

ASSESSMENT REPORT

OF

Tahsils Kishangarh, Ramgarh, Govindgarh,
and Lachmangarh.

ALWAR STATE

(1897-98)

BY

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SETTLEMENT COMMISSIONER.

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Errata to the Alwar Assessment Report.

No. of page	No of paragraph.	No of line of paragraph.	For	Read
			INDEX.	
I	...	11	Commissioners ...	Commissioner.
V	...	16	Alluion ...	Alluvion.
			INTRODUCTION.	
VI	16	17	Excepted ...	Excerpted.
"	18	4	Had ...	Bad.
			REPORT.	
2	3	Statement, Column 7.	Miles ...	Mile.
4	5 (2)	9	Become ...	Becomes.
"	6	7	Are turned out in, large quantities.	Are turned out in large quantities.
"	7	6	Watered ...	Withered.
5	"	17	(bigas)	(8,762 bigas).
5	8 (3)	7	Machraoli ...	Bagheri.
8	8 (2)	7	Koh ...	Kot.
10	10 (a)	1	Comfiguration ...	Configuration.
12	" (c)	1	Mansonry .	Masonry.
13	" (g)	1	Quantity ...	Quality.
"	11	4	Dheri .	Dahri.
14	"	Below Statement, 19.	Figure ...	Figures.
17	15	22	Assessments ...	Assessment.
18	16	1	Soil . .	Soils.
21	22 (2)	5	Race at down	Race down.
23	25	13	Shrewed ...	Shrewd.
23	25	1	Introduced Maharaja	Introduced by Maharaja.
24	28	3	Hills ...	Bills.
26	31	Below Statement, 7.	They based ...	They are based.
27	32 (2)	Statement, 20.	Deluvian ...	Deluvion.
33	42	Statement, Column 6.	Cultivation ...	Cultivators.

Errata to the Alwar Assessment Report—concl'd.

No of page	No. of paragraph.	No. of line of paragraph.	For	Read
33	42	6 State- ment, 6.	Mortality the famine ...	Mortality of the famine.
"	"	Below Statement, 19.	Work look ...	Worn look.
34	44	31	Those of of the year ...	Those of the year.
36	46	Below Statement, 4.	Bad ...	Back.
37	49	2	More ...	Worse.
38	50	Statement, 2.	Khaithal ...	Khairthal.
39	54	4	Accordingly to shares ...	According to shares.
44	64	4	Nortgaged ...	Mortgaged.
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62	90	Statement, Column 8.	Jawar Charri ...	Gawar Charri.
63	91	25	Low laying dehri ...	Low lying dehri.
"	"	28	Bunper ...	Bumper.
64	92	18	Becomings ...	Becoming.
65	93	Below Statement, 7.	No more than ...	Any more than.
69	101	11	Villagers ...	Villages.
72	105	Statement, Column 5.	Rate per ...	Rate per bigah.
74	109 (1)	2	Both ...	Loth.
80	114	Below Statement, 12.	The standard ...	This standard.
81	116	11	Settlements ...	Settlement.
84	120	18	Assesats ...	Assets.
96	137	33	About 10th December ...	20th December to 5th Jan- uary.
97	139	4	One on two cases ...	One or two cases.
98	141	7	Lost two the State ...	Lost to the State.
100	144 (g)	1	Vernacular ...	Vernacular.

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INTRODUCTION.

1. Before entering on the discussion of the assessment proposals for the four Tahsils of the Alwar State which are dealt with in the present report, it will clear the ground if I allude to the history of the present settlement operations.

2. There have been no less than four separate assessments of the Alwar State made on a cash basis, *viz.*—

Former settlements.

(1) The 3 years, settlement made by Captain Impey, Political Agent, in 1859.

(2) The 10 years, settlement made by the same officer in 1862.

(3) The summary settlement for 4 years made by Major Powlett in 1872 to provide funds for the regular settlement and for the extension of irrigation.

(4) The regular settlement carried out by Major Powlett between 1872 and 1876, and introduced for a term of 16 years from the 1st September 1876.

This was reported for the information of the Agent to the Governor-General, Rajputana, in the Political Agent's letter No. 175, dated 15th March 1877, which was replied to in the Agent to the Governor-General's letter No. 1111—825, dated 21st April 1877.

I have been unable to trace any record or report by Captain Impey relating to the 3 or 10 years' settlements. The history of the summary and regular Settlements is to be found in the annual reports furnished by Major Powlett and in the Alwar Gazetteer, drawn up by him, but there is no connected and comprehensive account of the operations, and this of course has rendered the task of revising the settlement more difficult.

The term of the regular settlement expired on 31st August 1892, but as no arrangements for its revision had been made, the assessment has been continued unaltered up to date with the sanction of the State Council.

3. In 1890 the correction of the old maps was taken in hand under the superintendence of Munshi Hira Lal, Member of Council, who had been a Settlement Superintendent under Major Powlett.

Preparations for the present revision of settlement.

Owing to his death, and the transfer of Major Abbot, Political Agent, who had been for some time in charge of the regular settlement, the work came to a standstill, and the death of Maharaja Mangal Singh in May 1892 threw such a burden of work on the Political Agent and Council that it was not till May 1893 that they were able to turn their attention to settlement work. The work of instructing Patwaris was then started by Major Pears under the supervision of the State Deputy Collector.

The 12 Tahsils in the State were split up into 4 circles, and a Sadr Munsarim, with two assistants, was appointed to superintend the Patwaris training. Meantime the State administration was occupying itself with the question whether a completely new survey, new record and new assessment were to be carried out, or the existing demand merely revised and re-distributed, and the State Council in their letter No. 210-A., dated 14th November 1893, gave their opinion "that the question whether we should have a fresh settlement or a revision of the last settlement should be left entirely to the decision of the Settlement Officer."

Attempts to obtain a Settlement Officer from the North-West Provinces and the Punjab having proved unsuccessful, in July 1894, Rai Durga Parshad, a retired Extra Assistant Commissioner in the Punjab, who had served as Superintendent in the 1873-77 settlement of the adjacent British district of Gurgaon, was appointed Superintendent of Settlement on a salary of Rs. 250 per mensem. Prior to this it had been decided to have a completely new survey and a fresh assessment.

4. In May 1894 survey work had been begun. The work was done almost exclusively by Hindustani *Amins*, who prepared their measurement *Khasras*, etc., in Urdu, and thus an excellent opportunity

Survey of villages.

of instructing the local Patwaris, who are almost exclusively Hindi writing, was lost. Even if at this stage the Patwaris had been made use of to assist the Amins in the record writing, this work would have gained in accuracy. The supervising Munsarims were also for the most part men imported from other Native States or adjoining British districts, and the result of thus employing Amins and Munsarims with no local knowledge, and unaided by the local Patwaris and Kanungos, was that the measurement papers were by subsequent check found to be quite unreliable as regards the entries of ownership, cultivation, class of soil, etc., and could be utilised only for showing the field number and area. On the completion of the survey of 6 Tahsils, an Assistant Superintendent was appointed to supervise survey work, and on 1st August 1895 another was appointed to look after the checking and arrangement of the records. The survey was completed by the autumn of 1896. It was effected entirely by the plane table and chain. Twelve maps of each Tahsil were thoroughly checked by my predecessor and the result found on the whole satisfactory. The maps may, I think, be considered sufficiently accurate for purposes of assessment, as the cultivated land has been plotted and measured fairly correctly. Their accuracy in the hilly tracts is more open to doubt, and in the absence of any professional survey data with which to check them, I should without further check hesitate to recommend them as a basis for topographical survey. The village headmen generally, and some of the more intelligent Zamindars frequently, understand the maps much better than the Patwaris, are able to point out fields and put their finger on errors in measurement or area calculation. This knowledge they have not been slow to exercise and it has been a most useful check on the Amin's work.

5. The preparation of the record proceeded very slowly under Rai Durga Parshad, and no progress was being made towards re-assessment. At the beginning

Preparation of the records.

of 1896 it was arranged to appoint Mr. E. G. Colvin, C.S., as Settlement Commissioner of both the Alwar and Bhurtpur States, but unfortunately he was unable to take up the appointment till his return from furlough on 5th November 1896. In March 1896, however, on his way to England Mr. Colvin inspected the work, and gave directions as to what was to be done, pending his return, towards completing the survey, checking the maps, testing and arranging the record, preparing Khatounis for the 3 Tahsils to be first assessed, and generally as to the best means of utilising the establishment. His note shows that the office was in confusion, and that the work was being carried on without system or proper supervision. Pending Mr. Colvin's arrival, the Political Agent, Major Jennings, R.E., took personal charge of the settlement and pushed on the work with energy and success.

6. The Government of India on receiving Mr. Colvin's memorandum, dated 16th March 1896, called for a full report as to the nature of the settlement operations

Submission of preliminary report.

to be conducted and the lines on which it was proposed to work; also for a forecast of the results of re-assessment. A very complete preliminary report, to which I am indebted for much of the information contained in this report, was prepared by Major Jennings and submitted to the Agent to the Governor-General with his letter No. 3236, dated 18th September 1896.

7. This report shows among other things what was being done to reorganise the establishment. In July 1896, the services of Munshi Amar Singh, who had

Reorganisation of establishment.

done excellent work in the Punjab settlements, were obtained by Major Jennings for the post of second Superintendent, and the 12 Tahsils were equally divided between him and Rai Durga Parshad. From that time the work has been pushed on, at least in Amar Singh's circle, with method and despatch. The office work was thoroughly overhauled, measurement papers were checked, completed and attested, lists showing the work already completed and still remaining were prepared, a rough scale of work was laid down and forms to show the progress

of work devised. Tracings of the original field maps, which from want of proper care had become much injured and defaced, were prepared, the checking of 12 village maps in each Tahsil was carried out.

8. Thus by the time Mr. Colvin joined as Settlement Commissioner on 5th November 1896, in six Tahsils things were in train for the attestation of the record, and the beginning of assessment work.

The quality and quantity of the work accomplished before his assuming charge, and the progress made during the cold weather of 1896-97, are shown in Mr. Colvin's letter No. 261-C., dated the 5th April 1897.

He wisely restricted himself to a careful attestation of the record prepared by Amins in previous year for the four Tahsils of—

Kishangarh,
Ramgarh,
Govindgarh,
Lachhmangarh,

which form the eastern portion of the State, and are the first to come under re-assessment. The necessity for a thorough attestation is apparent from the fact quoted in his report that "in 42 villages selected at random in the Tahsils of Lachhmangarh and Ramgarh, it was found that out of 10,646 plots there were mistakes concerning the proprietary ownership alone in 2,749 plots," exclusive of errors arising from changes since the record was written. The explanation appears to be that at measurements neither the Patwari nor Zamindars accompanied the Amin. A few village menials—generally Chamars—were deputed to represent the village and do chain-work, and the entries of ownership, cultivation, etc., were generally made according to their statements. Under the circumstances the wonder is that the record was not even more inaccurate.

9. Things were, however, so bad that a fresh record had to be prepared. The field numbers and area alone were taken from the Amins' Khasras, and the entries of ownership, cultivation, class of soil, rent etc., filled in anew after enquiry on the spot. The Patwaris were associated in the work for the first time, and the attendance of headmen, owners and cultivators enforced. A complete set of attestation rules was framed by Mr. Colvin; the supervising staff, which consisted largely of the sweepings of Native States, or the refuse of British districts—unable or unwilling to work on the lines prescribed, was re-organised; the Chakbandi or classification of soils in every village according to their natural quality was begun by the Superintendents, and a draft set of rules for the guidance of Patwaris and Kanungos framed.

10. Mr. Colvin notes that a great deal of additional labour was caused owing to the Khatounis not having been prepared beforehand. This I may remark is one of the main difficulties which I have had to contend with both in Alwar and Bhurtpur. The traditional and (in my opinion) pernicious system of the North-West Provinces Amla is first to frame the Khasra or field register in the field, and from this to compile the Khatouni and Khewat, i.e., cultivation and proprietary holdings in the office. This inverts the natural and logical order which is of course first to frame the genealogical tree of the owners, from this ascertain what is their form of tenure—joint, by shares, by possession, etc., then define the proprietary holdings, and under each proprietary holding the subordinate cultivating holdings, and so having got the frame-work complete, work into it the details for every field each in its proper place. Simple as this may seem, I have not yet been able to impress it on the Hindustani officials, though those whom I have recruited from the Punjab work it almost mechanically.

11. Mr. Colvin held charge of the settlement till 28th April 1897, when he took up the office of Political Agent, Bhurtpur. I succeeded him on 9th July 1897, Major Pears, Political Agent, having meantime held charge. I found that

in the four Tahsils under consideration the ground had been cleared for the re-assessment. The Khatounis and geneological trees had been prepared, holding slips distributed to the Zamindars, mutations written up in the registers and for the most part decided, disputes disposed of, the field maps, brought up to date and errors of measurement corrected. Of the Settlement Superintendents, Rai Durga Parshad, who, though possessing a high character for experience and rectitude, was too old for active work, had retired in April 1897, and was succeeded by M. Ihsan Ilahi, a retired Settlement Deputy Collector of the North-West Provinces. The two Assistant Superintendents, who were useless, had also been got rid of.

12. Meantime the orders of the Government of India (Deputy Secretary's letter No. 43-I. A., dated 5th January 1897) as to the principles on which the reorganisation of the Patwaris and Kanungo establishment and re-assessment of the State were to be conducted had been issued. After personal consultation with Mr. Colvin, I decided to adhere as nearly as possible to the plan of operations outlined in paragraph 8 of his letter of 15th April 1897, *i.e.*, from October 1897 to October 1898, to re-assess the four Tahsils attested before I joined, and at the same time attest 4 or 5 new Tahsils; (2) re-assess these 4 or 5 Tahsils from October 1898 to October 1899, and complete the attestation of the remaining 3 or 4 Tahsils; (3) re-assess these remaining Tahsils from October 1899 to October 1900, and wind up the operations by the spring of 1901—the instruction of the Patwaris and Kanungos proceeding *pari passu* with the progress of settlement work. This programme, unless something unforeseen happens, or unless I meet with unexpected difficulties in the assessment of the Bhurtpur State—the 12 Tahsils of which I intend to re-assess concurrently with Alwar, 4 in each year—I trust to be able to carry out.

Progress up to date. 13. As regards Alwar, the first steps taken towards its fulfilment on my taking charge were.

- (1) the final revision and issue of the Patwari rules, after their sanction, by the Political Agent and Council;
- (2) the recasting of the attestation rules in the light of the experience gained by a year's working;
- (3) the framing of a set of rules for the enquiry into revenue free-grants which have never yet been systematically investigated;
- (4) the drafting of a form and of rules for the preparation of the Wajib-ul-Arz, or village administration paper—a most important document in a Native State, where the absence of statute law leaves so much to be determined by custom and practice;
- (5) the preparation of forms of assessment returns for villages and Tahsils.

These matters, with the able assistance of M. Amar Singh, Superintendent, I was able to dispose of before the end of September 1897.

14. Meantime, from the personal knowledge of the establishment which I had gained, it became apparent that to carry out the work on the lines proposed and in the time fixed, a stronger supervising establishment, well acquainted with the Punjab system, which the Government of India has laid down as the standard to be aimed at, was indispensable.

To work 12 Tahsils with a land revenue of over 20 lakhs, at least 3 Superintendents were necessary. The Political Agent and Council agreed with this view, and as M. Ihsan Ilahi, who was rather old for outdoor work, resigned in October 1897, the services of M. Gauri Shankar and L. Rallia Ram, both of whom have had considerable experience of revenue and settlement work in the Punjab, were obtained for the posts of Settlement Superintendents with the sanction of the Government of India. This gave me 3 good Superintendents, who, while possessing the necessary experience, were at the same time

young and active enough for the rough outdoor work and unremitting personal supervision essential in a Native State. The improvement of the subordinate establishment was equally pressing, as the local hereditary Kanungos were purely office men—hangers on of the Tahsil, with little brains and less energy, while many of the Hindustani officials were fit only for office work, having a positive horror of anything involving physical discomfort.

Through the good offices of the Deputy Commissioners of Gujranwala, Peshawar, Amritsar and Hissar, and the Settlement Officers of Mooltan and Montgomery, I was able through last cold weather to borrow the services of several settlement-trained Kanungos and Patwaris; the latter in nearly all cases men who had passed the Kanungo's examination or acted as Kanungos. The former were given the post of Sadr Munsarim on Rs. 40—60 per mensem, and the latter that of Munsarims on Rs. 20—30, receiving Rs. 7 per mensem horse allowance as well.

