

PROGRESS REPORT OF THE DECCAN REVENUE SURVEY
FOR THE YEAR ENDING 31st OCTOBER 1896.

No. 164 of 1897.

*Deputy Superintendent's Office,
Násik District,
Camp Saundána, 23rd February 1897.*

Changes and Promotions.

The control of the Deccan Revenue Survey was under Mr. W. S. Turnbull, Superintendent, up to the date of his retirement, since which it has been in charge of Mr. A. B. Fforde as Deputy Superintendent. The only change that has taken place in the subordinate supervision staff is the appointment of a Survey Mámlatdár to replace one reverted to the Revenue Department.

2. Mr. W. S. Turnbull, Superintendent, Deccan Revenue Survey, having had permission to retire from Government service, as per Government Resolution quoted in the margin, delivered over charge of the Deccan Revenue Survey on the 18th February 1896, in the afternoon, and, having availed himself of three days' subsidiary leave, retired on the 22nd idem.

Government Resolution No. 1450, dated 17th February 1896.

3. Mr. A. B. Fforde, Assistant Settlement Officer, was transferred from the Gujarát to the Deccan Revenue Survey by Government Resolution quoted in the margin, and he joined this Survey on the 19th January 1896, in the afternoon, and assumed charge of the Deccan Revenue Survey on the 18th February 1896, in the afternoon. Under Government Resolution quoted in the margin, he was appointed as Deputy Superintendent, Deccan Revenue Survey, from the date of Mr. W. S. Turnbull's retirement.

Government Resolution No. 405, dated 14th January 1896.

Government Resolution No. 2653, dated the 26th March 1896.

4. Mr. Jacob Bápuji, Survey Mámlatdár, Deccan Revenue Survey, relinquished charge of his duties in this Survey on the 9th November 1895, in the afternoon, and having availed himself of the privilege leave granted him under the sanction of the Survey Commissioner and Director, Land Records and Agriculture, noted in the margin, joined his appointment as Chitnis to the Collector of Sátára on the 5th December 1895, in the afternoon.

Memorandum No. ⁸/₂₀₉₃ dated 8th November 1895.

5. Mr. Purushotam Bápuji Phadke, District Inspector, Land Records and Agriculture, Ahmednagar, having been appointed as Survey Mámlatdár, Deccan Revenue Survey, to replace Mr. Jacob Bápuji, joined this Survey on the 9th December 1895, in the forenoon, and was placed in charge of the A Establishment.

6. Mr. E. Maconochie, Survey Settlement Officer, Deccan Revenue Survey, was appointed Deputy Superintendent, Gujarát Revenue Survey, by Government Resolution noted in the margin and received charge of that Survey on the 9th April 1896, in the afternoon, in addition to his duties as Survey Settlement Officer, Deccan Revenue Survey. Of the talukas the writing of settlement reports of which were entrusted to him, Nandurbár has been completely disposed of during the year. As regards Taloda and Dhulia, the work of drawing up settlement schemes has been partially completed; the revision scheme of Taloda and that of Dhulia, exclusive of Pátasthal rates, were submitted during the year.

Government Resolution No. 2683, dated 26th March 1896.

Strength of the Survey and duration of the Working Season.

7. As last year, two establishments have been employed during the year under report. They consist of an average strength of 45 men for field work in all—3 men more than in the preceding year. The increase in the average strength is due to the transfer of 5 measurers from the Konkan Survey. One of them resigned his post some time after he joined this Survey. Four others were on the staff for nearly four months, but subsequently, as soon as it was found that their services were no longer required in this Survey, they were allowed leave without pay under sanction of the Survey Commissioner and Director, Land Records and Agriculture, till they were eventually retaken on the staff of the

Konkan Revenue Survey, two in the month of July 1896 and two in August 1896.

Letter of Establishment.	Measurers.	Classers.
A ... {	20	2
...	23	...
B ... {	15	5
...	13	9
Total... {	35	7
...	36	9

N. B.—The upper line of figures refers to the preceding year.

The distribution of the average strength between the establishments is shown in the margin. The increase in the measurers' staff over the figures of the last year is in consequence of the fact above mentioned, while that in classers is due to more measurers having been temporarily detailed to classification work with a view to finish off the Bágán Táluka before the close of the field season. In the beginning of the year the actual strength of the Deccan Survey is 38 measurers and 5 classers. Of the measurers, one absented himself from work without orders and his name was struck off the roll in January 1896, and one was withdrawn from his proper work of measurement owing to his frequent absence on account of illness and was sent on reduced pay to work in the Head-quarter Office in October 1896. The two field establishments composed the linked parties under the supervision of Mr. H. L. Holland, Assistant Settlement Officer.

8. The field season of both the establishments was begun on the 1st November 1895; and the field work was closed on the 31st May 1896 in the case of A Establishment, and on the 5th June 1896 in the case of B Establishment as sanctioned by the Survey Commissioner and Director, Land Records and Agriculture, in his memorandum No. ^{S.}₁₁₈₆, dated 13th May 1896.

Measuring Operations.

9. Of the two establishments mentioned above one was a mixed establishment of measurers and classers. In the beginning of the season almost the whole staff of measurers was employed on the revision measurement of the Bágán Táluka, a measurer or two having been deputed to finish off the original measurement of a lapsed village in the Purandhar and Kopergaon Tálukas respectively. Towards the end of March 1896 all the measurers were moved into the Kalwan Táluka as soon as they had finished the villages in Bágán to which they were previously appointed. The work in Kalwan was revision measurement, and the men worked there till the close of the season. Towards the end of May 1896 two measurers were withdrawn from the villages in Kalwan and sent to measure off a single village in Peint and a portion of one in Málegaon Táluka.

10. The following table is a précis of Appendix I and contrasts the work of the season under report with that of the preceding year under heads of different establishments:—

Establishment.	Average number of men.	Name of Supervising Officer.	Name of Officer in immediate charge.	Measured.			Average cost per Acre.
				Fields.	Wahas.	Acres.	
1	2	3	4	5	6	7	8
A {	20.68	Mr. H. L. Holland, Assistant Settlement Officer.	{ Mr. P. B. Phadke, Survey Mámldár. }	7,548	54,514	93,071	Rs. a. p. 0 3 3
	22.89			9,481	56,193	148,339	0 2 0
B {	14.76		{ Mr. Bápuji Bháskar, Head Surveyor. }	4,959	40,426	63,925	0 3 4
	18.0			7,481	49,751	97,823	0 1 8
	35.02		Total for 1894-95 ...	12,507	94,940	156,996	0 3 3
	35.89		Do. 1895-96 ...	16,962	105,944	246,162	0 1 11
	0.87		Increase ...	4,455	11,004	89,166	...
	...		Decrease ...	...	...	...	0 1 4

N.B.—The upper line of figures refers to the preceding year.

11. The year's outturn shows a considerable increase, numbers have increased by 35 per cent., waslas by 11 per cent., and area by 57 per cent. The increase in waslas is slightly less, and this is mostly due to a larger proportion of the work done this year consisting of straight-sided numbers. The results just noted to be in favour of the year under report, especially the outturn of area, are

	1894-95.	1895-96.
Revision ...	114,230	218,136
Original ...	42,766	28,026
Total ...	156,996	246,162

in no way due to the proportion of the year devoted to field-work, which is the same as last year but to the use of the partial system, resulting in a larger outturn than in the previous season, as will be seen from the details of distribution of the area given in the margin. A part of this is also attributable to a slight increase in the strength of measurers. The decrease in cost per acre is obviously due to the larger area over which the expenditure is distributed.

12. The A Establishment began the field season in the Bág-lán Táluka, where the work was partial re-measurement. About the middle of March 1896 the men were moved into the Kalwan Táluka, where they worked till the end of the season. The villages in Kalwan to which the men were posted form a compact group of 7 villages lying beyond the Surgána Dángs. The work done in them was according to original measurement and with the assistance of two measurers from the B Establishment the villages have been entirely completed. Forty-nine villages of Bág-lán Táluka were also finished during the season. At the commencement of the year the establishment was under the charge of Mr. Jacob Bápuji, Survey Mám-latdár, Deccan Revenue Survey, who did not join his men in the field but, under orders from the Survey Commissioner and Director, Land Records and Agriculture, he availed himself of the privilege leave from the 10th November 1895 to the 5th December 1895, inclusive. Meanwhile orders regarding his reversion to the Revenue Department were received, and on the last date mentioned he joined his appointment as Chitnis to the Collector of Sátára. During his absence the establishment was in charge of Mr. Bápuji Bháskar, Head Surveyor, who was away from the scene of operations, as explained in the review of his testing work in paragraph 24 below. A Nímtandár was therefore appointed for purposes of testing, and he continued for a month after Mr. Purushotam Bápuji Phadke was placed in charge of the establishment on his appointment as Survey Mám-latdár. Mr. Phadke's experience as District Inspector in the Land Records and Agricultural Department had already made him acquainted with details of measurement, and this dispensed with the necessity of appointing a Nímtandár for a longer period. During the short time the Nímtandár was with the Survey Mám-latdár he learnt the system of testing. There is a large increase in outturn under all heads, which is due to increase in strength, but chiefly, as stated above, to more work being done this year on the partial system. To this latter cause the abnormal increase under the head of "Boundary-mark Inspection" is to be attributed, as under this system old numbers are confirmed without re-measurement, the boundary-marks only being inspected, verified and repaired, or missing marks re-erected. The classification work done by the measurers of this establishment was of mál lands in Kalwan to the extent of 470 Nos. and 18,392 acres. This work having been done concurrently with the measurement work has not been returned in the classification details. With the exception of days lost under "Sickness" the distribution of working and non-working days compares favourably with the returns of the previous year. The southern half of the Bág-lán Táluka on the Kalwan side was given to the A Establishment and the work proceeded westwards, but when the villages lying to the extreme west were commenced, most of the men suffered from malarial fever, and 9 men were on sick leave and did not return to work in the district. Of the remaining staff subsequently employed in the Kalwan villages, 2 men suffered in health, and the days lost to work were no less than 15 for each. This accounts for the heavy loss of time under "Sickness." The cost per acre has decreased from Re. 0-3-3 to 2 annas in consequence of the larger area dealt with this year. Mr. Phadke is an energetic officer and has done well in the management of his establishment.

13. The B Establishment was under the immediate supervision of Mr. Bápui Bhásker, Head Surveyor, throughout the year. The establishment consists of two sections, measuring and classing. The review of the latter will be made further on under classification. At the commencement of the season the Head Surveyor employed his measurers on partial re-measurement work in Báglán Táluka. Five measurers were deputed to complete the original measurement of the Vinchurkar's lapsed village in the Purandhar and Kopargaon talukas respectively. These villages were completed in January 1896 and all the measurers posted to them returned to the establishment working in Báglán. At the end of March 1896 the Báglán Táluka was entirely finished as regards measurements by the men of this and in the A Establishment. All the measurers were then moved into the Kalvan Táluka, where they worked on partial re-measurement till the close of the season. At the end of May 1896 two measurers of the staff were sent to measure off a single village in Peint as well as Government lands included in one alienated village in the Málegaon Táluka. The work in Peint was original survey and that in Málegaon revision. These were completed during the year. Villages in Báglán and Kalvan completed by the establishment during the season were 29 and 13 respectively, together with Government lands included in 18 alienated villages situated in the taluka first named. The strength of the establishment has decreased by two men as compared with the returns of the last year, and this is mainly due to a few measurers having been detailed to classification work. Notwithstanding this, the year's outturn is much larger under all heads. The chief reason of the increase is the larger amount of work done on the partial system, which also accounts for the numerous days spent in boundary-mark inspection during the year. The distribution of working and non-working days is satisfactory. The Head Surveyor was also given the assistance of a Nimtandár, but only for testing measurement. The cost per acre has decreased from: Re. 0-3-4 to Re. 0-1-8 owing to the much larger area got over this year.

14. The following table shows the percentage distribution of working and non-working days for the whole of the measuring branch of this Survey for the year under report contrasted with the figures of the previous year:—

	1894-95.	1895-96.
<i>Working days.</i>		
Measuring	39·76	25·47
Boundary-mark inspection	22·68	35·80
Measurement of boundary disputes, &c. ...	3·39	4·92
In-door work	6·64	3·14
Total ...	72·47	69·33
<i>Non-working days.</i>		
Sickness	7·57	12·29
Villagers not co-operating	1·78	2·17
Rain	0·08	0·22
Travelling	7·94	7·14
Leave and holidays	10·16	8·85
Total ...	27·53	30·67

It will be seen from the above figures that there is a decrease of 3·14 per cent. in the working days. The corresponding increase in the non-working days is under the head of "Sickness" only, and it has been sufficiently accounted for in the review of establishments.

Test of Measurement.

15. The test of measurement under all heads taken in each establishment by the European and Native officers, either in supervising or immediate charges, or both, as well as percentages, are given in detail in the subjoined statement:—

Establishment.	Name of Officer.	Fields.	Waslas.	Acres.	Average Waslas per Field.	Average Acres per Field.	Average difference between original measurement and test per cent.	PERCENTAGES OF TEST.		
								Fields.	Waslas.	Acres.
1	2	3	4	5	6	7	8	9	10	11
<i>Ordinary Test.</i>								On work done by the Establishment.		
A ...								A. g.		
Mr. H. L. Holland, Assistant Settlement Officer ...								2.4	2.2	2.7
Mr. P. B. Phadke, Survey Māmlatdār ...								8.2	7.8	8.7
Mr. Shivrām Bābji, Nīmtāndār ...								2.4	2.3	1.8
Total ...								13.0	12.3	13.2
B ...										
Mr. H. L. Holland, Assistant Settlement Officer ...								2.7	2.0	3.1
Mr. Bāpuji Bhāskar, Head Surveyor ...								2.0	2.2	3.0
Mr. Shivrām Bābji, Nīmtāndār ...								5.0	2.5	4.7
Total ...								10.6	6.7	10.8
Grand Total ...								11.0	9.6	12.8
<i>Superior Test.</i>								On work done by the Survey Māmlatdār or Head Surveyor.		
A ...										
Mr. H. L. Holland, Assistant Settlement Officer ...								17.6	18.7	22.2
B ...										
Ditto ...								35.7	44.9	47.2

The ordinary as well as superior test taken by Mr. Holland is confined to the Bāglān Tāluka only; so is the test taken by Mr. Bāpuji Bhāskar, Head Surveyor, and by the Nīmtāndār attached to the A Establishment. The test of the Survey Māmlatdār as well as of the Nīmtāndār attached to the B Establishment concerns Bāglān and Kalvan Tālukas. As explained in the review of the classification test in paragraph 24 below, Mr. Holland and Mr. Bāpuji Bhāskar were engaged in the beginning of the year in clearing off arrears of classification test. Early in January 1896 Mr. Holland joined the establishments in Bāglān Tāluka and remained there till the end of the season. During the time he was required to take tests for the Head Surveyor in order to make up the deficiency of test in the B Establishment, Mr. Holland directly tested the work of the men in both the establishments as well as the work of the officers in immediate charges, including the Nīmtāndār attached to A, and the amounts shown are ample.

In November 1895 a Nīmtāndār was appointed to take tests in the A Establishment and he tested the work done by the men in Bāglān Tāluka only. When the men in the A Establishment were moved into the Kalvan Tāluka he was transferred to the B Establishment to aid the Head Surveyor in measurement test. As soon as Mr. Phadke joined this Survey and after learning the method of testing, he began testing independently in February 1896. At first the test during the month appeared somewhat excessive, but it was found that it included the test of the work done in previous months, to make up arrears. Early in April 1896 he proceeded to Kalvan villages and remained there till the end of the season. The amount of the test taken in this establishment of the work done in each of the two tālukas mentioned is quite up to the mark, and on the whole quite satisfactory. The villages left in this establishment untested at the end of the season are returned as two, both in Bāglān; but during their measurement they were ascertained to be absorbed into forest, the lands comprised in each being made into one block number only. This obviously dispensed with the necessity of taking measurement test, and left that of the boundary-marks inspection only, which was completed.

Early in December 1895 Mr. Bāpuji Bhāskar proceeded to Bāglān Tāluka and continued testing the work of the measurers and subsequently of the classers in the north-east of the tāluka. As soon as he received the assistance of a Nīmtāndār, as stated above, he devoted himself to classification tests and other similar details, such as the test of the numbers to which well position and Galwat classes had been applied, personal inspection of the bandhāras and supplementing the record of each for Pātasthal purposes. This hardly left the Head Surveyor any time or opportunity to attend properly to the test in the

measuring section that had already been taken in hand in the Bāglān Tāluka or was in progress in Kalvan. The scattered villages in Purandhar, Kopergaon and Peint being at a distance from the scene of operations were left untested unavoidably at the end of the season, as was the one village in Bāglān Tāluka. It was first allotted to the Nimtāndār for test, but he fell ill before completing it. On his recovery he was posted to Kalvan villages for similar purpose, leaving the village in question to be tested by Mr. Holland. It was not tested by that officer as he could not move his camp to the village owing to press of examination of village Akārbands for settlement and other pending testing work. It may be mentioned that these arrears, with those which stood over from previous years, are being cleared off during the current season. In the circumstances the amount taken in this establishment is sufficient.

16. In Appendix II are shown in detail the differences which occurred in individual fields between the original area recorded by the measurer and that ascertained at test. Out of a total number of 432 fields tested the difference in 410 or 95 per cent. was within 3 per cent. Of the 22 cases in which the difference exceeded 3 per cent., there was only one field in which the highest percentage of error found was 15 per cent., and no errors above that percentage were found. This speaks well for the quality of the original work. The highest percentage of error referred to was due to gross carelessness on the part of the revision measurer which was promptly checked. Other differences which range below that percentage but above 3 per cent., do not indicate loose work; they are more or less due to the minute size of the fields as well as to the difficult or broken nature of the ground in hilly country. Every case of material difference between the original and test areas has been carefully enquired into, and the cause of error distinctly ascertained. In every case it is first determined whether the mistake found is an isolated one or whether the general accuracy of the measurement is so doubtful as to prevent the measurer's work being confirmed. In the former the work is allowed to stand, while in the latter it is cancelled and done over again.

17. The subjoined statement shows the amount of boundary-mark inspection test carried out in each establishment during the year under report with the figures of the previous year:—

Establishment.	Name of Supervising Officer.	Name of Officer in immediate charge.	Fields.	Acres.
1	2	3	4	5
A } B }	Mr. H. L. Holland, Assistant Settlement Officer.	Mr. P. B. Phadke, Survey {	1,100	10,206
		Mámlatdār... .. }	974	9,286
		Mr. Bápuji Bháskar, Head {	664	6,992
		Surveyor }	713	4,978
		Total ... {	1,764	17,198
			1,687	14,264

N.B.—The upper line of figures refers to the preceding year.

