayer, &c.	Expiring jama plus owner's rate.	New jama.
1				2	3	4	5	6	7	8
				Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1st group	...	...	...	11,705	15,523	12,206	16,968	14,022	3,619	6,625
2nd do.	...	...	...	14,808	25,942	14,417	27,140	21,417	6,144	9,925
3rd do.	...	...	...	27,876	45,820	45,820	47,159	47,139	10,071	19,550
4th do.	...	...	...	9,818	14,104	14,004	17,091	15,057	3,719	6,550
5th do.	...	...	...	6,940	9,344	9,344	13,981	13,331	2,699	5,900
Total				71,147	1,10,733	95,821	1,22,339	1,11,566	26,252	48,550

The increase on the current demand including owner's rate comes to 84.9 per cent. Up to the present the Rais has collected the owner's rate from the tenants in addition to the rent here shown. But he may not in all cases be able hereafter to add this requisition to the rent, so it has been left out of account. The present assessable assets have been so calculated as to show only those sums which the proprietor is at present in a position to actually collect. The incidence of the new jama on them is only 43.5 per cent. If this be thought inadequate, it may be remembered that it is proposed for four years only, and may be treated as the first step of a progressive rise. On the old assets which used to be collected the incidence would be only 39.7, and if the end of the litigation places the Rais again in a position to enforce his old demand, the jama now proposed will undoubtedly have to be enhanced.

The tenants have for the present been freed from the heavy and vexatious burden of forced indigo cultivation. Since the disputes commenced they have refused to grow any plant for the proprietor's factories. They are, therefore, in a better position than before to pay the rents, however high, recorded against them. The difference between the market-price and the forced price of the plant was really a rental asset, which might have been taken into consideration in the assessment. But under the circumstances it has not seemed desirable to raise this question at present.

In these 30 villages the actual assets from all sources have been understated by Rs. 51,193, or 71.9 per cent. of what was put forward as the true return.

139. The present assessment is for four years only. The litigation now suspended will certainly have to pass to the highest tribunal of appeal, and it will most probably be followed by a judicial determination of some portion of the rental. It cannot safely be estimated that less than four years will suffice for these operations and for the relations of the parties to become re-adjusted and the condition of the estate definitely determined.

CHAPTER VI.

THE GANGES CANAL.

140. In the section of this report devoted to the irrigable area, full details have already been given of the area of canal irrigation and its extension since last settlement. To briefly recapitulate. Out of a total wet area of 5,15,738 acres 2,21,178 acres or 43.5 per cent. are irrigated from the canal. At last settlement the recorded area was only 33,741 acres. So the increase amounts to 190,437 acres or 565 per cent. But between the commencement and conclusion of the last settlement a further area which might possibly amount at most to about 15,000 acres had been brought under canal irrigation. Though not so shown in the records this irrigation was to a certain but undefined and inconsiderable extent, taken into account in the assessments.

141. On the other hand the canal has over extensive tracts only replaced existing well irrigation. The total recorded decrease in the well area is 47,625 acres, and it seems probable that the whole of this might practically be ascribed directly or indirectly to the action of the canal. There is nothing whatever to show how far the 33,741 acres recorded at last settlement replaced irrigation from previously existing sources.

142. In the three parganas watered by the Anúpshahr Branch Canal the area which was only nine acres at last settlement is now 48,181. No part of the district has benefited so much by the introduction of the canal. It passes here through a country which is naturally dry, with a deep spring level and a soil formation unfavourable to the construction of wells. Moreover much of the soil is light and dry cultivation being precarious, it benefits enormously by artificial irrigation. Owing to the close proximity of the drainage lines of the Ganges and Choya, the canal is unlikely here to have the same effect on the water

level and on the general conditions of the country as in the central part of the district. There is still in this tract a large area to which canal water might advantageously be extended. If the difficulty lies in allotting a larger supply, it would be found a beneficial measure to divert to this branch a portion of the water which now goes to the western parganas where, if anywhere, the consequences of over-irrigation are to be apprehended.

143. Since the Canal Act of 1873 an owner's rate has been collected on all lands assessed as dry and subsequently brought under canal irrigation.