Most of these men have done excellent work. They have been lent to me generally for 2 years, keeping a lien on their substantive appointment, so as settlement work closes, they can, unless otherwise provided for, return to their old posts. The fact that they are Government officials makes them, I hope, work under a sense of responsibility. Meantime we are doing our best to work up the local establishment, so that it may be able gradually to take up the duties of a land record agency. I think we are making some progress, though very slowly, as there is still a strong feeling amongst the hereditary Kanungos (in which they are generally supported by the Tahsildars) against their being employed on any duties other than land revenue collections, helping the Tahsildar in enquiring into land cases. So far very few of them have passed successfully through the training schools which are opened at convenient centres thrice a year.

15. The preparation of village assessment statistics was sufficiently advanced

Village inspections.

to enable me to begin village inspection on 1st October when the Kharif crop, which is the most important in Alwar, was ripening. The Superintendents had already inspected the villages when doing their Chakbandi, and had written up assessment notes in the village note-book form. In starting the work I wished to gain as close a knowledge as possible of local conditions, tenures, etc., as well as of the prosperity and revenue-paying capacity of the villages, and it was also advisable to make it plain to the people (who in a Native State are too ready to imagine that most things can be done by corruption or intrigue) that I kept the assessment in my own hands. I endeavoured therefore to personally inspect each estate, riding over it with the owners, discussing the soil and the crops, as is usually done in the Punjab, and going through the assessment statistics afterwards with them at my camp. In 3 of the 4 Tahsils under assessment, *viz.*, Ramgarh, Lachhmangarh and Govindgarh, the work was much facilitated by the thorough way in which the Chakbandi or soil classification had been done, and the assessment data handled by the Superintendent, M. Amar Singh. In Kishengarh the preliminary work done by M. Ihsan Ilahi was less reliable, and in about 50 of the 150 estates I had to revise the soil classification.

In October and November before the autumn crop was reaped the village inspection of the former 3 Tahsils was completed. In January, when the spring crop was coming up, Kishengarh was inspected, and I was also able to make a rough general inspection of the spring crops in parts of Ramgarh and Govindgarh. Out of 427½ Khalsa estates in the 4 Tahsils I have personally inspected, all but 9, *viz.*, 8 in Lachhmangarh and 1 in Ramgarh, have written up assessment notes after the Punjab model, and made rough notes as to the future assessment. In the 9 villages which I have been unable to visit I have the Superintendent's notes and the assessment statistics as a guide. Major Powietf, who I believe possessed an unrivalled local knowledge of the villages, had unfortunately left nothing on record beyond a few figures showing how his assessment was calculated, but in 2 Tahsils the Superintendents at last settlement had recorded full assessment notes and these were found very useful.

16. The data on which it was originally intended to assess were those of the year of attestation 1896-97. That however was a very exceptional year, as the drought had thrown a good deal of dry land temporarily out of cultivation, and at the same time had caused an enormous but purely temporary inflation of the irrigated area, as the existing wells had been worked to the uttermost and great numbers of katcha wells and dhenklis (the Shadoof of the Nile valley) sunk where water was near the surface, which were allowed to collapse once the strain of the drought was removed. An assessment based on the agricultural features and results of such exceptional harvests would be liable to error. For this reason and also to assess as nearly as possible on up to date figures, I decided that it would be wiser to take the statistics of the agricultural year 1897-98—a normal one as regards rainfall and other conditions—as the basis of assessment. This was the more satisfactory, as the crop inspections have been carried out under very careful supervision, and the classification of soils into dry (*barani*) naturally flooded (*dahri*) and well irrigated (*chahi*) has been again checked, and the crop statistics excepted, so as to show not only whether the crop was grown with the aid of well or flood irrigation or merely by the rainfall, but also whether the land on which it was grown was permanently classified as *chahi*, *dahri* or *barani*. The statistics as to cultivation, wells, crops, etc., *i.e.*, the Milan Rakbi and Jinswar, are, unless where the contrary is stated, those of the year 1897-98; the other figures as to ownership, tenures, cultivating occupancy, etc., are those of the year 1896-97.

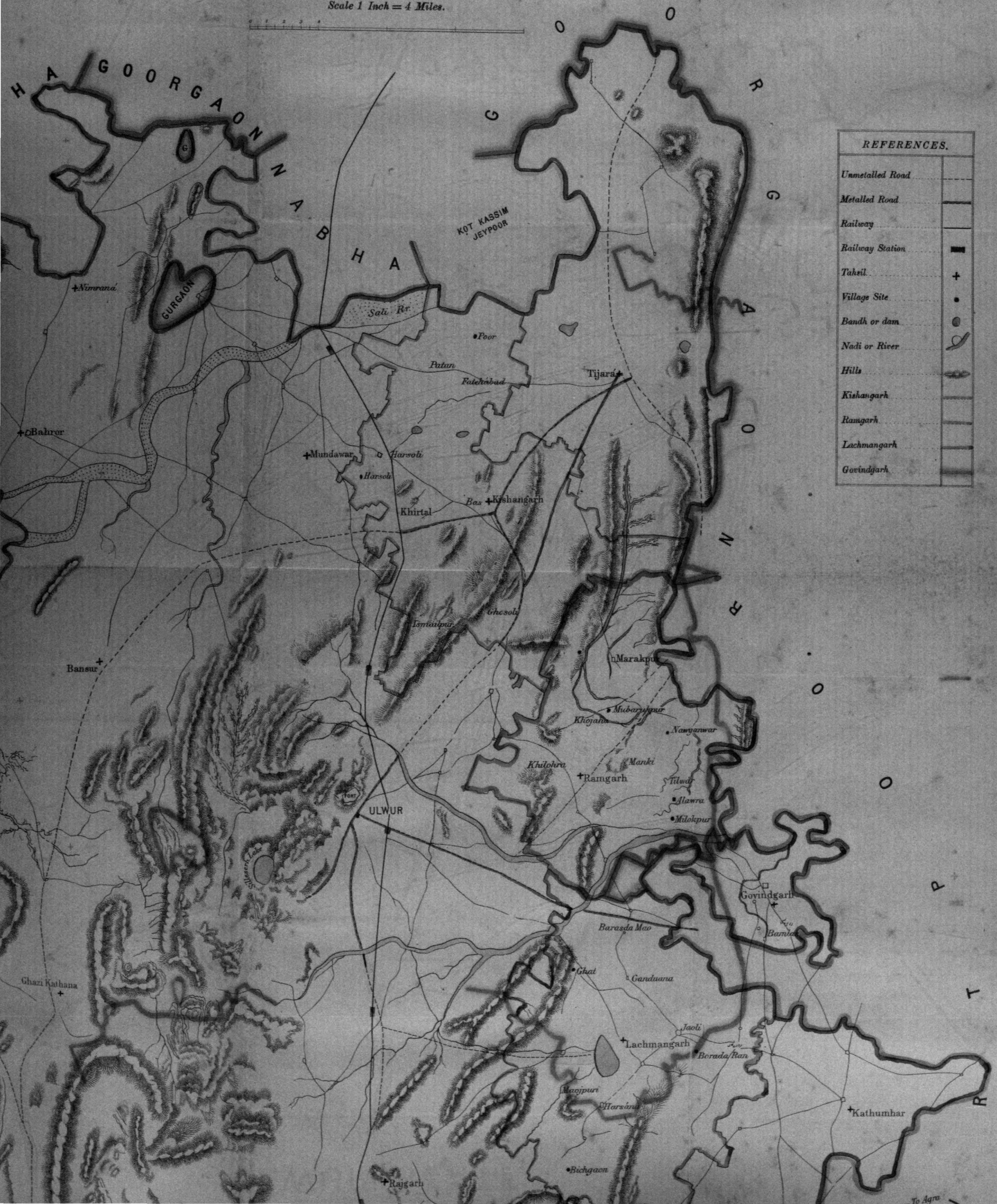
17. It may here be explained that the statistics throughout deal only with Khalsa land as at last settlement. Whole villages held in Mafi or Jagir as well as revenue-free plots have been excluded. A separate calculation has been made in Chapter IX of the nominal assessment worked out for revenue free plots for calculating cesses, or to be imposed in case of resumption. As regards whole villages held in Mafi or Jagir—which cover nearly $\frac{1}{2}$ of the State—the question whether they should now be surveyed and a record of rights prepared (no such survey or record has ever yet been made) was long and seriously considered by the Political Agent and Council, and in paragraph 2 of the Government of India letter No. 43-I.A., dated 5th January 1897, it seems to have been assumed that this would be done. The feeling of the Thakur Jagirdars, many of whose grants are as old as the State itself, against such a measure was however very strong. They seem to have feared that any attempt to define rights in their estates, in which they usually claim to exercise full proprietary as well as Jagir rights, would lead to a restriction of their authority which is often in the absence of records almost absolute.

The question being one of State policy, I have given no personal opinion one way or the other. The exclusion of these estates from settlement operations lightens the burden of the work, but of course the absence of any records or agricultural statistics for a considerable portion of the State cannot but be a serious administrative defect. It has been finally decided, however, that this defect is more than outweighed by the Jagirdars' objections, so that matters have been left on their former footing.

18. I feel some apology is needed for this very lengthy preface, but it will, I hope, help to clear up what follows, and it need not be repeated in subsequent reports. It will also, I trust, make clear the had economy and foolish policy of starting an important settlement without proper control and without first defining the principles to be followed. In Alwar, where operations were begun in a happy-go-lucky fashion in 1893, Rs. 2,03,000 had been spent on the settlement up to 1st March 1898, of which about Rs. 1,20,000 had been expended before Mr. Colvin joined in March 1896; in Bhurtpur where the settlement was begun in November 1896 by Mr. Colvin in a regular and systematic manner, the expenditure up to 1st April 1898 was only Rs. 63,000, and the work in Bhurtpur is almost as far advanced as in Alwar.

Map of ULWUR STATE

Scale 1 Inch = 4 Miles.



REFERENCES.

Unmetalled Road	---
Metalled Road	—
Railway	—+—
Railway Station	■
Tahril	+
Village Site	•
Bandh or dam	◐
Nadi or River	~
Hills	▲
Kishangarh	▨
Rangarh	▩
Lachmangarh	▧
Govindgarh	▦



REFERENCES.	
Unmetalled Road	---
Metalled Road	—
Railway	—+—
Railway Station	■
Tahsil	+
Village Site	•
Bandh or dam	⊙
Nadi or River	~
Hills	⌒
Kishangarh	—
Ramgarh	—
Lachmangarh	—
Govindgarh	—

Map of

Scale 1 Inch = 4 Miles.



ASSESSMENT REPORT

OF TAHSILS

KISHANGARH, RAMGARH, GOVINDGARH AND LACHHMANGARH.

CHAPTER I.

GENERAL DESCRIPTION, GEOGRAPHY, RAINFALL, SOILS.

1. The Alwar State lies on the north-east of Rajputana and is bounded on the south by Jaipur, on the east by Bharthpur, on the north-east and north by the

General description of the Alwar State. British District of Gurgaon and the isolated Parganas of Kot Kasim (Jaipur) and Bawal (Nabha), on the north-west by Nabha and the Patiala Pargana of Narnaul, and on the west by Jaipur. In shape it is a fairly regular quadrilateral, and lies between $27^{\circ}5$ and $28^{\circ}15$ north latitude and $76^{\circ}18$ and $77^{\circ}15$ east longitude.

The greatest length from north to south is 80 miles, the greatest breadth is from east to west 60 miles.

The State has an area according to the figures of last settlement of 3,024 square miles, and consisted then of 1,459 *Khalsa* villages, paying a present revenue of about 20½ lakhs, and 367 revenue-free villages for which detailed statistics are not available.

The State is sub-divided into 12 Tahsils, *viz.*—

Northern, Tijara, Kishangarh, Mandawar, Behror,
Central, Govindgarh, Ramgarh, Alwar, Bansur,
Southern, Kathumbar, Lachhmangarh, Rajgarh and Thana Gazi,

the boundaries of which have not changed since last settlement (1872-76). It is divided almost equally by the Rajputana-Malwa Railway from Delhi—opened in 1875,—the main line of which runs due north and south through the Tahsils of Mandawar, Kishangarh, Alwar and Rajgarh, past the important towns of Harsoli, Khairthal, Alwar and Rajgarh, while a branch line from Bandikui in Jaipur, just outside the Alwar border, runs almost due east to Bhurtpur and Agra, passing through the Alwar Tahsils of Rajgarh, Lachhmangarh and Kathumbar. The total population according to a census made in 1872 was 778,596; by the census of 1881 it was only 676,540—the enormous decrease being due to the emigration in the famine year 1877-78, and the high mortality in that year of drought and the following year of excessive rainfall and malaria. In 1891 the population had risen to 760,446. It is now probably about 8¼ lakhs—three-fourths Hindus and one-fourth Musalmans, or about 275 per square mile. The standard of area employed throughout is the Shahjahan *bigah* equal to $\frac{5}{8}$ or '625 of the statute acre.

2. The present report deals with the 4 Tahsils of Kishangarh, Ramgarh, Govindgarh and Lachhmangarh, which with Tijara on the extreme north-east and Kathumbar on the extreme south-east form the

Situation and boundaries of the Tahsils under assessment.

eastern 6 Tahsils, distinguished from the western Tahsils by being less mountainous, more level and therefore more highly cultivated. The 4 Tahsils under assessment extend in the order named from the Jaipur Pargana of Kot Kasim on the north boundary to Jaipur territory on the south. These boundaries are shown on the map attached and need not be described in detail here. Kishangarh, the most northerly, is bounded by Alwar territory, except on the north where it touches Kot Kasim. Ramgarh the next in order marches with Gurgaon and the Bhurtpur State on the east. Govindgarh is a very small Tahsil in the form of a peninsula

surrounded almost entirely by Bhurtpur territory. Lachhmangarh the most southerly joins on to Bhurtpur on the north-east and to Jaipur on the south.

General statistics.

3. A few leading statistics for each Tahsil are given in the annexed table :—

Tahsil.	Khalsa or Jagir.	No. of villages.	Total area in square miles.	Cultivated area in square miles.	Population of 1891.	Average per square mile.		Jama of 1890-97.
						Total.	Cultivation.	
Kishangarh ...	Khalsa ...	140½	211½	144	50,955	283	416	213,181
	Jagir ...	12½	9½	Not known.	1,891	197	...	...
	Total ...	162	221	...	61,843	279	...	...
Ramgarh ...	Khalsa and Jaidad ...	131	153	106	44,244	293	422	203,801
	Jagir and Mafi ...	12	15	Not known	3,668	245	...	...
	Total ...	143	168	...	47,912	285	...	...
Govindgarh ...	Khalsa ...	48	44	39	21,100	479	541	76,411
	Jagir and Mafi ...	3	4	Not known.	574	248	...	...
	Total ...	51	48	...	21,674	454	...	...
Lachhmangarh ...	Khalsa and Jaidad ...	119	108	121	41,714	298	344	173,754
	Mafi and Jagir ...	58	81	Not known.	18,765	231	...	...
	Total ...	177	249	...	60,479	243	...	...
Total ...	Khalsa ...	427½	576½	410	167,013	290	407	6,66,420
	Mafi ...	85½	109½	Not known.	24,920	227	...	...
	Total ...	513	686	...	191,933	240	...	...

Briefly the 4 Tahsils cover an area of 686 square miles and contain 513 estates, of which 85½ with an area of 109½ square miles are held in Mafi or Jagir, and 427½ with an area of 576½ square miles are Khalsa or Jaidad (in which the Khalsa assessment is assigned to ladies of the palace). Of the Khalsa area 410 square miles or 71 per cent. is cultivated. The total population according to the census of 1891 is 191,933, or 280 per square mile, of which 24,920 belongs to Jagir and Mafi villages, giving an incidence of 227 per square mile, and 167,013 to Khalsa villages, giving an incidence of 290 per square mile of total area and 410 per square mile of cultivation. The Khalsa assessment is Rs. 6,66,429, giving an average incidence of Rs. 4 per head and of Rs. 1,624 per square mile of cultivation, or about Rs. 2-9-0 per cultivated acre. In the adjoining British district of Gurgaon, where the population is slightly more dense, the incidence of the land revenue is Rs. 1-13-1 per head of population and Rs. 1-4-0 per cultivated acre (according to the agricultural statistics of the year 1895-96), or less than half the Alwar incidence.

4. Of the 4 Tahsils, the northern three are situated in the Mewat or country of the Meos, which includes nearly half of the Alwar State, 4 out of the 5 northern

Natural features.

Tahsils of Bhurtpur and the southern portion of the Gurgaon district. Throughout this tract natural and agricultural features are fairly uniform, and it is common to find Alwar Meos owning land in British territory or Bhurtpur and *vice versa*.