The test detailed above concerns the unmeasured or confirmed numbers as well as to the numbers actually measured, and is in excess of the usual test of boundary-marks in survey numbers otherwise tested and reported on in paragraph 15 above. It includes the independent test taken by Mr. H. L. Holland as supervising officer, as well as that taken by the Nimtāndār during the period he was employed in each of the establishments. The amount of test shown for the year under report is somewhat less than that of the preceding year, although more partial remeasurement work was dealt with this year, and this is chiefly due to a few villages remaining untested at the close of the season as explained in the aforesaid paragraph.

18. Appendix III gives details regarding the erection and inspection of boundary-marks and preparation and submission of boundary-marks accounts. It will be seen that boundary-marks were erected and inspected in all the villages measured this year with the exception of one village in which the marks were not erected in time to allow of inspection being made before the burst of the monsoon. A further examination of the marks was not, therefore, possible in this village. It was also left unfinished in seven others. Of these latter, 2 are absorbed into forest and their examination of boundary-marks only was therefore completed as no test is required of the measurement work done in such villages as explained in paragraph 15 above. Of the remaining 5 villages, 4 are the villages which remained untested at the close of the year, while in the 5th marks erected by the employment of hired labour were inspected; but a further inspection has to be made in it by the supervising officer which could not have been effected before the monsoon. Pending this re-inspection boundary-marks accounts of that village remained to be furnished to the Superintendent before the close of the year. In addition to this there is another village in which the accounts were also incomplete, because some of the marks erected by the contractor were not up to the size required by the revision rules. This was elicited at the further examination made by the supervising officer, and marks of the prescribed size could not be erected, so as to allow of the further inspection being done by the Survey Department before the advent of the monsoon.

The boundary-marks were put up by the villagers themselves in 94 villages and had to be erected by hired labour in 7 only, for which all boundary-marks accounts were completed and sent in to the Superintendent before the close of the year with the exception of two villages noted above.

19. The monsoon examination of the field season's work was completed as regards maps and records in all the 101 villages of which the measurement was entirely finished during the year.

Appendix IV.—Monsoon work.

Classification.

20. Throughout the field season the whole staff of classers was employed in the Bágán Táluka on revision classification. A few classers out of the staff were also deputed to finish off the Vinchurkar's lapsed villages in Khed, Purandhar and Kopargaon Tálukas and the village in Peint lately lapsed to Government, both at the commencement and at the end of the season. The subjoined statement, which is a précis of Appendix V, contrasts the classification work done during the year under report with that of the previous season:—

Establishment.	Average strength.	Name of Supervising Officer.	Name of Officer in immediate charge.	Fields.	Acres.	Average area per Field.	Average cost per Acre.
1	2	3	4	5	6	7	8
							Rs. a. p.
A {	1-20	Mr. H. L. Holland, Assistant Settlement Officer.	Mr. Bápuji Bhaskar, Head Surveyor.	1,717	24,176	14	0 0 9
	
B {	5-24			2,752	35,965	13	0 1 11
	8-61			26,915	306,779	11	0 0 6
	6-44			Total for 1894-95 .	4,469	60,141	13	0 1 5
8-61	Total for 1895-96 .			26,915	306,779	11	0 0 6
2-17	Increase ...			22,446	246,638	...	...
...	Decrease ...	...	...	2	0 0 11		

N. B.—The upper line of figures refers to the preceding year.

21. The year's outturn shows a result larger in fields and area than that of the previous season. This is to be attributed to the increase in average strength of classers and especially to the fact that the operations of the year under report are of revision survey under the partial system, while those of the previous season were entirely confined to original survey work. The cost per acre has decreased by 11 pies.

22. Mr. Bápuji Bhásker Khatávkar, Head Surveyor, Deccan Revenue Survey, was in charge of the classing section of the B Establishment throughout the year. For the reasons recorded in paragraph 22 of the previous year's progress report of this Survey, all the classers were placed in this establishment under the immediate supervision of the Head Surveyor. In the beginning of the fair season Mr. Bápuji Bhásker employed his classers in Báglán Táluka in partial re-classification. At the same time a few of the staff were sent to dispose of the original classification of the Vinchurkar's lapsed villages, 1 in Khed and 3 in Kopargaon, all of which were measured during the field season of 1893-94, with the exception of one in the latter táluka, which was measured only this year. The classers appointed to these villages returned to the establishment employed in Báglán as soon as the lapsed villages were entirely completed. With a view to finish the Báglán Táluka by the end of the field season, a few measurers were withdrawn from their proper work of measurement and, after instruction, deputed to do the classification work. The district of Báglán was thus completed by the end of the season. The explanation above given sufficiently accounts for the increase in the strength of classers. The villages in the Báglán Táluka classed this year were 106 in all. Of these, 76 comprise those measured this year and the remaining 30 are those of which measurement was completed during the previous seasons, 13 in 1892-93 and 17 in 1894-95. Towards the close of the fair season two classers were deputed to class the Vinchurkar's lapsed village in Purandhar and the village in Peint which lately lapsed to Government. The measurement of these two villages was completed during the year under report. The classification of these villages as well as of certain portions of Government lands included in 18 alienated villages in Báglán Táluka also measured this year was entirely completed. The returns of these portions of villages have been included in the details shown for whole villages. The measurers in A Establishment did some classification work while employed in the westernmost villages lying in a group beyond the Surgána Dángs; but this was of *mál* numbers only and a separate recognition for it has not been given in the details shown in the classing branch as it properly forms part of the measurer's duties and has been included in measurement details. The year's outturn is proportionate to the strength employed as well as to the nature of revision work dealt with. It is on the whole satisfactory. The percentage distribution of working and non-working days is excellent when compared with the last year's returns. The days lost under "Sickness" have considerably decreased, being 6.77 against 15.96 per cent. The high percentage under "Travelling" has remained the same as last year, and this is due to the situation of the work in five different tálukas. The days under "In-door work" have increased by 2.40, but they have not actually been lost to work. The paper work done by the classers in the fair season includes filling in the requisite details in the Pátasthal taktas, especially with regard to Báglán, where the pát irrigation is very extensive. The number of days under "Leave and holidays" is almost the same as in the previous year, but it is still somewhat excessive. This is attributable to two men being absent on leave for about one month each. The cost per acre has decreased by 1 anna and 5 pies.

Mr. Bápuji Bháskar had charge of the measuring as well as classing sections of the B Establishment. The assistance of a Nímtándár was therefore given to aid him in testing work of measurement during the latter part of the season. During the period the Nímtándár was ill for several days, so that he assisted the Head Surveyor for scarcely two months continuously. On the appointment of a Nímtándár subordinate to him, Mr. Bápuji Bháskar directed his sole attention to classification test in Báglán as well as to other important details, especially those of pát irrigation. But at the end of May 1896 the Head Surveyor was also ill and his bad state of health did not allow him to

attend properly to the work in the field. Some test of the establishment work was therefore taken by Mr. Holland to make up the deficiency. Mr. Bápuji Bháskar is a very good and experienced classer, and considering these drawbacks he has creditably carried out his work of testing as well of supervising his men during the year under report.

23. The percentage distribution of working and non-working days for the classing branch of this Survey for the year under report is shown in the following statement in contrast with the figures of the previous year :—

						1894-95.	1895-96.
<i>Working days.</i>							
Field classification	...	...	...	...	...	71.0	66.22
Inspection of boundary-marks, &c.	...	...	...	...	...	1.34	1.18
Accompanying to test measurement work	...	...	...	...	...	3.21	1.92
In-door work	...	...	...	...	...	1.39	4.73
Total						76.94	74.05
<i>Non-working days.</i>							
Sickness	...	...	...	...	...	9.82	6.77
Villagers not co-operating	...	...	...	...	...	0.47	0.43
Rain	...	...	...	...	...	0.0	0.06
Travelling	...	...	...	...	...	7.32	9.56
Leave and holidays...	...	...	...	...	...	5.45	9.13
Total						23.06	25.95

There is, it will be seen, a decrease of nearly 3 per cent. in the working days as compared with the previous year. The total increase under the heads of "Travelling" and "Leave and holidays" is counterbalanced by the decrease under "Sickness" to the extent of 3.05 per cent. The increases under the first two heads mentioned as well as under "In-door work" have been sufficiently accounted for in the review of the establishment in the preceding paragraph.

Test of Classification.

24. The test of classification concerns B Establishment only and it is given in detail in the subjoined statement, together with percentages under every head:—

Estab- lish- ment.	Name of Officer.	Fields.	Acres.	Average Acres per Field.	Average difference in rate between Test and Original Classification.		Percentages of test on work done by the Establishment.	
					Soil.	Water.	Fields.	Acres.
1	2	3	4	5	6	7	8	9
B	Mr. H. L. Holland, Assistant Settlement Officer ...	91	322	4	0 10	...	3.5	2.0
	Mr. Bápuji Bháskar, Head Sur- veyor ...	98	212	2	1 0	0 1	3.8	1.4
	Total ...	189	534	3	0 11	0 1	7.4	3.4

In the beginning of the year Mr. Holland and Mr. Bápuji Bháskar made up the deficiency of classification test which had unavoidably stood over from the previous season in Yeola and Chándor talukas in time for the tests to be included in the progress report of that year. Mr. Holland joined the Establishment in January 1896, and the Head Surveyor early in December 1895. They remained there testing till the end of the season.

No superior test would appear to have been taken by Mr. Holland, because he himself took most of the test for the Head Surveyor. As he was engaged on this work in one end of the táluka, he could not afford time to take a verifying test of the Head Surveyor's work done in another part. There is heavy work entailed by the order which enjoins the personal inspection by the Assistant Superintendent of every bandhára or dam used for purposes of Pátasthal irrigation. Such irrigation in Báglán is very extensive, and both Mr. Holland and Mr. Bápuji Bháskar almost entirely completed the inspection of these bandháras as the

Name of Officer.	Well Position Class.		Gálvat Classes.		Pátasthal Water Classes.	
	No.	Acres.	No.	Acres.	No.	Acres.
Mr. Holland	122	636	7	38	371	587
„ Bápuji Bháskar	134	250	25	85	11	13
Total	256	886	32	123	382	600

testing work progressed and recorded all the necessary particulars with regard to each. This work, which was extremely laborious, together with tests of well position, gálvat and water classes, to the extent specified in the margin, left

the officers but little time or opportunity for a fuller test of soil classification. That the work of testing soil classification might not fall into arrears, Mr. Holland divided it equally between himself and the Head Surveyor. The portion entrusted to the Head Surveyor consisted of the westernmost villages on the Kalvan side. Owing to the pressure in the examination of village ákárbands of pending settlements, Mr. Holland was in arrears, and he, therefore, called

	Villages.
Purandhar	1
Khed	1
Kopargaon	3
Peint	1
	6

on the Head Surveyor to take up the villages remaining unfinished at the time, but he fell ill and was unable to finish their testing before the season closed. The number of such villages is 15. In addition to these there are 6 villages, noted in the margin, which remained untested owing to their being far from the district where the testing officers were employed.

Arrangements have been made to finish the testing of all these villages during the current season. On the whole the test taken in the establishment is, it will be seen, satisfactory.

25. Details of differences between test and original classification annas are given in Appendix VI. 189 fields were tested for soil and in 15 only did the difference exceed 2 annas or one class. Most of these cases are the result of insufficient care in ascertaining the average depth or order of the soil, a few others being only due to the misapplication of the rules. Out of 72 fields tested for water there was no case in which the difference exceeded one class, which is represented by one anna in water classification. All cases in which large errors occurred have been reported in detail and carefully examined and, where necessary, the classification has been revised and corrections made.

26. A reference to Appendix VII shows that the whole of the monsoon examination of the 112 villages classed during the year under report was punctually completed.

27. The progress made in the preparation and distribution of village maps is recorded in Appendix VIII. During the year under report copies of maps of 406 villages, 400 Government and 6 Inám, have been reproduced by photozineography, and the usual number of printed copies of each have been distributed according to the prescribed practice now in force, under which 2 copies of each are kept for the New Record Office, 2 sent to the Survey Department in order that they may be mounted and issued to Táluka and Village officers, and the rest forwarded to the Revenue and Agricultural Department for custody in the District Survey Offices to meet the demands of the several Departments, such as Forest, Irrigation, &c., as well as of petitioners. Of these 406 villages, 345 are the villages of which fair maps were sent in for printing last year. The remaining 61 villages are those out of a total of 104 villages, 88 Government and 16 Inám, of which fair maps have been examined, corrected and sent for reproduction to the Photozineco Office during the year under report. All the printed copies of village maps made over to this Department during the year were mounted and issued to the District and Village officers. It will be seen that several village maps remain to be sent in for reproduction, but they are of villages into which settlements have been introduced before the close of the revenue year and of which the fair maps are at present checked and corrected at

the Head-quarter Office of this Survey, before being sent to be printed, or of villages into which settlements sanctioned by Government remain to be introduced owing to the lease current in them not having expired yet. In such cases, however, and in others in which the villages have been completed as regards measurement, or have been both measured and classed and are thus awaiting settlements, or of which the fair maps prepared and sent for printing have yet to be reproduced, hand-drawn copies have been supplied to Village officers.

28. Details of the work turned out during the year under report by the mapping section retained in this Survey are given below :—

Taluka maps prepared by hand, including those which are subsequently corrected as regards names of villages, &c., and have had to be drawn on a large scale	...	...	4
Village maps on which boundary-marks have been shown, or on which canals, &c., have been plotted	...	...	49
Tracings made of village maps	...	...	8
Maps mounted on cloth, including those received from the Photoincino Office to be sent to the District and Village officers	...	...	410
Village maps corrected before being sent to be printed	...	...	104
Taluka maps coloured for Settlement Report purposes	...	...	12
Presidency map coloured for Progress Report purposes	...	...	1

The total cost of this office was Rs. 1,241-4-0 against Rs. 1,283-4-0 last year.

The work of this office is now limited to the survey records not yet transferred to the Land Records and Agricultural Department. As regards the survey records already made over or shortly to be made over to that Department, incidents for village maps from the Forest and other Departments, as well as demands for the same from the petitioners, are either transferred or returned for submission to that Department.

29. The total cost incurred by the Deccan Survey during the year under report is shown in Appendix IX under the several heads of expenditure and compared with that of the previous years. There is on the whole a decrease of Rs. 3,190 in the year's expenditure; this sum is the balance which remains out of the total decreases aggregating Rs. 5,852 after deducting therefrom the increases of Rs. 886 under the head of "Pay of Survey Commissioner" and of Rs. 1,776 under that of "Pay of Establishment." The reasons for decreases and increases under the different heads of expenditure are recorded below :—

1st.—The increase of Rs. 886 under the head of "Pay of Survey Commissioner" is due to the proportional debit to this Survey being more this year than in the preceding year.

2nd.—The decrease of Rs. 2,284 under the head of "Pay of Superintendent, &c." is owing to the abolition of the post of Superintendent and the substitution of that of a Deputy Superintendent since the retirement of Mr. W. S. Turnbull.

3rd.—The decrease of Rs. 1,873 under the head of "Pay of Assistant Superintendent, &c." is in consequence of the appointment of Mr. E. Macconochie as Deputy Superintendent, Gujarát Survey. Since the date he took charge of that Survey his pay and allowances as Survey Settlement Officer, Deccan Revenue Survey, have not been a charge to this Survey although he has worked in the capacity of a Settlement Officer in addition to his own duties as Deputy Superintendent in Gujarát.

4th.—The increase of Rs. 1,776 under the head of "Pay of Establishment" is principally due to the retention of the Settlement Office of Mr. E. Macconochie throughout the year; last year the cost of that office debited to this Survey was for 9 months only.

5th.—The decrease of Rs. 1,692 under the head of "Contingent charges" is mainly due to more credits made this year on account of the cost of supply of instruments and dead-stock articles to other Departments; the credits being deducted in recording the expenditure under the head mentioned.

6th.—The small decrease of Rs. 3 under the head of "Construction of Field Boundary-marks" is due to smaller number of marks erected in waste lands.

30. In accordance with the orders of Government conveyed in their Resolution No. 694, dated 27th January 1891, the information regarding the expenditure of advances on account of the erection of boundary-marks during the year under report is given below :—

Total Advances.	Amount recoverable.	Amount debitable to Government.	Balance for which Wasuli Patraks are not ready.
1	2	3	4
Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
670 7 3	348 13 2	1 6 1	320 4 0

The balance for which Wasuli Patraks were not prepared is due principally to the marks of certain villages not having been erected at the end of the season, owing to the advent of the monsoon, before their completion.

31. Appendix X gives the area measured and classed, together with the total expenditure and the cost per acre of both measuring and classing operations for each year since the commencement of the survey. The expenditure, it will be seen, has been arranged under the four main heads of account, namely,—measurement, classification, settlement and miscellaneous; and the cost of supervision has been distributed among those heads strictly in accordance with the instructions contained in the latter part of paragraph 6 of Government Resolution No. 7676, dated the 4th October 1895. Details showing the composition of these figures for the year under report are contrasted in the subjoined statement with the figures of the previous year in each case :—

Number.	Heads.	Actual cost.	Add—Rateable proportion of Nos. 5 and 6.	Total cost.	Remarks.
1	2	3	4	5	6
		Rs.	Rs.	Rs.	
1	Measurement ... {	22,857 21,632	9,325 7,224	32,182 28,856	} Rateable proportion of $\frac{1}{2}$ of No. 5.
2	Classification ... {	3,804 6,640	1,552 2,218	5,356 8,858	
3	Settlement ... {	14,672 14,247	17,543 16,249	32,215 30,496	} $\frac{1}{2}$ of No. 5 and whole of No. 6.
4	Miscellaneous ... {	6,015 5,114	2,454 1,708	8,469 6,822	
	Total ... {	47,348 47,633	30,874 27,399	78,222 75,032	
5	Superintendent's salary and office expenses. {	26,662 22,301	... ...	... ...
6	Proportion of Survey Commissioner's pay, &c., Establishment and Contingencies. {	4,212 5,098	... ...	... ...
	Total ... {	30,874 27,399	... ...	... ...
	Grand Total ... {	78,222 75,032	... ...	... ...

N.B.—The upper line of figures refers to the preceding year.

The amount debited to the miscellaneous head, exclusive of the rateable proportion of the cost of supervision added to it, is, it will be seen, Rs. 5,114 against Rs. 6,015 last year, and details of the items charged to that head are given below :—

			Rs.	a.	p.
Head-quarters Office, Málegaon...	...	...	1,030	8	3

			Rs.	a.	p.
Head-quarters Office, Poona ...	...	...	7,609	5	7

Deduct—

Men employed on preparation of—

			Rs.	a.	p.	
(a) A'kárbands	...	3,135	3	2		
(b) Revenue History statements for Settlement Report purposes	...	266	1	0		
(c) Pension papers	...	124	9	8		
		3,525	13	10		
						3,525 13 10
						4,083 7 9
Total	...	5,114	0	0		

The cost of the staff entertained for the preparation of ákárbands has alone been charged to the head of settlement, while the expenditure incurred under the sub-items of (b) and (c) has been added to the Superintendent's office expenses.