Owner's rate. The average income from this source for the years 1883-84, 1884-85, 1885-86, (1291, 1292 and 1293 fasil), has been Rs. 84,004. As a rule this rate has been collected by the proprietors from their tenants in addition to their rents even where the rents have been raised on account of the advent of the canal. It has been the custom to treat such payments on the same footing as occupier's rate and not enter them in the village rent-roll. In many cases however chiefly those of occupancy tenants, the owner's rate has been consolidated in the recorded rent and no separate charge is made upon the cultivator. A few, very few, proprietors have made no addition to the rent and bear the charge of owner's rate themselves. On the Anúpsahr Branch Canal the general custom has so far been to levy an extra wet rate in whatever season or year canal water was used. This practice has been described and discussed in the Anúpsahr Assessment Report.

144. Under the orders of Government all lands have now been assessed on their actual condition and assets. Owner's rate has accordingly ceased to be payable in all lands recorded as wet in the settlement records. It is further believed to be the intention of Government to refrain from imposing owner's rate on future extensions of canal irrigation and such a measure would undoubtedly seem highly advisable. It may be safely affirmed that no fresh tract of country is likely to be opened up to canals and the only extensions which can be expected of existing irrigation are along the Anúpsahr branch where the higher scale of occupier's rate is already in force and where any substantial addition to it would owing to the poverty of the soil, most probably deter the cultivators from taking water except in abnormally dry years. Whatever the extra charge may be called, it is upon the cultivator that it will eventually fall.

Canal lands now assessed on actual condition.
Owner's rate ceases on present wet area.
Future extensions.

145. On account of the absence of any instructions on the point, estates and lands, whereof the revenue has been assigned, remitted or redeemed, were assessed to a nominal jama for the calculation of cesses, on the same principle as revenue paying lands, that is to say on their actual conditions whether the result of canal irrigation or otherwise. But pending the orders of Government these jamas were not given out nor engagements taken. Government has now decided to maintain the owner's rate on these estates and lands and instructions have recently been received which make it necessary to revise the proposed jamas so as to exclude the results of canal irrigation. This can be most conveniently done by simply deducting from the proposed jama the average amount of owner's rate hitherto paid. The calculations are now being worked out, but a serious difficulty has been encountered in the circumstances that no returns are available to show in detail what the owner's rate in past years has been on each mihal or separate plot, only mauzawar totals exist.

146. The Settlement Officer is required by the rules to "calculate and record what portion of the increased land-revenue demand on canal-irrigated villages may be attributed to an increase in value caused by extensions of canal irrigation effected since last settlement."

When this question was practically taken up at the present settlement it was found impossible to devise any method of calculation by which the desired results could be attained with even approximate accuracy. There is no space to enter here into a fresh examination of the question. Several reports have been separately

Calculation of proportion of increased land-revenue due to canal found impossible.

submitted which give in full detail the reasons and causes that render such calculations impossible. The present assessment is based on actual rents and not on assumed rates. There is no means of ascertaining what part or proportion of the rents is due to irrigation and what to the various other agencies which have contributed to form it. Nor is it possible now to say what the condition of a canal village and its rental would have been without the canal. Even if the direct credit due to the canal could be calculated there is no means of estimating either its indirect additions to the rental assets or the serious deductions which should be charged against it.

The Board have directed a calculation to be made in the following method. The net area of canal enhancement is determined by deducting the decrease in the well area as well as in the area irrigated from other sources from the increase in canal irrigation. The difference per acre between the incidence of wet and dry standard rentals is then calculated and applied to the above area. The result gives the rental assets of that area and the revenue is calculated at the actual incidence of the revenue assessed to the assessable assets. The result has been worked out by circles and is here shown for each pargana and tahsil.