The Southern Tahsil Lachhmangarh is situated in the Narukand or the country of the Naruka Rajputs, but here too there are many Meo villages. As regards natural features, they are chiefly affected by the influence of hills and hill torrents.

5. Excluding Govindgarh which is a level plain of fertile loam and clay (where formerly subject to the action of the

5. Mountains and Hills.

Ruparel stream) sloping to the Bhurtpur border, the remaining three Tahsils are much diversified by ridges of hills, for the most part parallel and generally running from north to south. They are usually narrow, except in the south-west of the Kishangarh Tahsil adjoining Alwar, and often interrupted by openings where the drainage water comes through, and such are the sites generally selected for irrigation dams or *bands*. The altitude in these tahsils rarely exceeds 1,500 feet, the highest points being 1,705 feet in Kishangarh above sea level, 1,497 in Ramgarh and 1,360 in Lachhmangarh.

(1) *Kishangarh*—Beginning with Kishangarh, all the north and west side is fairly level plain of good loam, with the sub-soil water sweet and fairly abundant, and only a few isolated hills here and there. On the east and south of the Tahsil there are three ranges of hills:—

(a) *Kala Pahar*, the most easterly of these, which separates Kishangarh from Gurgaon, is known as the 'Black mountain' from the colour of the stone, and is said to be a continuation of the ridge of hills of the same name in the Delhi district, which runs through Pataudi and Gurgaon to the old fortress of Indor in Tijara, and thence due south, forming the eastern boundary between Tijara, Kishangarh and Ramgarh on one side and Gurgaon on the other, to the large border village of Naugaun in Ramgarh. The western slopes of the ridge drain into the *Landotha nala*. The land under these hills is uneven, sandy, much cut up with *nalas*, little suited for cultivation, and in places almost inaccessible. It was here that the turbulent and marauding Meos, made their last stand against the Alwar Chiefs.

(b) Another narrow chain, or rather pair of parallel chains of hills, beginning at Deothana in Tijara, enters the Kishangarh

Landotha chain.

Tahsil at Mirzapur and Manotri, and traverses it for a distance of three or four miles; the eastern chain, after leaving an opening at Udhoka, through which the drainage of the eastern side of the Kishangarh Tahsil falls into the Landotha, enters the Ramgarh Tahsil; the western chain running parallel to it at a distance of two or three miles leaves a similar opening at Rauka, and then runs along the boundary between Ramgarh and Kishangarh. Both chains from this point run almost due south for a distance of about 10 miles, enclosing between them a group of very fertile and prosperous Ramgarh villages, and the drainage from the inner slopes of this valley, which is considerable, finds its way through an opening in the eastern ridge at Kharkhari into the *Landotha nala*; the waters of which are here enclosed and guided by a fine masonry embankment, known as the *Attarya band*. The *Landotha nala* rising in Tijara and fed by the drainage from these ranges and the *Kala Pahar* runs along the foot of the more eastern of these two ridges through part of the Tijara, Kishangarh and Ramgarh Tahsils due south to Bandoli where it leaves the hills and takes an easterly sweep toward Naugaun, and thence passes on north to the Firozpur valley of the Gurgaon district.

(c) The third and most important range of hills in Kishangarh begins on the north-east at Chamroda adjoining Tijara

Chamroda-Ismailpur chains.

Tahsil, and runs south-west into the Alwar Tahsil, growing wider and steeper as it advances till it forms the large State *Rund* or fuel and fodder reserve of Ismailpur. Parallel to this range on the west is a series of narrow, scattered ridges which south of Kishangarh town become fairly continuous, and the villages enclosed between these two ridges from Jharandiyan and Bambara on the north to Basi on the Alwar boundary are, owing to the fertilising influence of the hill drainage, among the richest in the Tahsil. The eastern slopes of the Ismailpur range which drain east to the *Landotha nala* enclose with the Landotha chain, another large and very fertile valley extending from Chamroda on the Tijara border to Khoja on the Alwar border, a distance of about 14 miles. Thus about three-fifths of the area of the Kishangarh Tahsil is benefitted by drainage from the hills or by hill torrents.

(2) The three ridges of hills entering Ramgarh from Kishangarh have already been referred to. All of them drain into the Landoha. Another small chain enters the Tahsil from Nangla Banjir in Alwar on the south-west and runs due north to Deoli where it almost connects with the Landoha chain. The Chuhar Sidh *nala* from Alwar runs along the south foot of this ridge. Parallel to this chain another ridge runs almost due north through the centre of the Tahsil from Alwar and all but joins the Kala Pahar chain from north to south near Naugaun. This is, however, low and irregular and in places become level with the surrounding country. Through one of such depressions the flood waters of the Chuhar Sidh find their way at Lalaundhi to the eastern portion of the Tahsil and finally unite with the tail of the Landoha at Suneira and Rasgan close to the Gurgaon border. The hill drainage from this ridge is inconsiderable and of little benefit to the villages at its feet.

The extreme east of the Ramgarh Tahsil is separated from Bhurtpur for a distance of 3 or 4 miles by a narrow ridge of hills running due north into the Gopalgarh and Pahari Tahsils of Bhurtpur which they separate from Gurgaon. There are few villages in the Ramgarh Tahsil which either do not benefit from the floods of the Landoha or Chuhar Sidh *nalas* or are not fertilised by minor streams or the hill drainage.

(3) Govindgarh as already remarked is an almost uniform plain with only two isolated hills in Pahari and Daroli, which have little influence one way or the other on the cultivation.

(4) The north-east of Lachmangarh is a level plain of light loam which gets no natural irrigation or benefit from hill streams, so that the well water is often deficient. From Ghat on the north-west a range of hills runs south-west into Rajgarh, the drainage of which is of considerable benefit to the villages on both sides from Ghat to Manjpur. Another small ridge skirts the south-west boundary. The main chain of hills takes its rise in Toda in the centre of the Tahsil, and runs as usual due south, into Jaipur. The land on the west side of this is poor, sandy stuff, much cut up by *nalas*; on the east side where the slope is less and the hill drainage is held up the soil is excellent. This range also split into two, the valley so formed being about $1\frac{1}{2}$ miles wide. It contains some fertile villages.

6. The hills in these 4 Tahsils are chiefly of sandstone and limestone. There are also some argillaceous slates and schists. Their geological formation is very similar to what is known as the Aravali series. They yield no mineral products, but there are considerable stone and slate quarries at Kherwari in Kishangarh leased by the State at Rs. 2,350 per annum and at Batoli and Malaoti in Lachhmangarh whence slabs for roofing, door lintels hand-mills, etc., and slates are turned out in large quantities, as well a handsome black limestone very like marble, from which *surahis* and drinking cups are manufactured.

7. The hill sides are generally the property of the villagers which use them chiefly for pasture. They are covered with a low growth of Salar (*Boswellia thurifera*) and dhok (*anogeissus latifolia* and *pendula*), which are verdant during and for a few months after the rains, but for the rest of the year present a parched and watered appearance. At the foot of the hills and in the plains the most common trees and shrubs are the dhak (*butea frondosa*) *Khair* (*acacia-catechu*), *amaltas* (*cassia fistula*), *babul* or *kikar* (*acacia arabica*) *gular* (*figus virgata*), *Jaman* (*syzygium jambalanum*), *ber* (*zizyphus jujuba*), *jhal* (*prosopis salvadora*), *nim* (*melia indica*), *pipal* (*figus religiosa*), *farash* (*tamarix indica*), *shisham* (*sissu dalhergia*), mango and date palm.

As compared with the Punjab these Tahsils are well wooded; groves and gardens of fruit-trees are common and more attention is paid to the preservation of trees for shade, especially in the vicinity of villages. Small *mafi* grants for "Shade and water" were freely made by former Maharajas, and the benefit of these is now felt by the weary traveller. The only state preserves in these

Tahsils are the Runds of Jhamu Bas (800 bighas) and Ismailpur (bighas) in Kishangarh, Nangaun (541 bighas) in Ramgarh, Ghasaoli (96 bighas) in Govindgarh and Maujpur (1,422 bighas) and Bantoli in Lachhmangarh. The first and the last are hill sides, the rest are in the plains. All are used primarily for the cutting and storing of grass and hay for the State horses and cattle, and after the hay has been harvested, *i.e.*, from November till the following rains, they are thrown open for grazing at moderate rates. The State also claims the right to cut wood in the lands of Govindgarh and 3 adjoining estates for the requirements of the Fort and Tahsil. This presses very heavily upon the Zamindars and its abolition is under consideration.

8. The foregoing remarks will have shown how important a part hill streams

Streams and nalas.

and hill drainage play in the agriculture of these Tahsils. None of these streams

is perennial. In the rains they bring down the drainage from the hills and sometimes carry an enormous volume of water for a few days, but all of them except the Ruparel dry up in October, or are reduced to a mere trickle. Their main use agriculturally is to flood and fertilise the low lands known as *Dahri* which are sown with Rabi crops, and if these are moistened sufficiently for sowing, a few showers during the winter months are sufficient to bring the crop to maturity.

Kishangarh.

(a) Beginning from the north the chief streams are :—

The Sahibi Stream.

(1) The Sahibi, which rises in Jaipur, drains the north-eastern portion of that State, then forms the boundary between Jaipur and the Alwar Tahsil of Bansur for 16 miles, and soon after entering Alwar territory is joined by the Sota *nala* in Tahsil Bahrur whence it flows in a north-east direction through the Alwar Tahsil of Mandawar and thence after intersecting the village of Kherli in Kishangarh, passes on to Kot Kasim (Jaipur), Gurgaon, where it has often flooded the town of Rewari, and finally empties itself into the Najafgarh Jhil in the Delhi district.

The influence of the main stream, which is broad, shallow and sandy, in the Kishangarh Tahsil, is in considerable, as it flows through only one village, Kherli, where, however, it has caused some damage by sanding. Its proximity, however, renders the well water in several villages sweet and abundant. A branch which leaves the main stream near Kani works its way through the villages of Dhirdhoka, Thatka, Jahanpur, Munpur, Jhalaka, Sanodha and Ghikaka, rejoining the main stream in Kot Kasim. Its action is in places beneficial, where it runs level with the surface and spreads over the cultivation, but in places it forms a sandy *nala* with a gradually widening bed encroaching on the arable land, and in some of the above villages temporary remissions on account of damage by sanding over, amounting to Rs. 1,007 per annum, were granted in 1881 and continued up to 1884.

(2) Another stream the action of which has been destructive is the Rasgan *nala*

The Rasgan nala.

rising in the Mandawar hills to the west, which enters the Tahsil at Pataliya and flows through Harsoli, Jharka, Mirzapur, Kaumpur, etc., into the large irrigation band at Bagheri Kalan. Considerable damage has been caused by deposits of sand from this '*nala*' in the first three villages, for which Rs. 909 per annum was reduced from their assessment in 1881, but of this Rs. 384 was reimposed in Patalya and Jharka from 1884.

(3) The Bagheri band, which may be regarded as the centre of the natural *Dahri*

Bagheri 'band' and 'nala.'

irrigation in the Kishangarh Tahsil, receives also the tail end of the drainage from the group of hills on the south which first fills the bands of Ismailpur, Baghour, Thanaoli and Kishangarh. Eight villages are irrigated directly from it and the excess, is carried off by means of sluices and an artificial channel, into the northern band of Machraoli whence it passes through a natural depression through Gugal Heri Jhaman Bas, Khera, Pur and Ghikaka, where it joins the above mentioned affluent of the Sahibi passing on to Kot Kasim.

(4) The Lani is a small *nala* which rises in the Ismailpur hills, runs due north skirting the slopes of the Chamroda-Ismailpur range to Chandausi in Tijara, then works round the northern extremity of the range and curves back into Kishangarh along the eastern slope at Bolni and Titarka where it flows into the Landoha. The Kishangarh and Bagthala bunds are filled by it, but its deposits are sandy.

(5) The Rei *nala* is also an adjunct of the Landoha. It rises at Ghasoli on the south-east of the Ismailpur range, drains the valley lying between that and the west side of the Landoha range, receives another *nala* from the north at Niyana and thence taking an easterly course penetrates through the gaps in the latter at Rauka and Udhaka where it falls into Landoha.

(6) The Landoha *Nala* so named from the Landawat Meos in whose villages it rises has already been referred to. It has its origin in the Tijara hills, and after a course of about 6 miles through that Tahsil runs for a distance of about 3 miles through Kishangarh, irrigating 5 villages and is joined by several other *nalas* draining the country east of the Ismailpur range.

It then enters the Ramgarh Tahsil, flowing at first due south under the hills to Bandoli. At Kharkhari it is joined by the drainage of the considerable valley formed by what has been called the Landoha range. From this point the stream ran originally due east to Nangaun, and thence north-east into the Firozpur valley, which thus got most of the water.

The Jats when they held sway over this tract towards the end of last century (see page 200, Gurgaon Settlement Report), made a large earthen embankment at this point, which diverted the water to the south and then by a semi-circular sweep brought it back to rejoin its old channel near Nangaun; but before reaching this point the Jats constructed another embankment across the new channel at Karaoli, which gave them the power of diverting the supply through the hills at Karaoli to the south-east of the Ramgarh Tahsil, or of turning it north through the old channel into Firozpur. The result of this measure was to considerably extend the irrigation in the Ramgarh villages and reduce the supply for Firozpur.

No difficulty arose as long as both Firozpur and Ramgarh remained under Jat rule, but immediately they came under rival and separate interests, disputes began and continued till the settlement of the Gurgaon district in 1877, when a joint decision for the future distribution of the water was arrived at by Mr. Channing, the Settlement Officer of Gurgaon, and Major Cadell, Political Agent of Alwar. This was sanctioned in the Punjab Government letter No. 1639, dated 1st September 1877; and as the dispute may crop up again, the understanding came to may be explained here by reference to the attached plan.

(1) No obstruction is to be placed by Alwar in the channel D-D through which the water passes on to Firozpur.

(2) The Jat band No. 2 is to be maintained by Alwar so as to prevent in all seasons any portion of the stream passing to the east at that point through the channel C-C.

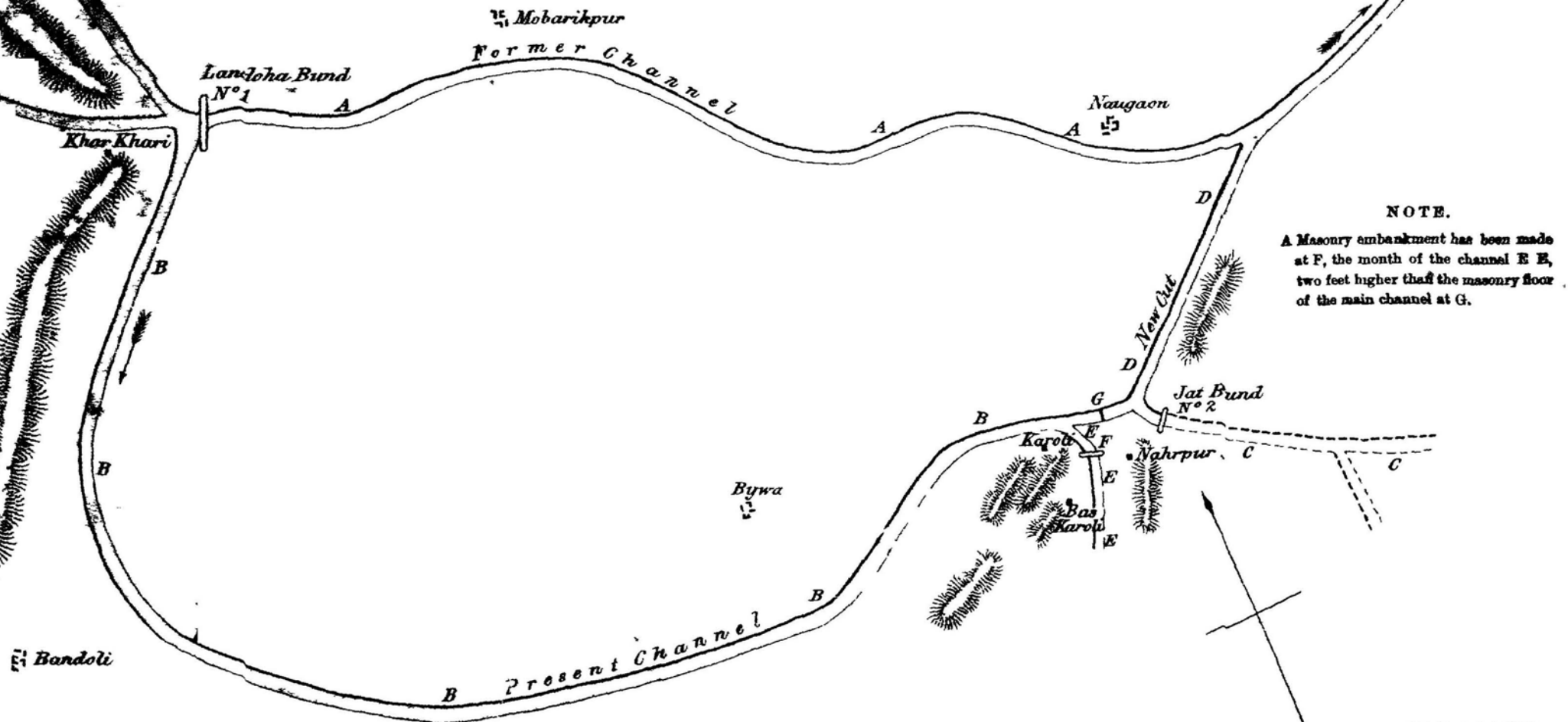
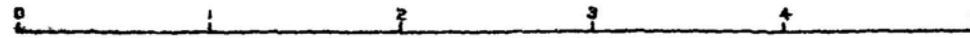
(3) A small masonry dam has been constructed F. at the mouth of the channel E-E (through which the stream could formerly be diverted south-east) 2 feet higher than the level of the main channel at the point marked G, which is also defined by a masonry floor. So that the stream should ordinarily follow the channel D-D and thus re-enter its old channel north-east to Firozpur instead of being diverted south east to Ramgarh.