32. The average cost per acre for 1895-96 has been for measurement Re. 0-1-11 and for classification Re. 0-0-6 against Re. 0-3-3 and Re. 0-1-5, respectively, for 1894-95. The combined cost this year thus amounts to Re. 0-2-5, while for the last year it was Re. 0-4-8. The reduction in the cost per acre is, as explained above, due to a larger area being dealt with this year on the partial system.

Settlement.

33. Appendix XI is a detailed statement of the progress attained in the settlement branch of the Deccan Survey, as also of the measurement and classification. During the year under report settlement proposals were submitted as noted below :—

Collectorate.	Táluka.	Revision or First Survey.	VILLAGES.	
			Government.	Inám.
1	2	3	4	5
Násik ...	Peint ...	Revision ...	88	...
		First Survey ...	1	1
Sátára ...	Wái ...	Revision ...	...	4
	Chálisgaon ...	Do. ...	125	...
	Nandurbár... ..	Do. ...	125	...
		First Survey ...	146	...
Khándesh ..	Táloda ...	Revision ...	81	...
	Dhulia ...	Do. ...	185	...

The proposals both for revision and first survey settlement of all the villages in Peint and those for revision settlement only in Nandurbár, Chálisgaon and Wái villages were not only sanctioned during the year, but the settlements were introduced, as will be seen from the details given in the next paragraph. The settlement proposals for Nandurbár (both revision and first survey), Dhulia (dry-crop revision only) and Táloda (revision) were submitted by Mr. E. Maconochie, Survey Settlement Officer; the scheme for the last-named táluka being submitted at the very close of the year under report. Those for Inám villages in Wái and Peint tálukas were framed and submitted by Mr. H. L. Holland, Assistant Settlement Officer. In addition to the settlement proposals submitted but not sanctioned during the year, those for 3 Inám villages in the Sàngli State submitted during the year previous to the one under report are also awaiting sanction.

34. Details showing the results of the settlements introduced during the year are given in the following statement:—

Collectorate.	Táluka.	Number of Villages.	Government or Inám.	Revision or first Survey.	Total Area.	Government Occupied Area.	Previous year's Collections.	Assessment according to Survey rates.	Increase.	Decrease.
1	2	3	4	5	6	7	8	9	10	11
					Acre.	Acre.	Rs.	Rs.	Rs.	Rs.
Násik ...	Peint ...	58	Government.	Revision ...	62,683	25,913	6,390	7,300	910	...
		1	Do. ...	First ...	107	91	42	56	14	...
		1	Inám ...	Do. ...	1,624	1,173	294	486	192	...
	Nándgaon ...	45	Government.	Revision ...	158,969	66,416	48,007	55,651	7,644	...
		Total ...	135	.....	223,363	93,509	54,733	63,493	8,760	...
Sátára ...	Válva ...	38	Government.	Revision ...	269,176	158,335	2,44,222	3,20,974	76,752	...
		45	Do. ...	Do. ...	43,164	19,582	2,255	8,123	868	...
		6	Inám ...	Do. ...	13,363	9,624	14,978	17,631	2,653	...
	Jávli ...	160	Government.	Do. ...	180,870	78,857	13,979	15,837	1,858	...
	Wái ...	4	Inám ...	Do. ...	5,946	4,273	5,426	7,801	1,575	...
	Total ...	313	.....	.....	509,513	270,671	2,80,860	3,64,866	84,006	...
Khândesh ...	Chálisgaon ...	125	Government.	Revision ...	291,106	176,710	1,42,437	1,84,201	41,854	...
	Nandurbár ...	110	Do. ...	Do. ...	205,076	124,161	1,49,650	2,00,837	51,187	...
	Bhusgál ...	6	Inám ...	Do. ...	5,425	4,447	3,867	5,422	1,555	...
	Total ...	241	.....	.....	501,607	305,318	2,95,954	3,90,550	94,596	...
Belgaum ...	Belgaum ...	1	Government.	First ...	900	241	201	259	58	...
		2	Inám ...	Revision ...	3,505	1,863	808	1,069	261	...
		1	Government.	First ...	2,342	326	319	366	47	...
	Gokak ...	1	Government.	First ...	2,342	326	319	366	47	...
	Total ...	4	.....	.....	6,747	2,430	1,328	1,694	366	...
Ahmednagar ...	Sangamner ...	1	Inám ...	First ...	2,417	1,701	1,433	1,308	...	125
Bijápúr ...	Muddebihal ...	4	Inám ...	First ...	22,340	13,525	9,058	10,786	1,728	...
State Kurundvād wādi.	Kurundvād wādi ...	2	Jahágir ...	First ...	7,351	4,669	1,901	2,640	739	...
Kurundvād wādi, State, Senior.	Kurundvād ...	8	Jahágir ...	First ...	31,048	20,320	26,954	29,538	2,604	...
	Angol ...	20	Do. ...	Do. ...	31,739	21,302	25,719	27,808	2,089	...
	Total ...	28	.....	.....	62,787	41,622	52,653	57,346	4,693	...
State Junior Miraj, {	Kureli ...	3	Jahágir ...	First ...	15,651	13,990	11,410	11,362	...	48
	Ravtha ...	6	Inám ...	Do. ...	23,210	16,213	13,502	11,719	...	1,783
	Total ...	9	.....	.....	38,861	29,203	24,912	23,081	...	1,831
	Grand Total ...	787	.....	.....	1,374,986	762,732	7,22,832	9,15,764	1,94,888	1,956

Settlements in all the villages in Peint, Nándgaon and Válva and those in Sátára and Jávli as regards kumri-tisáli lands only, according to the modified rating sanctioned by Government were introduced by the Deputy Superintendent in person. The revised rates sanctioned for Chálisgaon and Nandurbár villages were given out at the táluka stations by Mr. H. L. Holland, Assistant Settlement Officer, in company with the Assistant or District Deputy Collectors in charge of the respective tálukas. Mr. Holland was also given the assistance of Mr. G. H. Anjangaonkar, Personal Assistant to the Survey Commissioner and Director, Land Records and Agriculture. The settlements in the remaining villages shown in the statement, whether revision or first survey, were announced by the Assistant or District Deputy Collectors or Mámlatdárs of the Revenue Department, and in cases of Jáhír villages they were declared by the Kárbháris or Mámlatdárs of the respective States. The increase in Government Revenue obtained by the year's settlement is Rs. 1,81,192, which is equivalent to 24.5 per cent. on the total expenditure of the Deccan Revenue Survey.

35. It will be seen from the statement given in the preceding paragraph that there were 8 táluka settlements introduced during the year in the presence of the Survey Officers. Two settlements of Nándgaon and Peint were disposed of by the Deputy Superintendent in person before the rains. Of the remaining 6, sanction for one, Nandurbár, was received very late in the season, and as it was necessary to introduce it before the close of the revenue year, Mr. Holland was entrusted with the duty of introducing these rates and those of Chálisgaon Taluka, as the Deputy Superintendent had to introduce the rates in the remaining 3 on the Sátára side at the same time.

- | | | |
|-------------|--|---|
| (1) Járlí. | } Concerning Kumri and
Tisali lands only. | Mr. Holland performed the duty very satisfactorily and the promptness shown in completing them reflects credit upon the |
| (2) Sátára. | | |
| (3) Válva. | | |

introducing officers. In addition to these duties and to the submission of settlement schemes of alienated villages in Wái and Peint, referred to in paragraph 33 above, Mr. Holland has, in the capacity of a Settlement Officer, checked the prescribed percentages of the entries regarding rates, acres and assessment of A'kárbands of 507 villages, and he has also examined and disposed of all the Kamjásti Patraks prepared at, and received from, the Head-quarters Offices, Poona and Málegaon.

36. Of the 15 survey subordinates reported last year to have been working in other departments, two have been appointed as Circle Inspectors in the Central Division of the Land Records and Agricultural Department. There are yet 13 men who are employed in, and are paid by, the departments noted below :—

			Number of men.
• Forest Settlement Officer, Khándesh	...	...	4
Do. Kánara	...	...	4
Do. Ahmednagar	...	...	1
Divisional Forest Officer, Poona	...	...	1
Do. Working Plans, N. C.	...	...	2
Do. East Thána	...	...	1
			—
			13
			—

The services of these men are no longer required in this Survey, but their names have been borne on the list of the permanent establishments of this Survey that they may retain a lien on their respective substantive appointments in the Survey Department while they are employed on temporary duties in other departments in order that the service may count for pension.

Personal.

37. About the middle of November 1895, Mr. W. S. Turnbull, Superintendent, Deccan Revenue Survey, left Head-quarters and visited Yeola Táluka, in which the classification work of some Vinchurkar's lapsed and jághir villages had to be tested. During his stay there for more than a fortnight, he accompanied Mr. H. L. Holland when out testing and gave instructions in classification, especially in the matter of Pátasthal, regarding the inspection of Bandhárás and the details to be recorded in the Taktas. When the settlement scheme is being framed these details are of much importance in rating Pátasthal numbers according to their individual circumstances. In the beginning of December 1895, he proceeded to táluka Chálisgaon, for which revenue settlement scheme had then to be matured and submitted. On his way to the district mentioned he took an independent test of a single Vinchurkar's lapsed village in the Nándgaon Táluka. A complete tour was taken throughout the district of Chálisgaon and after enquiries detailed information on various subjects was collected for settlement report purposes. In the beginning of January 1896, he proceeded to Báglán District, where the classification work was in progress. On his way he visited Saudana in Málegaon Táluka and conducted the enquiry contemplated in paragraph 2 of Government Resolution No. 8227, dated the 23rd October 1895, as to whether or not the survey system of assessment should be continued at revision in the case of lands which are under the command of, and receive water from, the Parsul Tank, and on his arrival at Satána submitted a detailed report in the matter. During his stay there he again instructed

Mr. Holland in classification and in other technical matters concerning pátasthal. He also drew up a settlement scheme for Chálistgaon, and after submitting it for sanction of Government on the 27th January 1896, returned to Poona. On the 18th February 1896, in the afternoon, he delivered over charge of his duties to Mr. A. B. Fforde and retired from the Government service on the 22nd idem.

Mr. A. B. Fforde, Deputy Superintendent, Deccan Revenue Survey, left Head-quarters as soon as he took charge of this Survey and proceeded through Málegaon and Dhulia to Shirpur Táluka and inspected it sufficiently for purposes of its revision settlement which was overdue. Towards the end of March 1896 he visited Sháháda Táluka, also awaiting revision settlement, and inspected it for settlement purposes. In the middle of April 1896 he went to the Bágán Táluka, where Mr. Holland, Assistant Settlement Officer, and Mr. Bápuji Bháskar, Head Surveyor, were engaged in taking classification tests. During a few days' stay at Satána the Deputy Superintendent accompanied the Head Surveyor while he was inspecting the bandbáras and the lands irrigated under them. Immediately after he proceeded to Nándgaon, and after announcing the revised rates sanctioned for it on the 1st May 1896, returned to Head-quarters. During the remainder of the year the only tours which the Deputy Superintendent was required to make were for the announcements of revised rates sanctioned by Government. The rates for the last batch of villages in Peint Táluka were given out at Gadga on the 25th May 1896 in company with Mr. W. Plunkett, District Deputy Collector in charge of that táluka. Those for Válva were introduced at Nerla on the 4th July 1896 in company with Mr. W. C. Shepherd, Assistant Collector in charge of that táluka. The rates in Sátára and Jávli as regards Kumri Tisáli lands only were announced at the táluka stations on the 6th and 7th idem, respectively, in company with Mr. S. R. Arthur, First Assistant Collector in charge of those tálukas.

Surgána Survey.

38. The introduction of a survey tenure into the Surgána State has for some time engaged the attention of the Deshmukh of that State. In 1893 he expressed a desire to have his villages, 46 in number, surveyed by the employment of four trained survey-men under his control instead of by the agency of the British Survey. Much correspondence in the matter ensued between the Political Agent, Násik, and the Survey Department, resulting finally in a communication from the former, No. 306, dated 10th January 1895, asking that survey work should be begun in the State from the next season and adding a remark that "the Deshmukh has Rs. 14,000 to cover expenditure during the first two years and he is most anxious operations should begin at once." The income of the State is small, and for this reason the commencement of the survey work seems to have been delayed until the year under report. The State is within the circuit of the Deccan Survey, but the parties working there could not conveniently be spared to work in the State. Therefore a party consisting of pensioners and men discharged on reductions from the British Survey was raised for the purpose towards the end of January 1895 under the general control of the Deputy Superintendent, Deccan Revenue Survey, and in immediate charge of a Head Surveyor Mr. Govind Rámchandra Kamatnurkar, also a pensioner. As it was not possible to begin work in the State before the 1st February on account of its unhealthiness, the party was not organized earlier. The party was equipped for the field when a communication was sent by the Deshmukh through the Political Agent to the effect that the subjects of the State were alarmed at the prospect of the survey operations, and the Deshmukh therefore asked that only five measurers should be sent to start the work. Accordingly a party of five measurers under the Head Surveyor was deputed to Surgána. Later on the Political Agent desired that the Survey Party already deputed might be strengthened. Accordingly two more men were therefore entertained and deputed in May 1896.

As the party consists of pensioners and men discharged from the Survey, it was arranged, with the approval of the Political Agent, that it should be paid direct by the State on receipt of monthly bills countersigned by the Survey Department.

The rules under which the work of measurement and classification was ordered to be done are the same as those applying to Peint.

During the fair season eight villages were entirely measured and seven classed. Monsoon work of all of them was also punctually completed before the 15th September 1896, when the party was disbanded by granting to some of the men composing it leave without pay and by taking others for work on the temporary staff of the regular survey.

Details regarding outturn of work, test percentages and cost per acre are given below, and they are on the whole satisfactory :—

Head.	Villages.	OUTTURN OF WORK.			PERCENTAGE OF TEST.			Cost per Acre.
		Fields.	Waslas.	Acres.	Fields.	Waslas.	Acres.	
1	2	3	4	5	6	7	8	9
								Rs. a. p.
Measurement ...	8	565	5,337	6,970	10.7	10.6	8.6	0 4 4
Classification ...	7	207	...	209	18.8	...	33.8	0 10 0
							Total ...	0 14 4

The total expenditure of the Survey during the year is Rs. 2,095-6-1 as distributed in the margin. The cost of actual work was Rs. 808-8-0 and that of supervision, including office expenses, &c., Rs. 1,286-14-1. The total expenditure has been divided between heads of "Measurement" and "Classification" as noted below for the purpose of calculating the cost per acre under each :—

Head.	Actual work,		Rateable proportion of Supervision Cost,		Total.
1	2		3		4
	Rs. a. p.		Rs. a. p.		Rs. a. p.
Measurement ...	758 8 0		1,206 14 1		1,965 6 1
Classification ...	50 0 0		80 0 0		130 0 0
Total ...	808 8 0		1,286 14 1		2,095 6 1

A. BROWNLOW FFORDE,
Deputy Superintendent, Deccan Revenue Survey.

Annual Reports.

Survey Progress Report of the Presidency
proper for the year ending 31st October
1896.

No. 5865.

REVENUE DEPARTMENT.

Bombay Castle, 7th August 1897.

Memorandum from the Survey Commissioner and Director of Land Records and Agriculture, No. s.—901, dated 8th June 1897.

Letter from the Survey Commissioner and Director of Land Records and Agriculture, No. s.—972, dated 26th June 1897—Forwarding the Annual Progress Report of the Revenue Survey Department of the Bombay Presidency for the year ending 31st October 1896.

Letter from the Survey Commissioner and Director of Land Records and Agriculture, No. s.—973, dated 26th June 1897.

Memorandum from the Survey Commissioner and Director of Land Records and Agriculture, No. s.—1118, dated 13th July 1897.

RESOLUTION.—The work of the six parties of the Gujarát Survey was almost entirely confined to the Surat District, where they completed the revision measurement of the talukás of Jalálpur, Mándvi, Párdi and Bulsár, and the revision classification of Chikhli and Jalálpur, besides making progress with the revision classification of Bulsár. The *inám* village of Memnagar in the Ahmedabad District was also measured and classed. One measuring party was converted into a classing establishment and one mixed party into a measuring party during the year.

2. The two parties of the Deccan Survey were employed in the Násik District, where they completed the revision measurement and classification of Báglañ and made progress with the measurement of the Kalvan Táluka. Work was also done in a few scattered villages elsewhere.

3. The work of the Konkan Survey, which consisted of eleven parties, was confined to the Thána and Kolába Districts. The revision measurement and classification of the Váda, Sháhápur and Roha Tálukás was completed, and the measurement of the Mángaon and Mahád Tálukás was proceeded with.

4. The average number of persons working in each survey during the year under review and the previous year respectively is shown in the margin.

	1894-95.	1895-96.
Gujarát	107	121½
Deccan	42	45
Konkan	246	211
Total	395	377½

The increase in the Gujarát Survey was due to the strengthening of D measuring party, and that in the Deccan Survey to transfers from the Konkan establishment. The decrease in the Konkan Survey was due to the disbanding of one measuring party with effect from 1st April 1895.

5. The areas measured and classed during the last two years are shown in the following table :—

			Measured.		Classed.	
			1894-95.	1895-96.	1894-95.	1895-96.
			Acres.	Acres.	Acres.	Acres.
Gujarát	...	...	240,676	410,793	327,672	219,911
Deccan	...	...	156,996	246,162	60,141	306,779
Konkan	...	...	231,330	208,039	249,526*	448,253*
Total	...	...	629,002	864,994	637,339	974,943

* Exclusive of the area classed in the Bhor State.

In all cases the figures include areas confirmed under the "partial" system of working. In Gujarát the number of acres actually measured was smaller than in 1894-95 owing to the smaller average size of the survey numbers dealt with, but the number of acres confirmed nearly doubled. In the Deccan the fields actually measured gave less trouble than in the previous year, but the large area confirmed was again the cause of the increased outturn. In the Konkan the decrease was due to the diminished strength of the establishment and to the incorrectness of the original *varkas* survey in Kolába, where more than twice as many acres as in 1894-95 had to be actually remeasured and a comparatively small area only could be confirmed. The classification work of the year dealt in Gujarát with a smaller area than in 1894-95, though the number of fields actually reclassified was very much larger than before. The larger outturn of the Deccan Survey was due to the use of the partial system for the greater part of the year's work. In the Konkan the abridgment of certain parts of the classers' work was the cause of the increase shown in the table. Allowing for time unavoidably lost through sickness and travelling, the amount of work done was satisfactory; but there is no obvious reason why the returns of the Gujarát Survey should again show so large a number of days lost by leave and holidays.