Pargana.	Gross increase in canal irrigation.	Decrease in well and other irrigation.	Net increase in canal irrigation.	Assets of column 4 at the difference between incidence of wet and dry rates.	Percentage of pargana jama to assessable assets.	Revenue on column 5 at the rate of column 6.	Total new final revenue.	Total expiring revenue plus owner's rate.	Increase per cent of new over expiring revenue.	Increase per cent. in column 10 due to canal.
1	2	3	4	5	6	7	8	9	10	11
	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1. Sikandarabad ...	22,195	5,076	17,119	41,521	47.7	19,806	1,50,254	1,04,894	51.8	18.9
2. Dadri ...	19,993	5,336	14,657	35,307	48.5	17,124	1,93,575	1,31,141	44.3	12.8
3. Dankaur ...	16,797	6,688	10,109	23,032	48.3	11,124	93,962	72,818	27.7	15.3
Tahsil Total ...	58,985	17,100	41,885	99,860	48.2	48,054	4,45,891	3,11,883	43.0	15.4
4. Baran ...	8,913	2,511	6,402	25,808	47.8	12,336	1,79,201	1,13,716	57.6	10.8
5. Agauta ...	8,682	4,717	3,965	15,989	47.1	7,531	1,42,462	92,684	53.7	8.1
6. Siyana ...	12,315	2,985	9,330	25,655	48.6	12,468	1,41,810	1,05,569	34.4	11.8
7. Shikarpur ...	...	...	...	...	...	...	1,01,447	57,463	70.5	...
Tahsil Total ...	29,910	10,213	19,697	67,452	47.4	32,335	5,64,920	3,69,872	52.9	8.8
8. Khurja ...	21,760	4,202	17,558	57,890	47.8	27,671	2,18,775	1,44,021	51.9	19.2
9. Jewar ...	13,847	439	13,408	30,169	47.7	14,362	1,24,311	91,477	35.9	15.7
10. Pahasu ...	13,364	2,745	10,619	49,361	45.1	22,262	1,49,365	87,646	70.4	25.4
Tahsil Total ...	48,971	7,386	41,585	1,37,360	46.9	64,295	4,92,451	3,23,144	52.4	19.9
11. Debbai ...	21,307	6,086	15,221	61,763	47.6	29,399	1,96,798	1,33,164	47.9	22.1
12. Anupshahr ...	12,685	3,862	8,823	30,686	48.2	14,791	1,27,008	89,900	41.3	16.5
13. Ahar ...	13,658	1,022	12,636	41,852	47.1	19,712	1,49,591	90,438	65.4	31.8
Tahsil Total ...	47,650	10,970	36,680	1,34,301	47.6	63,902	4,73,397	3,13,442	51.0	20.4
District Total ...	1,85,516	45,669	1,39,847	4,38,973	47.5	2,08,586	19,76,659	13,17,841	50.0	15.8

According to this calculation the canal is entitled to a credit of Rs. 2,08,586 out of a total revenue increase of Rs. 6,58,818 or 31.6 per cent. Results of this calculation stated and discussed. This is on a net area of 1,39,847 acres and represents an average rental value of Rs. 3-2-3 and a revenue incidence of Rs. 1-7-10 per acre. Mr.

Currie declared the enhancement at last settlement due entirely to the canal to be Rs. 36,809. His area as already explained is uncertain but taking the recorded acreage 33,741 acres this would give a revenue incidence of Re. 1-1-5 per acre. The whole credit due to the canal from the land revenue would on this showing come to Rs. 2,45,395 or 12·4 per cent. of the demand now assessed.

For the accuracy of these conclusions, beyond the mere arithmetical work, the Settlement officer is in no way responsible. They appear to be altogether arbitrary and conjectural and not based on any sound or intelligible system. But any other method would probably be just as inconclusive and perhaps less accurate. If the field of conjecture must be entered it is unlikely that any one who has seen the enormous addition which the canal has made to the produce of the district would estimate the average annual value of it at a less sum than would yield the revenue above ascribed to its agency. But this is a very different thing from saying that without the canal the revenue would have been so much less. It is a very significant circumstance, which should not escape notice that the greatest increase in any pargana of the district has been in Shikārpur, which is the only pargana entirely destitute of canal irrigation. There are other features in the above table which it would be very difficult to explain. Why for instance should the canal get credit for Rs. 49,351 on 10,619 acres in pargana Pahasu and for only Rs. 23,032 on 10,109 acres in pargana Dankaur. It must obviously be getting credit in Pahasu for what is due to some other agency than itself. Reasons and figures have already been adduced which show that the increase of rents is due far more to rise in prices than to extensions of irrigation. The increase in the standard rental per acre is Rs. 1-10-7 of which according to the calculations on page 43, 59·6 per cent. is due to the rise in prices. But the canal in the present calculation gets credit for Rs. 3-2-3 per acre on the whole of the net area brought under its influence.