(4) The Gurgaon authorities to have a right of inspection so as to assure themselves of the observance of the arrangement arrived at.

I have more than once inspected the place, and am satisfied that in the working of the above arrangements the Ramgarh villages have not suffered. At present more water seems to find its way through the channel E-E than

MAP SHEWING THE COURSE OF THE LANDOHA NADDI

Scale 1 Inch = 1 Mile.



NOTE.

A Masonry embankment has been made at F, the mouth of the channel E E, two feet higher than the masonry floor of the main channel at G.

M. F. O'DWYER.

through D-D, and there is also sometimes a spill through the embankment C-C by means of a sluice provided for the purpose. The latter, however, seems a precaution necessary for the safety of the, 'band.'

The value of the Landoha from an Alwar point of view depends on the maintenance of the Landoha Jat band No. 1 at Khakhari opposite the gap in the hills to prevent the stream breaching the banks and taking a direct course east to Naugaun and Firozpur through its old channel. Accordingly of recent years the embankment known as the Attariya band has been much strengthened and extended north and south parallel to the hills at a cost of over Rs. 76,000 and is now $6\frac{1}{2}$ miles long, of which 4,059 yards are faced with masonry. Notwithstanding these measures, in seasons of high flood the water escapes round the northern extremity, or through the outlets in the masonry embankment towards Akhlimpur, Mubarakpur and Naugaun, where they rejoin the channel D D. These floods are very injurious, as they deposit sand and cut up the cultivation. The total area irrigated by the Landoha is in Kishangarh 1,181 and in Ramgarh 10,087 bighas. From its source in Tijara all along its course parallel with the hills to Bandoli in Ramgarh, the Dahri or flooded land is generally light and very sandy like newly formed alluvial soil. This is especially the case for the 6 miles where the stream is held up by the embankment, which causes the sand to be deposited, and owing to this deterioration some 14 estates in Ramgarh beginning with Udhaka and ending with Bandoli received remissions amounting to about Rs. 1,050 per annum in 1886. The full assessment was, however, re-imposed from 1892 on the ground that the term of settlement for which the remission was sanctioned had expired, though the deterioration of the soil so far from abating had further extended.

From Bandoli to the point where it leaves the Tahsil, the irrigation is purely beneficial, and the flooded lands produce magnificent spring crops of wheat, barley, oilseeds and gram. The diversion which runs south-east through the channel E-E in years of heavy rainfall moistures and fertilises a large group of villages between Karoli, Chaumon and Rasgan, where it finally joins the Chuhar Sidh. The main channel D-D flowing north to Naugaun is joined by another hill-stream, carrying the drainage of the Kala Pahar range from Podhipur, etc., and runs through Muhamadpur, Ilajipur, etc., into the Firozpur Tahsil of Gurgaon.

- (2) Next in importance is the Chuhar Sidh *nala*. This rises in the hills north-west of Alwar and is named after the shrine of a famous ascetic. It drains the north side

(2) Chuhar Sidh Nala.

of the Alwar Tahsil, and flows in a south-easterly direction, entering Ramgarh on the south-west at Nabarke. Here the stream spreads out, irrigating the rich villages of Bahman Khera, Meo Khera, Mastabad, Piprol, etc. Passing north it is held up by a fine embankment at Piprol—constructed 100 years ago by Dewan Salig-Ram and now being extended and repaired—through which the excess water passes by sluices north-east to Chauki, Dhaoli, Khanpur, etc. Here it passes through a gap in the central range of hills to the eastern portion of the Tahsil, and still pursuing a north-easterly course benefits the large and prosperous villages of Lalaundhi, Milkpur, Alaora, Charwai, Hasanpur, Tilwara, Chamun, Tikri etc. finally joining the south-east branch of the Landoha at Sunera, whence the joint stream runs north through Rasgan, Mohanpur, into the Firozpur Tahsil at M. Doha. It is only in years of exceptional rainfall that floods penetrate as far as Sunera. In the rains of 1897 which were average, if not above, they did not get beyond Hasanpur. Of late years they have shown a tendency to diminish, and the construction of a band at Terpur, north-west of Alwar which shuts off one tributary of the Chuhar Sidh, has no doubt to some extent reduced the supply. This dam, however, burst in the high floods of August 1897.

For this and other reasons the area irrigated in Ramgarh which at last settlement was recorded as 7,725 bighas has now fallen to 6,430 bighas. The floods are, however, very fertilising, and rarely deposit sand, so that the Chuhar Sidh villages are the richest in the Tahsil.

- (3) A small *nala* known as the Soth enters the Tahsil from Alwar at Gugrod, and after a course of a few miles join the Chuhar Sidh at Khanpur.

Soth Nala.

(4). The Bahadurpur *Nala* which enters the Tahsil at Ram Khera, where there is a gap in the range separating Ramgarh from Alwar, is now of little importance, as most of the water is cut off by the new dam in the Alwar village of Baghera. This formerly irrigated the Ramgarh villages of Kota, Deoli, Khilora, Nibhali and Ramgarh, and probably joined the Chuhar, Sidh at Kheri south of Ramgarh, but for some years it has had little effect.

The Ramgarh Tahsil not only benefits by the drainage from the hills within it, but through the abovementioned streams and *nalas* receive a very large proportion of the drainage from the Tijara, Kishangarh and Alwar Tahsils. The *dahri* or flooded land of this Tahsil has always been famous for its productiveness and though there has been some falling off in recent years owing to short rainfall and the construction of dams in the adjoining Tahsils, the *dahri* here is still superior to that of any other part of the State. No less than 27 per cent. of the cultivated is returned as flooded.

(c) The greater part of this Tahsil was formerly irrigated from the Ruparel stream by means of a dam at Mundpuri known as the Hazari band. This irrigation has been cut off (as will be separately mentioned) for the last 60 years, and though the soil in the villages formerly irrigated still shows signs of the fertilising influence of the Ruparel, which practically forms the northern boundary, and the water in the wells is, owing to the proximity of a large body of fresh water for 3 or 4 months, kept sweet and abundant, the Tahsil no longer derives any direct benefit from the Ruparel. The waters of the latter are held up and distributed by the famous Sikri band in the Gopalgarh Tahsil of Bhartpur, parts of which are only a mile or less distant from Govindgarh village, and the following are in this way sometimes flooded and generally moistened—Doroli, Saidanpur, Pakseri, Niyana and Kaimasa.

(d) Besides the Ruparel and the Ghat canal which takes out of it, there are few well marked *nalas* in Lachhmangarh. The drainage from the ridge of hills running south from Toda, and also from the Rajgarh Tahsil on the south-west runs north in two ill-defined *nalas* converging in the great irrigation embankment in the centre of the Tahsil at Lachhmangarh. Part of the flood waters from Rajgarh has been intercepted by a band at Chilori in Rajgarh. Many of the villages through which these streams pass have erected *bands* to utilise the water. The drainage from the hills on the north-east around Ghat and Batoli also finds its way into the Lachhmangarh embankment through the two new masonry lands at Gur Pahari. The Lachhmangarh *band* which has recently been strengthened and extended at a cost of Rs. 12,250 runs south-east from Samrai through Daulatpur and Surajgarh for a distance of about 3 miles to Lachhmangarh, and in good years irrigates about 5,000 bighas. It is provided with numerous outlets and sluices to allow the excess water to pass off to the villages on the north west. In 1896 part of the *band* was carried away by a heavy flood. Last year it did not fill at all.

(2) A *nali* known as the Nahera, rising in Rajgarh passes through the intervening wedge of Jaipur territory and irrigates a group of 6 or 8 low-lying villages, Khera, Kalianpur, Patan, etc., on the extreme south of the Tahsil, passing on to Kathumbar. Several small *bands* have been put up by the villages to hold up the water, but of late years the supply has been diminished by the construction of a large *band* at Koh in Jaipur territory. The dispute between the two States was adjudicated upon by the Superintending Engineer for Rajputana a few years ago, and the decision was unfavourable to Alwar.

Generally speaking, the Lachhmangarh bands have a smaller catchment area, and therefore a less certain supply than those of the other Tahsils and the *dahri* lands are therefore comparatively poor.

(3) I have reserved for last the remarks about the Ruparel stream, because it affects the 3 Tahsils of Lachhmangarh, Govindgarh and Ramgarh. This stream which in Alwar is also known as the Bara *nala* from a village, on its bank rises

in the Thana Gazi Tahsil in the extreme south-west of the State, drains all that Tahsil as well as the southern half of Alwar, and the northern portion of Rajgarh, and flows in a north-east direction to the village of Ghat in Lachhmangarh. Thence it runs north, separating Alwar from Lachhmangarh, and then north-east, separating Lachhmangarh and Govindgarh from Ramgarh or in places intersecting the boundary villages of the latter Tahsil. In the same way it forms roughly the boundary between Govindgarh and Bhurtpur—a few Govindgarh villages lying on the north or Bhurtpur side, and finally after leaving the Govindgarh Tahsil impinges on the Sikri 'band' in Wazir Khera in the Gopalgarh Tahsil of Bhurtpur. Up to the beginning of the century the Alwar State dealt with the waters of the Ruparel by means of a great embankment thrown across the stream—known as the Hazari band—in Govindpura, where the stream enters Govindgarh on the north-east, and about half a mile to the west of Naswari where Lord Lake broke the power of the Marhattas on 1st November 1803. By means of this embankment the water was diverted into a large reservoir or retaining embankment in M. Mundpuri, about 2 miles further east. This guided the water, to the south-east through the centre of the Govindgarh Tahsil, over which it was distributed by a series of natural and artificial channels, the marks of which, as well as of the solid masonry work at Govindpura and Mundpuri are still visible. The Hazari band which was practically a bridge across the Ruparel, was cut by the Mahrattas encamped on the north side of the Ruparel, to impede the advance of the British cavalry from the south. Lord Lake, however, after the battle directed its restoration. Both the Alwar and Bhurtpur States were rewarded for the assistance given to the British at Naswari, and in the engagement entered into by the Maharao Raja Bakhtawar Singh on 21st Rajab 1220 Hijri (1805 A.D.) it was agreed "that the band of the Naswari Naddi shall always be open in as much as is necessary (*ba kadr hajat*) for the benefit of the country of the Bhurtpur Raja. In 1808 the Bhurtpur Maharaja applied to have the "band" demolished on the ground that it enabled Alwar to monopolise the supply. Alwar refused and the British Government maintained the existing order. The loosely worded agreement of 1805 left room for continual disputes and friction between the States. To obviate these it was decided in 1836 to demolish the Hazari band. In its stead was substituted at Ghat in Lachhmangarh, 12 miles further west, a large masonry dam intended to divide the water into 2 equal portions, one passing by the old channel to Bhurtpur, the other to irrigate the Lachhmangarh Tahsil by means of the canal taking out from the stream at Ghat. The effect of this arrangement was undoubtedly to reduce irrigation in Alwar and transfer it from Govindgarh to Lachhmangarh. In 1854 the works at Ghat were carried away by a heavy flood and the Bhurtpur State objected to their restoration. The case was arbitrated upon in 1855 by Sir H. Lawrence, then Agent to the Governor-General, and it was finally decided that for 4 months in the year, *i.e.*, from 10th June to 9th October, the water should be allowed to pass freely to Bhurtpur without hindrance or obstruction by Alwar; that for the remaining 8 months Alwar might utilise the supply as it pleased by temporary embankments or other means, but these have to be demolished before 10th June. *

The 4 months during which Alwar cannot interfere with the stream are practically those in which it carries any considerable body of water. After 10th October the stream is merely a trickle kept going by springs in the bed. Last year about 40,000 acres were irrigated in Bhurtpur from Ruparel floods during the 4 open months, while Alwar in its close season of 8 months irrigated less than 500. It is not surprising therefore that Alwar is dissatisfied with an arrangement which has reduced her position from that of "predominant partner" first to that of equal co-sharer and finally has left her with only an insignificant fraction of the irrigation.

4. The fragment left to Alwar is utilised for irrigating 23 villages in Lachhmangarh by means of the Ghat canal.

Ghat canal.

The Tahsil from Rajgarh skirting the hills and then turns the water. *

After 10th October a temporary dam is thrown across the Ruparel at Ghat where it enters into a canal running south east towards Lachhmangarh. In the old days when the whole supply was equally divided the canal distributed the water right across the Lachhmangarh Tahsil,

but it now rarely penetrates more than 7 or 8 miles from the head. In Ghat and Nainapur (the 2 villages close to the head) the canal runs between deep banks, and irrigation is only possible by lift, for which no charge is made in these villages. Further on the irrigation is by lift a flow, and a uniform rate of one rupee per bigha per watering is charged irrespective of the crop grown.

From October to February spring crops are irrigated, from March onwards indigo and cotton. Formerly a considerable area of indigo was sown in Bantoli, where a factory established in 1881 by traders from Hathras and Khurja in British territory is at work, and the surrounding villages of Saidka, Jamalpur, Gujar Khora. The factory buys up the indigo plant (lak) or the impure indigo manufactured by the Zamindars, and exports the refined article to Calcutta. In recent years, however, the cultivation has contracted owing to the failure of the canal, and on the average of the last 5 years, less than 1,000 bighas have been sown. The total area irrigated by the canal usually ranges between 3000 and 6,000 bighas. For the 10 years 1885-1894 the average area irrigated in Khalsa villages was 4,263 bighas, and the average income was Rs. 5,039. In 1895 the area was 1,399 bighas and the income Rs. 2,452, in 1896 the figures were 783 bighas and Rs. 813, and last year 1897-98 shows a still further decrease, as the drought of the previous years has dried up most of the springs in the Ruparel which are the source of supply during the 8 dry months. For the last two years the income has not covered the expense of putting up the temporary dam which costs Rs. 1,400, not to speak of the cost of establishment, Rs. 27 per mensem. Besides the demand of Rs. 1 per bigha per watering, 2 per cent. is also charged for Patwar cess of which 1-8-0 goes to the Patwari and 8 annas to the State, and the villages also pay small lump sums for cost of clearance. Jagir lands pay Rs. 1 per katcha bigha, or about 50 per cent. higher than Khalsa lands.

Probably a few years of good rainfall will restore the normal supply, but the arrangements for construction and clearance of channels, distribution of waters, etc., leave much to be desired. These are at present divided between the garden and engineering departments, but it will conduce to more efficient management if they are placed solely under the latter.

9. I have dwelt at some length on the influence of the streams, *nalas* on agriculture, because they are one of the most important elements to be considered.

In Kishangarh 11 per cent. of the cultivation is benefited directly by these floods, in Ramgarh 28 per cent., in Govindgarh only 3 per cent. and in Lachhmangarh 20 per cent.

10. Wells are an equally important feature of the cultivation, as they protect 19.5 per cent. of the area in Kishangarh, 18 per cent. in Ramgarh, 24 per cent. in Govindgarh and 19 per cent. in Lachhmangarh. The *charsa* or leathern bucket worked by a rope (*laav*) attached to the oxen and running over a wooden pulley (*chak*) is the universal form. Custom prevents the Persian wheel, which is much more economical of labour and has greater irrigating power, being resorted to even where water is near the surface. The Zamindars also say that the water-supply not being so abundant as in the Central Punjab—the home of the Persian wheel—the latter would by too rapidly exhausting the well create a strain on the masonry.