6. The following table shows the expenditure for the year under report as contrasted with that incurred in 1894 95 :—

	1894-95.	1895-96.
	Rs.	Rs.
Measurement	1,98,873	1,82,135
Classification	51,608	61,473
Settlement... ..	1,18,789	1,13,398
Miscellaneous	17,286	9,825
Total ...	3,86,556	3,66,831

NOTE.—In the Konkan the following items of cost are excluded from the table :—

	1894-95.	1895-96.
	Rs.	Rs.
Phalni Establishment	3,491	7,675
Work in Bhor and Janjira States	6,654	4,608

There was thus a net decrease of Rs. 19,725, which was due chiefly to reduction in establishments and lower cost of superintendence. The cost of the various surveys as compared with that of the previous year was as follows :—

	1894-95.	1895-96.	Increase or Decrease.
	Rs.	Rs.	Rs.
Gujarát	1,12,424	1,00,870	— 11,554
Deccan	78,222	75,032	— 3,190
Konkan	1,95,910	1,90,929	— 4,981
Total ...	3,86,556	3,66,831	— 19,725

NOTE.—In the Konkan the following items of cost are excluded from the table :—

	1894-95.	1895-96.
	Rs.	Rs.
Phalni Establishment	3,491	7,675
Work in Bhor and Janjira States	6,654	4,608

7. The cost per square mile in each of the three surveys is shown in the following table :—

	Measuring.		Classing.	
	1894-95.	1895-96.	1894-95.	1895-96.
	Rs.	Rs.	Rs.	Rs.
Gujarát	122	68	43	50
Deccan	101	48	57	20
Konkan	292	295	63	50
Total	175	111	53	40

As in 1894-95, the Deccan Survey was the cheapest and the Konkan Survey the dearest. The differences are due to the varying nature of the country surveyed, and, in the case of the Konkan Survey, partly also to the heavy work required to correct the erroneous varkas measurements of the original survey.

8. The following table gives information as regards the settlement proposals made in each of the three surveys during the year under report :—

Survey.	District.	Táluka or Village.	Number of villages.	
Gujarát ...	Surat ...	Chorási	70	
		Olpád	135	
		Bárdoli	138	
	Ahmedabad ...	Vatva (Táluka Daskroi) ...	1 (Inám).	
	Panch Maháls ...	Mehlol (Táluka Godhra) ...	27	
		Limdi	Táluka Dohad.	14
		Golana		
		Kanjri	Táluka Hálol.	{ 2 22 23 28
		Ravalia		
		Bhamarya		
Sonipur				
Deccan ...	Násik	Peint	90 { (89 Government 1 Inám).	
	Sátára	Wái	4 (Inám).	
	Khándesh ...	Chálisgaon	125	
		Nandurbár	271 { (125 Revision 146 First Survey).	
		Taloda	81	
		Dhulia	185	
Konkan ...	Thána ...	Sálsette	88	
		Bassein	88	
Total ...			1,392	

Owing to the necessity of providing for work that was not included in the programme of 1891 and to the failure to realise the estimate of outturn of work upon which that programme was based, the Secretary of State has sanctioned by his despatch of 20th May 1897 the continuance of the Survey Department until 31st March 1901.

The enhancements in the revenue of each of the different talukás concerned due to the introduction of revision settlements during the year under review are shown in the following table :—

District.	Táluka.	Number of villages.	Increase.
			Rs.
Panch Maháls ...	Vatva (Táluka Daskroi) ...	1 (Inám) ...	2,034
	Hálol ...	75 (Tálukdári) ...	782
	Mehlol (Táluka Godhra) ...	27 (Tálukdári) ...	428
	Limdi ...	Táluka Dohad ...	3,718
	Golana ...		
Násik ...	Peint ...	89... 1 (Inám) ...	914 192
	Nándgaon ...	45... ..	7,344
Sátára ...	Válva ...	98... ..	76,752
	Sátára ...	45... 6 (Inám) ...	868 2,653
	Jávli ...	160... ..	1,858
	Wái ...	4 (Inám) ...	1,875
Khándesh ...	Chálisgaon ...	125... ..	41,854
	Nandurbár... ..	110... ..	51,187
	Bhusával ...	6 (Inám) ...	1,555
Belgaum ...	Belgaum ...	1... 2 (Inám) ...	58 261
	Gokák ...	1... ..	47
Bijápur ...	Muddebihál ...	4 (Inám) ...	1,728
Thána ...	Bhiwndi ...	197... 3 (Inám) ...	58,281 793
Kolába ...	Karjat ...	5 (Izáfát) ...	1,275
Total ...		1,019	2,56,757

Owing to the large proportion of inám, talukdári and izáfát villages dealt with during the year, the financial results of the settlement operations were less favourable than usual. The increase in Government revenue as compared with the average collections of past years was Rs. 2,55,535.

9. Satisfactory progress was made with the work of judi settlement and with the revision of scale remuneration during the year.

10. The Maráthá States Survey was strengthened by the addition of 7 measurers and completed the survey of the Vishalgad and Kágál States and of the Ajra Táluka of Ichalkaranji, and made progress with the revision settlement of the Shirol Táluka and of the Raibág Petha of Kolhápur. The very satisfactory increase in the amount of work done was due partly to the larger number of hands employed and partly to the comparative healthiness of the season.

11. The Survey Department lost by retirement during the year under report the services of Messrs. T. R. Fernandez and H. D. E. Forbes of the Gujarát

Survey, and W. S. Turnbull of the Deccan Survey. The services of Messrs. Fernandez and Turnbull were acknowledged by Government in their Resolution No. 6839 of 29th August 1896, reviewing the progress report of the Survey Department for 1894-95. Since the close of the year a further serious loss has been sustained by the Department through the retirement of Colonel Godfrey and the transfer of Mr. E. Maconochie. The Governor in Council endorses the Survey Commissioner's commendation of the excellent work done by these officers.

A. M. T. JACKSON,
Under Secretary to Government.

To

The Commissioner, N. D.,
The Commissioner, C. D.,
The Commissioner, S. D.,
The Commissioner in Sind,
The Survey Commissioner and Director of Land
Records and Agriculture,
All Collectors in the Presidency Proper,
The Conservator of Forests, N. C.,
The Conservator of Forests, C. C.,
The Deputy Conservator of Forests in charge S. C.,
The Accountant General,
The Public Works Department of the Secretariat,
The Political Department of the Secretariat,
The Government of India,
The Secretary of State for India.

With copies of the
reports of the Survey
Commissioner and
Director of Land
Records and Agricul-
ture and of the Survey
Superintendents.

} By letter.

No. of 1897.

Copy forwarded for information and guidance to

Annual Reports.

Survey Progress Report of the Presidency
proper for the year ending 31st October
1897.

No. 5788.

REVENUE DEPARTMENT.

Bombay Castle, 8th September 1898.

Letter from the Survey Commissioner and Director of Land Records and Agriculture,
No. s.—772, dated 26th May 1898—Submitting the Annual Progress Report of the
Revenue Survey Department of the Bombay Presidency for the year ending 31st
October 1897.

RESOLUTION.—As in the previous year, six parties were at work in the Gujarát Survey. Of the four measuring establishments existing, one was converted at the commencement of the year into a classing establishment, in order that the performance of certain additional classing work might not be delayed. The operations of the six establishments, of which only one was consistently employed on measurement work throughout the season, were confined to the Broach, Surat and the Panch Maháls Districts. The inaccuracies in the maps of certain villages in the Godhra and Hálol Tálukás of the last-named district having necessitated revision measurement, the one measuring party referred to above, consisting of 14 measurers and 6 theodolite surveyors, was deputed to perform those duties concurrently with the ordinary revision operations. It also carried out revision measurement operations in the Vágra and Broach Tálukás of the Broach District. The other five establishments carried on the revision measurement work of Kálol and Godhra in the Panch Maháls District, completed revision classification operations in Bulsár, Mándvi and Párdi of the Surat District, conducted concurrently with classification operations the revision measurement of Ankleshvar, Hánsot, A'mod, Broach and Vágra in the Broach District, and tested the original classification of 33 Bára villages of Vágra. The field operations of this Survey made sufficient progress to warrant the disbandment of three establishments at the close of the year; and the Survey Commissioner anticipates that the work of this Survey will be completed considerably in advance of the dates estimated in Mr. Ozaune's forecast submitted with his letter No. s.—1187, dated 20th May 1896.

2. As in the year previous, two establishments were employed in the Deccan Survey, the one consisting of measurers only, the other of both measurers and classers. The average strength of the establishments was reduced by 1 measurer and 3 classers. As the climate of those districts, which still await the completion of survey operations, is notably unhealthy during the early part of the field season, permission was obtained from the Survey Commissioner to send the measuring staff to perform its duties in the Konkan districts. Having worked in the Mángaon Táluka of the Kolába District until January 15th, 1897, the staff was then deputed to partially remeasure the Kalvan Táluka of Násik, 118 villages of which it completed by the end of the season. While the measurers were on duty in the Konkan, the classers were employed on original classification work in the Vinchurkar's Jágghir villages of Niphád and Chándor, on the completion of which they were transferred to Kalvan. During the year the classification of 60 villages was completed.

3. Exclusive of the two Deccan parties, the field establishments in the Konkan, with the addition of one Phalni establishment, numbered, as in the preceding year, eleven, six of which were measuring and four were classing establishments. Of the latter one was formerly a measuring establishment,

being converted into a classing establishment during the year under report. In this Survey, as in the Gujarát Survey, there were several changes in the supervising officers. The establishments were employed in revision measurement and classification of the Mángaon and Mahád Tálukás of Kolába and the Dábhánu Táluka of Thána. Two izáfat villages of the Mokháda Petha in the Thána District were also classed. The Phalni establishment was employed in the Kalyán and Murbád Tálukás. 65,348 separate occupancies, covering an area of 68,834 acres, were phalned at the cost of 2 annas per acre. The outturn of work showed an increase in the number of acres, though the strength of the party was less than that of the previous year.

4. The average number of persons working in each Survey during the year

	1895-96.	1896-97.
Gujarát	121½	107½
Deccan	45	41
Konkan	211	227

under review and the previous year respectively is shown in the margin. The decrease in the Gujarát Survey was due to the employment of the measurers during the field season in correcting and preparing maps and in writing up field measurement and classification books with a view to giving the classers every opportunity to expedite their work.

The decrease in the Deccan Survey was due to the deputation of one measurer to the Revenue Department in connection with the Amalner-Dharangaon Railway, to the retention of another who was unfitted for field work in the Headquarters Office, and to a smaller transfer than usual of measurers to classification work.

5. The areas measured and classed during the last two years are shown in the following table:—

		MEASURED.		CLASSED.	
		1895-96.	1896-97.	1895-96.	1896-97.
		Acres.	Acres.	Acres.	Acres.
Gujarát	...	Actually measured . 32,779	Actually measured . 27,528	Actually classed ... 88,767	Actually classed ... 1,45,836
	...	Confirmed ... 3,78,014	Confirmed ... 8,56,522	Confirmed ... 1,31,144	Confirmed ... 5,57,140
		4,10,793	8,84,050	2,19,911	7,02,976
Deccan...	...	Actually measured . 37,012	Actually measured . 8,553	Actually classed ... 15,651	Actually classed ... 29,960
	...	Confirmed ... 2,09,150	Confirmed ... 1,70,470	Confirmed ... 2,91,128	Confirmed ... 1,09,430
		2,46,162	1,79,023	3,06,779	1,39,390
Konkan	...	Actually measured . 1,56,177	Actually measured . 1,44,620	Actually classed ... 37,079	Actually classed ... 1,24,097
	...	Confirmed ... 51,862	Confirmed ... 1,19,694	Examined for dusota or position class... 3,20,577	Examined for dusota or position class... 5,20,096
		2,08,039	†2,64,314	Confirmed ... 98,744	Confirmed ... 1,17,648
Total ...		8,64,994	13,27,387	*4,56,400	7,61,841
				9,83,090	16,04,207

* Inclusive of the area (8,147 acres) classed in the Bhór State.

† Inclusive of the area (11,264 acres) measured by the Deccan parties.

Proportionately to the strength of the measuring staff, the outturn in acres measured in the Gujarát Survey compares favourably with the outturn of the previous year. Though the number of acres actually measured was again smaller, the area confirmed was more than double. In the Deccan the area both actually measured

and confirmed was smaller than in the year 1895-96, the decrease being due to the deputation of a measurer to the Revenue Department and to the retention of another in the Head-Quarters Office, as stated in paragraph 4. In the Konkan the area actually measured fell short of that measured in 1895-96, though the area confirmed more than doubled the previous year's returns and the total outturn greatly increased owing in part to the transfer of the two measuring establishments of the Deccan Survey to the Konkan districts for nearly two months of the season. The classification work performed in Gujarát considerably exceeded that effected in the previous year. In Deccan the total outturn was less than in 1895-96, though the area actually classed was nearly double.

6. The superior test taken both by officers in immediate charge of parties and by supervising officers was, with one unfortunate exception, on the whole sufficient and satisfactory. Steps are being taken by the Survey Commissioner to check the still noticeable tendency on the part of head surveyors in Gujarát to select only easy numbers for test. In the Deccan the previous year's arrears under this head were cleared off.

7. In Gujarát no boundary-mark inspection was performed by any of the officers, as the marks were not repaired within the prescribed time. In the Deccan the boundary marks of 107 villages were erected or repaired by the villagers themselves; hired labour was employed for the purpose in 11 villages only. In 198 villages of the Konkan the erection of boundary marks was completed, half the work being done by the rayats themselves and half by hired labour.

8. In the Deccan the recess work was practically up to date except in two villages in which it remained incomplete owing to the absence of the men on leave. In both the Gujarát and Konkan Surveys considerable arrears occurred. The explanation does not seem to be altogether satisfactory in the case of the Gujarát Survey, although some of the falling-off is attributable to the necessity of the parties leaving head-quarters in October owing to the outbreak of plague in Surat. In the Konkan the arrears were quite unavoidable. The Survey Commissioner anticipates that in both Surveys they will be made up during the current season. As the punctual observance of the programme of work laid down for the Department is most important, Government desire that the Survey Commissioner will submit to Government at the beginning of November next a brief return showing the progress of recess work in the three Surveys during the present rains.

9. In Gujarát the distribution of days shows a very large reduction of field and increase of office work in measuring establishments owing to permanent hands being employed on clerical duties. The percentage of working days in the field was higher in the classing branch, because the bulk of the office work fell upon measurers. There was an increase in the number of non-working days under the head of "Travelling" owing to the areas of work being more scattered, but a decrease under the heads "Sickness" and "Leave and Holidays." The amount of leave granted is still excessive as compared with the figures of the other Surveys. The loss under the head of 'Villagers not co-operating' was larger than usual this year. In Deccan the time saved under field measurement and office work was devoted to boundary-mark inspection, which shows a large increase (due to the partial system). The health of the measurers being generally good, fewer days were lost under the head of "Sickness." The loss under "Leave and Holidays" also showed a decrease. The high percentage of days lost under "Travelling" by the measuring staff is attributed to the time spent on route from the Konkan to the Deccan districts. In the Konkan the percentage of working days increased, the time lost in travelling was considerable, but was counterbalanced by a diminution in the number of days lost in sickness, leave and holidays.

10. The following table shows the expenditure for the year under report as contrasted with that incurred in 1895-96 :—

					1895-96.	1896-97.
					Rs.	Rs.
Measurement	...	...	...	...	1,82,135	1,47,607
Classification	...	...	...	...	61,473	99,207
Settlement	...	...	...	...	1,13,398	98,230
Miscellaneous	...	...	...	...	9,825	17,857
Total					3,66,831	3,62,901

NOTE—In the Konkan the following items of cost are excluded from the table :—

					1895-96.	1896-97.
					Rs.	Rs.
Phalni Establishment	...	...	...	...	7,675	8,790
Work in the Bhor and Janjira States	...	...	...	...	4,608	1,031*

* No work was done in the Janjira State during the year under report.

There was again a net decrease of Rs. 3,930. The cost of the Survey, as the Survey Commissioner observes, shows a steady diminution from year to year, which is due to the gradual contraction of the operations of the Department and of the establishments employed.

11. The cost of the various Surveys, as compared with that of the previous year, was as follows :—

					1895-96.	1896-97.	Increase or decrease.
					Rs.	Rs.	Rs.
Gujarát	...	...	...	...	1,00,870	97,877	—2,993
Deccan	...	...	...	...	75,032	†61,267	—13,765
Konkan	...	...	...	...	1,90,929	2,03,757	+12,828
Total					3,66,831	3,62,901	—3,930

† This amount is exclusive of Rs. 5,610-4-6 debited to the Konkan Survey.

NOTE—In the Konkan the following items of cost are excluded from the table :—

					1895-96.	1896-97.
					Rs.	Rs.
Phalni Establishment	...	...	...	...	7,675	8,790
Work in the Bhor and Janjira States	...	...	...	...	4,608	1,031†

† No work was done in the Janjira State during the year under report.

12. The cost per square mile in each of the three Surveys is shown in the following table :—

					Measuring.		Classing.	
					1895-96.	1896-97.	1895-96.	1896-97.
					Rs.	Rs.	Rs.	Rs.
Gujarát	...	...	...	...	68	17	50	37
Deccan	...	...	...	...	48	44	20	30
Konkan	...	...	...	...	295	220	50	43
Total					111	57	40	40

The decrease in the cost of the Gujarát Survey was due to the large increase in the proportion of area confirmed. As in the two preceding years, the cost of the Konkan Survey was the highest.

13. The following table shows the *tálukás* and villages for which settlement proposals were framed and reported in each of the three Surveys during the year:—

Survey.	District.	Táluka or Village.	No. of Villages.
Gujarát ...	Surat ...	Chikhli	60 (Revision Survey).
		Vanjh ... } Dindoli ... } Táluka Chorási .	2 (Inám) First Survey.
	Kaira ...	Kanjari (Táluka Nadiád) ...	1 (Inám) Revision Survey.
Deccan ...	Khándesh ...	Shirpur	103 (Revision Survey).
		Sháháda	150 (do.).
		Taloda	33 (First Survey).
	Sátára ...	Jávli	4 (First Survey).
			15 (Revision Survey).
			19 (Inám).
Konkan ...	Thána ...	Máhim	188
		Váda	137
	Kolába ...	Roha	146
Total ...			839

The submission of the settlement reports to Government was delayed owing to the Survey Commissioner's time being taken up by his tour in the famine districts and submission of the special reports ordered in Government memorandum No. 10539, dated 22nd December 1896 (Famine). Government understand that all reports received by the Survey Commissioner up to date of issue of the present progress report have been submitted.