147. Whatever the proportion of Revenue due to the canal may be, no reasonable person can deny the enormous benefits it has conferred on this district or can fail to be struck by the magnificent work of its construction and the admirable administrative skill with which it is administered. Its influence is not to be measured merely by the extension of the wet area. It has encouraged crops of the higher classes and added very largely to the double-cropped area. The indigo industry has almost been called into existence by it and sugar cultivation has by its influence begun to develop. It has added an unknown stability and certainty to cultivation and thereby, to both rent and revenue, and by making husbandry easy and profitable it has attracted and attached to agricultural pursuits, castes and classes to whom the industry had heretofore little attraction.

148. But while the benefits conferred by the Canal are great and undeniable, the drawbacks which have attended it, are very serious. An account has already been given of the extraordinary rise in the water level, and this with all its attendant consequences must be set down to the account of the canal. Perhaps the most striking and important is the growth and spread of malarious diseases which have devastated the district, reduced the physique of the population and seriously impaired its labour power. Whether this evil will increase or abate, remains to be seen, but it is impossible to doubt that the physical standard of the people has suffered deterioration and the probability is that this will be reproduced and perhaps aggravated in future generations. Elsewhere mention has been made of the formation of swamps and ponds, of the development of rehs and the exhaustion of the soil, which must be charged against the canal and the use or abuse of its water. To this must be added injury caused by floods from the interference of the canal works with the natural drainage of the country and even from the concentration of flood water, caused by remedial drainage works.

It is entirely impossible to calculate the result of these drawbacks on the rental and revenue or in any way reduce them to figures. The rule requires the Settlement Officer, if any villages have been injuriously affected by canal irrigation during the currency of the expiring settlement, to make an approximate estimate of any decrease in the land revenue which may be attributed thereto. When it came to the point it was found quite impossible to carry out this instruction. The amount of land actually thrown out of cultivation in the year of settlement either by actual submergence or over-saturation is known and has been given. It is shown in the annexed statement and comes to 10,183 acres in 155 villages.

Pargana.	Number of villages.	Total area	Cultivated area.	New revenue.	Area.	
					Under water.	Above water.
1	2	3	4	5	6	7
		Acres.	Acres.	Rs.	Acres.	Acres.
1. Sikandarabad ...	8	9,854	7,218	15,135	561	384
2. Dadri ...	8	8,579	7,022	14,470	588	219
3. Dankaur ...	8	8,128	6,235	13,875	105	132
Total ...	24	26,561	20,505	43,480	1,254	735
4. Baran ...	3	2,378	1,677	4,110	103	7
5. Agautia ...	1	528	268	610	6	13
6. Siyna ...	14	22,289	15,912	32,500	546	604
7. Shikarpur ...	...	...	...	...	...	...
Total ...	18	25,195	17,867	37,220	655	634
8. Khurja ...	33	31,317	19,864	51,074	1,436	962
9. Jewar ...	19	17,723	12,980	25,275	847	633
10. Pahasu ...	...	...	...	...	...	...
Total ...	52	49,075	32,844	76,349	2,283	1,595
11. Diba ...	1	1,690	570	1,725	...	30
12. Anūshahr ...	31	21,962	17,687	48,310	613	640
13. Ahar ...	29	26,723	19,468	45,310	851	843
Total ...	61	52,675	37,725	90,345	1,464	1,513
Grand total ..	155	1,53,506	1,08,961	2,47,394	5,656	4,527