(a) As might be expected from the varied configuration of the tract, the water level varies enormously, ranging from 5 or 6 feet in the low flooded lands of Ramgarh, to close on 100 feet in the hill villages on the south of Kishangarh. The supply too varies not only with the situation, but with the season, and over the east of Ramgarh and great part of Lachhmangarh complaints of its insufficiency are common especially in dry seasons.

As a rule the supply is best in wells situated at the foot of the hills, which have a large catchment area in the sub-soil drainage, and in one such village Jharindian in Ramgarh I have seen a well with 22 *laos* or wheels. Such wells are known as *atui* or inexhaustible.

(b) The quality of the water is another varying factor, and the gradations by which it passes from sweet to brackish (*mal-mala*) and bitter (*Khara*) with intermediate

classifications for hard (matwala), oily (telia), and oily and over-salt-(bajar teliya), are well known to the people and carefully defined in the vernacular. The latter two kinds are the worst, as they cause the soil to cake on the surface, and often render it barren, so that after such water has been applied the land has to be left fallow for a couple of harvests to regain its productive power. Bitter and brackish water are often more fertilising than the sweet for light sandy soils, especially if the crop is germinated by the rainfall. The high proportion of alkaloids they contain supplements the deficiency of these elements in the lighter soils. The absence of these ingredients in sweet water is said to make it less fertilising, so that it is often desirable to give alternate waterings from sweet and bitter wells.

It is often impossible to determine beforehand what the quality of the water will be, and many wells are abandoned in the sinking because the water has turned out bad. Generally speaking, the water is sweet and good in sandy lands, especially at the foot of the hills, or in low lying lands where the supply is regularly replenished by floods. Should however the floods cease the water in low clay soils at once tends to become salt, and generally the water is worst in lands which were formerly swamped, but have now from the cessation of floods or insufficient rains become dry. Often too the water near the surface is sweet, while the spring water (*soth ka pani*) in a lower strata is bitter, so that the water deteriorates if the well is kept hard at work. To avoid this it is common in places to sink the wells around the village tank. The filtration from the latter keeps the well water sweet, but when the tank dries up the water at once becomes bitter. For the same reasons katcha wells (dehrs) and *dhenklis* are often dug in low-lying clay lands where water is near the surface. They cost little and after being worked for few harvests (in the case of *dehrs*) and for a single one (in case of *dhenklis*) a new site can be chosen should the supply run short or the water become bad. The best water and the finest well cultivation is to be found in Kishangarh, especially in the Ahir villages along the Sahibi valley, the worst both as quantity and quality are in Lachhmangarh.

(c) The wise policy of the Alwar State, initiated by Captain Impey, in making Takavi advances freely, without interest, for the construction and repairs of wells, has produced most beneficial results to the State and to the people and considerably reduced the danger of famine.

Major Powlett notes (page 90, Gazetteer) that during the currency of the ten years' settlement (1862-1871) the number of wells in the State had risen from 12,604 to 16,074, while during the progress of the regular settlement (1872-1875) no less than Rs. 80,000 were advanced for this purpose, by means of which 300 new wells were constructed and more than 100 old ones repaired.

Since last settlement the results have been equally satisfactory as shown in the following table. The figures are for Khalsa wells:—

Taluk.	Last settlement or now.	MASONRY WELLS.		Katcha wells, permanent	Dher and Dhenkli.	AVERAGE DEPTH IN FEET.	
		Wells.	Lac.			To water.	Water.
Kishangarh	Last settlement ..	1,010	1,809	43	15	...	...
	Now	1,143	2,139	69	130	30	21
Rangarh	Last settlement ..	584	700	...	522	...	...
	Now	839	1,245	...	1,000	34	18
Govindgarh	Last settlement ..	387	238	6	343	...	...
	Now	565	381	1	1,571	21	19
Lachhmangarh	Last settlement ..	880	1,000	...	871	...	...
	Now	1,007	1,308	...	1,339	31	20
Total last settlement ..	.....	3,631	3,243	69	...	...	...
	Now	3,433	5,078	70	...	...	...
	Increase ..	802	1,835	1	...	...	...

Masonry wells in these Tahsils have therefore increased by 30 per cent. and *laos* by a slightly greater proportion.

(d) The greater number of the new wells have been made with the aid of Takavi. The advances for wells and realisations since last settlement have been as follows :—

Tahsil.				Advanced	Realised	Balance.
				Rs.	Rs.	Rs.
Kishangarh	...	...	...	25,694	22,148	3,547
Ramgarh	...	...	...	28,479	21,120	7,359
Govindgarh	...	...	...	18,700	14,847	3,853
Lachhmangarh	...	...	...	34,551	21,212	13,339
Total				107,425	79,327	28,098

These figures are very creditable to the administration, which has also made very large advances for purchase of seed and cattle and for construction and repair of bands. In the case of wells, recovery of the advance is begun in the third harvest after the well has begun to work, and is completed within three years. The system is, however, a very elastic one and compares favourably both as regards the extent of the advances and the results achieved with our British system, the complexity of which deters the Tahsildar, unless pressure is put on him, from recommending advances, while its rigidity deters the Zamindars from applying for them.

(e) Wells are ordinarily constructed of burnt bricks and mortar. A cylinder of masonry (nal) is first constructed, and after it has been thoroughly set by a year's exposure to the atmosphere, this is gradually sunk to the required depth, another cylinder (bacha) of wood being generally first inserted for it to rest upon. Apertures are left in the circumference for the water to pass into the well. Where stone is easily procurable close to the hills, wells are often made of roughly-hewn stones without any mortar to cement them, but such wells do not ordinarily last above 20 years; while a masonry well in a favourable situation should last for a century.

The cost of a masonry well varies from Rs. 400 to Rs. 1,200 according to the depth, while one can be made of stone for from Rs. 200 to 300. One *laos* will irrigate from 10 to 15 bigahs.

(f) Katcha wells are rarely sunk if the water level exceeds 30 to 40 feet. They cost Rs. 20 to 50 and last from two to five years. Occasionally they are wattled near the mouth with timber or branches. They irrigate two to five bigahs. *Dhenklis* are only sunk if water is within 15 feet from the surface. They are made generally by Mali or Chamar tenants to irrigate spring crops, especially vegetables. The usual form is a long wooden pole working on a pivot, with an earthen *gharra* dipping into the well at one end, balanced by a lump of clay or a stone

at the other. A *dhenkli* can irrigate from half a bigah to a bigah. The great increase in *dhers* and *dhenklis* shown in the above statement is due to an abnormal number having been sunk during the years of drought 1895-1897, most of these are purely temporary. Of the 1,572 and 1,359 shown in Govindgarh and Lachmangarh, respectively, 408 are permanent in the former, and 245 in the latter, *i.e.*, the site may change, but the *dhers* and *dhenklis* are regularly worked.

(g.) All pukka wells have been classified according to the quantity of the water. The result for each tahsil is as follows :—

Quality of water.	Kishangarh.	Ramgarh.	Govindgarh.	Lachmangarh.
Sweet	914	670	126	615
Malmala (hard)	27	...	...	29
Rukalla (slightly brackish)	13	11	17	4
Matwala (brackish)	64	65	34	128
Bitter (khara)	64	74	56	198
Telia (oily)	65	19	32	33
Bajar Telia (oily and salt)	...	...	5	...
Total	1,142	839	265	1,007

These figures bear out what has been already said as to the quality of the water in the different tahsils. In all tahsils there is room for further increase in wells, especially in villages where the *dahri* area has fallen off or become uncertain. Lachmangarh in particular with its shorter rainfall, and small proprietary bodies requires further help, while Govindgarh will be better able to support its dense and rapidly increasing population, if more wells are provided.

11. Both the *dahri* and the *chahi* cultivation are, however, dependent on the rainfall, any deficiency of which at once re-acts on the hill torrents which inundate the *dahri* lands, and on the supply and quality of the water in the wells. Moreover from one-half to three-fourths of the cultivation in each tahsil is pure *barani* or dry, *viz.* :—

Kishangarh	...	...	...	...	69 per cent.
Ramgarh	...	...	...	...	54 "
Govindgarh	...	...	...	...	72 "
Lachmangarh	...	...	...	...	61 "

The agricultural prosperity of the State is therefore almost entirely dependent on the rainfall being adequate and well distributed. The annual rainfall of each tahsil for the twenty-two years 1876-77 to 1897-98 (calculated from April to March in each year) is shown in Appendix A, and Appendix B., shows the rainfall for each month from 1st April 1883, before which monthly figures are not available.

The period of twenty-two years has been sub-divided into three periods of seven years, eight years and seven years. The average fall for each and for the whole period is as follows :—

			1876-77, 1882-83.	1883-84, 1890-91.	1891-92, 1897-98.	Average of 22 years.
Kishangarh	...	...	17'17	24'34	22'36	21'78
Ramgarh	...	...	16'04	19'84	19'71	18'59
Govindgarh	...	...	17'35	21'99	21'34	20'17
Lachmangarh	...	...	17'12	13'72	19'79	16'73

The average monthly rainfall for the last fifteen years has been —

	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	Total.
Kishangarh	'14	'37	2'45	7'89	6'98	3'12	'39	'17	'42	'59	'37	'26	23'35
Ramgarh	...	'34	1'58	6'04	6'63	3'27	'48	'17	'40	'50	'33	'31	20'08
Govindgarh	'03	'35	2'09	6'81	6'13	4'03	'53	'17	'35	'50	'38	'08	21'44
Lachmangarh	'04	'16	1'56	4'59	5'27	3'16	'53	'12	'17	'45	'28	'18	16'59

The above figures show that the first seven years after last settlement were years of short rainfall. In the year 1876-77 the highest fall was 15'10 inches in Ramgarh, while Lachmangarh received (if the figures are reliable) only 5'11 inches.

The following year 1877-78 (known as the famine of Sambat 1934) was even worse. Kishangarh alone received over 10 inches, while Ramgarh got only 7'61, Govindgarh 6'84 and Lachmangarh only 3'10. In 1878-79 the rainfall was very irregular, Lachmangarh receiving over 30 inches, and Kishangarh less than 10. The rains of 1879-80 were abundant except in Ramgarh, but 1880-81 was again a year of poor rainfall, no tahsil receiving as much as 15 inches. The next two years were very favourable, and this saved the cycle from being a very disastrous one. The first year of the next cycle, 1883-84, was again a poor one, Lachmangarh receiving only 9'08 inches, and Ramgarh 11'78. Thence forward up to 1888-89, when Lachmangarh received only 8'13 inches; the rainfall was fairly normal. The average for the eight years ending 1890-91 was very low, 13'72 inches for Lachmangarh. In the next period 1891-92—1897-98 no tahsil received under 10 inches in any year, but in the year of drought 1895-96 none received over 15 inches. Lachmangarh improved its position with reference to the others having an average of 19'79 inches. The figure show that the tract suffers rather from insufficient than excessive rains. In only two years has the rainfall exceeded 32 inches in any tahsil, *viz.*, in Kishangarh in 1887-88, 40'54, and in 1893-94, 45'78 inches. Other conditions being the same, the rainfall decreases from north to south and from east to west. Hence the average for Kishangarh is 5 inches greater than for Lachmangarh, and Gobindgarh which projects east into Bhartpur gets $1\frac{1}{2}$ inches more than Ramgarh, though the latter is more northern.

The distribution by seasons is very similar in all tahsils. About 85 per cent. of the total amount falls in the four monsoon months June to September. The winter rains in the three months December to February are usually very slight, the average ranging from '9 in Lachmangarh to 1'38 in Kishangarh.

Hence the autumn crop is by far the most important. The spring crop is confined mainly to *dahri* lands which have been flooded in the autumn and to wells, but if the autumn rains have been very heavy or late, some of the *barami* lands are reserved for spring sowings, or more commonly a spring crop, gram or oilseeds is put down after the bajra has been reaped.

12. At last settlement an elaborate classification of soils was carried out after the North-West Provinces model according to (1) *situation, viz., Barah* or land lying near the village site and *Har* or land at a distance, and (2) *quality viz.—*

Chiknot, stiffish clay or clayey loam. This is generally low lying, blackish in colour, and when cut clean presents a greasy or shining surface, when wet it forms a sticky mud, but it dries up into a very hard surface which cracks under the influence of great heat. It is the richest natural soil, but requires more working and irrigation than any other. It rarely is manured. *Mattiyar* or ordinary loam has a greater or less admixture of sand which renders it lighter in colour and more easily worked than *chiknot*. It is the common soil of the level plains where not flooded, and is improved by manure, *Chahi* land is usually of this class, and it is suitable for all crops.

Bhur or sandy. This has less clay and more sand than *Mattiyar*, and owing to its lighter texture is suited only for the lighter crops, bajra, moth, til in the autumn, oilseeds and sometimes gram in the spring harvest. It is most common on the slopes of or at the foot of the hills and also on the open plains exposed to the action of sand drifts also along the course of some of the hill nalas; the reddish variety is often cool retentive of moisture and very well suited for bajra, gram and sarson, the white kind is poorer and the crops wither up rapidly without fairly continuous rain. *Bhur* soil generally requires less heavy but more continuous rain than any other.

The *Mattiyar* and *Bhur* were further subdivided each into first and second class. Each class of land was marked off in blocks in the village map.

Besides this there was the usual classification into *chahi* (irrigated from wells) *Dahri* (irrigated from natural sources.) *barani* or unirrigated, and separate rates were worked out for all these classes, *i.e.—*

Chahi Mattiyar I Bara.

„ „ Har.

„ Mattiyar II Bara.

„ „ Har.

This gave rise to great complexity of rates, and elaboration in statistics. Personally I am inclined to distrust any rigid classification according to the quality of the soil. No doubt it is a most useful guide, if carried out honestly and on a uniform principle, but it leaves too much to individual judgment, and when the classification is so minute, no two individuals will often agree as to whether a particular block of land should, for instance, be classed as *Mattiyar II* or *Bhur I*. Mr.

(b). As now fixed. Colvin had however decided to continue the system of last settlement, abolishing the distinction between Bara and Har (which is quite unnecessary in the small sized estates of this tract) but subdividing *Chiknot* into two classes, and when I joined I found that the soil classification had been carried out by the Superintendents and shown in the records. I decided therefore to adhere to it. On checking the Superintendents work in the course of my village inspections I found the classification had been carefully and uniformly done in the three southern tahsils by Munshi Amar Singh. In Kishangarh the work had been done partly by Munshi Durga Pershad, partly by Munshi Ahsan Ilahi, and by both loosely; so I had to revise the classification in 50 out of 150 estates.

Thus soils are now classified into six different kinds.

Chiknot I and II.

Mattiyar I and II.

Bhur I and II.

For assessment purposes I have, after satisfying myself that there was no real difference as regards produce and rent, treated *Chiknot I* and *II* as one,

as was done at last settlement, thus reducing the classes to five. Even this is too many, and in the remaining eight tahsils I have reduced the classes to four, *vis.*, Chiknot, Mattiyar and Bhur I and II; some distinction between the fairly good and very light Bhur being necessary.

The above distinctions are familiar to the people, and though they have, hitherto made little use of them for distributing the revenue, they are well aware of the value put on them for assessment purposes, and frequently raise the objection that the land has been placed in a higher class than that to which it properly belongs. On this account I have insisted on the classification being always done by the Superintendents themselves. The classification of last settlement has been freely departed from where necessary, and in these four tahsils the result has been, as shown in the table at the end of this chapter, to largely increase the area recorded as *Mattiyar* at the expense of the *Bhur*. This of course does not mean that there has been a general improvement in the soil, the fact that the new cultivation is generally in the poorest soils would rather tend to increase the proportion of Bhur, but either that the classification has now been more carefully made, or that the standard is lower. In any case the partition that divides Mattiyar II from Bhur I is a very fine one, and it is often generally a matter of individual opinion whether land should be classed under one or the other.

13. Besides the natural soil classification as above there is the cross classification into *chahi*, *dahri*, and *barani* already referred to. In classifying *chahi* it has been found necessary to discriminate between—

(a) *Chahi Mustakil* or land commanded by and usually irrigated from pukka wells.

Subdivisions of *chahi*.

(b) *Chahi Mustakil* or land commanded by and usually irrigated from kacha wells.

(c) *Chahi Ghair-Mustakil*, *i.e.*, attached to kacha and temporary *dher* and *dhenklis* or irrigated from masonry wells only under exceptional circumstances of drought, etc. These sub-classifications are very important in the working out of village assessments and in the *Bach*, and separate rates have therefore been framed for them.