14. The enhancements in the revenue of each of the different *tálukás* concerned, due to the introduction of revision settlements during the year under review, are shown in the following table:—

District.	Táluka.	No. of Villages.	Increase.
			Rs.
Surat ...	Bárdoli	138	38,746
	Chorási	63	19,133
Násik ...	Nándgaon	9	571
Thána ...	Sálsette	87 (Government)	28,418
	Kalyán	1 (Inám)	789
Total ...			87,657

15. The work of judi settlement and the preparation of revised proposals for scale remuneration showed a decrease as compared with the previous year's

work. The reason, as explained by the Survey Commissioner, is that the Revenue officers were unable, owing to pressure of plague and famine work, to deal with the numerous references made to them.

16. In the Marátha States Survey which was under the charge of Mr. Whitcombe the average strength of the measurers employed decreased by 2·03. Measurement and classification work was carried on concurrently in the Ráibág Petha and the Alte and Gad Inglañ Tálukás of the Kolhápur State and in one inám village of the Visbalghad State. The total outturn shows a considerable decrease under both heads; but this, as the Survey Commissioner is careful to point out, indicates no diminution in the quantity of work done. The areas in which original work was performed in contrast to mere confirmation were far larger than in the previous year. Mr. Whitcombe appears to have been conspicuously successful above all other heads of surveys in getting work out of his men.

17. With the exception of one day at the beginning of the year, upon which Colonel Godfrey held charge, and one and a half months at the end, during which Mr Hearn was in charge, the Department was throughout the year in charge of Mr. Muir-Mackenzie. As already noticed in the previous year's review, the Department lost during the year under report the services of Colonel Godfrey of the Konkan Survey by retirement and of Mr. E. Maconochie of the Gujarát Survey by transfer to the Government of India. Since the close of the year the Department has sustained a further loss by the retirement of Mr. Hearn, and by the deputation of Mr. Seddon on plague duty and his subsequent departure on furlough owing to the break down of his health. In spite of these losses, it is satisfactory to note that very considerable progress has been made towards the completion of the Survey programme. Government on the whole concur with the Survey Commissioner in considering that a good year's work was performed, and have pleasure in endorsing the commendations expressed by Mr. Muir-Mackenzie regarding the work of the various officers mentioned by him. The high estimate entertained by Government of the services rendered by Mr. E. H. Hearn has been expressed in a separate Resolution.

H. S. LAWRENCE,
Under Secretary to Government.

To

The Commissioner, N. D.,
The Commissioner, C. D.,
The Commissioner, S. D.,
The Commissioner in Sind,
The Survey Commissioner and Director of Land
Records and Agriculture,
All Collectors in the Presidency proper,
The Conservator of Forests, N. C.,
The Deputy Conservator of Forests in charge C. C.,
The Conservator of Forests, S. C.,
The Accountant General,
The Public Works Department of the Secretariat,
The Political Department of the Secretariat.
The Government of India,
The Secretary of State for India. } By letter.

With copies of
the reports of the
Survey Commis-
sioner and Director
of Land Records
and Agriculture
and of the Survey
Superintendents.

No. of 1898.

Copy forwarded for information and guidance to

From

THE SURVEY COMMISSIONER AND DIRECTOR,
LAND RECORDS AND AGRICULTURE,

Bombay ;

To

THE CHIEF SECRETARY TO GOVERNMENT,

Revenue Department,

Bombay.

Mahábaleshwar, 26th May 1898.

SIR,

I have the honor to submit the Annual Progress Report of the Bombay Revenue Survey Department for the year ending 31st October 1897.

2. The subjoined statement shows the periods for which charge was held by Colonel Godfrey, Mr. Hearn and myself. The Department was thus under my charge for almost the whole of the year under report :—

From	To	Total number of days.		
		M.	d.	
.....	1st November 1896 ...	0	1	Colonel Godfrey.
2nd November 1896 ...	16th September 1897 .	10	15	Mr. Muir-Mackenzie.
17th September 1897 ...	31st October 1897 ...	1	15	Mr. Hearn.
	Total ...	1 year.		

3. The strength and constitution of the Department are exhibited in the following statement :—

Survey.	Number of Establishments.	Number of officers in charge of Establishment.		Rank of Head of Survey.
		European. Native.		
Gujarát	6	2	6	Deputy Superintendent.
Deccan	2	1	2	} Superintendent.
Konkan	11*	4	11	
Marátha States...	3	1	3	

Gujarát Survey.

4. This survey has had many inevitable changes in the supervising personnel, which are shown in the following statement :—

From	To	No. of days.		
		M.	d.	
1st November 1896 ...	17th June 1897 ...	7	17	Mr. Maconochie.
18th June 1897 ...	2nd July 1897 ...	0	15	Mr. Mehta.
3rd July 1897 ...	31st October 1897 ...	3	29	Mr. Seddon.
	Total ...	1 year.		

* Including Phalni Establishment.

5. The loss of Mr. Maconochie followed by that of Mr. Seddon, who for some time had been on plague duty, was a severe blow to this survey. Both were highly competent officers and Mr. Maconochie in particular was beginning to attain a grasp of technical detail as well as of general principle which made his help of great value. When he went an experienced head was indispensable. Mr. Fforde was therefore appointed Superintendent of this survey retaining charge of his duties as Deputy Superintendent in the Deccan.

6. The number of parties at work remained the same as in the previous year. The strength of classers was, however, increased, by converting one of the measuring parties into a classing party, in order to cope with the additional classing work that had to be done. The total strength, as compared with that of the previous year, shows a decrease of 14. This is due to circumstances explained in paragraph 11 of the Deputy Superintendent's report. The field operations reached a stage which made reduction of establishment possible. Accordingly at the close of the year three establishments were reduced. Those men for whom provision could be made in the Revenue and other departments were so employed and some were offered employment in Native States, others being discharged on pension or gratuity as the case required.

7. The operations of the year extended over three districts—Surat, Panch Mahals and Broach. In Surat the revision classification of Bulsar begun in the previous year and that of Pardi and Mándvi was completed; and in the Panch Mahals the revision measurement of Godhra and Kálol and the map correction work alluded to in paragraph 11 of last year's report was finished. About the middle of March when the parties broke ground in the Broach District, it was found that there were very few numbers to be dealt with for revision measurement. The area of old and new rice and of bhatta land was found to be trifling in extent, and the major portion of the classification work consisted only of the examination of villages for subsoil water advantages. With a view therefore to save time, the classification work was undertaken by the measurers simultaneously with revision measurement, as was done previously in more than one taluka of Kaira. The classification of old and new rice, and bhatta land, was conducted by classers attached to measuring parties, and tested by the Head Surveyors in charge, who were all classers. The superior test in the case of the classification of bhatta land was entrusted to Mr. Mehta, Assistant Superintendent in charge of classing parties, instead of to Mr. Sathe, the officer in charge of measuring parties. In this way was accomplished almost all of the field work in the A'mod Taluka and in Ankleshvar including Hásot, its sub-division, about half. Considerable progress was also made in the Broach and Vágna Talukas. In pursuance of the orders contained in Government Resolution No. 5445, dated 26th June 1894, Revenue Department, the original classification of 33 Bara villages of the Vágna Taluka was examined. The results of this examination and the treatment accorded to the lands comprised in these and similar villages in the Jambusar Taluka will be detailed in the settlement proposals of those talukas.

8. The outturn of work is exhibited in the usual tables below :—

Measurement.

Year.	MEASURED.			Average cost per Acre.	TESTED.		AVERAGE ERROR PER CENT.
	Fields.	Waslas.	Acres.		Fields.	Acres.	Acres.
				Rs. a. p.			A. g.
1895-96	38,530	403,161	*410,793	*0 1 10	4,847 (12·6)	2,749 (8·4)	0 31
1896-97	15,910	98,585	*881,050	*0 0 5	2,031 (12·7)	2,563 (9·3)	0 30
Increase	...	...	478,257	...	...	...	...
Decrease	22,620	304,626	...	0 1 5	2,816	186	0 1

* Including the confirmed acres.

Classification.

Year.	CLASSED.		Average cost per Acre.	TESTED.		Average difference.
	Fields.	Acres.		Fields.	Acres.	
			Rs. a. p.			Soil. Water.
1895-96	71,989	*219,911	*0 1 3	13,342 (18.5)	9,733 (10.9)	1 pie 1 pie.
1896-97	95,893	*702,976	*0 0 11	24,047 (25.0)	32,152 (22.0)	1 pie ½ pie.
Increase	23,904	483,065	...	10,705	22,419	.....
Decrease	...	...	0 0 4	...	...	... ½ pie.

* Including the confirmed acres.

9. Under the authority quoted in paragraph 8 of last year's report credit has been taken for the confirmed acres which have been included in the above tables.

10. *Measurement.*—It is somewhat difficult to make a numerical comparison between the outturn of the year under report and the year previous. The amount of measurement performed was affected by the character of the work, the number of hands employed on it, and the expediency of employing during the field season a considerable portion of the measuring establishment on office work in aid of the classing establishments. Allowing for the reductions in number and days available for field work the quantity of survey numbers corresponds fairly closely with that returned in the previous season. The quantity of vaslas is low, and that of acres high. On the whole the figures give no cause to find fault with the amount of work accomplished. There can be no doubt that without the help of classers by the measurers, in the way described in paragraph 11 of the Deputy Superintendent's report, the work of classification would have been seriously impeded.

11. The tendency on the part of Head Surveyors to choose for test easy numbers is again noticeable in this year's work. The subject has already engaged the attention of the Deputy Superintendent and the Superintendent, and I have now directed that the extent to which this tendency has been observed shall be reported in the monthly returns of test. The test by the superior officers was on the whole satisfactory, and covered the work done by all the establishments, with the exception of A and B parties, the work of which Mr. Mehta was unable to test, for reasons explained by the Deputy Superintendent in paragraph 29 of his report.

12. The cost per square mile, taking credit for the confirmed acres, is Rs. 17 as against 73 of the previous year. The decrease is attributable to the large increase in the proportion of area confirmed.

13. No boundary-mark inspection was made by any of the officers. This was unavoidable for reasons explained in paragraph 30 of the Deputy Superintendent's report. The statements showing the information prescribed in the rules (Rule 6, Chapter V, Revision Survey Rules,) have however been sent to the taluka authorities. The recess work was duly completed with the exception of the preparation of fair maps for some 75 villages for reasons explained in paragraph 44 of the Deputy Superintendent's report.

14. The proportion of non-working to working days is again high, and not satisfactory. The large amount of leave given is attributed partly to the unhealthiness of the Panch Maháls. But this is inconsistent with the small and diminished number of days lost through sickness. The other surveys, and the classing establishments of this survey, all show better results. In last year's review I expressed the hope that better results would be shown in the year 1896-97. This hope has been disappointed. Of course, however, the effect of my observations could not be felt till the current field season. I have called for

a special return of this season and if it shows no improvement, shall issue stringent orders as respects the next. The management of the Survey Establishments in Gujarát is a matter of some difficulty, strikes not being unknown. But I cannot believe that such irregularity of attendance as is shown in these returns might not have been obviated by greater firmness. There are now men, who have been recently retired, to take the place of persistent malingerers or strikers, and the exercise of strictness should be less difficult in the future than in the past.

15. *Classification.*—The outturn shows an increase in the number of "fields" and a very large area in the number of acres which is due to the confirmed area being nearly four times as large as in the previous year.

16. The total outturn may, on the whole, be considered satisfactory. The test was ample; the superior test of the small amount of work done by the D and F establishments was not taken for reasons explained in paragraph 36 of the Deputy Superintendent's report. This has no doubt been taken by Mr. Mehta during the current season.

18. The very large increase in the number of acres classed has reduced the cost per square mile from Rs. 50 in the previous year to Rs. 37. Mr. Fforde however, the experienced Superintendent, does not seem to be perfectly satisfied with the outturn. Having regard however to the character of the work which had to be done, and was not without difficulty, I consider the outturn creditable.

19. The distribution of working and non-working days shows a decided improvement as compared with the previous year. The total proportion of non-working days has not decreased, but the number of days lost in leave was appreciably less, and the increase of days spent in travelling unavoidable. Better results, however, might be attained. The amount of leave granted is still excessive as shown by the figures of the other surveys.

20. The recess work remained considerably in arrears, owing, it is reported, to the necessary transfer of the establishments to Broach before the usual date for opening field work. I am not wholly satisfied with this explanation. The Survey has before proved slow in its recess work and orders have been issued to hurry it up during the coming rains.

21. *Settlement.*—Revised rates were introduced into the Bádoli and Chorási Tálukas. The settlement papers for the tálukdári estates in the Panch Maháls and one village in Ahmedabad noted in the margin were prepared according to rates sanctioned by Government and forwarded to the Collectors of the districts concerned. Proposals for the revision settlement of the Chikhli Táluka and one inám village Kanjari in Nadiád, as also for the original settlement of two inám villages in

(1) Kanjari Ravalia.
(2) Limdi Golava.
(3) Village of Vatva in Táluka Daskroi.

Chorási Táluka were submitted. More could not be done owing to the transfer of Mr. Maconochie and the employment on plague and break-down in health of his successor Mr. Seddon. The diversion of the officers of this survey to Plague duty has resulted in performance of even less settlement work during the current season. Measures have been taken to secure without fail the exhibition of good results next season in the branch of work. It may be mentioned that as none of the leases fall in before 1897-98, and as in no case can large enhancement be proposed this work is not urgent. Measures will be taken to secure a larger outturn during the ensuing season, when both Mr. Cole and Mr. Mehta will be able to undertake settlement work.

22. The cost of the survey under the usual heads is shown in the table below :—

Year.	Measurement.	Classification.	Settlement.	Miscellaneous.	Total.
1895-96	47,691	17,187	35,992	...	100,870
1896-97	23,755	41,850	32,272	...	97,877
Increase ... ..	...	24,663	...	...	...
Decrease	23,936	...	3,720	...	2,993

23. On the whole the survey appears to have got through sufficient field work to enable the whole to be completed considerably in advance of the dates estimated in the forecast of progress submitted with this office letter No. ⁸/₁₁₈₇ dated 20th May 1896, and accepted by the Government of India and the Secretary of State.

24. All the officers of the survey worked to my satisfaction. Mr. Sathe showed perhaps that he had a little to learn still in out-door work and the control of establishment. But his industry and ability were as conspicuous as ever, and during the rains he furnished the department with an excellent scheme for the classification of records and the destruction of useless papers.

Mr. Mehta did excellent out-door work; he has become a valuable classing officer, conspicuous for straightforwardness and diligence. The arrears in his recess work, however, remain to be explained. Mr. Maconochie supplied another proof of his ability in an admirable report on the Chikhli Táluka, and gave intelligent and sound opinions on several difficult questions on which he had to report. Though it was his first year of field work, he fully maintained the existing standard of outturn. He might have succeeded in improving it by increasing the proportion of working days had he remained another year.

The work of Mr. Bapalal, Head Surveyor, again comes in for well deserved praise. This officer, there can be little doubt, had become a valuable authority on Gujarát classification; he had a large knowledge of the subject, and, in the application of it, showed excellent judgment. It was with great regret that I learnt of his sudden death a week or two ago. He will be a great loss to the Survey.

The other Head Surveyors worked up to the usual standard.

25. Mr. Seddon during the few months he held the reins showed great aptitude in picking up his work. His devotion to plague duty resulted in a serious break down of health and the premature loss of his services to the department in which he would undoubtedly have distinguished himself, and to which I hope he may return. The effect of Mr. Fforde's supervision as Superintendent had hardly time to make itself felt, during the year under report. His experience has since then proved of great utility in disposing of difficult questions which have arisen, peculiar to the province of Gujarát.

Deccan Survey.

26. Mr. Fforde continued to hold charge of this survey throughout the year. He was made a Superintendent in charge of both the Deccan and Gujarát Surveys with effect from 1st July 1897 for reasons explained in paragraph 5 above.

27. Mr. Maconochie retained charge of his settlement duties in the Deccan for some time after he received charge of the Gujarát Survey, and during that time retained his Deccan Settlement Office. On completion of the work by Mr. Maconochie the settlement office was reduced (paragraph 3 of Superintendent's report).

28. The number of parties remained the same, but the average strength was reduced by 1 measurer and 3 classers. For reasons explained in paragraph 5 of the Superintendent's report, the measuring section of the establishments was deputed during the early part of the season to perform measuring work in the Konkan. This of course increased the outturn of work in the Konkan at the expense of the Deccan. The extra travelling entailed caused loss of time. But there can be no doubt that there was no better course open to Colonel Godfrey, who, after consultation with Mr. Fforde, decided on this distribution of the work; and I fully accepted that decision. The measurers returned from the Konkan at the middle of January and resumed the revision measurement of Kalvan in Násik, completing 118 villages by the end of the season.

The classers, for climatic reasons, could not be sent to Kalvan early in the season, neither could they be sent to the Konkan, the classing system in which division was too intricate to be picked up by the Deccan hands in the time available for their employment there. They were employed at the commencement of the season on the villages forming part of the Vinchurkar's Jáhágir and afterwards in the Kalvan Táluka in Násik.

			Villages.
Kalvan ...	{ Revision	52	
Vinchurkar's ...	{ First Survey	1	
Jáhagir ...	{ Do.	3	Chandor Táluka.
	{ Do.	4	Niphád Táluka.

They completed the classification of 60 villages as detailed in the margin.

29. The following table shows the details of measurement work which this year consisted entirely of revision measurement on the partial system :—

Year.	MEASURED.			Average cost per Acre.	TESTED.		Average error per cent. Acres.
	Fields.	Waslas.	Acres.		Fields.	Acres.	
1895-96 ...	16,962	105,944	246,162	A. p. 1 11	432 (11·4)	2,145 (5·8)	A. g. 0 25
1896-97 ...	(a) 3,112 (b) 16,224	(a) 20,548 (b) 87,987	(a) 8,553 (b) 170,470	} 2 2	444 (14·2)	1,339 (15·6)	0 20
	19,336	108,535	179,023				
Increase ...	2,374	2,591	...	0 3	12	...	...
Decrease ...	...	...	67,139	...	...	806	0 5

(a) Area actually measured.

(b) Area confirmed without actual measurement.

The reduction in the outturn has been explained in paragraph 9 of Superintendent's report. The results may be accepted as fair though hardly brilliant.

The percentage of test taken was satisfactory. Arrears referred to in paragraph 22 of last year's report were disposed of. The cost per square mile was raised from Rs. 77 in the previous year to Rs. 88, owing to the causes specified by the Superintendent in paragraph 9 of the report.

30. The time saved under field measurement and office work was again devoted to boundary-mark inspection. The prudence of postponing work in the unhealthy talukas till January showed itself in the good health of the measurers, and consequent decrease of more than 6 per cent. of days lost under the head of "sickness." The loss under leave and holidays shows also a decrease of more than 2 per cent. which is satisfactory. Still in the percentage of working days this survey is beaten both by the Konkan and Native States Survey, and the standard might in my opinion be higher.