The loss of revenue on this might be approximately calculated. At the average revenue incidence of Rs. 2-6 per acre it would come to Rs. 24,185. But this represents a small part of the mischief. Land has become saturated or exhausted or infected without becoming unculturable, its produce has been diminished or it suffers occasional loss of crops. On this no money value can be estimated. The adverse conditions have undoubtedly affected the rent and with it the revenue, but the extent is and must remain unknown. Or who is to say how far the rent of land has been influenced by its liability to occasional injury from floods? In fixing the revenue of such villages the assessing officer had only general considerations to guide him and was obliged to make allowance by accepting low declared rents, or by employing easy valuation rates, or by taking less than the full proportion of assets, or by more than one of such devices. But to formulate and reduce to figures the result of such deterioration would be quite impossible and the attempt would involve a minor settlement of more elaboration and difficulty than the

major assessment. If these calculations were effected it would still remain to place a money value on the result of malarial diseases and their effect on agriculture. Without this a fair balance could not be struck. The impossibility of making even an approximate estimate of the effects of these special and general influences has rendered compliance with the rule impossible. Any figures which could be given would only be misleading.

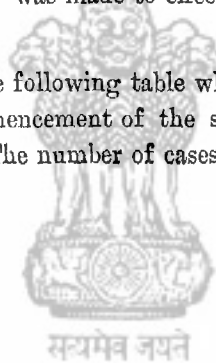
149. Before leaving this part of the subject it may be well, in view of future contingencies, to observe that the old or low scale of occupier's rates is in force every where except parganas Anúpshahr and Dibhai. The rents have in the process of years accommodated themselves to this scale and a very large amount of rents, shown in detail elsewhere, have been now fixed by the Settlement Courts on the same basis. If any addition were now made to this scale it would cause a very serious disturbance in the fiscal and agricultural conditions of canal villages and might even necessitate a revision of the rents and revenues now assessed or at least give rise to difficulties in their collection. The scale which has been in force 36 years has come to be regarded as a fixed charge and any fresh burden coming now as addition to the present enhancement of both revenue and cesses might prove too great for the district to bear.

CHAPTER VII.

LITIGATION.

150. In describing the method adopted for the revision of the village records some reference was made to effects on litigation of the system there pursued.

The result will be seen in the following table which gives the total litigation from the commencement of the settlement up to the 31st January 1890. The number of cases filed since that date has been very inconsiderable.



Statement showing the number of cases and appeals instituted and disposed of from the commencement of settlement operations up to 31st January 1890.

Class of application or cases.	Disposed of													Appeals to Settlement Officer from his Subordinates.	Remarks.					
	On their merits.			Otherwise than on their merits.						Pending at close of 31st January 1890.	Decided.									
	For plaintiff.	For defendant.	Total on merits.	By confession, compromise, or consent.	By default of plaintiff.	Ex-parte.			Withdrawn.		From any other cause.	Total decided otherwise than on merits.								
						By personal service of summons.	By substituted service of summons.	Total ex-parte.												
I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
I.—Cases connected with patwari's section 23, et seq.	787	1	...	450	...	...	...	...	...	...	236	284	101	...	...	...	...	...	...	Cases in columns 14 and 20 against Class V(b) are regular suits and owing to the exceptional circumstances have been postponed under orders of the Government.
II.—Boundary dispute, sections 40, 140, 144, 145.	32	12	13	25	5	...	...	...	...	...	2	1	...	1	1	...	...	1	...	There are no cases of Sub-Settlements under sections 53 to 56, or of settlement of waste lands under sections 57, 58 and 59, or of partition of mahals, and so in column 1 only 8 classes have been shown instead of 11 on Board's form.
III.—Cases coming under sections 43, 44, 48, 49, or 50, admission to or exclusion from settlement.	1	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...
IV.—Distribution of assessment or redistribution of land and revenue under sections 46 and 47.	859	806	34	840	...	...	...	...	...	...	2	2	17	...	...	...	...	...	...
V.—Cases arising out of— (a) Proprietary right (b) Cultivating right (c) Revenue-free tenure... (d) Cesses, section 66 (e) Any other matter under rights.	579 9,136 14 464	221 2,762 2 129	318 3,440 2 303	539 6,202 3 437	11 233 ...	8 283 4 18	1 7 ...	1 48 ...	1 55 ...	1 1,075 ...	19 25 2	40 1,647 2	...	42 1,794 103	35 1,356 91	6 245 10	1 46 2	42 1,547 103	...	
VI.—Rent cases— (a) Determination of rent on dispute. (b) Enhancement of rent. (c) Abatement of rent. (d) Commutation of rent.	523 1,487 251 317	126 973 111 250	390 168 38 15	510 1,141 163 266	5 28 ...	5 1 ...	2 40 ...	2 21 ...	2 61 ...	...	...	7 114 20 11	...	31 82 18 3	31 48 14 2	...	...	31 59 15 3	...	
VII.—Union of mahals	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VIII.—Miscellaneous ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	14,873	5,405	5,110	10,567	273	302	54	81	135	1,000	340	2,140	1,786	2,076	1,578	275	56	1,903	173	