(b) The *dahri* or naturally irrigated land was like the *chahi*, treated as a single class at last settlement. This does not take sufficient account of the great

Subdivisions of *dahri*.

variations in its quality, according as it is flooded with fair regularity or only in year of exceptional rainfall. Hence it has now been subdivided into two classes.

(1) Present (*dahri hal*) *i.e.*, land ordinarily flooded, and actually inundated within the last five years.

(2) Former (*dahri sabika*) *i.e.*, land which now and then is inundated but not within the last five years. The former settlement did not take account of land lying between or at the foot of hills, and receiving the drainage direct from the hill slopes. Such land where the hills are high and the drainage held up by small embankments, on the field boundaries, is often the most fertile of all. Accordingly it has now been recorded as (3) *dahri barishi*.

Separate rates for these three subdivisions of *dahri* have also been found necessary.

14. After what has been already said, this multiplication of classes of land, and of rates to correspond with them, may seem complex and confusing. Thus

General remarks on soil classification.

under *chahi* there are the five natural classes, *chiknot*, etc., according to soils and under each a cross division into the three kinds of *chahi*, giving 15 classes in all. Similarly there are 15 classes under *dahri* and 5, *i.e.*, the natural classes under *barani*. This gives 35 classes of soil for which it is theoretically necessary to work out assessment rates.

In practice, however, such elaboration is unnecessary. Thus taking Kishangarh, the same rates have been found suitable for *Chiknot chahi* and *Mattiyar I chahi*, another set of rates for *Mattiyar II chahi* and *Bhur I chahi*. The same remarks apply to the *dahri*, but in the *barani* it has been found necessary to have discriminating rates. In this way the number of rates actually worked out and applied is only 18. Many of these overlap, and some are applied only to a nominal area and might have been dispensed with, were it not desired to have logical completeness.

In the Punjab the standard of assessment is relatively so low, that errors in classification rarely encroach on the owner's share; a few well marked classes of soil are sufficient, and even if the lands of a village or an individual are classed higher than they should be, no great hardship results. Here, however, where we propose to take a full two-thirds of the net assets, more elaboration in calculating them is required, and as, for reasons which will presently appear, it has been impossible to sub-divide three of the four tahsils into assessment circles, it has been found necessary to make the classification complete and searching enough to take account of as many local variations as possible. At the same time I have an uneasy feeling that the system is still too complex, and in future reports I shall try to effect further simplifications. Local knowledge is, after all, a safer guide than the most elaborate statistics, and this the Superintendents and myself have endeavoured to acquire by making a thorough inspection of almost every village.

15. Neither the Alwar Gazetteer nor the annual reports of Major Powlett contain any clear reference as to the grouping of estates by assessment circles with uniform rates for the circle. As a rule the net assets of each estate were determined, in theory at least, independently, according to the assumed or ascertained rent rates checked by comparison with the old bigha rates on crops and occasionally with a produce estimate. The vernacular reports of the Superintendents however show that in Kishangarh estates were classified into four circles *vis.*

DAHRI I AND II.

BHUR I AND II.

But no separate rates for these beyond the village to village rent rates can be traced. Gobindgarh was however divided into three circles—Circle I (Dahri), most of which has since been transferred to Bhartpur—Circle II embracing the eastern portion—Circle III the western, with a few of the inferior eastern villages. Two circles have now been formed, *vis.*—Circle I which comprises the eastern half with 25 estates which were formerly irrigated by the Ruparel, and now benefit, by its proximity and that of the Sikri *band*, rendering the well water more abundant and nearer the surface. The soil of many of these villages is still known as *Dahri* and is fertile above the average. Circle II comprises the remaining 23 estates; some of which were formerly irrigated by canals from the Ruparel but now receive little or no benefit from it.

In Ramgarh and Lachmangarh there were no assessments circles at last settlement.

In all tahsils, but Govindgarh, which being a level plain with uniform groups of villages leads itself to subdivision into circles as above, it was found impossible to form the villages into suitable assessment circles. The disturbing factors introduced by hills and *nalas* create wide diversities as to soil, water-level, etc., between adjacent villages, and rates which would be equable in one would be oppressive in the next. To form compact assessment circles was therefore out of the question and to pick out villages of fairly uniform agricultural conditions without reference to local contiguity did not seem desirable. In these tahsils,

therefore, it was considered that the elaborate classification of soils supplemented by careful inspection, would dispense with the necessity for separate assessment circles.

Statistics showing percentage of various soil at former and present settlements. 16. Before closing this chapter it may be useful to compare in the tabular form below the percentage of the natural and artificial soils to the total cultivation at last settlement and in the year of assessment 1897-98.

Name of tahsil	Particulars.	NATURAL CLASSES.			ARTIFICIAL CLASSES.		
		Chiknot.	Matthiyar.	Bhur.	Chahi.	Dahri.	Barani.
Kishangarh.	Last settlement ..	14	49	37	17	8.7	74.3
	Present settlement.	14	66	26	20	10	70
Ramgarh ..	Last settlement ..	30	38	32	10	28	62
	Present settlement	27	60	13	19	27	54
Gobindgarh ...	Last settlement ...	8	71	21	12	3	85
	Present settlement	8	87	5	24	4	72
Lachmangarh ..	Last settlement ...	27	55	18	15	19	66
	Present settlement	27	61	12	19	20	61

This brings out not only a great decrease in the inferior soils—Bhur I and Bhur II—due to different methods of classification, but a great increase in the chahi area which has gone up by 90 per cent. in Ramgarh doubled itself in Govindgarh, increased by 32 per cent in Lachmangarh and 20 per cent. in Kishangarh. The Dahri area has decreased in Ramgarh and increased slightly in the other tahsils.

The increase in cultivation, as will be shown in more detail later on, has been 3 per cent. in Kishangarh, 4 per cent. in Ramgarh, while in Gobindgarh there has been a decrease of a few bighas, and in Lachmangarh an increase of 1.25 per cent. It is therefore mainly in the increase in the Chahi area and the increase in prices that we must seek for reasons for enhancing the assessment, assuming it to have been a full one when made. This brings us to a consideration of the fiscal history of the tract.

CHAPTER II.

FISCAL HISTORY.

17. As already remarked nearly all of the tract lies in the Mewat, the political history of which is given in chapters I and II of the Alwar Gazetteer. Under Mogul rule it was included in the two Sirkars or districts of Alwar and Tijara, pertaining to the Subah or province of Agra. The turbulence of the Meos and Khanzadas during the Mogul Empire, led to the appointment of a special officer (Faujdar) to keep the Mewat in check. The Lachmangarh Tahsil was under the influence of the Rajput state of Jaipur and was generally held by some of its semi-independent Thakurs.

18. The decay of the imperial power in the first half of the eighteenth century, gave an opportunity to the Jat free-booters of Bharthpur to extend their influence at its expense. In 1735-A. D., they burst into Tijara and Kishangarh, and by 1763 had established themselves in all the northern portion of Alwar. In 1735 Surajmal expelled the Meos from their fort in Daungri near Kishangarh, drove

out Kazi Haiyati, the Moghul Amil or Deputy in Bambohra, then the headquarters of the Kishengarh Tahsil; in 1748 he built the present fort of Kishengarh, and established direct communications with Bhartpur by making a good road over the Bambohra Pass. The Jats remained in possession until A. D. 1769 when they were expelled by the Moghal officers. The latter were ousted by the Mahrattas acting in concert with Ranjit Singh, Maharaja of Bhartpur, in 1784. The Mahrattas under Sindhia were at this time posing as the upholders of the Imperial authority, and for a time annexed the tahsil to the Imperial dominions. About 1792 Partab Singh (the first Chief of Alwar who from being a petty Thakur holding a fief of $2\frac{1}{2}$ villages in Rajgarh from Jaipur, had by seizing his opportunities and allying himself with the strongest laid the foundation of the present Alwar State) advanced from the Narukha Rajput country to the south, and established himself in the mountain fortress of Ismailpur, 5 miles south-west of Kishengarh. He was however driven out by the Mahrattas. The latter held possession by the sword till Lord Lake by the capture of Agra, and the battle of Naswari in 1803 broke the power of the Mahrattas, and Ranjit Singh's services to the British in this war, were rewarded by a formal grant of the Parganas of Kishengarh, Rewari, Kathumbar, Gokal.

19. The Jat Chief's subsequent treachery in combining with Holkar against the British, led to the capture of Deeg, the unsuccessful siege of Bhartpur, and the treaty of 1805, by which the above-mentioned grant was withdrawn and Kishengarh was made over to the Alwar Chief Bakhtawar Singh as a reward for his services together with Tijara, Tapukra and Kathumbar in consideration of the payment of a lakh of rupees for the fort, and the cession of Dadri, Badwanor, and Bhawna Kharja to the British. Since then the tahsil has been part of the Alwar State. At that time there were tahsils at Kishengarh, Fatehabad and Ismailpur, but the latter two were abolished respectively in 1809 and 1860. In 1872 on the abolition of the Jhindoli and Bahadarpur tahsils some of their villages were attached to Kishengarh, and two villages west of Khairthal, were transferred to Mandawar. Since then there has been no change of boundaries, though there have been some internal changes due to the grant and resumption of certain estates. The three remaining tahsils had been already annexed to Alwar before Kishengarh.

20. The founder of the State, Partab Singh of Macheri, a feudatory of Jaipur, for his services in the battle of Maonda in Jaipur, where the Jaipur forces through his aid signally defeated the Jat invaders, received leave to build a fort at Rajgarh. Thence he extended his influence, partly at the expense of his liegeland of Jaipur over the present Rajgarh, Thana Gazi, and Alwar Parganas. The Jats of Bhartpur were then in possession of the Alwar fort and the northern half of the State, but being pressed by the Imperial forces and unable to pay the garrison, they made over the fort to Partab Singh in November 1775, and from this event the foundation of Alwar as a separate state may be dated.

21. The rival Naruka Chief at this time was Sarup Singh, who had succeeded his father Padam Singh, in the possession of Ramgarh and Taur (now Lachmangarh) forts and surrounding country, which was held in Jagir from Jaipur. The fort of Ramgarh had been built by Padam Singh in 1746.

Partab Singh invited the co-operation of Sarup Singh, to expel the Khanzada Chief, who starting from Nagar in Bhartpur had built a strong fort in Ghāsauli close to Govindgarh and occupied most of that tahsil. Sarup Singh jealous of the rising power of Partab Singh, and bound to the Khanzadas by the ties of friendship and alliance refused. Partab Singh in 1776, gained possession of the fort of Taur by a stratagem, put Sarup Singh, who had refused to present a *nazar*, to a cruel death and at once laid the foundation of the present fort and temple of Lachmangarh so named after a temple of Lachman. The widow of Sarup Singh and his Kardar Nand Lal escaped to Ramgarh fort where they made a brave resistance against Partab Singh, but eventually had to evacuate the fort which in A. D. 1777 fell into the hands of Alwar. There were at that time two Parganas, one at Khilora, the other at Mobarikpur. The latter was abolished and the tahsil was transferred from Khilora to Ramgarh.

21-A. The Khanzadas of Ghasauli maintained their independence during Partab Singh's reign (1775-1791 A.D.) in the fort of Ghasauli, but in 1803 his successor Bakhtawar Singh with the aid of the Mahrattas expelled their leader Zulfikar Khan. The fort was demolished, and the foundation of the present fort and town of Govindgarh, named after a temple of Govindji, were laid by Bakhtawar Singh.

21-B. Thus the three southern Tahsils had been attached to Alwar by the year 1803, and by the treaty of that year Alwar was guaranteed in possession of them, and has held them ever since. The Meos true to their lawless habits, for a long time proved to be troublesome subjects, and in their opposition to Alwar rule were often instigated by the neighbouring Nawab of Ferozpur. This was Ahmad Bakhsh Khan, the Alwar Vakil, who had negotiated the treaty of 1803 between Lord Lake and Bakhtawar Singh, and for his services then and in the first Bhurt-pur war received as an independent grant the Ferozpur pargana from the British, and Loharu from Alwar, with the title of Nawab. He had now quarrelled with his old master mainly on account of Bakhtawar Singh's cruel persecution of his Musalman subjects, and therefore worked up the Meos against him. Maharao Panni Singh who succeeded Bakhtawar Singh in A. D. 1815 set himself to quell the turbulence of the Meos. In 1818 he attacked and burnt Kahlani in Ramgarh, the stronghold of the Landawat Meos; dispersed the inhabitants into several small hamlets, made over the grazing area known as Nangal Charaonda, to the Nai branch of the Meos, and established the fort of Raghunathgarh to overawe the rebellious. Similarly in 1835 he broke up and burnt the large Meo village of Nekach, the inhabitants of which had refused to present a *nazar*, and established a fort. Both these forts are still maintained.

The severe lessons thus taught brought the Meos into subjection, but their lawless spirit was not quite quelled, and in the mutiny, when the Mewat was among the first to rise, the Alwar Meos attacked the force which Banni Singh had despatched to the aid of the beleaguered British garrison in Agra, killed the Commandant Man Singh and several of his men, and resumed their old habits of rapine. Some of the Ramgarh Meos are said to still possess large hordes of treasure accumulated by plunder at that time.

22. Before proceeding further with the fiscal history, a sketch of the leading tribes may be conveniently inserted. The following table shows briefly the number of estates now held by each in each tahsil:—

Tribes.					Kishangarh.	Ramgarh.	Govindgarh.	Lachman- garh.	Total.
MUSALMANS.	Meos	...	...	...	84	93	42	29	248
	Khanzadas	...	...	...	3	5½	½	...	9
	Pathans	...	...	...	...	...	½	...	½
	Saiyids	...	...	...	4	...	...	...	4
	Musalman Rajputs	...	...	...	3	...	...	...	3
	Miscellaneous	...	...	...	...	...	...	1½	1½
Total					94	98½	43	30½	266
HINDUS.	Rajputs	...	...	...	11	1	...	20½	32½
	Brahmins	...	...	...	2½	...	...	8½	11½
	Jat	...	...	...	14	2	...	20½	36½
	Ahirs	...	...	...	12	...	½	8	20½
	Gujar	...	...	...	10½	3	3	11½	28
	Mina	...	...	...	...	...	...	2½	2½
	Miscellaneous	...	...	...	6	6½	1½	7½	21½
Total					56	12½	5	27½	99
GRAND TOTAL					150	111	48	113	402

(1). Thus out of 427 estates in the four tahsils the Meos hold no less than 266

Meos.

or over 62 per cent. In Kishengarh they hold considerably more than all the other

tribes combined, in Ramgarh and Govindgarh they are in an overwhelming preponderance, and in Lachmangarh they hold one-fourth of the estates and more than any other single tribe. A full account of the Meos is given at pages 38-40 of the Alwar Gazetteer and on page 29 of the Gurgaon Settlement Report. Though claiming Rajput descent, they bear little resemblance to their Rajput neighbours in character or features and are more probably akin to the aboriginal Mina tribes (still Hindu) with which many of their tribal sub-divisions are identical, or are a cross between the latter and Rajputs.

Though nominally Musalmans, they adhere to many Hindu customs, *e.g.*, revere Hindu deities, have Brahman Purohits at their marriages, do not intermarry within the *got*, are often called by Hindu names ending in Singh, drink spirits; the women dress like Hindu women and wear few ornaments, while the men decorate themselves freely. They are practically ignorant of Islam, rarely have mosques in their villages, hardly ever repeat the ritual prayers, being generally ignorant of even the Kalima, so that their religious observances are confined to attending the Id prayers once a year. In fact, as well observed in the Gurgaon report, they observe the feasts of both religions, the fasts of neither. Lately, however, there has been some revival of Islam amongst some of them, started by certain Musalmans officials in Alwar, who sent Maulvis amongst them, and continued in the direction of Wahabism by certain preachers from Swat, one of whom is said to have made his head-quarters at Indore, whence he or his preachers make periodical visits to arouse the religious spirits among the half converted and wavering Muhammadans in Alwar, Bhartpur, etc. So far the only result has been to create discord between the reformed and the so-called orthodox Mahomedans, as even at the Id they will not meet for worship in one mosque.