31. Out of the 118 villages in which measurement work was done during the year in 107 the rayats were induced to erect or repair the marks themselves, and in 11 villages only hired labour had to be employed. This is creditable to the officers in charge of the parties. The recess work was up to date.

32. Similar details respecting classification are given in the table below:—

Year.	CLASSED.		Average cost per Acre.	TESTED.		Average difference.
	Fields.	Acres.		Fields.	Acres.	
1895-96 ...	26,915	306,779	A. p. 0 6	189 (9·4)	534 (3·4)	Soil. Water. 11 pies. 1 pie.
1896-97 ...	(a) 2,630 (b) 9,369	(a) 29,960 (b) 109,430	} 0 9	365 (13·8)	3,171 (10·5)	9 do. 1 do.
	11,909	139,390				
Increase ...	...	...	0 3	176	2,637	.....
Decrease ...	14,916	167,389	...	...	...	2 0

(a) Area actually classed.

(b) Area confirmed without actual classification.

33. As observed in paragraph 26 of last year's report there is no separate classing party in this survey, but classers are attached to one of the measuring establishments. As explained earlier in this review they had to work independently in the Vinchurkar Villages at the commencement of the season.

The reduction in the average strength and the larger proportion of area actually classed accounts for the falling off in the total outturn.

34. The full percentage of numbers was tested both by the Head Surveyor in charge and the supervising officer, Mr. Holland who also disposed of arrears of test of classification of isolated villages scattered over the Districts of Poona, Násik and Ahmednagar. It is a little disappointing that Mr. Holland's test was again in arrears during the year under report. From what I saw of the work when I was with this survey during the current year, I should judge that there was little excuse for arrears in the out-door work of the supervising officer. The days lost in sickness and leave showed a considerable decrease. The consequent increase in the number of working days is satisfactory, but the standard is capable of further improvement.

35. The recess work in this branch was completed with the exception of 2 villages for reasons explained in paragraph 24 of Superintendent's report.

The decrease in the outturn has increased the cost per square mile from Rs. 20 in the previous season to Rs. 30.

36. The cost of the survey under the usual heads is shown in the table below:—

Year.			Measure- ment.	Classi- fication.	Settle- ment.	Miscel- laneous.	Total.
			Rs.	Rs.	Rs.	Rs.	Rs.
1895-96	...	...	28,856	8,858	30,496	6,822	75,032
1896-97	...	...	24,578	6,574	20,587	9,528	61,267
Increase	...	...	...	...	...	2,706	...
Decrease	...	...	4,278	2,284	9,909	...	13,765

37. *Settlement.*—During the year proposals for the revision settlement of two *tálukas, and the original settlement of 33 villages of a third in Khándesh were submitted, the first two by the Superintendent and the third by Mr. Maconochie who still retained charge of settlement duties in the Deccan as explained in paragraph 18 above.

Of these, the proposals for Shirpur were submitted to Government in July last. The remainder, as well as the report on the original settlement of Nándurbar and of the revised settlement of 80 villages of Táloda, were submitted to Government during the current year. The earlier submission of these proposals was delayed by the interruption of my ordinary duties by famine and my subsequent deputation to Europe.

38. Besides the above, proposals for * 19 Inám villages in Javli Táluka of the Satára Collectorate were submitted by Mr. Holland, Assistant Settlement Officer.

39. Revised rates were sanctioned for the Dhulia Táluka in Khándesh; but the introduction of the rates was postponed until 1898-99, in view of the unfavourable character of the past season. Minor settlements were introduced in Jáhágir villages as detailed in paragraph 32 of the Superintendent's report.

40. *Surgana State.*—The work done in this State during the year was the measurement of 4 and classification of 5 villages. The outturn was less than in the previous year. The cost per acre, however, is nearly the same. The difficulties in the way of carrying on the survey of this State have recently been

reported to Government in detail under this office No. S—88, dated 17th January last.

41. Mr. Fforde's experience was of great value to me in dealing with the difficult proposals for the original settlement of some of the Khándesh Tálukas, which he personally inspected in a thorough manner at the most trying season of the year. He has aided me with ripe suggestion and advice, also, on the questions connected with reduction of boundary-mark inspection, and the instruction of village accountants in survey. His settlement reports are full and lucid, and his proposals are made with care and judgment. By the application of his experience the outturn of the current season will, I believe, show an improvement.

Mr. Holland has on the whole worked satisfactorily.

Konkan Survey.

42. The Superintendentship of this survey was, for the greater part of the year, held by Mr. Hearn, Colonel Godfrey holding it for November and December 1896, and Mr. Hudson officiating in it for the short period during which Mr. Hearn acted as Survey Commissioner. The report is submitted by Mr. Hearn. Among minor changes it is worth noting that the survey was re-inforced in May by the return of Mr. Cole, who had been acting as Superintendent of Land Records and Agriculture in Sind.

43. The number of Establishments, inclusive of the Phálñi Establishment, was the same as in the previous season, *viz.*, eleven. As explained in paragraph 19 above, the measurers on the Deccan parties were transferred to the Konkan Survey for a portion of the year.

Owing, however, to the turning of measuring into a classing party, there was an increase of 21·6 in the strength of the classers. The corresponding decrease in the number of measurers was almost neutralised by the accession of the Deccan parties.

44. The six Konkan measuring parties were linked under two European Assistants. Out of the four parties of classers two were under the supervision of Mr. Hudson, Deputy Superintendent, and the other two under the direct supervision of Mr. Hearn, the Superintendent, till the return of Mr. Cole, towards the close of the season, when they were entrusted to him. The Deccan measuring establishments were supervised by Mr. Holland, Assistant Settlement Officer.

45. All the parties opened the season in the Kolába Collectorate, taking up the Revision Measurement and Classification of Mahád and Mángaon Tálukas, and on completion of that work were transferred to the Dáhánu Táluka in Thána where they were employed till the end of the season. A few classers of the C party were deputed to class 2 Isáfát villages of Mokháda Petha in Thána.

46. The work of each party has been fully reviewed by the Superintendent, who has also given the opinion of the Supervising Officer, respecting the work and efficiency of the subordinate officer in charge. The Survey Mámlatdárs and Head Surveyors have all been favourably spoken of with one exception, *viz.*, Mr. Paranjpe, the Survey Mámlatdár, whose tests were found unsatisfactory, and who had to be reverted under a cloud to his substantive appointment in the Revenue Department.

47. In this Survey, the proportion of working days is not discreditable, though not up to the high standard attained in the Native States survey. The time lost in travelling was again large. This, however, could hardly be helped. The days lost in sickness show a satisfactory decrease, doubtless because the most careful endeavours are made to arrange work in the more unhealthy localities at the most favourable times of the year. But the amount of leave granted seems to be still unnecessarily high. The rule that leave is to be granted in the travelling season for urgent reason only must be strictly observed. The best figures as regards leave are those of the Phálñi party. It is hoped that next season when the whole of the establishments will be performing this work the figures will be equally satisfactory.

48. The following table shows details of quantity and quality of measurement work :—

Year.	MEASURED.			Average cost per Acre.	TESTED.		Average error per cent. Acres.
	Fields.	Waslās.	Acres.		Fields.	Acres.	
1895-96	74,217	198,058	208,039	A. p. 8 1	9,529 (12·7)	21,147 (11·7)	...
1896-97	(a) 13,533 (b) 43,349	(a) ... (b) 144,625	144,620 119,694	} 6 0	7,232 (12·7)	23,019 (8·7)	...
	56,942	144,625	264,314				
Increase ... ..	...	...	56,275	...	...	...	...
Decrease	17,275	53,433	...	2 1	2,297	1,128	...

(a) Area actually measured. (b) Area confirmed without actual measurement.

The outturn shows a considerable increase in the number of acres, but a large decrease in the number of fields and waslās. The decrease seems due (1) to the decrease in the average strength of measurers and (2) to the increase in the area of warkas lands dealt with, which occupy more time of the measurers than the smaller rice survey numbers. The result except in the Deccan parties is up to the ordinary standard. These parties also, having regard to the complete novelty of the work and country, got through as much as could be expected from them. The work was tested, as shown in the table, partly by the officers in immediate charge of the parties, and partly by the Supervising Officers. The error found to exist was nil, as in the preceding year. The cost per square mile has decreased from Rs. 323 in the previous year to Rs. 240. The decrease was apparently largely due to the reduction in the cost of supervision by decrease in the emoluments of the Superintendent.

49. The following table shows the details of classification work :—

Year.	CLASSED.		Average cost per Acre.	TESTED.		Average difference.
	Fields.	Acres.		Fields.	Acres.	
			A. p.			Rice. Warkas.
1895-96	177,975	456,400	1 3	5,277 (16·0)	4,493 (12·0)	7 pies. 2 pies.
1896-97	(a) 46,211 (b) 218,306 (c) ...	(a) 124,097 (b) 520,096 (c) 117,648	} 1 1	6,987 (17·4) 28,290 (20·3)	12,884 (10·3) 16,027 (3·0)	} 6 do. 3 do.
	265,070	761,841				
Increase	87,042	305,441	...	1,710	8,391	0 pie. 1 pie.
Decrease ... ..	...	...	0 2	...	...	1 do. 0 do.

(a) Area actually classed. (b) Area examined for Dusota or position class. (c) Area confirmed without actual classification.

Note.—The table includes the figures for nine villages of Bhor in 1895-96.

The outturn shows an increase in the number both of fields and acres, which is attributable to the increase in the strength of classers. The test taken was satisfactory.

50. The cost per square mile has decreased from Rs. 50 to Rs. 43.

51. The following table shows the classified cost of the Konkan Survey.

Year.				Measurement.	Classification.	Settlement.	Miscellaneous.	Total.
				Rs.	Rs.	Rs.	Rs.	Rs.
1895-96	...	...	...	1,05,588	35,428	46,910	3,003	1,90,929
1896-97	...	...	...	92,274	50,783	45,371	8,329	2,03,757
Increase	...	...	...	...	15,355	...	5,326	12,828
Decrease	...	...	...	6,314	...	1,539	...	...

52. There is an increase in the cost of Rs. 12,828, which has been fully accounted for in paragraph 49 of the Superintendent's report. For reasons explained in previous reports, the cost of settlement work in the Bhore State as also that of the Phalni Establishment has been excluded.

In pursuance of the orders contained in Government Resolution No. 7905, dated 8th October 1896, Revenue Department, a full report regarding the arrangements to be made for the performance of Phalni was made by this office in September last. The proposals were accepted by the Local Government and received the sanction of the Government of India and the Secretary of State. They entail the retention of the existing number of Survey Establishments under reduced supervision until the end of October 1900. Mr. Mhaskar continued in charge of the Phalni Establishment throughout the year. The outturn of the party shows an increase in the number of acres, and a much larger proportion of occupancies in the area dealt with. The strength of party was lower than last year, and this outturn is, therefore, most creditable to Mr. Mhaskar, the Survey Māmlatdār in charge of these operations. The net cost per acre is slightly raised owing to the causes specified in paragraph 49 of the report as accounting for the general increase, as well as to the fact that the occupancies being larger in area, the total contributions towards cost by occupants were smaller. The recess work of this party was left incomplete in the case of 84 villages which could not be taken up for reasons explained in paragraph 47 of the Superintendent's report. The recess work in the classing parties also remained over in the case of 242 villages for reasons explained by the Superintendent in the paragraph referred to. The villages in arrears belong chiefly to the Dahanu Taluka, the revision measurement of which had to be completed during the season 1897-98. And since without the results of the measurement the classing recess work could not be done, this portion of the arrears could not be avoided. The survey was also in difficulties, owing to fear of plague, in obtaining the usual temporary establishment. Arrangements have been made for completion of all arrears of the recess work during the coming monsoon. As usual a certain number of men were employed outside the department. The number was considerable, though less than in the previous year. It is now difficult to spare men, every available hand being required to complete the programme of the survey within the ordained limit of time.

53. During the year, revised rates were introduced into 87 Government villages of the Salsette Taluka, one inām village of the Kalyan Taluka, and one taluka of the Bhore State. The revised assessment of new garden lands in Alibag, amended in accordance with orders contained in Government Resolution No. 2438, dated 26th March 1895, was finally announced in supersession of the provisional assessment. Proposals for the settlement of two talukas of Thana, Mahim and Vada, for the Roha Taluka of Kolāba and one taluka of the Bhore State were submitted. Those for Roha and the taluka of the Bhore State were prepared by Mr. Hearn, the Superintendent, and the other three by his Deputy Mr. Hudson. The proposals for the settlement of Bassein Taluka were referred back during the year to the Collector, Mr. Logan, for examination and criticism, and were under the consideration of Government at the close of the year. The proposals for the Roha Taluka are also before Government. Those for the remaining talukas notably Mahim involved very difficult questions

and have been the subject of much correspondence and discussion between myself, the Superintendent, and the Local Revenue Officers. The conclusions arrived at are now being submitted to Government in such a form that Government in deciding the rates will not be embarrassed by acute conflicts of opinion.

54. The survey is entitled to credit for being in advance of Mr. Ozanne's programme in the progress of field work to be accomplished by it. The success is partly due to the assistance of the Deccan parties, but to a far greater degree to the energetic efforts of all officers of the department from the Superintendent downwards. In field work the staff of this survey is hard to beat. The Head Surveyors and Survey Mamlatdars with one unfortunate exception are energetic officers. Mr. Mhaskar is an officer of quite exceptional ability both out-doors and in. Mr. Nerurker is a creditable second. Two of the best Head Surveyors are lost to the department, the one by death, the other by retirement. The Assistants and the Deputy Mr. Hudson have as usual done a full tale of field work, and Mr. Hearn, the Superintendent, has accomplished really a remarkable volume of work of all kinds. He has tested classification, has submitted a settlement report, generally settled or advised the maximum rates in others, given the materials for the scheme of phalni work, has controlled his large establishments with judgment and smoothness, and has made his influence felt in every branch of work.

55. During the year Colonel Godfrey, one of the most able and experienced officers of the department, retired. In the final paragraph of last year's report an acknowledgment was made of his long and meritorious service.

Mr. Hearn also has retired since the close of the year; the mode in which his services have been recognised and the loss which his retirement has inflicted on the department will be more appropriately noticed in next year's report.

Marátha States Survey.

56. This survey was in charge of Mr. Whitcombe as in the preceding year. The promotion of Mr. J. W. Whitcombe, Assistant Superintendent, referred to in last year's report, as also an extension of the term of his employment for a further period of three years, which was applied for by the Superintendent, were sanctioned under Government Resolution, No. 3949, dated 26th June 1897, Political Department.

57. The number of parties remained the same, but the average strength of measurers employed decreased by 2·03, while that of classers was almost the same.

58. As heretofore, the work of measuring and classing was carried on concurrently, the classers following the measurers' work was accomplished as follows:—The Raibág Petha, which was commenced last year, and the Alte Taluka of the Kolhápúr State were completed. Progress was made in the revision of the villages of the Gad Inglaj Taluka of the same State. One Inám village in the Vishalgad State was also measured and classed.

The following tables show the usual details:—

Measurement.

Year.	MEASURED.			Average cost per acre.	TESTED.		Average error per cent acres.
	Fields.	Waslas.	Acres.		Fields.	Acres.	
1895-96	35,283	180,632	259,772	A. p. 1 5	3,669 (15·7)	7,483 (8·0)	A. g. 0 32
1896-97	(a) 13,337 (b) 11 248	(a) 96,198 (b) ...	(a) 65,033 (b) 170,719	1 7	2,262 (16·9)	8,306 (12·7)	0 25
	24,585	96,198	235,752				
Increase	...	...	...	0 2	...	823	...
Decrease	10,698	84,634	24,020	...	1,407	...	0 7

(a) Area actually measured.

(b) Area confirmed without actual measurement.

Classification.

Year.	CLASSED.		Average cost per acre.	TESTED.		Average difference.	
	Fields.	Acres.		Fields.	Acres.		
1895-96	...	...	A. p.			Soil.	Water.
	37,500	268,157	0 8	279	3,256	1 pie.	1 pie.
				(11·0)	(11·4)		
1896-97	(a) 588	(a) 6,680	0 10	115	597	1 do.	0 do.
	(b) 23,536	(b) 224,081		(19·6)	(8·9)		
	24,124	230,761					
Increase	...	...	0 2	...	...	...	...
Decrease	...	...	...	164	2,659	...	1 pie.

(a) Area actually classed.

(b) Area confirmed without actual classification.

59. The outturn shows a considerable falling off both under measurement and classification. That under measurement is attributable to the following causes :—

(a) the decrease in the strength of measurers ;

(b) the large increase in the number of days which it was found necessary to devote to boundary-mark inspection ;

(c) lastly, the tendency of the people to make difficulties which delay the progress of work.

But the point to note is that the area requiring full measurement and classification, in contrast to mere confirmation of original work, was considerably greater in the year under report. The diminished outturn is thus no sign of diminished work, the amount of which accomplished was decidedly satisfactory. The high percentage of working days 87 among classers and 89½ among measurers is most creditable to the management of this Survey, which in this respect is a model to the other three.

60. The test taken which includes that by the Assistant Superintendent was ample and satisfactory.

61. The cost of the operations of the year under all heads is shown in the following table :—

Year			Measure- ment.	Classifica- tion.	Settlement.	Miscellan- eous.	Total.
			Rs.	Rs.	Rs.	Rs.	Rs.
1895-96	...	...	23,404	10,759	10,188	...	44,351
1896-97	...	...	23,394	11,611	10,096	...	45,101
Increase	...	...	...	852	...	...	750
Decrease	...	...	10	...	92	...	...

62. The distribution of cost between the States affected as far as the year under report is concerned may be shortly exhibited thus :—

State.			Measurement.	Classification.	Settlement.	Total.
			Rs.	Rs.	Rs.	Rs.
Kolhapur	...	...	22,507	11,140	8,409	42,056
Vishalgad	...	...	741	325	853	1,919
Ichalkaranji	...	...	...	...	591	* 591
Kagal	...	...	...	...	...	* 528
Savanur	...	...	...	...	...	* 8
Total			23,248	11,465	9,853	45,102

* On account of settlement and arrears of increased salary to the Assistant Superintendent, and pension contribution on the same.

63. During the year under report, revised survey rates were introduced into 40 villages of the Kágal State (senior), and into 6 villages of Kágal (junior) with the following results:—

State.					Former Revenue.	Revised demand.	Increase.
					Rs.	Rs.	Rs.
Kágal (senior)	...	...	...	...	65,550	84,887	19,337
Kágal (junior)	...	...	...	...	9,301	12,086	2,785

64. The year's work is decidedly creditable to the Superintendent, and his Assistant. The former Officer has fully maintained the excellent reputation with which he retired from the British Department. I have had the opportunity of discussing, and reviewing several settlement reports of Mr. Whitcombe, Senior, and have pleasure in complimenting him on the judicious character of his proposals, and the clearness with which they are submitted.