The gross number of cases filed is only 14,873. Many of these are miscellaneous cases of an executive nature. The litigation between parties falls almost entirely under the two heads of (1) claims to occupancy rights and (2) rent cases. The great bulk of the former arose in the parganas of Pahasn and Dibhai under circumstances already described. The total figure 9,136 includes both those cases which were heard as regular suits and those which with the consent of the parties were summarily decided on local enquiry.

151. The rent suits came from all parganas but the largest areas concerned were in pargana Siyana and Anúpshahr where the proprietors of the Kuchesar, Paikpara and Malakpur estates took advantage of the settlement to raise their rents which had remained very much as Mr. Currie had fixed them. Under a different system of notation the number of rent suits would be much greater than the statement shows. Under the Land Revenue Act, section 75, collective suits can be brought in the Settlement Courts for the enhancement, &c., of the rents of an entire village. Many cases reckoned each as a single suit only, included the holdings of a considerable number of tenants. A better idea of the extent of this litigation will be gained by considering the area involved. The enhancement suits filed up to 31st December 1889, have all been decided and their results are available. They apply to an area of 1,18,738 acres, on which a gross rental fixed and rates decreed. has been fixed of Rs. 5,00,418, having an average incidence of Rs. 4-3-5 per acre. The standard rental has an incidence of Rs. 4-13-5. The declared non-occupancy rental falls at Rs. 5-10-7, and the total declared tenants rental of all classes averages Rs. 4-9-5 per acre. The last two rates include concealed or understated rents. These figures afford a satisfactory assurance that due consideration has been given to the claims of occupancy tenants to hold at easy rates, and that their rents have not been worked up to the competition level. As a rule also occupancy tenants hold the best lands and the incidence of their rents is even more moderate than a comparison with the general rate would indicate.

Grain rents have been commuted for cash on 7,445 acres, the rent fixed being Rs. 28,332 or Rs. 3-12-10 per acre. Grain rented lands were generally of an inferior class. Suits for determination and for abatement of rent have covered areas of 522 and 1,461 acres respectively, the rents fixed averaging Rs. 4-8-4 and Rs. 4-4-3.

Enhancement suits are still pending over an area of 34,603 acres raising the total area dealt with by the Settlement Courts up to 28th February 1890, to 1,38,586 acres. For commutation, abatement and determination of rent suits, the areas still under decision are 242 acres, 813 acres and 196 acres respectively, raising the total areas dealt with by the Settlement Courts to 7,687 acres, 2,274 acres and 718 acres respectively, and giving a grand total of 1,49,265 acres over which the rents have been or are being adjusted by the Settlement Courts, in addition to any few cases which may be filed after the 1st March, 1890. This does not include the area over which rents were merely confirmed or for which suits were filed and subsequently withdrawn. On this account a further area of 15,863 acres would have to be added.

152. The number of cases left pending at the end of January 1890 was 1,766 original suits and 173 appeals. But these include 147 appeals and 1,287 original cases between the Nawáb of Chitari and his tenants which have been postponed for about two years by the orders of Government. They have long ago reached the very last stage and could have been decided had permission been received to proceed with their decision. For these arrears therefore the Settlement Department is in no way responsible.

All other classes of cases have long since ceased to accrue or are barred by limitation and the period within which enhancement and abatement suits can be filed in the

Settlement Courts will expire for the last parganas on 12th April, 1890. It has already expired for four parganas and very trifling addition to the current suits can be expected.

CHAPTER VIII.

COST OF SETTLEMENT AND SERVICES OF OFFICERS.