As agriculturists the Meos, though they formerly had a bad name, seem to have improved considerably under a settled rule. While the men are lazy, the women are energetic and industrious, and do most of the field work except the ploughing. They are sub-divided into 12 pāls or branches, *viz.* :—

Dhumrot	...	...	...	Chirklot.
Nai	...	...	...	Pandlot.
Landawat	...	...	...	Manot
Dulot	...	...	...	Ratawat.
Dingal	...	...	...	Dharwal.
Seigal	...	...	...	Kalesa.

which though often at violent enmity with one another are clannish enough to combine, at once against outsiders. The first six sub-tribes are the most common in Alwar. All are alike impulsive, short sighted, easily led—especially in the wrong direction, litigious, not hospitable for Musalmans, but ruinously extravagant on certain occasions such as weddings and funerals. They want the stamina of the Jats. Prosperity turns a Meo's head, adversity makes him lose it, and as they themselves freely admit they are only good while kept well under. Their faculties are however sharper than those of any other tribe except perhaps the Ahirs, and this makes them keen defenders of their own interests and quick to observe and resent any injustice.

(2). Other Musalman tribes, Khanzadas, Saiyids and converted Rajputs

~~Other Musalman tribes~~ Khanzadas, Saiyids, (known as Ranghars) holds only 18 estates between them. The Khanzadas, who are in all probability descended from Jadu Rajputs of Bhartpur converted to Islam in the 14th century, were the ruling race at down to Moghul rule, and claim to have held 1,484 villages with their capital Tilara.

Mr. Channing (page 30, Gurgaon Report) is inclined to regard them as the noble class among the aboriginal Meos and Minas, and in appearance and character they certainly resemble the Meos rather than the Rajputs. They still retain some Hindu customs in their marriage ceremonies, but are more orthodox than the Meos, as they attend the mosque prayers and veil their women. They are now in a very depressed state, lazy cultivators, quarrelsome and querulous; in fact they combine the apathy of the Rajput with the Meo's litigiousness and disregard of truth. Saiyids and Ranghars are agriculturally on the same level as Khanzadas. Their villages are generally badly cultivated as they are averse to labour themselves and do not get any aid from their women.

(3) Of the Hindu tribes the Rajputs though politically the most important are agriculturally the feeblest. They own 32½ Khalsa estates and many in jagir, chiefly in Lachmangarh. Most of these Khalsa estates were originally held revenue free, but were gradually resumed by Bakhtawar Singh and Banni Singh, money grants or grants of land (*kabila kharch*) being given instead. Here as elsewhere the Rajputs are poor agriculturists, but many of them have revenue free grants to help them to eke out a living, and some are also in State service in Alwar or Jaipur. Their favourite occupation is *Shikar*, their favourite amusement opium eating. Only the pressure of poverty drives them to work with their own hands, and they are much handicapped by being able to get no help from their women-folk in field work. Intellectually dull, they have a certain hereditary candour and regard for truth which makes it a relief to come to a Rajput village.

(4) Jats, Gujars and Ahirs are in order the next most important tribes of Hindu Zamindars, holding 36½, 28 and 20½ villages respectively, mainly in Kishan-garh and Lachmangarh. Here, as elsewhere in this part of India, the Ahirs take the palm as thrifty, peaceable, industrious and prosperous cultivators. The Jats as cultivators are little inferior to them, though more litigious and extravagant. The Gujars in this part of Alwar show little of the lawless cattle-lifting tendencies with which they are generally credited. They devote themselves almost entirely to agriculture, and their villages are little, if at all, inferior to those of the Jats.

(5) Brahmins who hold 11½ estates in Kishan-garh and Lachmangarh and Minas as who hold 11½ in Lachmangarh, though the social gulf between them is very wide, are on about the same plane as agriculturists. The Minas are always and the Brahmin frequently helped by their women in outdoor work.

(6) The agricultural or *Zamindari* Minas are distinguished from the *chaukidara* of watchmen class, and now almost form that separate caste of well behaved agriculturists, which it has been the aim of the Alwar rulers to encourage at the expense of the *chaukidara* Minas who are the hereditary thieves, and cut throats of these parts, one of whom is sure to be found associated in any evil deed that requires secrecy or daring.

(7) Miscellaneous Hindu castes, Malis, Banyas, Dhusars, etc., own 21½ estates. Of these the Malis display the best and the Banyas the worst husbandry.

All of the leading tribes have been established on their present settlements for centuries, and have been little affected by war, anarchy or misgovernment, the effects of which rarely penetrate permanently within the village community.

23. The really disturbing element is famine, and this fact is significantly marked by the people who often date events with reference to the different famines.

years. At page 99 of the Alwar Gazetteer a list of the famine years is given. The most serious were those of—

St. 1840 ...	...	...	A. D. 1783-84
1890 ...	...	...	1833-34
1917 ...	...	...	1860-61 (athsira)
1925 ...	...	...	1868-69 (pachisra.)

While since last settlement there have been the terrible famine of St. 1934, 1877-78, and the droughts of 1884 and 1896-97, which have been already referred to in connection with the rainfall. The break down of village communities and the desertion of villages can generally be traced to one of these famine years.

24. Up to 1838 the state revenue had been levied in kind, the state claiming half the gross produce plus one-thirteenth of the remainder for expenses of collection. *Old methods of assessment.* On certain crops bigha rates were taken. The local or kacha bigha varies with the locality according to the length of the *jarib* or measuring chain. The chain in these tahsils is 20 *gathas* or 58 yards (of 33 inches each) and deducting 2 *gathas*, or 5 yards 26½ inches for the distance between the ground and the point at which the chainmen hold it in measuring, the net length is 52 yards (of 33 inches) 6½ inches. The kacha bigha is a square *jarib* or chain and its relation to the pakka or *Shahjahani* bigah (which was introduced at the regular settlement and is made up of a square *jarib* of 20 *gathas* and 60 native or 55 English yards in length) is as nearly as possible $\frac{1}{8}$. While the relation of the pakka bigha to the statute acre is $(\frac{5}{8} \frac{5}{10})$ i.e., exactly $\frac{5}{8}$ or 625.

25. In 1838 Diwan Ammu Jan of Delhi and his two brothers were introduced *Introduction of cash assessment.* Maharaja Banni Singh, and they gradually got the entire administration under their control.

Their reforming energy, the results of which chiefly went to fill their own pockets rather than the state exchequer, soon extended itself to the land revenue, and they began to substitute cash payments for kind. Contracts were given to villagers first for one year, then for two or three and even for longer periods. In 1851 the Dewans were charged with corruption and the enormous sum of 21 lakhs was proved against them. They were imprisoned, but released on disgorging 7 lakhs, and soon regained their ancient influence. Colonel Cadell in his first report of the Alwar Agency for 1871-72, states that though the Dewans were too shrewd to entangle themselves openly in the rebellion (of 1857), Major Impey (who in 1858 on their expulsion assumed charge of the State) had undoubted proofs of the sympathy and shelter afforded by them to rebels.

26. On the death of Banni Singh in 1857, his son Sheodan Singh, then a boy of 12½ years succeeded. The Dewans *Expulsion of the Muhammadan Dewans, and fixing of cash assessments.* soon obtained such an influence over him, leading him to adopt the Muhammadan style of dress and speech and surround himself with Muhammadan servants, even it is said proposing to arrange a Muhammadan marriage for him with a girl of their own family, that the long suffering Thakurs, who for 20 years had been excluded from all power and office, at last rose in rebellion. The Dewans were attacked, the son of one and several of their followers were killed, they themselves made prisoners and deported from the State in August 1858. Captain Nixon, the Political Agent of Bharatpur was ordered to Alwar where he restored order, and appointed a council of Regency, with the leading Thakur, Lakhdar Singh, as President. In November 1858 Captain Impey was appointed Political Agent and held that office till March 1863, during which period he not only re-organised the rotten administration, but by carrying out the three years and 10 years settlements, laid the foundations of the subsequent prosperity of the State.

27. As regards the old methods of assessment Major Powlett writes (page 185 Gazetteer) :

Former methods of Collection.

" Before Captain Impey's settlement there were in vogue four modes of getting the annual land revenue *Kankut* or appraisement of the standing corn.

Batai-weighment of the gathered grain, the State taking $\frac{1}{2}$ and $\frac{1}{3}$ th of the remaining half.

Chakota a rough money assessment left to the villagers to distribute and sometimes though not often, prolonged for more than a season or even more than a year.

Bigheri or assessment of the pergunna crop rate per bighah, fixed almost permanently by the Durbar for each kind of crop, sometimes *bigheri*, *chakota* and *batai* would all be employed in the same village in the same year.

Contract for a short term of years, sometimes with the proprietors, sometimes with a speculator; the latter would make his collections either by the pergunna crop rates or by the other methods. This system began to come much into vogue 40 years ago. It seems to have been introduced by the Mussalman members of Maharaja Banni Singh and before Major Impey's settlement it prevailed extensively, indeed pretty generally, throughout the State.

28. The actual working of the system may best be described in Major Impey's own words :—

Working of the old system.

" Formerly all payment were made by issue of hills on the tahsils, thus a regiment had to be paid for the past six months, all payments being half yearly. The aggregate amount was made up by money orders in different districts on the summer or winter crops as the case might be. The bill was given to a party of the regiment, who proceeded to the tahsil on which it was drawn, perhaps 40 miles distant. The tahsildar then assigned the detachment certain villages from which the men on their own behalf were to levy the amount due. The smallest sums were thus liquidated. When the village was weak, or the tahsildar owed it a grudge, the unhappy ryots were plundered, not a cooking pot escaping the rapacity of the hungry troops, often long in arrears and baulked of their pay. Again an individual without favour, would wait months at the tahsil to receive his petty wages, generally until he had propitiated the Amla by a *douceur*. Previous to their ejection, the Muhammadan ministers had entire control of this department, to the exclusion, in all but the subordinate posts, of any but their immediate friends and supporters. From each village a quota was levied as *Nazarana* for their private benefit, over and above the Government dues. A system of plunder and oppression was practised on the unfortunate ryots under the *Kham* system, which added to torture and ill-treatment of the worst nature, made numbers abandon their houses and caused more and more land to fall out of cultivation. It was not the sum which had come into the Raj coffers which had impoverished the ryots and thinned the population, but it was the last screw to benefit the Dewans and district officials, all of whom conniving at the malpractices, considered it only fair to share in the spoil."

This is graphic picture of native revenue administration in the " good old days " even under a strong ruler. It would apply almost word for word to any district in the central Punjab under Ranjit Singh's rule.

29. Captain Impey's first measure was to wipe away all these abuses and in his three years settlement to give large initial reductions on the former demand, so as to set the people on their legs again, accompanied by progressive enhancement. During the 10 years 1848-49-1857-58, the average demand had been for the whole State Rs. 15,21,083, in 1858-59 it was Rs. 13,87,577, while for the three years settlement it was fixed as follows :—

					Rs.
1859-60	...	...	...	...	13,83,816
1860-61	...	...	...	...	14,27,299
1861-62	...	...	...	...	14,77,160
Average	...	...	...	...	14,29,245

To quote from the Administration Report of 1871-72.

" The measure was hailed with the greatest delight by the people, many deserted villages were reinhabited and thousands of acres were brought under cultivation. The new demand was cheerfully paid, and on the expiry of the settlement the people gladly accepted new leases at considerably enhanced rates for a further period of 10 years, the average

demand for the ten years (1862-63 to 1871-72) being raised to Rs. 17,19,875, an average annual increase of nearly 2 lakhs over the average of the ten years prior to the establishment of the agency. The new demand fell lighter on the people than the former one, the amount illegally extorted from them by the officials under the former *regime* having been greater than the increase in the Government demand."

* In Captain Impey's settlements no special survey was made, the areas of cultivation, etc., being taken from the local kanungo's records, nor were any records prepared beyond a proceeding showing with whom the settlement was made, and for what amount. His assessments were based like the summary settlements of the Punjab, on the average collections of preceding years, and a rough estimate of the villages' capacity to pay.

The readiness of the people to take up the three and ten years assessments, even when the demand was much enhanced, was due to the fact that the demand was now for the first time fixed, whereas under the *kham* system they were at the mercy of the officials. Watchmen (*shahnas*) on behalf of the Raj used to be turned on to watch the crop; when reaped, these affixed their mark (*chauk*), and the crop could not then be removed or disposed of. This gave the watchmen and other collecting officials unlimited opportunities of extortion. The three and ten years' settlements moreover were made in nearly all cases with the zamindars themselves, thus recognising their prior right in the land, and leading indirectly to the growth of *biswadari* or proprietary rights in their favour, which were recognised and recorded when the regular settlement was made.

30. Major Cadell in his report for the year 1871-72 remarks that the ten years' settlement, which was made during the minority but to which the young Chief was obliged to bind himself to adhere before he was invested with power in 1864, was the salvation of the State. The Chief in the main respected its terms, but Major Cadell remarks that, although the assessments were not enhanced, it became the practice to anticipate the proper period for collecting the revenue when the crops which should have supplied the means were barely above ground. When, owing to the misgovernment of the Maharao and the rebellion of the Thakurs in 1870, the management of the State was again vested in the Political Agent and Council, this abuse (not uncommon even now in Native States) was removed and the collections were made, in accordance with the terms of the settlement, after the harvest. Major Cadell rightly claims that this (on account of the high interest which the zamindars had formerly to pay to money lenders for the temporary accommodation) was equivalent to a remission of from 20 to 25 per cent. on the demand.

At the same time the number of tahsils, which during the minority had been reduced from 21 to 17, was in 1872 further reduced from 17 to 12, the present number, and the limits then fixed have with few alterations been maintained up to date.

31. The ten years' settlement expired with the spring harvest of 1872. In January of that year Captain Powlett, the Settlement Officer, commenced investigations for a temporary settlement to last while the operations for a regular settlement were being carried out. To quote from the Administration Report of 1872-73 :—

"It was known that while the demand under the ten years' settlement fell lightly on the whole, some portions of the state were assessed more highly than others. Under these circumstances it was only fair to the State and to the cultivators that the assessments should be at once revised, and revised in such a manner that there should be enhancement of revenue which would cover the cost of the settlement operations and provide funds for the increase of irrigation."

The circumstances of each village were carefully enquired into, the enquiry occupying a period of about eight months, and the result was that enhancements were made to the extent of Rs. 1,53,736, while the deductions amounted to Rs. 23,866. The average annual collections during the ten years, settlement had been Rs. 17,19,815, the demand for the closing year 1871-72 was Rs. 17,76,559 (Report of 1872-73) and the collection for that year Rs. 17,52,034. The result of this revision was, therefore, to raise the demand to Rs. 19,06,426,

a net increase of Rs. 1,28,870 or 78 per cent (Report of 1872-73). Major Powlett at page 184 of the Gazetteer shows the demand of the summary settlement as Rs. 18,92,513, but, as in the table at page 189, the average collections during its term are given as Rs. 19,06,030, it appears that the figures quoted from the Administration Report of 1872-73 are correct. In introducing the new demand the instalments for the autumn and spring harvest, which were formerly equal, were fixed roughly with reference to the produce of *each* harvest.

So far my remarks as to the three years' ten years' and summary settlements have applied to the State as a whole, so that it will be unnecessary to return to the subject in future reports. I shall now refer to their financial results in the tahsils under assessment.

The annexed table shows the demand and incidence per cultivated bigah of the successive assessments, the figures for the regular settlement (including progressive *jama*) and for 1896-97 being also given for comparison :—

Tahsil	3 YEARS' SETTLEMENT		10 YEARS' SETTLEMENT		SUMMARY SETTLEMENT	REGULAR SETTLEMENT.		1896-97.	
	Amount.	Per bigah	Amount	Per bigah	Amount	Amount.	Per bigah	Amount.	Per bigah.
	Rs.	Rs. A. P.	Rs.	Rs. A. P.	Rs.	Rs.	Rs. A. P.	Rs.	Rs. A. P.
Kishangarh	1,4,627	1 1 9	1,73,657	1 4 4	1,87,184	1,93,645	1 7 9	2,13,481	1 7 5
Ramgarh	1,35,951	2 5 1	1,70,655	2 3 10	1,86,562	1,88,437	1 14 4	2,03,082	1 14 3
Govindgarh	78,577	2 3 2	89,200	2 7 6	86,037	90,112	1 15 7	75,411	1 14 9
Lachmangarh	1,21,003	1 5 0	1,52,275	1 10 6	1,64,959	1,62,661	1 8 10	1,73,754	1 8 5
Total	4,85, 2	...	5,85,627	...	6,19,043	6,38,555	...	6,66,422	...

The figures will not tally with those given by Major Powlett at page 189, Gazetteer, as the latter shows only collections. Moreover there have been some transfers of estates and resumptions of mafis and jagirs, and the figures now given show the demand for each tahsil *as now constituted*, and this is why the final demand of the regular settlement varies so much from that of the year 1896-97, though no enhancement had been meantime made. The figures showing incidence of the three and ten years' assessments are not very reliable, as they based on the old approximate areas in the kanungo's papers converted into pakka bigahs.