Summary.

65. As usual I append a summary of the work of all the surveys taken together, but excluding that of the Native States Survey, for reasons recorded in previous year's reports.

66. In the following table is shown the classified cost of all the surveys:—

Survey.					Measurement.	Classification.	Settlement.	Miscellaneous.	Total.
					Rs.	Rs.	Rs.	Rs.	Rs.
Gujarát	...	...	...	...	23,755	41,850	32,272	...	97,877
Deccan	...	...	...	...	24,578	6,574	20,587	9,528	61,267
Konkan	...	...	...	...	99,274	50,783	45,371	8,329	2,03,757
Total					1,47,607	99,207	98,230	17,857	3,62,901
Total for 1895-96					1,82,135	61,473	1,13,398	9,825	3,66,831
Increase	...	...	...	...	...	37,734	...	8,032	...
Decrease	...	...	...	...	34,528	...	15,168	...	3,930

Note.—In the Konkan the following items of cost are excluded from the table:—

	1895-96.	1896-97.
	Rs.	Rs.
Phálni Establishment	...	...
Work in * Bher and Janjira States	...	...
	7,675	8,790
	4,608	* 1,031

This net decrease of Rs. 3,930 is made up as follows:—

Gujarát Survey	...	...	...	— 2,993
Deccan Survey	...	...	...	— 13,765
Konkan Survey	...	...	...	+ 12,823
Net decrease	...	...	...	— 3,930

67. The causes of increase and decrease in the several surveys have been fully explained in the remarks under them. The chief point worth noting about the cost of the survey is that it is steadily diminishing from year to year. This is due to the economies which result from the gradual contraction of the

* Only no work was done in Janjira State during the year.

operations of the Department. There is nothing to indicate tendency to extravagance in any branch of the department the lines of expenditure in which have been settled for years. The cost of the operations in the Bhor State amounted to Rs. 1,031, which sum will be recovered from the State. The cost of the phalni establishment which amounted to Rs. 8,790 will also be partly recovered from the occupants for whom the phalni was done.

68. The charge against each survey of the pay and allowances of the Survey Commissioner and his office debitable to survey during the last two years is shown in the following statement :—

Year.				Gujarát.	Deccan.	Konkan.	Total.
				Rs.	Rs.	Rs.	Rs.
1895-96	...	...	...	7,202	5,098	13,184	25,484
1896-97	...	...	...	4,268	4,268	13,845	24,541
Increase	...	...	...	...	...	661	...
Decrease	...	...	...	774	830	...	943

The distribution has been made according to the usual rules. The net decrease is due to a diminution in total pay and allowances of the several officers who held the appointment of Survey Commissioner during the year.

69. The next two tables show the cost per square mile in the two years under comparison and the details for each survey :—

Year.				AREA.		Cost per square mile.
				Acres.	Square miles.	
						Rs.
1895-96	...	...	...	864,994	1,352	111
1896-97	...	...	...	1,327,387	2,074	57
Increase	...	...	...	462,393	722	.....
Decrease	...	...	...	.....	.....	54

Survey.	Total area measured, i.e., dealt with under different and varying forms of measurement operations.	Gross cost of such operations.	Cost per square mile.	Percentage of days spent in Boundary-mark inspection.	Cost chargeable to Boundary-mark inspection.	Net cost of Measurement per square mile.	Net Cost in 1895-96.
	Acres.	Rs.	Rs.		Rs.	Rs.	Rs.
Gujarát	884,050	23,755	17	0.64	152	17	68
Deccan...	179,023	24,578	88	50.44	12,397	44	48
Konkan	264,314	99,274	240	8.35	8,289	220	295
Total	1,327,387	1,47,607		19.81	29,241	57	111

70. There is an increased area coupled with a decrease in the cost of operations. The decrease in the net cost of measurement amounts to 54 per square mile. It simply follows from the character of the work done. There

has been no radical change in the methods of working. But the survey can justly claim that every opportunity for practising economy is embraced, and that when the work admits of a cheap method, that method is employed. With my opinions on the necessity and value of boundary-marks, I cannot look with satisfaction on the time and money spent on the inspection of them. But the system is of longstanding and could not be extensively altered towards the close of the operations of the Department. Both in Gujarát and the Konkan from time to time, the number and character of field marks are modified as circumstances permit, and if, as I believe, our experience shows that many are superfluous, the burden of inspection and maintenance can be lightened in the future.

71. Similar tables follow to show the details of classification :—

Year.			Area classed.	Cost per Acre.	Cost per Square mile.
			Acres.	A. p.	Rs.
1895-96	...	...	974,943	1 0	40
1896-97.	...	...	1,604,207	0 11	40
Increase	...	...	629,264	.....	.....
Decrease	...	..	.....	0 1	.....

Excluding Native States and Phálni Establishment in both years.

Survey.			Area classed.	Cost per Acre.	Cost per Square mile.
			Acres.	A. p.	Rs.
Gujarát	...	...	702,976	0 11	37
Deccan	...	...	139,390	0 9	30
Konkan	...	...	761,841	1 1	43
Total	...	...	1,604,207	0 11	40

NOTE.—The above table excludes the work and cost of the Phálni Establishment and Native States.

72. The results as a whole seem satisfactory, there being a considerable increase in the area classed and a slight decrease in the average cost per acre. The variations of cost in the different surveys are fully explained in the remarks on each of them.

73. The cost of measurement and classification, taken together, are shown below :—

Survey.			Combined cost per Acre.	
			1895-96.	1896-97.
			A. p.	A. p.
Gujarát	...	...	3 1	1 4
Deccan	...	...	2 5	2 11
Konkan	...	...	9 4	7 1

Exclusive of Native States and Phálni Establishment in both years.

The next table exhibits the total cost, including the item of settlement, of each survey contrasted with that of the previous year :—

Survey.	Total cost, 1895-96.	Total cost, 1896-97.	Increase.	Decrease.
	Rs.	Rs.	Rs.	Rs.
Gujarát ...	1,00,870	97,877	...	2,993
Deccan ...	75,032	61,267	...	13,765
Konkan ...	1,90,929	2,03,757	12,828	...
Total ...	3,66,831	3,62,901	...	3,930

Exclusive of Native States and Phálni Establishment in both years.

74. The increased revenue accruing from settlements introduced during the year is shown below :—

Survey.	Amount of Settlement Jamábandi.	Average of past collections.	Increase.	
			Rupees.	Per cent.
	Rs.	Rs.		
Gujarát ...	6,10,659	5,25,780	84,879	16.3
Deccan ...	1,37,272	1,08,854	28,418	26.1
Konkan ...	3,690	3,119	571	18.3
Total ...	7,51,621	6,37,753	1,13,868	17.9

75. The details of the call on the Survey Department for aid on behalf of other Departments are shown in the following statement :—

Survey.	REVENUE.		FOREST.		MUNICIPALITY.		NATIVE STATES.		MARÁTHA STATES SURVHY.		TOTAL.	
	Number of men lent.	Number of months for one man.	Number of men lent.	Number of months for one man.	Number of men lent.	Number of months for one man.	Number of men lent.	Number of months for one man.	Number of men lent.	Number of months for one man.	Number of men lent.	Number of months for one man.
		M. d.		M. d.		M. d.		M. d.		M. d.		M. d.
Gujarát ...	...	...	...	...	...	...	...	...	...	...	...	...
Deccan ...	...	...	10	120 0	...	...	...	...	...	...	10	120 0
Konkan ...	6	72 0	7	65 14	2	16 0	2	15 23	8	94 17	25	253 24
Total ...	6	72 0	17	175 14	2	16 0	2	15 23	8	94 17	35	373 24

76. The call on the Survey Department for aid on behalf of other Departments, though not quite so large as in the previous year, is still considerable. An equivalent of 31 men was employed on behalf of other Departments as against 44 in the previous year.

77. The following table is given corrected and brought to date as usual :—

District.	Former Revenue.	Revised Demand.	Immediate Increase.	Percentage Increase.
	Rs.	Rs.	Rs.	
Ahmedabad ...	8,74,265	10,99,018	2,24,753	25·7
Kaira ...	13,30,021	15,32,057	2,02,036	15·2
Panch Maháls ...	1,10,427	1,11,934	1,507	1·4
Surat ...	5,25,780	6,10,659	84,879	16·3
Thána ...	4,73,861	6,60,631	1,87,270	39·6
Khándesh ...	23,55,321	30,75,493	7,20,172	30·6
Násik ...	7,99,441	10,64,160	2,64,719	33·1
Ahmednagar ...	11,76,900	15,12,309	3,35,409	28·5
Poona ...	9,72,165	12,81,699	3,09,534	31·8
Sholápur ...	8,56,901	11,49,475	2,92,574	34·1
Sátára ...	13,19,568	17,17,891	3,98,323	30·2
Kolába ...	6,27,959	8,79,848	2,51,889	40·1
Belgaum ...	11,05,172	14,36,165	3,30,993	29·9
Dhárwár ...	13,00,701	18,87,818	5,87,117	45·1
Bijápúr ...	8,56,855	10,79,438	2,23,083	26·0
Total ...	1,46,84,337	1,90,98,595	44,14,258	30·1

78. The following statement gives details of settlements introduced into Inám and Jáhágir villages, the former with the sanction of the Survey Commissioner and the latter under sanction of the Political Agent and the State concerned. It does not include the settlements introduced in the tracts being dealt with by the Marátha States Surveys :—

Name of District.	Name of Táluka.	Number of Villages.	Nature of Settlement.	Old Collections.	Revised Assessment.	INCREASE.	
						Rs.	Per cent.
Thána ...	Kalyán ...	1	Original ...	429	Rs. 1,218	789	183·9
Kurundvád (Junior)...	Yellur ...	15	Do. ...	43,074	41,585	—1,539	—3·6
	Maindargi ...	15	Do. ...	37,866	39,425	1,559	4·1
Sángli State ...	Sháhápúr ...	12	Do. ...	10,076	12,421	2,345	23·3
Bhor State ...	Prachandgad ...	97	Do. ...	21,594	30,497	8,903	41·2

Judi Settlement and Scale remuneration.

79. During the year under report the “Judi Tharáv” has been settled in 610 villages as compared with 1,350 of the previous year, and proposals for the revised scale remuneration have been prepared for 802 as against 883 in the previous year.

80. The result of the revised scale for the year is a net additional cost to Government of Rs. 1,375. Regarding this, however, a reference is solicited to paragraphs 75 and 76 of the report for the year 1894-95.

The usual table is given below :—

Name of Taluka.	Total Number of Villages.	Revision Settlement year.	ARREARS OF		Name of Taluka.	Total Number of Villages.	Revision Settlement year.	ARREARS.	
			Judi Settlement.	Revised Scale Re-muneration.				Judi Settlement.	Revised Scale Re-muneration.
1	2	3	4	5	1	2	3	4	5
<i>Dhárwar.</i>					<i>Ahmednagar.</i>				
Navalgund ...	1	1886-87	1	1	Shrigonda ...	1	1890-91	1	...
Total ...	...	.....	1	1	Sangamner ...	1	1896-97	1	1
<i>Bijápúr.</i>					<i>Nasik.</i>				
Muddebihal ...	4	1896-97	1	4	Chándor ...	6	1894-95	6	6
Total ...	...	.....	1	4	Niphád ...	3	1894-95	3	3
<i>Belgaum.</i>					Yeola ...	8	1895-96	1	8
Athni ...	1	1891-92	...	1	Peint ...	166	{ 1895-96 ... 76 }	1	166
Chikodi ...	4	1886-87	...	4	Nándgaon ...	54	{ 1896-97 ... 90 }	54	54
Belgaum ...	4	{ 1888-89 ... 1 }	3	4			{ 1896-97 ... 45 }		
Gokák ...	2	{ 1895-96 ... 1 }	2	2			{ 1897-98 ... 9 }		
Total ...	11	.....	5	11	<i>Khandesh.</i>				
<i>Sátára.</i>					Amalner ...	150	1889-90	11	150
Khánápur ...	8	1891-92	5	8	Erandol ...	28	1889-90	23	28
Koregaon ...	4	{ 1893-94 ... 3 }	2	4	Jámner ...	14	1890-91	2	14
Wái ...	4	{ 1895-96 ... 1 }	2	4	Bhusiwal ...	21	{ 1890-91 ... 15 }	10	21
Javli ...	190	1894-95	74	190	Jalgaon ...	110	{ 1896-97 ... 6 }	70	110
Sátára ...	15	{ 1894-95 ... 9 }	8	15	Pachora ...	217	1891-92	38	217
Pátan ...	126	{ 1896-97 ... 6 }	75	126	Sindkhed ...	14	{ 1892-93 ... 12 }	8	14
Karád ...	77	1895-96	77	77	Chálisgaon ...	129	{ 1894-95 ... 2 }	129	129
Valva ...	107	1896-97	107	107	Nandurbár ...	110	1896-97	110	110
Total ...	531	.....	350	531	<i>Thána.</i>				
<i>Poona.</i>					Murbád ...	170	1895-96	31	170
Máyal ...	2	1894-95	2	2	Kalyán ...	225	{ 1895-96 ... 224 }	44	225
Khed ...	21	{ 1888-89 ... 4 }	21	1	Bhiwandi ...	200	{ 1896-97 ... 1 }	25	200
Sirur ...	2	{ 1889-90 ... 10 }	2	...	Sálsette ...	100	1897-98	1	100
Purandhar ...	21	{ 1890-91 ... 1 }	17	21	<i>Kolaba.</i>				
Haveli ...	10	{ 1891-92 ... 6 }	9	10	Karjat ...	1	1889-90	...	1
Total ...	56	.....	51	34	Panwel ...	244	{ 1893-94 ... 242 }	...	244
					Pen ...	211	{ 1894-95 ... 2 }	...	211
					Total ...	456	.....	...	456

81. The record of Judidár Patraks is distinctly poor. But I can confidently affirm that this, under the system which prevails, is not the fault of the Department. The compilation of these statements requires constant references to the Mámlatdárs and Collectors who, in many cases, were unable during the year under report to dispose of the correspondence, owing to the pressure of Famine and Plague work. I am now examining the system in the hope of diminishing the amount of correspondence which occurs. Government need not fear a similar short record in the next report. On the contrary I expect that some of the leeway lost this year will be made up.

82. Four Junior Civilians were instructed either in measurement or classing or both. Two obtained the certificates both for measuring and classing, and two for measuring only.

83. The revised scheme for training Junior Civilians has been fully considered and proposals would have been laid before Government, but for the interruption due to famine and my deputation to Europe.

84. The department is to be congratulated on its operations having been so little dislocated by famine and plague. The field establishments had all of them to work at one time and another in localities affected with plague. I am glad to record that nothing like panic or desertion occurred. In the Gujarát Survey it was considered advisable to close recess work somewhat early on account of the outbreak of plague, in Surat in the month of October. In the Konkan Survey at least one valuable life was lost through plague, and in the Deccan Survey severe losses occurred from cholera. But the men kept their heads and stuck to their work.

85. As regards famine the only part of the work which suffered was my own. At the usual periods when I should have been paying visits of inspection to the survey parties I had to tour in famine districts, the reports on which delayed me in disposing of the reviews of the settlement proposals which had been submitted to me. But I was able to see some of the intricate garden classification of the Gujarát Survey with Mr. Maconochie in Bulsár, and to visit Máhim where Mr. Hudson was working, by going there in May, the time at which the Survey Commissioner is usually with Government at the hills. The arrears in settlement proposals will have been made up by the time that this report reaches Government. Since my return from Europe the reports for eight talukas have been submitted.

86. My cordial acknowledgments are due to all officers of the department for the consistent and steady work done, especially to the two Superintendents Messrs. Hearn and Fforde, for their co-operation and advice.

I have the honour to be,

Sir,

Your most obedient Servant,

J. W. P. MUIR-MACKENZIE,
Survey Commissioner and Director,
Land Records and Agriculture.

PROGRESS REPORT

OF THE

GUJARAT REVENUE SURVEY

For the Year ending 31st October 1897.

PROGRESS REPORT OF THE GUJARAT REVENUE SURVEY
FOR THE YEAR 1896-97.

No. 153 OF 1898.

Surat, 28th February 1898.

1. During the year under report Mr. E. Maconochie, I.C.S., was in charge of this survey until the 17th June 1897, and Mr. C. N. Seddon, I.C.S., from the 3rd July, until the end of October 1897. During the interval from the 18th June until the 2nd July, Mr. P. R. Mehta, Assistant Superintendent, held temporary charge.

2. The number of field establishments was six as in the previous year. There were also the Deputy Superintendent's personal office and the head-quarter's office. Of the four measuring establishments entertained in the preceding year, one was converted into a classing establishment at the commencement of the year under report, during which three measuring and three classing establishments were at work. As will be seen later, however, the distinction between measuring and classing parties was not maintained throughout the field season, except in the case of one establishment employed solely on measurement work. The other five establishments were employed in the latter part of the season on measurement and classification operations simultaneously. At the close of the year three establishments were disbanded. The average number of chains was 52½ and of classers 55½, as compared with 92 and 29½, respectively, in the previous year.

MEASUREMENT OPERATIONS.

3. The C Establishment alone was employed on measurement work throughout the year, and the other five establishments being engaged partly on measuring and partly on classing work.

Linked Party No. I.

4. The A Establishment was in charge of Azam Mohanlal Ishwar, Head Surveyor, throughout the year. It was employed on measurement work simultaneously with classing work in 27 villages of the Ankleshvar Táluka from 6th May 1897, until the close of the year.

5. The B Establishment was in charge of Azam Jethalal Gulabchand, Head Surveyor, throughout the year. Measurement work concurrently with classification work, was commenced on the transfer of the party to the Hansot Peta on 1st May, and 24 villages were completed at the close of the year.

6. The E Establishment under Azam Bapalal Purshotam commenced measurement work on its transfer to the Amod Táluka of the Broach District on 1st April. The work was performed simultaneously with classing work in 15 villages.

Linked Party No. II.

7. The C Establishment, under Azam Rajaram Veniram, commenced measurement work on the 10th November, in the Godhra Táluka of the Panch Maháls District in which the revision measurement of 49 villages was completed. The party consisting of six theodolite surveyors and 14 measurers, was specially constituted for the purpose of performing concurrently with the ordinary revision operations, the measurement work necessitated by the inaccuracy of the maps of certain villages in the Godhra and Hálol Tálukas. When the operations had been for a short time in progress it was found that the work in the former táluka was very much simpler than in the latter, and the original programme was modified. The Head Surveyor with four of the theodolite sur-

veyors proceeded to Hálol, the other members of the party being placed under the supervision of the Head Surveyors of the D and F Establishments on the arrival of the latter in the Godhra Táluka. As the work in this táluka approached completion some of the members of the party were deputed to assist the Head Surveyor in Hálol, the remainder helping to complete the ordinary operations in Godhra, and subsequently accompanying the parties to which they were temporarily attached to the Broach District. In this way, the party measured 49 villages in Godhra Táluka, and 9 villages in Hálol Táluka in the Panch Maháls District, and 5 villages of the Vágna Táluka, and one of the Broach Táluka of the Broach District.