153. Operations commenced on the 23rd September 1886, and the following officers have been employed on the superior staff.
Period of operations and staff employed.

- (1) Mr. T. Stoker, C.S., Settlement Officer, from 23rd September 1886 to the 6th March 1890.
- (2) Mr. D. C. Baillie, C.S., Assistant Settlement Officer from 12th November 1888 to 7th March 1889, and again from 14th April to 31st August 1889.
- (3) Rāja Lachman Singh, Deputy Collector, 23rd September 1886 to 25th March 1887.
- (4) Pandit Rama Sankar Misra, joined as Deputy Collector, 15th October 1888, was promoted to the Statutory Civil Service on the 29th December 1887, and remained as Assistant Settlement Officer till 30th October 1889.
- (5) Munshi Hamid-ud-din, Deputy Collector, 25th April 1887 to 6th March 1889, and again from 5th April 1889 to 26th April 1889.
- (6) Babu Parsotam Das, Deputy Collector, from 8th November 1889.

The assessments were completed and reported on the following dates:—
Assessments completed and reported within three years.
 Tāhsil Sikandarabad 26th July 1888; pargana Baran, 15th September 1888; tāhsil Khurja, 16th July 1889; Parganas Aghauta, Shikarpur and Siyana of tāhsil Baran 21st August 1889; tāhsil Anūpshahr, 21st September 1889.

The last of the assessments were thus reported within three years from the date on which the Settlement Officer assumed charge. The old settlement expired on the 30th June 1889, and the new revenue was all ready for collection when the first instalment fell due.
And the new revenue ready for collection when due.

154. The total cost under all heads up to the end of March 1890 has been Rs. 1,87,770-8-5 which falls at the rate of 98·2 per square mile of total area. The expenditure is thus divided under the different budget heads:—
The total gross outlay.

Salary of gazetted officer.	Salary of fixed establishment.	Salaries of variable and temporary establishment.	Travelling and tentage allowance to officers.	Travelling and tentage allowance of fixed, variable, and temporary establishments.	Contingencies and miscellaneous.	Stationery.	Cost of instruments.	Job work.	Total charges.
1	2	3	4	5	6	7	8	9	10
Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
95,658 3 10	30,871 1 9	30,411 7 1	6,439 2 6	3,037 1 0	14,469 5 3	2,677 4 4	86 15 0	4,119 15 8	1,87,770 8 5

155. The above figures take account of gross expenditure only. But a considerable sum of money was earned by the Settlement Department and credited to Government; for this the department seems entitled to get credit. The details are—

						Rs.	a.	p.
(a) Court-fees	...	...	...	...	...	44,606	5	0
(b) Process fees	...	...	...	...	...	5,910	6	0
(c) Copy stamps	...	...	...	...	...	4,144	3	0
				Total	...	54,660	14	0
Less pay of copyists	...	...	...	...	...	1,805	3	10
				Balance	...	53,355	10	2

If this sum be deducted from the gross charges the net outlay comes to Rs. 1,34,414-14-3, being at the rate of Rs. 70·3 per square mile of total area, and this is what the settlement has really cost Government. It amounts to 20 per cent. of a single year's enhancement of the revenue.

156. The rules require an approximate distribution of the total expenditure under the two heads :—
Distribution of cost over different heads.

- (a) Preparation of records including litigation.
- (b) Assessment.

Accuracy in such a calculation is not possible because the various branches of settlement work are closely connected and mutually dependent on one another and the same staff is employed on the operations of both classes. But an approximate calculation has been made.

Dividing the cost of records under three heads, the following distribution may be taken as very fairly accurate :—

						Rs.	a.	p.
(1) Correction of maps	...	...	...	...	...	2,400	0	0
(2) Attestation including litigation	...	...	...	...	...	65,473	0	0
(3) Fairing and arrangement of records	...	...	...	...	...	32,556	8	5
				Total	...	1,00,429	8	5

or Rs. 52 per square mile.

The cost of assessment comes to Rs. 87,341 or Rs. 45 per square mile.

The percentage of the gross expenditure on each operation would then be shown.