Comparing the present demand with that of the 'three years' settlement, it will be seen that, except in Govindgarh, where, owing to the loss of the Ruparel irrigation, the demand was reduced at the summary and regular settlements, in all other tahsils there has been an almost uniform enhancement of from 43 to 45 per cent. Detailed figures of the balances accruing during former settlements are not available, but enquiry shows them to have been inconsiderable.

32. The regular settlement carried out by Major Powlett with the assistance of Captain Abbott, who was for a time (April 1874 to December 1875 when Major Powlett held the office of Political Agent) in independent charge, at a cost of Rs. 3,10,000 was introduced in all tahsils from 1st September 1876. For the whole state the initial demand was Rs. 19,59,185, rising to Rs. 20,19,777 in the 12th year, as compared with Rs. 17,76,569, the demand for the last year of the ten years' settlement and Rs. 19,06,426 during the summary settlement. Owing to lapse of some estates and grant of others revenue free, the above figures are not a quite accurate basis for comparison. In the Administration Report of 1875-76 Major Cadell writes that the new demand on the villages which have come under both settlements show an increase of $11\frac{1}{2}$ rising to 15 per cent., to justify which there was an increase of 24 per cent. in cultivation, 14 per cent. in masonry wells and 55 per cent. in ploughs.

Of the four tahsils under consideration Ramgarh and Lachmangarh were inspected and assessed by Major Powlett in person, Kishangarh and Govindgarh by Superintendents Ram Gopal and Hira Lal respectively, Major Powlett exercising a close supervision over the work. The *Jama Wasil Baqi* statement (No. 3) shows the changes in assessment from year to year, but it may be convenient to explain them briefly here, reconciling the figures with those given on page 189 of the Alwar Gazetteer.

ITEMS.		KISHANGARH.	RAMGARH.	GOVINDGARH.	LACHMANGARH.
		Rs.	Rs.	Rs.	Rs.
Initial demand		1,03,145	1,81,947	80,912	1,80,116
Final demand (adding progressive jamae)		1,28,043	1,80,437	90,112	* 14,820 jaidad, 1,62,651 † 14,820 jaidad.
		Rs.	Rs.	Rs.	Rs.
INCREASE DUE TO.	1. Lapsed mafi villages (3)	(a) 15,500	(f) 8,375	...	(k) 400
	2. Transfer of villages	...	(e) 4,700	(h) 1,575	1,264
	3. Lapsed mafi plots	77	1,206	728	...
	4. State lands assessed	(b) 150	(g) 500	...	...
	5. Lands excluded from assessment at settlement	195	...	...	...
	6. Alluvial	(c) 536	...	...	...
	7. Exchange between villages	334	...	...	...
	8. Increase on settlement jama owing to khim.	...	29	...	...
	9. Fixed water advantage rate imposed	...	...	...	(n) 300
	Total increase	17,792	14,810	2,303	1,564
DECREASE DUE TO.	1. Grant of village in mafi	...	...	...	(l) 1,848
	2. Transfer of villages	...	...	(e) 4,700	...
	3. Grant of mafi plots	...	...	11,187	...
	4. Errors in assessment of mafis, etc.	...	12	117	18
	5. Deluvial	(c) 1,963	...	...	...
	6. Exchange between villages	266	...	...	...
	7. Reduction for over assessment	(d) 806	(h) 50	...	(m) 3,718
	8. Acquisition of land by State	221	102	...	107
Total decrease		3,256	164	16,004	5,691
Net	Increase	14,536	14,646	...	...
	Decrease	...	...	13,701	3,727
Demand of 1896 97		2,13,181	2,03,083	76,411	1,58,934 khalsa. 14,850 jaidad.
GRAND TOTAL		...	...	...	1,73,754

(d) to Ramgarh and (h) to Bharthpur State.

The explanation of the larger sums are :—

- (a) Three estates—Harsauli, Sheikhpur and Khoha—became khalsa from jaidad in 1876-77.
- (b) State Rund given up to Ghasauli and Khanpur and assessed.
- (c) Reduction of Rs. 1,963 given for sanding caused by the Rasgan nala and a tributary of the Sahibi in nine estates, of which Rs. 536 reimposed in three.
- (d) Reduction in three villages Khairthal Rs. 441, Islamnagar Rs. 300, Jhorjhila Rs. 65.
- (e) Chirwai (Rs. 3,200) and Jadauli (Rs. 1,500), transferred from Govindgarh to Ramgarh.
- (f) Onthwal (Rs. 3,600), Chaumu (Rs. 4,300), Kharkhari (Rs. 475) resumed.
- (g) Manglishpura granted from Rund Jadauli at (Rs. 500) fixed assessment.
- (h) Favourable assessment to Thakurs of Bamankhera.
- (i) Pipal Khara Khurd transferred from Lachmangarh to Govindgarh.
- (j) Five estates transferred to Bharthpur by exchange.
- (k) Antapura jagir resumed.
- (l) Pipalkhera (1,575) transferred to Govindgarh and Gathwari to Rajgarh.
- (m) Rs. 3,000 reduced in Manjpur and Rs. 700 in Harsana from 1885.
- (n) A fixed assessment was imposed on the *dahri* lands of Lachmangarh instead of a fluctuating bigah rate.

The progressive enhancement amounted to Rs. 5,500 in Kishengarh, Rs. 4,590 in Ramgarh, where it was taken in twenty estates. Rs. 200 only in Govindgarh in one estate, and Rs. 3,545 in seventeen estates in Lachmangarh.

33. Major Powlett's final report of the settlement was contained in a letter dated 9th February 1877 to the Political Agent. This is not complete in itself, and cannot be properly understood without reference to his earlier reports in which fuller details are given, *viz.*:—

- (1) Letter of 25th March 1874, giving an account of the methods of survey and the progress made.
- (2) Letter No. 258, dated 12th May 1875, in which the principles of assessment and the procedure followed are discussed.
- (3) Letter No. 13, dated 24th February 1876, in which a brief account of each tahsil and the financial results is given.

It is a pity that no comprehensive account of a work carried out with such local knowledge and soundness was submitted and the omission was commented upon in the Agent to the Governor-General's letter No. 1111, dated the 21st April, 1877, as follows :—

"A large portion of this report is merely transcribed from a letter No. 258, dated the 12th May 1875, sent up by Major Powlett nearly two years ago, and the additions now made to that letter are not very important. The appendices do not include some of the returns and appendices which are essential for showing the precise incidence of a new assessment and the report itself does not explain several points which are material for understanding the general effect of a new assessment, and the considerable changes made upon the system which preceded it.

"However although these papers do not of themselves provide material sufficient for forming a general opinion upon the results of Major Powlett's work for the last four years, yet I have no doubt that you are right in considering them very creditable to him, and in accepting the settlement as practically good and sound."

From the letter quoted the following account of Major Powlett's method is summarised.

34. The State share was generally assumed to be two-thirds of the net assets (i.e., of what the landlord could get from a tenant) which was the share formerly taken in the North-West Provinces; where more than two-thirds was already paid

Standard of assessment by Major Powlett.

without difficulty, reduction was not allowed unless the revenue exceeded three-fourths, and in some special cases more than three-fourths was taken provided that a substantial reduction was given on what had long been paid.

35. This relatively high standard is justified by the fact (1) that the pargana revenue crop rates, which prevailed before Major Impey's settlements, show that the

His justification of it.

State revenue was then intended to be the whole rental, *minus* an allowance of 2 to 5 per cent. to the lambardar's for collection, and even level waste land had to pay 5 to 10 annas per acre, (2) that the assessment based on this standard does not exceed one-fourth of the gross produce and one-fourth was formerly regarded as a favourable rate to be paid by Thakurs. Jagirdars frequently take one-third.

(3) Prior to Captain Impey's settlements jagir villages were always better off than khalsa, the resumption of a jagir was regarded as a calamity by the zamindars, whereas khalsa villages were now prosperous and contented as compared with jagir. The assessment of jagir villages on the same principle as khalsa would lead to discontent among the whole body of jagirdars (as in the Punjab) who had usurped proprietary rights, while undue generosity to khalsa ryots might lead to an uprising of the jagir ryots against their masters.

(4) Tenderness for the ryots is regarded by officials of Native States as an amiable but pernicious weakness, and generosity towards them a wanton surrender of State interests. If the assessment were made light, there would be a disposition on the part of the Darbar to disregard it when the Agency is removed, or to be doubly hard on the ryots after its expiry.

36. So far as to the standard of assessment. It is clear that Major Powlett was by no means disposed to be lenient in assessing. Now as to the methods by

Methods of assessment.

which he arrived at that standard.

The preliminary survey give details of soil *chahi*, *dahri*, *barani*, culturable, etc. The fields on the village map were then marked off into blocks each in a ring fence by the Superintendent or Settlement Officer to show the natural classification into *chiknot*, *mattiyar* and *bhur*, and the khasras completed accordingly. These classifications were tested, and actual or theoretical rent rates ascertained for each, either by actual enquiry in the village or, as there was generally a conspiracy to conceal rents, by comparison with—

(a) adjoining jagir villages,

(b) mafi holdings,

(c) villages managed kham,

(d) all round rent rates in highly assessed villages which practically represented the letting value of the worst land.

Another test applied was that of the old pargana cash rates on different crops, which were supposed also to represent the total rental.

(2) Pargana crop rates.

In many villages (see Ramgarh, Alwar, Lachmangarh note books), an attempt was made to calculate the total produce for the year of settlement and its

(3) Produce estimate.

value at the average price current of the last ten years (page 98, Gazetteer). The assessment imposed was generally about one-fourth of the valuation.

The results of these enquires were collected in the village assessment paper, and, after inspecting the estate, the assessing officer after comparing them noted the jama he considered proper having reference to the two-thirds net assets standard. This, if not arrived at by the Settlement Officer himself, was checked by him. When the jamas of a whole tahsil had thus been arrived at, they were announced and time allowed for appeals or objections. If such were preferred, the Settlement Officer, if necessary, revisited the estate, studied the reports of the Superintendent or reviewed his own, making alterations where necessary.

As a final precaution all village assessments were reviewed with the tahsildars and local kanungos, and slight modifications made in deference to their opinions.

(4) Tahsildars and kanungos consulted.

Account was also taken of the profits of the waste—tanks, fruits, trees, etc.—but the waste generally consists of rocky hills rarely valued as high as $1\frac{1}{2}$ annas per bigah. If the area was small, it was left out of consideration.

(5) Miscellaneous assets.

Rajput estates were rarely assessed above half assets. Those who established claims to hold land on payment of *chauth-bat* ($\frac{1}{4}$ th the produce) were given a remission of 4 annas per rupee, though a full assessment would not exceed one-fourth.

(6) Favourable assessment.

37. The pitch of assessment in proportion to the net assets (nikasi), the rate per cultivated bigha, and the percentage of increase on the ten years' and summary settlements are shown for each tahsil as then constituted below:—

Tahsil.	10 years' settlement	Net assets	Assessment.		Proportion to net asset.		Increase or decrease per cent on 10 years' settlement.		Increase or decrease on summary settlement	Rate per bigha.	
			Initial.	Final.	Initial.	Final.	Initial.	Final.		Initial.	Final.
	Rs.	Rs.	Rs.		%	%				Rs A P.	Rs A P.
Kishangarh	1,73,687	3,01,322	1,93,145	1,98,649	64	66	+11.2	+14.4	+6.1	1 7 1	1 7 9
Ramgarh	1,67,355	2,70,701	1,83,857	1,88,437	68	70	+9.19	+12.6	+6.8	1 13 7	1 14 4
Gobindgarh	1,00,209	1,11,607	89,912	90,112	80	80	—10	—10	—10	1 15 6	1 15 7
Lachmangarh	1,42,410	2,22,287	1,59,916	1,62,661	72	73.5	+11.1	+14.2	+7	1 8 4	1 8 10
TOTAL	5,93,561	9,05,817	6,26,820	6,39,855	69	70.5	7.3	9.5	...	...	...

To justify the increase taken in these tahsils there was the following increase in wells and cultivation as compared with the ten year settlement.

Tahsil.	Wells.	Cultivation.
Kishangarh	10 per cent. ...	Nil.
Ramgarh	13 „ ...	29
Gobindgarh	5 „ ...	16
Lachmangarh	5 „ ...	27

It will be seen that, as compared with the net assets, the final assessment was lowest in Kishangarh—66 per cent., while it exceeded the two-thirds standard considerably in Gobindgarh, where 80 per cent. or four-fifths were taken; slightly in Ramgarh—70 per cent.; and appreciably in Lachmangarh, where 73.5 or nearly three-fourths were taken.

Reviewing the figures in the light of the revenue history of the last twenty-two years and the experience now gained, my own opinion and that of the Superintendent is that Kishangarh and Gobindgarh were assessed comparatively lightly, Ramgarh fully and Lachmangarh highly. Major Powlett's reasons for reducing the ten years' assessment by 10 per cent. in Gobindgarh, notwithstanding the increase of 5 per cent. in wells and 15 per cent. in cultivation, were thus recorded by him:—

“Formerly this pargana was irrigated by the waters of the Ruparel brought into it by the Hazari band. Though the tahsil has not been so irrigated since Sambat 1894 (A. D. 1838) the high revenue rate which formerly prevailed has been more or less upheld, and the consequence is that the pargana is in a very distressed state. Large remissions were necessary and have been made. The Jama in some villages was so high that it was

marvellous how the people paid it at all and I have given substantial reduction, notwithstanding that I have not reduced the existing jama unless it was more, than, 75 per cent. of the *nikasi*. I have twice made tours in this pargana and am of opinion that the reductions have certainly not been too great."

In these remarks I do not think sufficient allowance was made for the great natural fertility of the Gobindgarh soil (due in part to its having been formerly flooded), and to the indirect influence of the Ruparel which makes the water so near the surface and abundant that *dheras* and *dhenklis* can be sunk almost everywhere in circle I in dry years.

38. The surest test of the assessments is however to be found in their subsequent working, and this will now be considered. It may be noted here that the Government of India's letter of 5th January 1897, dealing with Major Jennings' preliminary report, specially refers to this point in the following words: "but it is a mistake to suppose that because Captain Powlett's rates were paid with ease in 1892-93, therefore the assessment was on the whole moderate when first imposed. This fact only shows that the demand is moderate now, and Mr. Colvin should accordingly ascertain, if possible, how the assessment worked from the first."

The new assessments received a bad start. The kharif of 1876 in which they were introduced was a dry season, and though partly redeemed by late rains was below the average. The rabi of 1877 was calculated to be an eighth below the average. Stocks were however plentiful, prices moderate and falling, *vis.*—

Wheat	...	...	...	...	25 seers per rupee.
Barley	...	...	...	...	34 "
Jawar	...	...	...	...	35 "
Gram	...	...	...	...	38 "

and the revenue appears to have been collected almost in full without serious difficulty, the Political Agent recording in his annual report that "Major Powlett has made a really good practical settlement fair alike to the Darbar and the people."

39. The following year 1877-78 (Sambat 1934) was marked by perhaps the most severe famine that ever devastated Rajputana and the South Punjab.

It was most severely felt in the Mewat embracing these tahsils, where the failure of rains was greatest. There were occasional showers in May and June, but not sufficient for sowing. With the exception of 7 cents at Alwar on 5th July, not another drop of rain fell till 21st August when 53 cents were registered. The autumn crop failed almost completely, Major Cadell estimating the outturn as only 200,000 maunds or only one-fifteenth of the normal yield—30,00,000 maunds; and though the failure of the rabi which is largely sown on wells was not so wholesale, the yield was estimated at only 3,00,000, maunds or one-fourth of the normal, 1,200,000 maunds. Thus the State produced only 500,000 maunds to feed a population of 800,000, for which calculating the consumption as low as $4\frac{1}{2}$ maunds per head per annum 3,600,000 maunds were required. The deficiency could not be made good by import as nearly all the neighbouring States prohibited the export of grain, and, though the banias held considerable stocks, they appear to have behaved badly throughout, and to have refused accommodation to any but their oldest and safest clients.

The condition of the cattle was even worse. Owing to the failure of grass and fodder, the *nim* and *kikar* trees were shorn of their branches to feed the cattle but this resource was soon exhausted and the cattle began to die in hundreds.

By the end of July a general panic set in among the agricultural community, especially the Meos, who began to desert their homesteads in thousands. Major Cadell writing on 24th September 1877 notes that the eastern tahsils had suffered most and that—

"The people seem to be making preparations for an almost general exodus. Numbers are bringing in their household goods to the city for sale, their beds, spinning wheels, cooking utensils, the doors, rafters and thatch of their houses, even their ploughs and bullock yokes. They were commencing to cut down and sell all the village trees (they