8. The D Establishment under Azam Chaganlal Dayaram, Head Surveyor, commenced the work of revision measurement in the Kálol Táluka on 10th November, and completed 53 villages. On the 8th February 1897, it was transferred to the Godhra Táluka in which 26 villages were measured, and in the middle of March proceeded to the Broach Táluka in which it completed, concurrently with classing work, the revision measurement of 60 villages.

9. The F Establishment under Azam Keshavlal Pitambar, commencing work on November 10th completed the revision measurement of 60 villages of the Godhra Táluka. About the middle of March, it was transferred to the Broach District, and completed the revision measurement of 38 villages of the Broach Táluka and 51 villages of the Vágna Táluka. In 25 of the villages in the latter táluka classing-operations were conducted simultaneously with the measurement work.

10. An abstract of Appendix No. I, showing the amount of measurement work performed, during the year under report, as compared with that of the preceding year is given below :—

Letter of Establishment.	1895-96.				1896-97.			
	Average Number of hands.	Survey Numbers, including Pot Numbers.	Vaslas.	Acres.	Average Number of hands.	Survey Numbers, including Pot Numbers.	Vaslas.	Acres.
A ...	10½	6,886	65,870	4,374	¾	458	2,630	1,194
B ...	20½	8,038	89,404	5,257	¾	722	4,192	1,360
E ...	...	.....	...	...	¾	559	2,880	1,263
C ...	21½	8,613	101,311	8,181	17	3,339	29,293	8,413
D ...	22½	9,810	91,714	8,751	14½	5,596	28,836	6,881
F ...	17½	5,183	54,862	6,216	18½	5,236	30,704	8,417
Total ...	92	38,530	403,161	32,779	52½	15,910	98,535	27,528

11. Proportionately to the strength of the measuring staff the outturn in acres compares favourably with that of the preceding year, while the number of survey numbers and vaslas shows a very large decrease. This falling off is accounted for partly by the transfer to the measuring staff of the work of preparing measurement and classification books for classers, whose work was thereby considerably expedited, and partly by the necessity of employing measurers engaged in map correction in the Panch Maháls District on preparing traverse statements, drawing maps, comparing the new with the old maps, &c., during the field season. Moreover, measuring parties were not, as in the preceding year, employed within a compact area, the work being distributed over a number of tálukas.

12. The following statement shows the cost per acre of the measurement operations. The average cost of all parties in the preceding year was Re. 0-1-10, excluding the area confirmed the cost per acre was Rs. 1-7-3 :—

Estab- lish- ment.	Average number of hands.	Name of Head Surveyor.	Táluka.	Confirmed Acres.	Re- measured Acres.	Total Acres.	Average Cost of measurement per acre.
							Rs. a. p.
A	22	Azam Mahanlal ...	Ankleshvar ...	43,051	1,194	44,245	0 0 1
B	22	Azam Jethalal ...	Ankleshvar (Hansot) ...	57,064	1,360	58,424	0 0 1
E	22	Azam Bapalal ...	Amod ...	103,270	1,263	104,533	0 0 1
			Godhra ...	84,057	6,395	90,452	
			Hálol ...	13,350	1,572	14,922	
C	17	Azam Rajaram ...	Vágra ...	8,590	445	9,035	0 1 5
			Broach ...	527	1	528	
			Kálol ...	82,282	2,379	84,661	
D	14½	Azam Chaganlal ...	Godhra ...	42,859	1,661	44,520	0 0 4
			Broach ...	124,246	2,841	127,087	
			Godhra ...	106,579	4,393	110,972	
F	18½	Azam Keshavlal ...	Broach ...	55,245	900	56,145	0 0 5
			Vágra ...	135,402	3,124	138,526	
				856,522	27,578	884,050	0 0 5

CLASSIFICATION OPERATIONS.

Linked Party No. I.

13. The A Establishment resumed classification work on November 21st in the Bulsár Táluka, in which 52 villages were completed. In April it proceeded to Mándvi and completed 48 villages, and in May was transferred to the Ankleshvar Táluka in which the revision measurement and classification of 27 villages had been carried out at the close of the year.

14. Azam Jethalal Gulabchand held charge of the B Establishment which was a newly formed classing establishment. Reclassification work was taken up in the Bulsár, Párdi and Mándvi Tálukas in the order named, and 36, 24 and 81 villages were completed in these tálukas respectively. In May the establishment was transferred to the Hansot Mahál of the Ankleshvar Táluka, in which the measurement and classification of 28 villages were revised.

15. The E Establishment under Azam Bapalal Purshotam, Head Surveyor, commenced the reclassification of 55 villages of the Párdi Táluka on 20th November. On the completion of this work two classers proceeded to Mándvi, in which they reclassified two villages and the rest of the establishment was transferred to Amod where classification work was completed in 50 villages, in 15 of which the work was carried on simultaneously with measurement. In May a part of the establishment was deputed to test the original classification of 33 *bárá* villages of the Vágá Táluka.

Linked Party No. II.

16. The D Establishment under Azam Chaganlal Dayaram, had been employed on measurement work until the middle of March, when it was transferred to the Broach Táluka. Sixty-four villages, 60 of which were remeasured, were reclassified by the establishment up to the close of the year.

17. The F Establishment under Azam Keshavlal Pitambar commenced reclassification work on its transfer to the Vágá Táluka in the month of April. Of the 51 villages remeasured by the establishment in that táluka 25, were simultaneously reclassified.

18. The subjoined statement shows the work of the year under report as compared with that of the preceding year :—

1895-96.						1896-97.					
Average number of hands.	Total Survey Num- bers.	Total Acres.	Average area per Survey Number.	Average daily outturn per Classer in		Average number of hands.	Total Survey Num- bers.	Total Acres.	Average area per Survey Num- bers.	Average daily outturn per Classer in	
				Num- bers.	Acres.					Num- bers.	Acres.
29½	71,989	88,767	1.23	21	26	55½	95,893	145,836	1.52	16½	25

19. The average daily outturn shows a falling off which is more noticeable in the number of fields classified than in the area, while it will be seen later that there is an increase in the number of days spent in field classification. The decrease was due partly to the scattered nature of the work, and partly to the loss of time occasioned by attaching measurers to three of the parties for instruction in classification work. Until the middle of January these parties worked up to only half their strength.

20. The cost per acre of classification work is shown in the following statement :—

Estab-lishment.	Average number of hands.	Name of Head Surveyor.	Taluka.	Fields reclass- ed.	Confirmed Acres.	Acres reclassified.	Total Acres.	Average area per Survey Number.	Average cost per Acre.
									Rs. a. p.
A	17½	Azam Mohanlal ...	Bulsár ...	20,002	46,541	28,266	74,807	1.41	0 1 1
			Mándvi ...	5,165	39,406	13,366	52,772	2.59	
			Ankleshvar ...	3,075	40,194	4,052	44,246	1.32	
B	18½	Azam Jethalal ...	Bulsár ...	14,232	30,714	15,987	46,701	1.12	0 1 2
			Párdi ...	7,429	18,326	9,647	27,973	1.30	
			Mándvi ...	9,112	18,562	17,552	36,114	1.93	
			Ankleshvar ...	4,891	48,443	9,911	58,354	2.05	
E	16½	Azam Bapalal ...	Párdi... ..	22,243	45,883	24,333	70,216	1.09	0 1 1
			Mándvi ...	352	647	490	1,137	1.39	
			Amod ...	3,154	98,141	6,392	104,533	2.03	
			Vágra ...	1,399	...	7,820	7,820	5.60	
D	2	Azam Chaganlal ...	Broach...	3,131	121,653	5,434	127,057	1.74	0 0 6
F	½	Azam Keshavlal ...	Vágra ...	1,708	48,630	2,586	51,216	1.51	0 0 8
			Total ...	95,893	557,140	145,886	702,976	1.52	0 0 11

21. Azam Mohanlal tested the measuring work of the A Establishment in 58 fields or 259 vaslas aggregating in area to 91 acres. The percentage test on fields was 12.7 on vaslas 9.8 and on acres 7.6, the average difference between original and test measurement being 26 gunthas.

22. Azam Jethalal tested the work of the B Establishment in 14 out of 24 villages in which measurement work was completed. Altogether 101 acres, composed of 60 fields divided into 233 vaslas were tested, the percentages on original work being 7.4, 8.3 and 5.5, respectively. The average difference was 0.14 gunthas.

23. Azam Rajaram Veniram tested the work of the C Establishment in 46 villages out of 64 measured. Two hundred and eighty-five fields, 1,651 vaslas, and 448 acres were tested, the percentages on original work being 8.5, 56 and 5.3, respectively. The averagedifference was 1 acre 9 gunthas. The returns show a small percentage test because Azam Rajaram was suddenly transferred from Godhra in which the bulk of the work was done, the deficiency being made good by the Head Surveyor in charge of the F Establishment. Moreover, the work of a few members of the party in Vágra and Broach, to which they were transferred late in the season, was tested by the Head Surveyors to whose parties they were temporarily attached.

24. The measuring work of the D Establishment was distributed over 142 villages, in 113 of which it was tested by Azam Chaganlal Dayaram. This officer also tested the work of the members of the C and F Establishments, who were detached from their own parties late in the season to assist the D Establishment in the Broach Taluka. The figures of percentage test will appear high because the calculation takes into account tests performed on the work of members of the C and F Establishments, but not the work itself. The number of fields tested was 676, of vaslas 3,380, and of acres 804, the corresponding percentages on original work being 12.1, 11.7 and 11.6, while the average difference was 19 gunthas.

25. The measurement work of the E Establishment was confined to 15 villages, in 3 of which tests were taken by the Head Surveyor, Azam Bapalal Purshotam. Seventeen fields divided into 51 vaslas and measuring altogether 30 acres were tested, giving percentages of 3.0, 1.7 and 2.3, respectively, on

original work. The test is small as the party commenced measuring work almost at the end of the season, and it will be seen that Azam Bapalal not only performed a large number of tests of the ordinary work of the classing Establishments, but also tested the original classification of 33 villages in the Vágra Táluka.

26. The F Establishment performed measuring work in 60 villages of Godhra, 51 villages in the Vágra Táluka, and 38 villages Broach Táluka. In the first named tálukas tests were taken by Azam Keshavlal Pitambar in 70 and 40 villages, respectively, the work of the C Establishment in the Godhra Táluka being, as already explained, tested by this officer. In all he tested 620 fields, 3,041 vaslas, and 744 acres, the percentages on original work being 11·8, 9·9 and 8·8, and the average difference 37 gunthas. The work of the establishment in the Broach Táluka was tested by the Head Surveyor in charge of the D Establishment.

27. The tendency, commented in the previous year's report, on the part of Head Surveyors to chose small numbers for their tests, is again apparent. The Head Surveyors in charge of the A, D and F Establishments took more than the tests required, and the deficiencies in the tests taken by the officers in charge of the C and E Establishments have been explained. Azam Jethalal has taken less than the required percentage test of the work of the B Establishment, but the measurement work was commenced in May and this officer has performed much more than the required test of classification work.

28. The statement given below shows the tests taken by the officers in charge of linked parties :—

Name of Officer.	Letter of Establishment.	Nature of test.	Fields.	Vaslas.	Acres.	Difference between test and tested area.	PERCENTAGE.	
							Numbers.	Acres.
Mr. P. R. Mehta ...	E	On Head Surveyors ...	5	25	9	A. g.		
		On Measurers ...	23	115	25	0 22	29·41	30·0
	C	On Head Surveyors ...	41	243	62	0 7	4·11	1·98
		On Measurers ...	21	97	27	1 8	14·39	13·84
Mr. H. V. Sathe .	D	On Head Surveyors ...	73	331	70	0 13	0·65	0·32
		On Measurers ...	39	269	42	1 25	10·80	8·70
	F	On Head Surveyors ...	78	330	81	0 7	0·70	0·61
		On Measurers ...	35	179	29	1 5	12·61	10·89
							0·66	0·34

29. Mr. Mehta was unable to take any tests of the measurement work of the A and B Establishments as he was detained in the Bádoli Táluka on jamábandi work and could not visit the Ankleshvar Táluka. The work will, however, be tested during the current year. Mr. Mehta's test of the work of the E Establishment and Mr. Sathe's test of the C, D and F Establishments are fully satisfactory.

30. No boundary-mark inspection was made by any of the officers as the marks were not repaired within the prescribed time. Owing to the adoption of the curtailed system the measurers' stay in individual villages was very short, and in all cases the necessary statements were forwarded to the táluka authorities for further action in accordance with the rules.

Test of Classification Operations.

31. The work of the A Establishment was tested by Azam Mohanlal in 126 out of the 127 villages completed during the year. The number of fields tested was 5,935, of which 4,063 were tested for water, and their total area was 6,862 acres. The percentage on original work was 21 on fields and 15 on acres, and the average difference between original and the test classification was 2·12 pies.

32. Azam Jethalal Gulabchand tested the work of the B Establishment in 159 out of 169 villages completed during the year. He tested 6,072 fields measuring 6,315 acres, being 17 and 11·9 per cent. respectively of the original work. The average difference between original and test classification was only 0·24 pies.

33. The work of the D Establishment in the Broach Taluka was tested by Azam Chaganlal in 35 out of 64 villages. Two hundred and forty-eight fields measuring 343 acres, being 7·9 and 6·3 per cent. respectively of the original work, were tested and showed an average difference of 0·9 pies for soil between original and test classification.

34. The work of the E Establishment was tested in 55 villages in the Pardi Taluka, 23 villages in the Amod Taluka, by Azam Bapalal the work done in two villages in Mandvi Taluka being tested by Azam Jethalal. The former officer tested 6,278 fields measuring 6,371 acres or 24·3 and 20·4 per cent. respectively of the total work of the establishment, the average difference in classification annas being 0·91 pies for soil and 0·76 for water. He also tested the original classification of 33 villages in Vagra in order to ascertain its correctness the number of fields tested being 826 and of acres 4,386, or 59 per cent. and 56 per cent. respectively of the total work done by the small party of classers deputed on this duty.

35. Azam Keshavlal tested the work of the F Establishment in the 25 completed villages. Three hundred and sixty numbers measuring 1,451 acres were tested, including 67 fields in Chanchvel, of which the original classification was tested. The percentage on the work of the establishment was 21·0 for fields and 56 for acres, and the average difference was 1·86 pies.

36. The classification work of the D and F Establishments was not subjected to test by a superior officer, Mr. Sathe not being a recognized classer. Mr. Mehta who tested the work of the other classing establishments reports favourably on the work of the Head Surveyors Azams Bapalal, Jethalal and Mohanlal.

37. The statement given below shows the test taken of the classing work by the officers of linked parties :—

Name of Officer.	Establishment.	Nature of Test.	FIELDS.		Acres.	AVERAGE DIFFERENCE OF RATE PER FIELD BETWEEN ORIGINAL AND TEST CLASSIFICATION.		PERCENTAGE.	
			Soil.	Water.		Soil.	Water.	Number.	Area.
Mr. Mehta	A	On Head Surveyor ...	897	734	1,051	0 0·02	0 0·13	15·11	15·43
		On Classer ...	507	416	612	0 1·98	0 0·35	1·79	1·34
	B	On Head Surveyor ...	579	452	693	0 0·09	0 0·09	9·53	10·97
		On Classer ...	636	412	1,123	0 1·80	0 0·93	1·78	2·11
	E	On Head Surveyor ...	966	722	1,723	0 0·09	0 0·03	13·60	16·01
		On Classer ...	743	486	1,222	0 0·99	0 0·89	2·73	3·13

38. The amount of obligatory office work entailed during the field season by the loss of records by fire and by miscellaneous work was as follows :—

Measuring Establishment.

- (1) The copying into the new books of details saved from the fire of 2,945 survey numbers, as compared with 5,378 survey numbers in the preceding year.
- (2) Comparing the entries of 915 numbers as compared with 419 numbers in the preceding year.

Classing Establishments.

- (1) Measurement of new rice discovered at the time of classification to the extent of 2,925 numbers measuring 1,949 acres. This was of course field work, but not being classing is included for convenience sake under the other head.
- (2) Copying into new books from the charred classing books details of 6,749 numbers. The figure for the preceding year was 3,160 numbers.
- (3) Comparing the entries of 6,749 numbers.
- (4) Entry in the classing books of the details of 82,293 numbers not dealt with at revision.

39. The subjoined abstract from Appendix No. I shows the percentage distribution of days of the measuring establishments for the past year, as compared with the same details of the year preceding :—

				1895-96.	1896-97.
<i>Working days.</i>					
Field measurement...	...	...	...	50.06	37.62
Boundary-mark inspection	...	...	...	8.09	0.64
Accompanying testing officer	...	...	...	4.18	5.70
Office work	...	...	...	13.23	29.56
Total				75.56	73.52
<i>Non-working days.</i>					
Sickness	...	...	...	5.44	3.26
Villagers not co-operating	...	...	...	2.98	4.70
Rain	...	...	...	...	0.60
Travelling	...	...	...	3.88	6.14
Leave and holidays	...	...	...	12.14	11.78
Total				24.44	26.48
Grand Total				100	100

40. The most noticeable feature in the statement is the great increase under the head of office work. The map correction work in Hálol on which the measurers of the C Establishment as well as a few selected measurers from D and F Establishments were engaged was such that it was necessary to prepare traverse statements, compare these, draw maps and check them by scale measurement, &c., in the villages themselves. This, as well as the employment of measurers in writing up field books for the classers in order to expedite the work of the latter when measurement and classification were undertaken simultaneously, fully explains the apparent excess of time devoted to office work. The great decrease under the head of 'boundary-mark inspection' is due to the adoption of the curtailed system as already explained. The increase in the number of non-working days is most marked under the head of 'travelling'; no establishment having worked throughout the year in a single district, while all were employed in at least three talukas and the work of two establishments was distributed over four talukas. These frequent transfers were unavoidable. As regards the fluctuations under other heads, the greater loss of time owing to the refusal of villagers to co-operate conveys its own explanation and the increase under that head is more than counterbalanced by the satisfactory decreases under the heads 'sickness' and 'leave and holidays.' The loss of time under the latter head was, however, again considerable owing to the irregular attendance of the measurers of Linked Party No. II during the progress of work in the Panch Maháls. The climate of the district is unhealthy, and though leave except on medical certificate was not granted and