Correction of maps	...	...	...	...	1	} 53
Attestation including litigation	...	...	...	...	35	
Fairing and arrangement of records	...	...	...	...	17	
Assessment	...	...	...	...	...	47

These figures are based on the gross expenditure and do not deduct the sum of Rs. 53,355-10-2 earned by the Settlement Department. The credit for this sum is due altogether under the head preparation of records and if it is brought to account the net expenditure per cent. under each head will be—

Correction of maps	...	...	...	...	2	} 35
Attestation including litigation	...	...	...	...	9	
Fairing and arrangement of records	...	...	...	...	24	
Assessment	...	...	...	...	...	65

157. It will be observed that nothing has been added on account of the services of the patwari and kanungo staff who were largely employed at all stages of the work. Where substitutes had to be provided at Government expense, the pay of the substitutes has been charged to the settlement. But the staff itself had in any case to be maintained and paid by Government, and no

fresh expenditure was incurred by its employment on settlement work. The ordinary annual work of the district was carried on by it without interruption.

153. The unprecedented economy with which the settlement has been effected is due more than anything else to strict and persistent attention to the policy of fully utilising the existing materials and the regular district staff. But even this would not have secured the desired result without the extreme energy, zeal and devotion to their duties displayed by the whole settlement staff, high and low. Their labours deserve a grateful acknowledgment.

An opportunity has already been taken of asking from the Board a recognition of the excellence and thoroughness of Mr. Baillie's work. His inspections were minute and careful and his estimate of the natural value and resources of the various villages extremely accurate. His circles and rates were framed with skill and judgment, and his assessments were well considered and fair.

Raja Lachman Singh only remained long enough at settlement work to give reason to regret that an officer of his ability [and great experience should be so soon lost. His extensive knowledge of the district was always readily imparted and proved of much service.

On Pandit Rama Sankar Misra fell the brunt of the attestation and case-work. It would be difficult to speak too highly of the zeal, intelligence and industry with which he applied himself to these very arduous duties. The rapid progress made is due largely to his efforts and example. He had to deal with the falsified records on the large estates in Pahasu and Dibhai. It was fortunate for Government that this difficult and delicate work was in the hands of an officer of such integrity, ability and high character. Pandit Rama Sankar also gave much assistance in the management of the office; he was in special charge of the distribution of jamas and deserves credit for its rapid and successful completion.

Munshi Hamid-ud-din had a great deal of attestation and case-work to do, and he did it very well. He showed much energy in pushing on the correction and attestation of the records and his judicial work was careful, correct and well considered.

Babu Parsotam Das coming at the close of the work has been chiefly engaged in the decision of rent cases. His work has been quite satisfactory.

It would be impossible to offer more than a general notice of the subordinate staff, nearly all of whom worked well and diligently and whose labours have contributed so much to the results attained. But special acknowledgment is due to the Head-clerk Babu Kedar Nath Bhargava. Besides general control of the English office he had special charge of all the statistical business and showed himself possessed of high qualities for the work. The very complete and accurate compilation of the elaborate body of statistics prepared is due chiefly to his skill and labour.

Among the district staff Lala Daya Ram, kanungo, has shown himself possessed of much general ability, and capacity for administrative work. He rendered loyal and valuable service which deserves substantial acknowledgment.

Both these officers are fit for superior service.

This report may fittingly conclude with a grateful recognition of the cordial support accorded throughout to the settlement officer and his staff by the district officers. During nearly the whole period the post of Collector was held by Mr. D. F. Addis and nothing could exceed the readiness and consideration with which he placed the whole of his

resources and influence at the service of the settlement. The district revenue staff, as already explained, were largely employed on settlement work and came under the orders of the Settlement Officer. It is satisfactory to think that this dual control in no single instance led to any friction or hindrance, a result chiefly due to the ready acquiescence by Mr. Addis, in the temporary withdrawal of his subordinates and to his generous co-operation at every stage of the work.

For about five months during a critical period of the operations Mr. A. B. Patterson was Collector and gave most valuable support and assistance in the difficult and delicate business of dealing with the proprietors of those estates whereof the records had been falsified.

T. STOKER.

Settlement officer.

7th March, 1890.





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